CELEBRATING COMMUNITY SEED BANKS OF INDIA

CONVERSATIONS ON CLIMATE-RESILIENT SEEDS

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CONTENTS

INTRODUCTION

Agriculture continues to be a vital component of India's economy, accounting for approximately 16 per cent of the nation's Gross Domestic Product in 2024. It serves as the primary source of livelihood for approximately 55 per cent of the population.[1] It ensures food security for the nation's vast population and supplies raw materials to various industries. Thus, the sector's performance directly influences inflation, poverty reduction, and overall economic growth.

Recent data indicates a decline in agricultural growth, with the rate falling sharply to 1.4 per cent in 2023–24 from 4.7 per cent in 2022–23, primarily due to a drop in food grain production.[2] This drop can be attributed to various factors such as climate change, biodiversity loss, monocropping, and genetic erosion. Therefore, implementing adaptive strategies—such as promoting diversified farming systems that use traditional seeds—is essential to enhance the sector's resilience and ensure future food security.[3]

VIKAS CHOUDHARY/CSE

A farmer displays a collection of pulses and legumes at a community seed exchange seed bank

The shift towards hybrid seeds has made farmers increasingly dependent on seed companies for their planting materials, leading to economic burden. Dependence on commercial seeds results in a loss of autonomy and reduces farmers' control over their agricultural practices, limiting their ability to save and exchange seeds due to restrictions imposed through intellectual property rights. It also reduces biodiversity by displacing local varieties. Furthermore, the seed market is dominated by a handful of multinational corporations, creating monopolistic conditions and inflating the prices of seeds.[4]

In this scenario, community seed banks serve as repositories for preserving plant genetic resources, playing a pivotal role in conserving biodiversity and supporting agricultural resilience.[5]

What are seed banks?

Seed banks are a type of gene bank that stores seeds from a variety of different crops and trees. Their primary purpose is to conserve genetic resources and their remarkable diversity for use by scientists, plant breeders, and farmers worldwide. For example, plant breeders can use that gene stock to develop new crop varieties that are more resilient to the impacts of climate crisis such as increased drought, flooding, pests and changes in nutrient availability.

Agroforestry and forest restoration efforts also require greater diversity at both species and molecular levels. However, collecting, storing, and distributing genetically diverse seeds from wild tree species remains a challenge—one that seed banks are well–positioned to address.

Seed banks can operate at the global, national or community level. Regardless of scale, they are all complementary and help preserve agro–biodiversity and build the resilience of food systems in their own ways. However, community seed banks play the most vital role in protecting local biodiversity. Such community seed banks are also known as community seed wealth centre (Bangladesh), farmer seed house (France), (community) seed library (Canada, United Kingdom), and seed reserve (Guatemala).[6]

A community seed bank conserves local crop/tree varieties and related knowledge and is under direct control of the community. Seeds and seedlings are collected from farmers' fields and home gardens, and sometimes from the wild. Women play an active and decision–making role in many community seed banks, taking charge of seed collection, management, and distribution, as well as organising meetings, events, and engaging with other stakeholders in the seed sector.

Globally, there are many examples of how community seed banks have helped developing countries in practicing agriculture. For example, Nepal's seed conservation efforts began in the late 1980s as a response to genetic erosion caused by modern farming practices and climate change. Community seed banks emerged as grassroots initiatives to preserve traditional crop varieties and strengthen food security. Today, Nepal boasts over 100 community seed banks conserving more than 1,700 traditional varieties across 75 crop species. These banks are integrated with modern tools, including mobile applications, to enhance accessibility and operational efficiency. Nepal's governance of seed banks is guided by the Agrobiodiversity Policy (2007) and partnerships with international organisations, ensuring participatory approaches to conservation and utilisation.

Similarly in Kenya, community seed banks have become essential for smallholder farmers, who make up 75–80 per cent of the farming population. Over the past four years, their numbers have grown significantly due to NGO efforts. The Kenya Seed Savers Network has pioneered this movement, establishing more than 50 community seed banks. Collaborations between the Alliance of Bioversity International–CIAT, and Kenya's National Genebank have supported the testing of over 400 crop varieties for climate adaptation. These initiatives have also facilitated farmer training programs in seed production, value addition, and sustainable agriculture.

Community seed banks conserve crop varieties best adapted to local conditions. In India, organisations like the Deccan Development Society, Sahaja Samrudha, and the MS Swaminathan Research Foundation have been leading seed–saving initiatives—many of which have yielded notable success stories. These organisations support traditional seed systems that involve the management of local landraces through seed selection, production, storage, and exchanges, which can occur as gifts, or purchases from nearby markets. They support socio–cultural practices and strengthen the networks of marginal farming communities, relying on ancestral knowledge and traditional storage techniques. These traditional seed systems are able to adapt to minor environmental changes, maintain soil health, control market prices, and ensure production and income security for farmers.

For example, studies on traditional seed management in Una district, Himachal Pradesh,show that farmers have preserved age old practices to ensure crop resilience.[7] Seeds from pumpkins, cucumbers, brinjals, and maize are manually selected, sun–dried, and stored in earthen pots, wooden boxes, or metal containers. Natural treatments like neem leaves and ash help prevent pests and moisture damage. Seed exchange every few years helps maintain crop quality. While this

Seed banks around the world

There are over 1,700 seed banks worldwide, varying in size, focus, and operational structure. They represent a wide array of agricultural and wild plant species, providing critical genetic material for agricultural research and potential crop breeding. The primary goal is to preserve genetic diversity for future use, acting as an insurance policy against the loss of these resources due to climate change, environmental degradation, and other crises. International organisations and collaborations play a pivotal role in seed conservation, providing funding, expertise, and coordination for global efforts.

Prominent examples of world's seed banks

Svalbard Global Seed Vault (Norway)

The Svalbard Global Seed Vault, often referred to as the doomsday vault is located on Spitsbergen Island in the Arctic Archipelago of Svalbard, Norway. Opened in 2008, it is designed to protect the genetic diversity of the world's crops. The vault can store up to 4.5 million varieties of crops, with each seed packet containing an average of 500 seeds. As of May 2024, it holds over 1.3 million seed varieties from almost every country globally, making it the most diverse collection of food crops.[8] Collections are kept at a constant temperature of –18 degrees Celsius. The seed vault acts as a backup for other seed banks worldwide, particularly for areas undergoing crises such as war or natural disasters. It is insulated by permafrost, ensuring seeds remain viable for centuries even without permanent power.

Millennium Seed Bank (UK)

The Millennium Seed Bank is located at Kew Gardens in Sussex, England and houses a collection of over 2.4 billion seeds from more than 40,000 different plant species.[9] This seed bank collaborates with partners in more than 90 countries and focuses on the conservation of native wild plants and species that are vital for ecosystem stability and food security. It also engages in research initiatives and partnerships to enhance global seed conservation efforts.

Indian Seed Vault

This is located in a high-altitude mountain pass on the Chang La in Ladakh, India and is the second largest seed bank in the world. This seed vault collaborates with the gene bank established in 1996 by ICAR-NBPGR in New Delhi which currently holds 0.47 million accessions of cereals, millets, legumes, oilseeds, and vegetables.[10]

Vavilov Research Institute of Plant Industry, Saint Petersburg, Russia

Established in 1921, the Vavilov Research Institute of Plant Industry is one of the oldest seed banks in the world. The seeds available here were used to restore crops all over the Soviet Union following the devastation of World War II.

Agricultural Genetic Resources Preservation Research, Fort Collins, Colorado

It is responsible for preserving the world's largest repository of plant, animal and microbial genetic resources stored under one roof. More than 500,000 accessions from nearly 12,000 plant species are safeguarded within the National Laboratory for Genetic Resources Preservation.[11] The lab supports production of high-quality food, feed, and fiber.

system strengthens community bonds; hybrid seeds, climate change and modern farming preferences threaten traditional varieties and indigenous knowledge.

Policies governing seed banks in India

The traditional seed saving systems are impacted by evolving policies and legal frameworks. The Green Revolution of the 1960s introduced high–yielding varieties (HYVs) and hybrid seeds that replaced traditional varieties. To support this shift, the National Seeds Corporation was established in 1963 to produce and distribute hybrid seeds.

The Seed Act of 1966 was put in place to regulate the quality of seeds supplied to farmers. It introduced seed certification and created the foundation for the formal seed sector. However, this act largely supported the Green Revolution's goals and prioritised HYVs over indigenous seeds.

Traditional seed varieties were again impacted when in the late 1980s, India liberalised its seed sector through the New Policy on Seed Development (1988). This policy allowed the import of seeds and technologies, encouraging private sector participation. The entry of multinational seed companies brought advanced breeding techniques but also increased farmers' dependence on commercially produced hybrid seeds. The focus remained on commercial seed production rather than the conservation of traditional seed varieties.

To address the growing concerns over seed security, the Government of India launched the Seed Bank Scheme in 2000. The scheme aimed to create a reserve of defined and certified seeds to address contingencies like droughts, floods, and pest outbreaks. These seed banks were established across agro–climatic zones to ensure the timely availability of seeds to farmers during emergencies.

In 2001, the Protection of Plant Varieties and Farmers' Rights Act (PPVFR) was adopted. This recognised the rights of both plant breeders and farmers. Farmers were allowed to save, exchange, and sell seeds of registered varieties, except under branded names. Communities conserving traditional crop varieties could claim benefits if their genetic material was used commercially.

Under this, traditional crop varieties bred by farmers could be registered and protected. Also, farmers could claim compensation if registered seeds failed to perform as promised. This Act not only empowered farmers but also encouraged

the formalisation of conservation of indigenous genetic resources, paving the way for community seed banks and participatory seed conservation programs.

The National Agricultural Policy, 2000 emphasised sustainable agriculture, including the conservation of genetic resources. The National Seed Policy, 2002, further reinforced this by advocating for the establishment of gene banks and seed banks for the conservation and storage of indigenous seeds. It also promoted the use of certified seeds and public–private partnerships to strengthen the seed sector. The draft seed Bill 2019 also aims to regulate the quality of seeds for sale, import and export. It will also facilitate production and supply of seeds of quality. This will replace the Seeds Act of 1966. However, the draft Seed Bill, 2019, is in conflict with the PPVFRA as it restricts farmer's rights over the seeds.

A formal, government run system to conserve seeds and germplasm exists in the country. The ICAR–National Bureau of Plant Genetic Resources (NBPGR) conserves over 4,68,000 species across various crops.[12] It acts as the national repository for plant genetic resources and plays a critical role in germplasm exploration, collection, and characterisation. NBPGR also collaborates with international organisations to enhance the conservation and utilisation of plant genetic resources.

Regional centres operate under the aegis of NBPGR to focus on specific agro–climatic zones, facilitating localised seed conservation efforts. Each centre addresses the unique seed preservation needs of its respective region and works alongside state–level seed banks. NBPGR operates ten regional centres across India, focusing on agro–ecological zone–specific seed conservation. State governments have also established seed banks. For example, the Odisha Seed Corporation operates state–level seed banks to support local farmers. State–level seed banks, such as those in Karnataka and Tamil Nadu, are actively involved in promoting organic seeds and local varieties. These banks serve as crucial intermediaries for farmers' access to quality seeds and support the preservation of traditional knowledge. However, none of these support community seed banks.

CSE'S STUDY

CSE examined the network of seed banks in India to assess the strength of the systems in preserving traditional seed varieties. The focus was on varieties that can adapt to adverse weather events triggered by climate change.

We used a combination of surveys, expert consultations, and direct outreach. A questionnaire (see Annexure) was developed to capture key information, including seed collection practices, preservation methods, community involvement, crop diversity, and climate resilience. As part of the study, we shortlisted NGOs and CSBs using various sources such as the Farmers' Rights website, Wassan-RRA network, NGO Darpan of the National Government Services Portal and articles in popular media. This resulted in a list of 100 NGOs and 22 CSBs which are actively engaged in seed conservation across different states of India.

Community Seed Banks were approached to gain firsthand insights into their operations and challenges. Additionally, individual practitioners involved in seed preservation efforts were contacted to understand their independent contributions. To strengthen the study's findings, subject matter experts in seed conservation were interviewed. These experts provided insights into best practices, policy considerations, and the broader impact of seed conservation efforts in India.

VIKAS CHOUDHARY/CSE

A woman farmer stands inside a community seed bank in Silpidi village surrounded by earthen storage bins filled with diverse millet and paddy varieties

Out of the 100 NGOs identified, we were able to contact 60 NGOs managing seed banks, and of these, 20 NGOs from 13 states responded to our outreach. In parallel, we reached out directly to over 22 CSBs and two individuals to collect detailed responses to our questionnaire. In total, we received responses from 15 states.

Table 1: List of NGOs that responded to our questionnaire

State	NGO/Organisation	Resource person	Community Seed Bank they run
West Bengal	SwitchON Foundation	Pial Banerjee, DGM Project control	Multiple seed conservation projects. In West Bengal, seed banks are located in Kochdihi, Pakurdiha, and Mohespur in Bankura district; Karandi and Keshabpur in Hura block of Purulia district; Chargali in Jhalda 2 block of Purulia; Banipur in Chanditala block of Hooghly; and Chitrashali in Hanskhali block of Nadia. (They also have seed banks in Jharkhand, present in Bagaljori in Dumka district, Sisri in Kharaundhi block of Garhwa district, and Murubhandha in Chitarpur block of Ramgarh district. In Maharashtra, a seed bank is located in Tirde village of Akole block in Ahmednagar district. In Odisha, they can be found in Baragania, Pokatunga, and Dhokuta villages, all in Angul block of Angul district).
	Amarkanan Rural Socio Environmental Welfare Society	Anjan Kumar Sinha, Head and Founder	Amarkanan Rural Socio Environmental Welfare Society Community Seed Bank
Odisha	Sambhav	Suresh Ch. Bisoyi, Director	Various seed conservation initiatives
	NIRMAN	Prashant Mohanty, Executive Director	Community Indigenous Seed Bank, Raisar (Nayagarh)
Gujarat	Cohesion Foundation Trust	Hiral Dave, Director–Programmes	UJAS Seed Bank (Rangpur, Kandha, Navsari district)
	BAIF	G.N.S Reddy, Head	Multiple seed conservation initiatives
Madhya Pradesh	Aga Khan Gram SamarthanSansthan	Rakesh Karole, Senior Project Coordinator	Shri Mahakal Seed Bank (Indrakheda, Khandwa)
	Abhar Mahila Samiti	Pradeep Kumar, Program Officer	Community seed bank in block Lavkushnagar, District Chhatarpur, Village Ratanpara
Bihar	Ghoghardiha Prakhand Swarajya Vikas Sangh (GPSVS)	Ramesh Kumar Singh, Chairperson	Community seed bank in Ghuskipatti, Jahalipatti in Madhubani district
Chhattisgarh	SangataSahabhagi Gramin Vikas Sansthan	Bhoopendra B Singh, Secretary	Community Seed Banks Pakani (Sautar)
	DaroharSansthan, Sahabhagi Samaj Sevi Sanstha	Vasant Yadav, President	Various indigenous seed conservation projects

State	NGO/Organisation	Resource person	Community Seed Bank they run
Uttarakhand	BAIF	Ankita Singh, Senior Project Officer	Khetikhan Community Seed Bank (Champawat)
Karnataka	ANISHA	Valli Krishnaswamy, Founder and Director	ANISHA Native Seed Bank (Chamarajnagar)
	Vrutti	B Raghini, Chief Executive Officer	Janadhanya
Nagaland	North East Network (NEN)	Ruchunlo Tep, Administrator	Chizami Community Seed Bank, Chizami village (Phek)
Jharkhand	Vikas Sahyog Kendra (VSK)	Jawahar Mehta, President	Village– Hutukdag, Block – Chhattarpur, Dist. – Palamu
Telangana	Deccan Development Society (DDS)	R Santhoshi Sri Laya, Programme Coordinator	Sangham Seed Bank, Machnoor Village, Sangareddy District, Telangana
Kerala	OFAI	Shamika Mone, President	Illiyas KP, Shoranur, Palakkad
Andhra Pradesh	Sri Satya Sai Farmers MACF Limited	Madhu Panyam	Anantapuramu and srisathyasai districts
	Centre for Sustainable Agriculture (CSA–India)	Uday Nagubandi, Program manager – Sustainable Seed Systems	A) Musalareddygaripalli Village, Tallapalli GP, Vempalli (M), Kadapa, AP B) Vemula Seed bank– Bhumaiahgaripalli village, Vemula Mandal C) Proddatur FPO Seed Bank – Tallamapuram D) VillagePO Seed Bank – Tallapalli Village

Table 2: List of individuals

State	Individuals	Organisation	Community Seed Bank
Madhya Pradesh	Sangam Agrawal	Routes to Roots	Individually managed natural farms
Odisha	Harsita Priyadarshani	–	Harsita Priyadarshani Indigenous Seed and Grain Bank (Koraput)

Table 3: List of community seed banks

States	Supporting organisation	Community Seed Bank	Resource person
MP	Caritas India and Manav Vikas Seva Sangh	Ahirwar Seed Bank	Khemchand Ahirwar
	Village Development Committee	Jivan Seed Bank	Biran Singh
	Caritas India & Manav Vikas Seva Sangh	Sita Ram Community Seed Bank	Pooja Bai
	Caritas India	Narajan Bij Bank	Mahendra
	Caritas India, ATMA (Agricultural Technology Management Agency)	Muthava Baba Group	Babu Sathe
	Manav Vikas Seva Sangh	Devmaharaj Kisan Samuh Seed Bank	Mamta
	Caritas India	Chote Anaj Bij Bank	Chotelal More
	Caritas India & Manav Vikas Seva Sangh	Chikali Seed Bank	Rahisa Bi
	Caritas India & Manav Vikas Seva Sangh	Chanchal Community Seed Bank	Sharda Bai
	Caritas India & Manav Vikas Seva Sangh	Birsa Munda Seed Bank	Babulal
	Caritas India	Balram Samuh Seed Bank	Nadkishor
	Manav Vikas Seva Sangh (training support in 2024)	Baburajput Kisan Samuh Seed Bank	Baburajput
	Caritas India & Manav Vikas Seva Sangh	Aman Seed Bank	Shila Bai
Rajasthan	Caritas India	Sarsvati Seed Bank	Mira
	Caritas India	Sita Mata and Mahima Seed Bank	Santosh Katara
Uttar Pradesh	Bareli Diocesan Social Service Center and Caritas India.	Uday Community Seed Bank	Santram
	Bareli Diocesan Social Service Center and Caritas India.	Unnati Community Seed Bank	Naresh Kumar
	Caritas India and its local partner Agra Catholic Diocesan Samaj Seva Sansthan (ACDSSS).	Saksham Community Seed Bank	Devesh
West Bengal	Indraprastha Srijan Welfare Society (ISWS)	Matangini Krishak Dal	Krishna Pal
	Indraprastha Srijan Welfare Society (ISWS)	Majhera Krishak Dal	Reboti Dhara
	Indraprastha Srijan Welfare Society (ISWS)	Netaji Subhas Krishak Dal	Panchami Roy
	Indraprastha Srijan Welfare Society (ISWS)	Pather Sathi Krishak Dal	Archana Sinha

RESULTS

A recurring concern across the responses that we received was the increasing unpredictability of weather patterns, with farmers facing droughts, heatwaves, excessive rainfall, and floods. Representatives of Community Seed Banks emphasised the importance of preserving and promoting traditional seed varieties which are naturally adapted to extreme conditions such as drought, floods, heat stress, and low soil fertility. Their ability to thrive in challenging environments without heavy reliance on chemical inputs makes them crucial for sustainable agriculture.

CSE's study found that the Community Seed Banks and participating NGOs collectively preserve over 887 seed varieties across 71 different crop species. The actual number would be much more as we have clubbed non–specified crop varieties as one. We have data from 15 states.

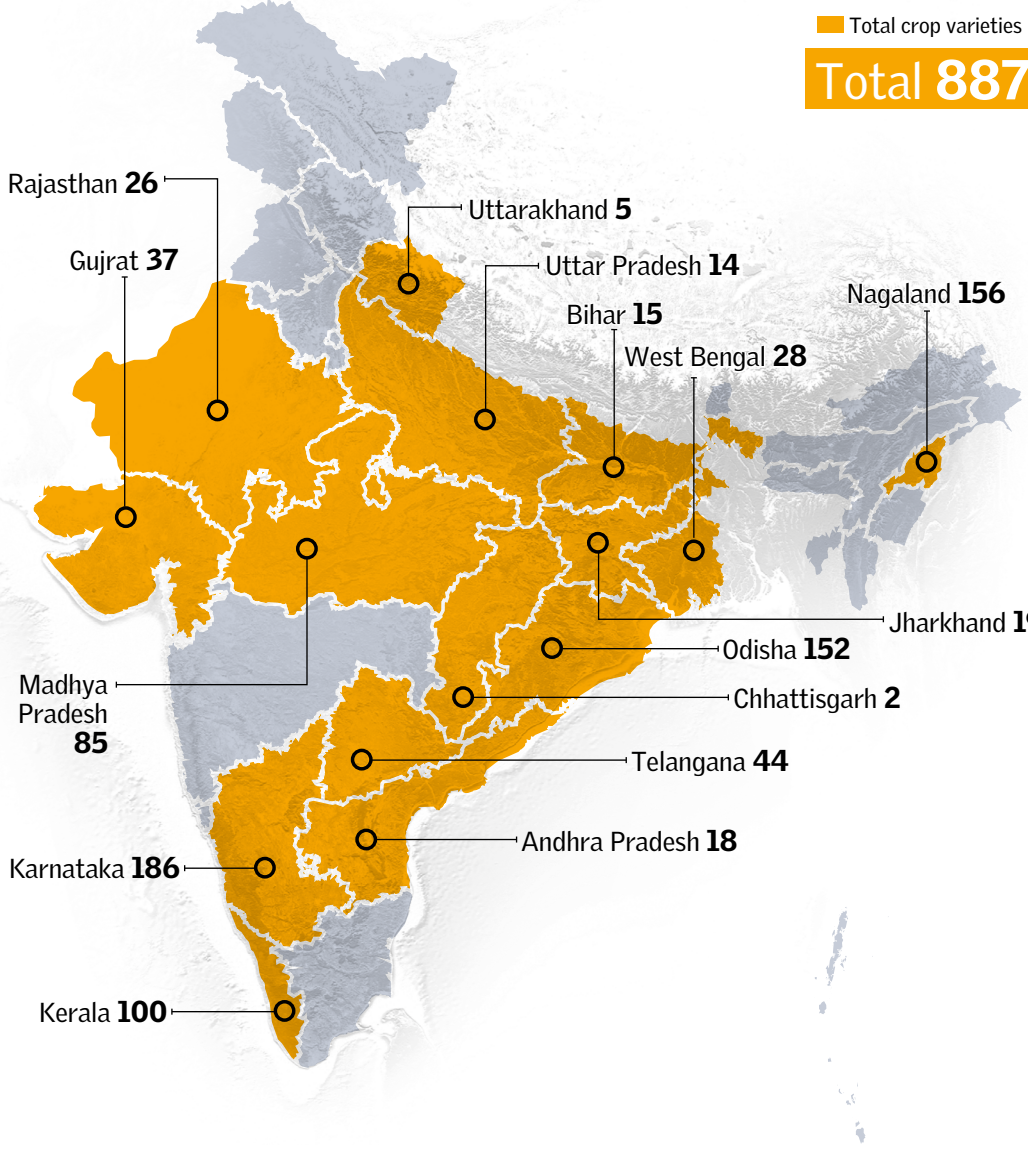
Karnataka reported the highest number with 186 varieties, followed by Nagaland (156), Odisha (152), and Kerala (100). These states reflect strong community-led initiatives and sustained efforts to preserve indigenous seeds.

Madhya Pradesh (85), Gujarat (37), and Rajasthan (26) also contributed significantly. Meanwhile, states like Chhattisgarh (2) and Uttarakhand (5) reported fewer varieties, indicating areas where conservation practices may need more support or documentation.

Most of these are naturally resilient to climate stresses. Several varieties were identified as drought-resistant, pest and disease-tolerant, heat-resistant, flood-tolerant, wind-resistant, and able to grow in saline soils.

Alongside community seed banks and NGOs, we also identified and compiled a database of individual seed savers from 15 states who have been officially recognised by the Government of India for their outstanding contributions to seed conservation. Many have been honoured with awards such as the Padma bhushan Plant Genome Saviour Farmer Reward and Krishak Ratna, highlighting the critical role of grassroots custodians in safeguarding agrobiodiversity.

Map 1: Distribution of traditional crop varieties available across Indian States



For state-wise detailed responses from NGOs and CSBs, refer to Chapter 6.

These seed savers have conserved a multitude of grains, vegetables, spices and even medicinal plants. These farmers have not only preserved indigenous crop varieties over decades but have also helped revive lost cultivars, often through personal effort and deep traditional knowledge.

How do CSBs work?

In India, Community Seed Banks operate as decentralised grassroots initiatives and are managed by local farmer groups, self–help groups (SHGs), NGOs, individuals and women. These preserve indigenous and climate–resilient seeds and promote sustainable agriculture, and enhance food security amid climate uncertainties. They undertake systematic seed collection, preservation, and distribution, ensuring long–term viability and accessibility for smallholder farmers. The presence of CSBs has had a significant impact on local agriculture by ensuring that farmers can access traditional seeds without depending on external markets. Many farmers who primarily grow commercial crops visit seed banks to borrow seeds for food crops, ensuring household food security.

Many seed banks work towards reviving lost or rare varieties that were historically cultivated in the region but have been replaced by commercial hybrids. Over the past two decades, the structure of CSBs has evolved from a collection–based approach to a farmer–led network. Earlier, seed banks operated as centralised physical facilities catering to a large number of farmers—around 50 to 100. Now, they function more as networks of smaller groups of around 10 farmers, where farmers support each other in seed exchange. This shift reflects regional changes and the adaptability of the system.

Before storage, collected seeds undergo viability tests to ensure they retain their germination capacity. For preservation, CSBs primarily rely on traditional, low–cost storage methods that have been practiced for generations. Many NGOs use sterilised glass jars with ash, a technique that prevents moisture buildup and fungal contamination. Other common methods include storing seeds in earthen pots, bamboo bins, and wooden crates lined with neem leaves or turmeric powder, which serve as natural pest repellents. Some CSBs also integrate scientific storage techniques such as airtight steel containers, seed vaults, and controlled temperature storage for long–term conservation. Organisations like The Deccan Development Society (DDS) seed bank follow traditional methods like the 'gampa/gutthi' method, where palm–woven baskets are plastered with a mixture of cow dung and clay soil. Layers of ash and neem leaves are added to prevent moisture buildup and pests, ensuring seed viability for up to two to three years.

To maintain seed viability, regular replenishment cycles are followed, wherein seeds are periodically grown, harvested, and replaced to retain genetic strength. CSBs ensure that farmers have access to high–quality indigenous seeds through structured distribution models. The most common method is the seed loan

Climate-resilient varieties available

1 DROUGHT RESISTANT

SURVIVE & THRIVE WITH MINIMAL RAINFALL- IDEAL FOR DRYLANDS

- **RICE**: Navara, Nadan Kuruva, Rakta Sali, Lal Kada, Ganda Bhat, Jeere, Daptari, Ambamor, Kalabati, Kalubhat (100 days), Mohmaya, Golden Navra, Chapure, Salim Sana, Basumati, Chinamali
- **FINGER MILLET**: Bhadaee, Lapadwa
- **MAIZE**: Pirwa, Sathiva, Chaurwa
- **PIGEON PEA (ARHAR)**: Maghara, Ramrahriya
- **GRASS PEA (LATHYRUS)**: Dhelahwa
- **BOTTLE GOURD**: Tumda Dudhi, Davli Dudhi, Tarpu Dudhi
- **PULSES**: Sarukhundabiri, Mankadadanti, Laha kankadadandi, Baragadi, Tula Baragadi
- **OILSEEDS**: Jada, Dhalasorisha, Sesame (kholsa)
- **TUBER**: Narangi Haladi
- **MILLETS**: Bhalu,Bhati, Mami, Janhara, Khupamandia, Kuiri, Suan, Badamandikhuamandia, Haladiamaka

2 HEAT RESISTANT

WITHSTAND HIGH TEMPERATURE

- **FINGER MILLET**: Bhadaee, Lapadwa
- **BRINJAL**: Mulla Vanga
- **PIGEON PEA (ARHAR)**: Maghara, Ramrahriya
- **BOTTLE GOURD**: Tumda Dudhi, Davli Dudhi, Tarpu Dudhi
- **MILLETS**: Bhalu,Bhati, Mami, Janhara, Khupamandia, Kuiri, Suan, Badamandikhuamandia, Haladiamaka
- **RICE**: Kala Batti, Navara, Kalabati, Lal Kada, Kalubhat (100 days), Basmati, Mohmaya, Manipuri, Golden Navra, Chapure, Salim Sana

3 FLOOD TOLERANT

STAY STRONG EVEN IN WATERLOGGED FIELDS

- **RICE**: Rakthasali, Kuttadan, Padeya, Amaghawad, Gajmukta, Lal Kada, Dudhmalai, Devbhog, Kariyakamat, Gola kushund, Kalabhat
- **GREEN GRAM**: Ganga Pesari
- **WHEAT**: Bansi

4 WIND RESISTANT

RESIST STRONG WINDSTROMS

- **RICE**: Paunchhi

5 SALINITY RESISTANT

GROWS WELL IN SALTY SOILS

- **RICE**: Rakta Sali
- **MILLETS**: Bhalu,Bhati, Mami, Janhara, Khupamandia, Kuiri, Suan, Badamandikhuamandia, Haladiamaka

6 DISEASE/PEST RESISTANT

IMMUNE TO PESTS& DISEASES

- **RICE**: Dhan- Hajini, Silki, 6444, Chittimutyalu, Bahuroopi
- **GREEN GRAM**: Chamki Pesari
- **FIELD BEAN (CHIKKUDU)**: Nalla Bebbari
- **LADYFINGER**: Chhota bhindi
- **OILSEEDS**: Budha Sorisha
- **TUBER**: Baral-endisaru
- **MILLETS**: Bhalu,Bhati, Mami, Janhara, Khupamandia, Kuiri, Suan, Badamandikhuamandia, Haladiamaka

VIKAS CHOUDHARY/CSE

A woman farmer displays her stored seed varieties

system, where farmers borrow seeds at the beginning of the growing season and return twice the quantity post–harvest. This ensures that the seed bank maintains a continuous supply while enabling more farmers to benefit. Some seed banks follow a donation–based model, particularly in tribal communities, where farmers receive seeds for free with the expectation that they will contribute back after their harvest. In regions such as Gujarat, Maharashtra, and Tamil Nadu, certain CSBs operate on a direct purchase model, where seeds are sold at a nominal price to generate revenue for seed bank sustainability. Additionally, annual seed fairs and exchange festivals are organised in states like West Bengal, Odisha, and Gujarat, where farmers trade seeds, share knowledge, and promote traditional farming practices. These distribution mechanisms collectively ensure that indigenous seeds remain in active cultivation and continue to benefit local communities.

One of the most significant findings from the survey is the critical role of women in seed conservation and management. In Nagaland, the Chizami Community Seed Bank is fully managed by women, focusing on conserving traditional rice and vegetable varieties. Similarly, in Gujarat, the UJAS Seed Bank, led by women's cooperatives, plays a pivotal role in preserving organic and native seeds. In Odisha, several women–led seed banks, supported by Swissaid, are conserving climate–resilient paddy, pulses, and millet varieties. Madhya Pradesh also has strong women–led initiatives in Khandwa and Bankura in West Bengal, where female farmers are engaged in seed exchange and biodiversity conservation. Women's

leadership in CSBs has proven to be transformative. They are the primary custodians of traditional knowledge on seed selection and preservation, ensuring that farming practices remain sustainable and biodiversity–friendly. Their active participation also helps increase community engagement and food security, making them vital players in India's agricultural landscape.

While CSBs play a crucial role in promoting seed sovereignty, many face challenges related to funding, infrastructure, and policy support. Financial sustainability remains a major hurdle, as most seed banks operate independently without government assistance. However, NGOs and community–led organisations have devised various strategies to ensure long–term viability. One key approach is community ownership, where farmers are actively involved in managing the seed bank. This participatory model, particularly strong in Nagaland, Odisha, Gujarat, and Madhya Pradesh, fosters a sense of responsibility and ensures continued engagement. Some CSBs have established partnerships with research institutions and NGOs, such as Swissaid, NABARD, and the Revitalising Rainfed Agriculture Network (RRAN), to receive technical support and funding. A few seed banks have also adopted microfinance models and self–help group (SHG) funding systems to sustain operations. Efforts are being made to integrate CSBs into government agricultural programs, as their formal recognition could provide much–needed financial and technical backing. In some cases, improving storage facilities and adopting scientific conservation techniques such as cold storage and genetic seed banking are being explored to further enhance longevity and sustainability.

However, challenges remain. Many farmers do not return the borrowed seeds, making it difficult for NGOs to sustain the system. Additionally, the number of farmers cultivating traditional varieties is decreasing due to changes in cropping systems, wild animal attacks, and bird damage.

DISCUSSION AND CONCLUSION

In the Union budget 2025–26, finance minister Nirmala Sitharaman, announced a plan to establish a second National Gene Bank with a capacity to conserve one million germplasm lines, to boost food and nutritional security by preserving the genetic diversity of crops[13]. However, community seed banks are managed at the local level and they usually do not collaborate with international or national seed banks or national facilities such as the National Bureau of Plant Genetic Resources.

Based on conversations with experts and practitioners involved in community seed banking, CSE analysed the key challenges, best practices, and future prospects of CSBs in India.

These can be categorised as financial, technical, social challenges, lack of government support, changing farmer preferences, and climate–related risks.

1. Financial and institutional barriers

Most seed banks operate on small budgets with little to no government support and rely on NGOs or community contributions. Without proper funding, it becomes difficult to expand storage facilities, maintain seed quality, and conduct farmer training programs. Some CSBs sell seeds at a nominal price to cover costs, but this is rarely enough for long–term sustainability. As CSBs are not formally recognised in government policies, they are not able to access grants, enter research collaborations, or be included in seed conservation programs. Unlike commercial seed companies, community seed banks receive no subsidies or incentives, making it difficult for them to compete on equal terms.

2. Storage limitations and technical challenges

Proper seed storage is essential for maintaining seed viability. While some CSB rely on traditional methods like sterilised glass jars with ash, earthen pots, or neem–treated cloth bags, these are not always effective in preventing moisture damage, pest infestations, or fungal infections. Scientific storage solutions such as cold storage or vacuum–sealed containers are costly and out of reach for most community–led seed banks.

Many seed banks also face a shortage of technical expertise. Without regular training on seed testing, viability assessment, and genetic purity maintenance, some farmers receive low–germination or poor–quality seeds, reducing their trust in CSBs.

3. Climate change and unpredictable weather

Erratic climate conditions pose a serious threat to seed production and storage. Prolonged droughts, excessive rainfall, and extreme heatwaves affect the ability of farmers to grow and replenish seeds for CSBs. In drought–prone states like Madhya Pradesh, Gujarat, and Rajasthan, farmers struggle to grow enough seeds due to water shortages and declining soil fertility. In flood–prone states like Bihar, West Bengal, and Odisha, excessive rains damage stored seeds and reduce their viability. Rising temperatures make it difficult to preserve heat–sensitive seed varieties, affecting their long–term conservation.

4. Changing attitudes and declining interest in traditional seeds

One of the biggest challenges facing CSBs is the shift in farmers' preference toward hybrid and genetically modified seeds. Hybrid seeds are often promoted as high–yielding and faster–growing, leading many farmers to abandon traditional seed–saving practices. Government subsidies and aggressive marketing by seed companies have further pushed farmers towards hybrid seeds, reducing participation in CSBs.

Younger farmers, in particular, view traditional seeds as outdated and prefer commercial seeds that promise better profits. As a result, fewer farmers are contributing seeds to CSBs, making it harder to sustain their collections. Additionally, knowledge about seed–saving techniques is not being passed down, as modern agriculture moves towards mechanisation and chemical inputs.

5. Lack of awareness and farmer participation

Many farmers are unaware of the benefits of CSBs, leading to low participation in seed conservation efforts. Without regular workshops, training programs, or awareness campaigns, farmers fail to see the long–term advantages of using traditional seeds over hybrids. In some cases, poor record–keeping and mismanagement lead to mistrust among farmers, discouraging them from borrowing seeds.

6. Social and gender barriers

Women have historically been key custodians of seed conservation, but in many regions, they face limited access to financial resources, training, and decision–making roles in agriculture. While women–led CSBs thrive in Nagaland, Gujarat, Odisha, and Madhya Pradesh, in other areas, traditional gender roles prevent women from actively participating in seed banking initiatives.

Marginalised farmers, including small landholders and landless workers, also face challenges in accessing CSB resources, as some seed banks prioritise contributors over non–contributors.

7. Market pressures and corporate seed dominance

The expansion of commercial seed companies has made it difficult for CSBs to compete. Hybrid seeds are heavily marketed and often come with government incentives, making them more appealing to farmers. Since hybrid seeds cannot be saved for future planting, farmers are forced to buy new seeds every season, increasing their dependence on commercial suppliers.

Another concern is genetic contamination, where hybrid crops cross–pollinate with traditional varieties, making it harder to maintain pure indigenous seed lines. This threatens biodiversity and undermines the core mission of CSBs.

Conclusion

With this study, we want to advise policy on seed banks using the insights into seed collection, preservation methods, community participation, crop diversity, and the challenges faced in seed conservation gained from this research.

This study highlights the critical role of community seed banks in preserving agrobiodiversity, supporting local food security, and maintaining traditional seed varieties. Across different regions, these seed banks serve as repositories of locally adapted crops, fostering resilience against environmental changes, market fluctuations, and seed monopolisation by corporate entities.

The findings underscore that community seed banks vary significantly in terms of crop diversity, operational structures, and levels of engagement. While some seed banks maintain a broad range of crops, including cereals, pulses, vegetables, and millets, others focus on a few staple varieties. The study also reveals challenges such as inadequate institutional support, limited access to quality seeds, and difficulties in maintaining seed viability over time. Despite

these obstacles, local farmers continue to depend on these seed banks as reliable sources for traditional and climate–resilient seed varieties.

One of the key takeaways is that these community seed banks are not merely storage facilities but living systems that support seed exchange, knowledge–sharing, and conservation efforts. They play an essential role in safeguarding indigenous agricultural knowledge, enhancing farmer autonomy, and promoting biodiversity conservation. However, their sustainability depends on factors such as government policies, community participation, and access to funding and technical support.

To strengthen the impact of community seed banks, the study recommends:

1. **Policy support and recognition** – Formal recognition and integration of seed banks into national agricultural policies can help sustain their operations.

2. **Capacity building and training** – Providing training on seed storage techniques, climate adaptation, and sustainable farming practices will enhance the effectiveness of these initiatives.

3. **Networking and collaboration** – Strengthening connections among seed banks, research institutions, and farmer groups can facilitate knowledge exchange and better resource allocation.

4. **Financial and Institutional Support** – Funding for infrastructure, research, and operational costs will ensure long–term viability.

5. **Awareness and community engagement** – Encouraging farmers to actively participate in seed–saving practices can further enrich local biodiversity and ensure the continued success of these banks.

EXPERT OPINION

5

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3. Bharat Mansata / Vanvadi Forest Collective
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M. S. Swaminathan Research Foundation (MSSRF) is a non-profit organisation that promotes sustainable agriculture and rural development for tribal and rural communities

Community seed banks operate on a simple principle: farmers borrow seeds from bank and return double the amount after harvest or transacted through monetary terms. This system ensures the continuous availability of traditional varieties that are well adapted to specific local conditions. Since each region has unique climatic and soil conditions, the traditional varieties grown in one area may not be suitable for another. For example, different regions cultivate distinct varieties of paddy based on their environmental needs. Paddy varieties in North will be different from the ones in south.

To implement CSBs effectively, the first step is mapping the crop and varietal diversity in a particular region. This helps in promoting community seed banks that ensure farmers have access to the locally adapted or farmer preferred variety of seeds at the right time. Traditional cropping systems and the knowledge associated with them have been passed down through generations. Farmers have relied on informal seed exchange networks to sustain their agricultural practices. Traditional varieties are cultivated using indigenous farming practices. These seeds are not available in open markets but are preserved within local communities, traditionally been family/household based. And to some degrees farmers may have known where to find seeds from other households. Notably, these informal networks are mostly managed by women for crops such as small millets, pulses, vegetables etc, while men played a key role in crops like rice, fruit trees etc.

However, these traditional knowledge systems are at risk of disappearing. Changes in cropping systems and the broader political economy have led to a decline in their use and relevance. Recognizing the need to revive local landraces and traditional cropping systems, efforts have been made to ensure access to seeds as a fundamental necessity. One such initiative is the establishment of community seed banks. A study conducted by MSSRF in partnership with International Rice Research Institute during 2022-24 highlighted the importance of CSBs. Across India, more than 300-400 organizations are actively promoting CSBs to improve seed accessibility. Various civil society organisations and institutions have researched and published studies on the impact of seed banks. Grey literature and reports from these organizations also document the challenges associated with running seed banks. Biodiversity boards are facilitating the establishment of these banks, although government agricultural departments primarily focus on promoting high-yielding varieties (HYVs) rather than traditional varieties.

There is currently no specific policy framework governing community seed banks. While India has laws such as the Protection of Plant Varieties and Farmers' Rights Act and the Seed Act, have to provide additional guidelines for managing CSBs. The proposed Seed Bill of 2019 is still under discussion, and efforts are ongoing to develop policies that recognise farmer-managed seed systems. Although community seed banks are managed at the local level, not all the CSBs are collaborating with international or national seed banks. However, there are examples of collaboration with ICRISAT in India, and other CGIAR-centres elsewhere. Also, there are examples of close collaboration with national gene banks in other countries. In India a number of CBSs have been set up with the support of ICAR- NBPGR - facilitated by Biodiversity International. They ensure that each collected germplasm has a duplicate sample stored for conservation.

Over the past two decades, the structure of CSBs has evolved. Earlier, seed banks operated as centralized physical facilities catering to, 50-100 farmers. Now, some of them transitioned and function more as networks of smaller groups around 10 plus farmers, where farmers support each other in seed exchange. This shift reflects regional changes and the adaptability of the system. However, challenges remain. Many farmers do not return the borrowed seeds, making it difficult for promoting organizations to sustain the community seed bank system. Additionally, the number of farmers cultivating traditional varieties have been decreasing due to changes in cropping systems and other socio-economic and market factors. Despite these challenges, community seed banks continue to benefit local communities by preserving traditional crop varieties, enhancing resilience, and ensuring food security.

G. Krishna Prasad
Founder, Sahaja Samrudha, Karnataka

Sahaja Samrudha is an organic farmers' collective and network for seed conservation

Since 2005, Sahaja Samrudha has taken a central role in reviving and managing community seed banks. Today, Sahaja Samrudha supports over 32 CSBs across Karnataka, working across agro–climatic zones to preserve diverse crop varieties. The organisation is also part of the Bharat Beej Swaraj Manch, a national seed savers' network.

As of now, there are three primary models of seed banks in India. These include individual seed savers, community–run seed banks (often women's self–help groups – SHGs) and organisation–led seed banks. Of these, SHG and individual–led CSBs are most effective for outreach and local ownership.

The Sahaja Samrudha's model evolved from a traditional *borrow–one–return–two* system to a more structured conservation and production strategy. For this, production is carried out in diversity blocks where multiple varieties (e.g., 70 types of finger millet) are grown for Participatory Variety Selection (PVS). Farmers select top–performing varieties based on local needs. These are termed *potential varieties*. Selected varieties go to trained seed producers for large–scale multiplication, with quality assurance done by CSB members. Less popular varieties are conserved by seed savers (e.g., SHGs) in small plots for biodiversity purposes. Seeds from the CSB are given to farmers, who return double the quantity, which is then sold as organic grain to generate revenue for future seed procurement.

CSBs can transform local farming economies. For example, in Teeratha village, Dharwad District, a CSB was established in 2019 and it catalysed a shift toward millet cultivation. Initially, millets had low demand, but awareness and access to

quality seeds created momentum and a Bibijan local woman farmer went on to win the Deccan Herald Changemaker Award for her work.

However, seed banks face multiple challenges. Changing rainfall patterns, extreme heat, and other weather shifts can affect seed quality and viability during both conservation and production stages. It has been observed that farmers may not always follow strict practices while returning seeds, leading to genetic mixing or reduction in quality. This is why Sahaja Samrudha has separated conservation from multiplication roles. Maintaining enthusiasm among seed savers requires both recognition and incentives. Without adequate value for their labour and knowledge, community participation may decline. Some varieties disappear due to lack of demand, but believes it's important to keep them alive for future use, especially as climate and consumption patterns change.

While community seed banks can thrive with local ownership, government support is essential for scale, recognition, and sustainability. For this, governments can intervene. Farmers and communities who conserve traditional seed varieties should be formally acknowledged as, 'custodians of biodiversity'. This could come in the form of official certification, public appreciation and inclusion in national seed and biodiversity conservation plans. Just as hybrid seed production receives support, traditional seed savers and producers need subsidies or grants to cover the cost of conservation, storage, and seed testing.

These are vital for ensuring germination rates, purity, and long–term viability. Additionally, government programs could invest in proper storage facilities (especially with climate control), training centres and seed testing labs accessible to rural communities.

It is also important that seeds conserved by communities should be integrated into public seed distribution systems, like under Paramparagat Krishi Vikas Yojana (PKVY) or National Food Security Mission, so they reach more farmers. Governments should simplify regulatory processes for community seed banks, and recognise them as key actors in seed sovereignty and food security. Support through biodiversity boards and seed certification agencies can help.

Community seed banks (CSBs) become more effective when they are rooted in community ownership and supported by a well–structured system of conservation and seed production. Improvement doesn't come just from infrastructure or funding, it's about creating trust and building local capacities, especially among women's self–help groups and individual seed savers.

Systems can be improved through better coordination between seed savers and seed producers, so conservation and production run in parallel without compromising seed purity or diversity. Seed producers can be trained to check quality to ensure viability, germination, and resistance to pests and climate stress. Creating market linkages, where seeds grown and multiplied by the community are connected to organic markets can help bring in revenue to sustain the bank. Additionally, participatory Variety Selection (PVS) processes can be supported, where farmers themselves identify potential varieties based on local needs, keeping the bank dynamic and farmer–led. The more you empower farmers to take charge of the seed system, choosing, saving, multiplying the stronger and more resilient the seed bank becomes.

Sahaja Samrudha ensures that seed banks remain relevant and effective in the future is by engaging farmers in choosing and testing new varieties each season. There is a provision for having a feedback loop where local preferences determine which seeds are promoted or conserved. There is an effort to partner with younger farmers and women's groups to pass on traditional knowledge while integrating newer ecological farming methods. We also help link seeds to livelihood and food markets, so farmers benefit economically from conservation.

Bharat Mansata
Founder member of the Vanvadi, Forest Collective, Maharashtra and member of Bharat Beej Swaraj Manch

Vanvadi is a 30-year-old forest regeneration collective in the Sahyadri foothills of the Western Ghats

Community seed banks can certainly help ensure food security in a climate-risked world, but they need to better understand their role to truly make a difference. They have to focus on what helps the 'seed cause,' and helps preserve the wealth of crop and plant diversity and share it widely, while opposing any attempts to privatise it.

The people working with seeds and community seed banks must get together and safeguard their common heritage handed down since generations. Community seed banks must strengthen and spread local knowledge, seed diversity, and collective farmer ownership to stay effective, while overcoming challenges like lack of supportive government policy and inadequate resources. Bharat believes that community seed banks of traditional varieties in every taluka/tehsil are vital for ensuring food and nutrition security in a climate-risked world.

Traditional seeds are vitally important because they have adapted over very long periods to local conditions, and also provide diverse qualities to meet diverse needs and preferences. Seeds have travelled far and wide over long periods, undergoing both selection for desired features by seed-saving farmers; and also adaptation to specific local/bio-regional conditions. Seed savers and plant breeders have historically played a role in selecting seed varieties for preferred traits in crops. They do such selection and replanting for several generations of each crop until they develop a stable variety with consistent qualities. This process ensures that the seeds emerge with distinct identifiable qualities, consistent across the same plant variety, and remain stable over time.

India is said to have a 10,000-year history of agriculture. Of this, 9,940 years was traditional chemical-free agriculture with self-saved, locally adapted seeds. This largely provided for the needs of the entire country that already had one of the highest population densities in the world – even before the Green Revolution took off in 1966. For example, there is a reference to an estimated 200,000 varieties of rice in India in Dr. R.H. Richharia's book, 'Rices of India'. He collected over 14,000 rice varieties just from the Madhya Pradesh region, which then included Chhattisgarh, considered a global center of origin and diversity for rice. Out of these, 1,700 varieties were high-yielding, even better than many Green Revolution-promoted varieties. They included diverse features, different colors, shapes, sizes, flavors, fragrances, and various other qualities like resilience to drought, floods, and pests. This diversity, adapted to local conditions, is a most precious treasure for long-term sustainability.

Until 1965-66, there was significant resistance in India to Green Revolution technologies, which emphasised chemical fertilisers. Agricultural experts (like Dr. R.H. Richharia), and policymakers (like agriculture minister, Dr. K.M. Munshi), and before them, leaders like Vinoba Bhave and Gandhi – strongly advocated for the indigenous agricultural system rooted in traditional organic farming with local crop varieties.

But by the latter sixties, India's government was aiming not only for rural agricultural self-sufficiency but also for surplus production to enable increase in urbanisation and industrialisation. The shift in government policy weakened resistance to Green Revolution technology. The Planning Commission reasoned that focusing on two main cereals, rice and wheat, could help generate enough surplus for the basic sustenance of urban populations, facilitating further urbanisation and industrialisation. Semi-dwarf and dwarf varieties were introduced as India's traditional varieties of grain crops like rice, wheat, and millets were usually tall, and thus prone to lodging, where the plant bends and falls over after application of chemical fertilisers.

Despite Green Revolution, the indigenous method of mixed cropping agriculture, using traditional crop varieties has remained resilient, at least in remote, poorly connected regions where it is difficult to get agricultural inputs to, or bring food out from these places. In such places, indigenous communities, with their wisdom, continued with their traditional methods, practicing mixed cropping of their indigenous varieties.

For example, in the Niyamgiri foothills of Odisha, they plant different kinds of millets together, alongside vegetables, and even sow plants like marigold, tulsi (holy basil), or kadi patta (curry leaves) within those fields. Another example is the Barah Anaj system of Uttarakhand, revived by the Beej Bachao Andolan, currently led by veterans like Vijay Jardhari. Even in dry, low rainfall (unirrigated) regions of western India, traditional farmers were able to combine cotton, several millets and pulse-legumes to get continuing yields round the year to meet their needs.

These poly-cultures are very resilient and can withstand all kinds of diseases and pest problems because they have a broad genetic base. The problem of pest attack spreading like wildfire, for instance, is absent, and even if there is some pest damage, it doesn't spread rapidly. Traditional seeds and crops are decentralised, open-pollinated, open-source, more resilient and better adapted to diverse local conditions and grow quite well with organic methods. Weather patterns are becoming increasingly unpredictable. There are times of excessive rainfall, cloudbursts, and floods that destroy crops; or there are long dry spells between two rains, causing planted, germinated seeds to die. With diverse cropping, even if a few varieties succumb to harsh or unseasonal conditions, others survive. In fact, when some plants die, their neighbouring plants get more space and sunlight and can grow better. So even then, the total harvest may still be excellent.

And that is why our indigenous and locally adapted seeds are important for the future world, the climate-risked world, with depleted groundwater resources, and potential disruption of fossil fuel supplies and other imported chemical inputs like phosphorous, potash or scarce micro-nutrients.

According to the Gaia Atlas of Planet Management, edited by Norman Myers, there are an estimated 80,000 species of plants that are edible for humans—not just for birds, bees and animals, but humans. This genetic wealth of crops and biodiversity is absolutely critical for the future. It includes plants that will grow even under harsh, unpredictable conditions, without any agricultural inputs. As compared to 80,000 humanly edible plant species gifted free by Nature, we are now tragically reduced to a situation where just 8 crop species today provide 75% of all human food!

We need all kinds of seed banks. We need in-situ seed banks in our forests, and in situ cultivated diversity in farmers' fields. Even if they are not organised into formal community seed banks, such decentralised seed banks for every cluster of 100-200 villages can help the farming community all around them.

My personal, involvement has been more closely with Vanvadi. This is a 30-year-old forest regeneration project in the foothills of the Sahyadri Western Ghats, a 'global hotspot of biodiversity'. Apart from the vital eco-system services it performs, I look at Vanvadi as an in situ seed bank of forest species. We documented about 120 traditionally useful species, including 52 species of uncultivated forest foods growing in the forest. We want to continue enhancing the diversity so that this is also available for those who want to take seeds or saplings. It becomes in a sense, sort of a natural seed bank for forest species, but it is not really organised as a seed bank.

At the national level, the Bharat Beej Swaraj Manch (BBSM) or India Seed Sovereignty Alliance was formed in 2014. But for several years prior to that, the seed saving and sharing movement was already getting revitalised through seed festivals organised in different parts of India. Among the early seed festivals in this millennium were those organised in Mumbai and Pune in 2010, Kolkata (2012), followed by a mega 'Peoples' Biodiversity Festival' in Hyderabad, parallel to the global gathering of the Convention on Biodiversity (CBD). Thereafter, several dozens of seed festivals have been organised in various parts of India, including New Delhi, Nagpur, Wardha, Mysore, Manipur, Kerala, Telangana, and many other places.

At almost every seed festival, BBSM publicly releases a seed declaration or seed manifesto. In recent years, a number of smaller seed festivals have been organised at a bioregional level with the participation/support of BBSM. Sometimes, informal gatherings are held with local farmers, where they are asked to bring seeds which they can share, and they can take seeds.

As we go along, the seed saving and sharing movement must try to be better organised in terms of documenting all the various species, and the uses and the related knowledge, preserved as a precious shared bio-cultural heritage.

But sadly, seeds have become big business. If you look at recent trends, continuing since several decades, big agri-corporates are going all out to gain access to the enormous genetic treasures still existing in our country and some other parts of the world. Today, even more than ever before, big agri-business interests are prospecting genetic bio-resources for enhancing their market control; and this genetic material, contained in seeds and plants is one of the most critical assets for the future.

We have the PPVFRA (Protection of Plant Varieties and Farmers' Rights Act; and the Protection of Plant Varieties and Farmers' Rights Authority), and the registration system. But we have had a lot of old, open-source farmers' seeds being claimed to be the private wealth of an individual farmer, just because he was the first to go there and register it.

When the government started this Act, it acknowledged the existence of numerous varieties of common knowledge,s which they assured will be protected from privatisation. But a few decades later, they haven't even begun yet the task of documenting and recording all these pre-existing varieties of common knowledge that were passed down over many generations of farmers. And such common heritage varieties are being unethically registered as privately owned varieties, merely because they were the first to be recorded before the PPVFRA.

So, this privatisation of our genetic wealth is a tricky situation, with potentially grave consequences down the line. The farmer who has successfully registered a variety in his name can then conceivably sell it to a multinational. Certainly, farmers and seed savers need to be more thoughtfully alert and better organised to safeguard our genetic commons from privatisation.

Community seed banks and seed savers and plant breeders and farmers need to get better organised to ensure that farmer's varieties are registered as their collective heritage under Protection of Plant Varieties and Farmers Rights Act. They should have good Material Transfer Agreements – explicitly protecting the seeds from privatisation – with the farmers they supply to. Or sometimes, seed sharing with well known neighboring farmers may be based on trust that the recipient is a good, reliable farmer; and he's not going to go and pass on these seeds to someone who will register it in his own name and make it a private variety.

All community seed banks and seed savers must declare their seeds as an open-source collective heritage with mandatory protection from privatisation; and press upon the government to recognise and register them as such. Additionally, every farmer must pledge to conserve and widely share at least one seed variety. It is only though such widespread, decentralised availability of our traditional, locally adapted seeds that India can protect her food security and sovereignty. Beej swaraj must be our key motto!

Vijay Jardhari
Founder, Beej Bachao Andolan (Save the Seeds Movement), Uttarakhand

Beej Bachao Andolan is a non–formal group of farmers and activists working to conserve traditional seeds, crops, and farming practices

The movement, which was started in 1980's, remains unregistered by choice, does not take any external funding, and places small farmers at the center of its vision. We have met three major milestones. First, at a time when traditional seeds and farming practices were being abandoned, the movement helped bring back respect and recognition for them. Today, the conservation of local seeds is widely accepted, and the early efforts of the movement stand vindicated. Second, Beej Bachao Andolan has preserved and shared hundreds of varieties of local grains, millets, pulses, oilseeds, and spices through free exchange, encouraging farmers to save and share seeds at the community level. Third, the movement has revived the traditional Barahnaja system, a mixed farming method where twelve or more crops, which had nearly disappeared under the pressure of commercial agriculture, are grown together.

A community seed bank is a tool to make farmers and farmer–led organisations stronger and self–reliant. In the Himalayan region, agriculture is deeply rooted in culture, and every farmer traditionally maintains independent seed stores, which in the local language is called, "Bijunda". The containers for *bijunda* are made from wood, bamboo, clay or mud, and also tin. There are different traditional methods for safely storing seeds in the bijunda. We have made numerous ground–level efforts to preserve and sustain this culture of seed storage.

Farmers have long known that sowing the same type of seeds repeatedly in the same field leads to seed deterioration and reduced yield. That's why farmers collectively practice seed exchange, allowing them to introduce new seed varieties into their fields. This not only increases yield but also turns seeds into community wealth,

fostering collective responsibility. Before harvesting the crop, farmers identify the best–yielding portion of the field. This selected part is marked. Women farmers are especially involved in this process. They remove weeds and weak stalks and choose only the strongest ones for seed.

This process of seed selection is called 'Rotiyaana'. The part of the crop chosen for seed is harvested, threshed, and dried separately. After that, traditional purifying substances like ash, cow urine, or pest–repellent herbs are used for purification before storing the seeds in bijunda. Each crop has a different method of storage. These bijundas are independent seed banks found in different farmer households but the seeds stored are considered community property. Today, in every village and community, self–help groups and collective organisations are forming CSBs. These organisations need to understand the post–Green Revolution crisis in agriculture and seed systems.

It is crucial to raise awareness among farmers about the problems caused by chemical farming to humans, animals, and the environment. One major challenge is to sensitise farmers and ensure official recognition for community–based seed banks in government agriculture policies.

Another major challenge is for the government and agriculture departments to provide the necessary resources such as wooden, mud, and bamboo containers and proper infrastructure for seed storage. Progressive farmers who cultivate and conserve seeds should be recognised under national seed laws. If some farmers can create self–reliant resources through their own SHGs, it will be even more beneficial.

The Beej Bachao Andolan has successfully established seed banks with nearly 400 varieties of rice, maize, sorghum, nutritious grains (millets), pulses, and oilseeds without using external resources.

Private seed banks are living banks. They must be grown every season to stay alive. They are not like financial banks for deposits or like gene banks for cold storage, they are directly connected to cultivation and harvest. These banks are not used for hybrid seeds.

In times of climate crisis like droughts, floods, and other natural calamities, community seed banks not only provide food security but also ensure nutrition, because the seeds stored are tailored to the community's actual needs. Experience shows that millet seeds and other traditional crops endure drought and flood

conditions and still provide food and nutrition security. For instance, during the 1986–87 and 2009 droughts in Uttarakhand, the yield of nutritious millet crops like ramdana (amaranth), mandwa (finger millet), and jhangora (barnyard millet) did not decline.

The bijunda is the farmer's personal seed bank and this puts protection in their own hands. All the seeds they need for any season are available at home. It is a sign of self–reliance, especially when rains are erratic. It is unaffected by inflation. It runs without capital or the need for bank loans. It is a resilient seed bank.

In his writings on the Himalayan region, British officer George Francklin Atkinson described the historical famine of 1852, also known as *Bavani ka Akal* in Garhwal. He wrote that, 'a mountain farmer would die, but never eat from his stored seeds.' During the famine, when his team visited villages, they found dead bodies yet inside the homes, the bijunda were untouched and safe. People chose death over consuming their seeds, knowing that the seeds were vital for future generations.

A popular Garhwali saying goes: Khaja khand aur beejdharan (Eat the grain from the harvest, but always save the seed.) Indeed, seeds are nature's valuable property, and just like human lineage, the seed lineage must also continue.

Kavitha Kuruganti
Founder Convenor of Alliance for Sustainable and Holistic Agriculture (ASHA)

ASHA is a pan-Indian alliance of more than 400 organisations that have come together to secure India's *Food, Farmers and Freedom*

It is time to re-imagine what community seed banks mean in India. The imagination of community seed banks has to go beyond a physical space or room where the diversity is on display or some seed quantities are being stored through traditional practices. The real work lies in building institutional systems that can popularise native seeds in a meaningful, end-to-end manner. Infrastructure is necessary, but not sufficient.

Seed banking will only be taken up with interest if there is demand from cultivating farmers in a community. And such farmers will demand traditional varieties only when end-consumers begin demanding produce made from these varieties. In other words, community seed banks cannot function in isolation, they must be embedded within a full ecosystem that starts from high-quality seed stocks and ends in conscious consumption. This includes not just physical infrastructure, but also investment in knowledge, human resources, and awareness. All of this requires adequate and appropriate investments.

There is a long-standing challenge as there is lack of recognition from India's formal scientific community and the National Agricultural Research System (NARS) when it comes to local seed varieties. There has never been any real appreciation of local landraces—except a tendency to collect and preserve them in gene banks, away from the fields and farmers. The nutritional qualities, stress tolerance, and cultural significance of these traditional varieties remain largely unacknowledged in mainstream agriculture science. We have seen some desi cow breed-related push from the current government, but unfortunately, not for traditional landraces of crops and trees.

Community seed banks can help ensure food security in a climate–risked world. India's food security, throughout the past many decades, has been upheld by informal seed systems or community seed systems. While this varies across crops and regions. A large part of Indian agriculture is still sustained by seeds that come from these community–based systems.

If community seed banks are based on traditional landraces and diverse native varieties, they do more than just preserve biodiversity. They bring greater resilience and better nutritional outcomes. Diversity–based farming that seed banks can facilitate is, in fact, a real solution for a climate–risked world.

To ensure that community seed banks remain relevant and effective in the future, there is need for long–term, systemic investments. We need consumer education and demand creation. We need serious investments in seed conservation, multiplication, storage, and the institutional architecture of these seed banks.

It's not just about building storage spaces, it's about creating resilient, people–centered ecosystems. This includes infrastructure as well as human resources, knowledge sharing, and local stewardship. All of it must be valued and supported. While hybrid varieties are being promoted, a large portion of India's agriculture still relies on what is often called the 'informal seed system'. These can be described as a community seed system, since it is rooted in traditional practices of farmers saving, selecting, and sharing seeds among themselves, rather than receiving them from formal public or private sources.

The Doubling Farmers' Income Committee Report (Volume 7) cites that around 65 per cent of India's seeds come from these community–based systems. Even when seeds come from organised systems, like large companies or public institutions, much of the ground–level work, such as seed multiplication, happens through informal arrangements with local farmers, often without contracts. For instance, a company like Monsanto may produce hybrid maize seeds, but it relies on local 'seed organisers,' who work informally with farmers to grow and collect seeds. These farmers, despite lacking formal recognition, possess valuable knowledge and play a central role in the seed system.

India's food security is still largely supported by these community seed systems, especially for food crops like wheat, paddy, millets, pulses, and oilseeds. On the other hand, crops that are more dependent on hybrids, such as cotton and maize, are not staple food items. In fact, most of the maize grown in India is not consumed as food but goes into industrial uses like ethanol and starch.

Research on community seed banks should expand to look at the broader community seed system. These systems, often overlooked, are fundamental to India's agricultural resilience and should be recognised as such. Informal or community seed systems are not only still widespread in India but are also crucial to food production and security, even if they operate outside of the formal, visible supply chains.

SEED DATA COMPENDIUM (IN TABLES)

Seed banks, varieties and custodians

This chapter presents a series of tables capturing insights from NGOs and Community Seed Banks (CSBs) engaged in the conservation and promotion of traditional and landrace seeds across India. These organisations are at the forefront of efforts to safeguard seed diversity and ensure seed sovereignty at the grassroots. The tables provide a detailed overview of the crops these actors focus on—ranging from rice, pulses, millets, and oilseeds to vegetables and other region-specific varieties. Where available, specific crop varieties being conserved and promoted have been included to illustrate the depth and richness of local biodiversity.

In addition to organisational efforts, the chapter also highlights the work of individual seed savers who have been recognised nationally or regionally for their contributions to preserving indigenous seed varieties. Together, these tables offer a composite view of the collective, decentralised efforts driving seed conservation in India. They highlight not just the range of crops they conserve but also the broader implications for food security, climate resilience, and biodiversity conservation, as well as the collective efforts to support farmers.

VIKAS CHOUDHARY/CSE

Different millet varieties on display

6.1 Responses from NGOs

Andhra Pradesh

Organisation/ Individual	Seed bank	Crop name	Crop variety/ local landrace	Characteristics
Sri Satya Sai Farmers MACF Limited	Anantapuramu and Sri Sathya Sai districts	Groundnut	TCGS–1694 (VISISHTA)	100–110 days crop yields up to 45 quintals per hectare, high oil content, best for Rabi, suitable for wetlands.
Centre for Sustainable Agriculture (CSA–India)	A) Musalareddygaripalli Village, Tallapalli GP, Vempalli (M), Kadapa	Rice	Kujipatalia	Traditional
	B) Vemula Seed Bank, Bhumaiahgaripalli Village, Vemula Mandal		Navara	
	C) Proddatur FPO Seed Bank, Tallamapuram		Rakta Sali	
	D) Village PO Seed Bank, Tallapalli Village		Rathna Chudi	
			Black Rice	
			Sidda Sannalu	
			Dudeswer	
			HMT	
			Chittimutyalu	
			Bahuroopi	
			Barma Black	
			Narayani Kamini	
			Kala Batti Radhajigel	
		Brinjal	Mulla Vanga	Native
		Bitter Gourd	Boda Kakara (Chitti Kakara)	
		Okra	Mulla Benda (Chenu Benda)	
		Horse gram		Climate resilient

Bihar

Organisation/ Individual	Seed bank	Crop type	Crop variety / Local Landrace/Traditional	Characteristics
Ghoghardiha Prakhand Swarajya Vikas Sangh (GPSVS)	Ghuskipatti, Jahalipatti in Madhubani district	Rice	Kalabhat	Survives 3–4 feet of water stagnation
			Kariyakamat	Deep-rooted, high-yielding flood-resistant variety
			Dhusri	Thrives in high-moisture environments
			Gola kushund	Flood tolerant
		Millets	–	Traditional
		Wheat	–	
		Peas	–	
		Lentil	–	
		Black gram		
		Local varieties of brinjal, pumpkin, lady finger, parbal, chilli and leafy greens		

Chhattisgarh

Organisation/Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
SangataSahabhagi Gramin Vikas Sansthan	Community Seed Banks Pakani (Sautar)	Paddy	–	Traditional
DaroharSansthan, Sahabhagi Samaj Sevi Sanstha	Various indigenous seed conservation projects	Millets	–	–

Gujarat

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
Cohesion Foundation Trust	UJAS Seed Bank Kandha, Ta– Vansda, Dist– Navsari	Rice	Mumbaigiri	–
			Chaichun	
			Hari	
			Najare	
			Lal Kada	
			Ganda Bhat	
			Jeere	
			Mohmaya	
			Manipuri	
			Chinipuni	
			Navara	
			HMT	
			Daptari	
			Basmati	
			Ambamor	
		Nagli/Ragi	Dab Nagli (red)	
			SitoliNagli (safed)	
		Sorgham/ Jawar	Boru (safed)	
		Pigeon Pea/Toor	Vadali Toor	
			Safed Toor	
		Val Papdi (Field Beans)	UmdaVal (red)	
			Kadva Val	
		Peas	Vatani (small size peas)	
		Chana	Desi Chana	
		Bottle Gourd	Tumda Dudhi	
			Davli Dudhi	
			Tarpu Dudhi	
		Bottle gourd, sponge gourd, and seeds for Bhindi (okra) and Lal Bhaji (red amaranthus)	3 varieties, 1 variety	
	UJAS Seed Bank Rangpur, Ta– Vansda, Dist– Navsari	Rice	Lal Kada	–
			Navara	
			Kalubhat (100 days)	
			Kalubhat (120 days)	
			Basmati	
			Dudhmalai	
			Mohmaya	
			Manipuri	
			Devbhog	
			Golden Navra	
			Chapure	
			Salim Sana	
BAIF	Multiple seed conservation initiatives			–

Jharkhand

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
Vikas Sahyog Kendra (VSK)	Village– Hutukdag, Block – Chhattarpur, Dist. – Palamu	Maize	Sathiva	–
			Pirwa	–
			Chaurwa	–
		Rice	Padeya	Adapted to rain–fed conditions
			Amaghawad	Adapted to rain–fed conditions
			Gajmukta	Adapted to rain–fed conditions
			IR–36	–
			IR–64	–
			Mansuri	–
		Finger Millet (Ragi)	Bhadaee	Heat and drought–resistant
			Lapadwa	Heat and drought–resistant
		Barnyard Millet	Sawan	–
		Jowar	–	–
		Bajra	–	–
		Pigeon Pea (Arhar)	Maghara	–
			Ramrahriya	–
		Lentil	–	–
		Mung Bean (Moong)	–	–
		Grass Pea (Lathyrus)	Dhelahwa	–

Karnataka

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
ANISHA	ANISHA Native Seed Bank (Chamarajnagar)	Millets	Ragi (finger millet)	Drought tolerant crops that can survive with less rainfall
			Pearl millet	
			Foxtail millet	
			Proso millet	
		Oil Seeds	Various oil seeds	
		Paddy (rice)	Various paddy varieties	
		Vegetables	Various vegetable varieties	
		Manure Seeds	Various manure seeds	
Green Foundation, Vrutti	Janadhanya, Kanakapura, Ramanagara District	Millets	110 traditional and native finger millet varieties	
		Paddy (rice)	72 varieties of paddy	
		Vegetables	Various vegetable varieties	
		Green Leaves	Various green leaf varieties	
		Pulses	Various pulses varieties	

Kerala

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
OFAI	Illiyas KP, Shoranur, Palakkad	Rice	76 traditional varieties	Various traditional rice varieties conserved
			Nadan Kuruva	Drought–tolerant variety
			Rakthasali	Flood–tolerant variety
			Kuttadan	Flood–tolerant variety
		Banana	All local varieties	Drought–tolerant banana varieties
		Tuber Crops	20 traditional varieties	All local tubers are climate–resilient

Madhya Pradesh

Organisation/ Individual	Seed bank	Crop name	Crop variety/Local landrace	Characteristics
Aga Khan Gram Samarthan Sansthan	Shri Mahakal Seed Bank (Indrakheda, Khandwa)	Millets	Kodo, Kutki, Rala, Ragi, Sawa, Jigani, Bajra, Jowar	Crucial in a climate–risked world. Small grain farming is essential for preserving traditional agriculture and ensuring nutritional security.
Routes to Roots	Individually managed natural farms	Tomatoes, Carrots, Brinjal	–	Traditional varieties, grown naturally.
		Chana, Perennial Toor–	–	Toor can grow up to 15 feet in height, with a diameter of 10 feet, yielding up to 15kg per plant.
		Peanuts	–	Traditional variety
		Guava	–	Native variety; heat–tolerant, minimal irrigation
		Papaya	–	Traditional Indian varieties; heat and drought–tolerant.
		Wheat	Bansi	Traditional variety; high–gluten, adaptable to rain–fed conditions
Abhar Mahila Samiti	Block Lavkushnagar, District Chhatarpur, Village Ratanpara	Gehun (Wheat), Chana	–	Traditional varieties, some require more water
		Arhar, Moong, Udad	–	Improves soil fertility, requires minimal water
		Sarso, Moongphali	–	Some require more water.
		Bajra, other millets	–	Traditional crops suited to local conditions.
		Various local vegetables	–	Traditional and locally adapted varieties.

Nagaland

Organisation/ Individual	Seed bank	Crop name	Varieties	Characteristics
North East Network (NEN)	Chizami Community Seed Bank, Chizami village (Phek)	Plain white rice (non–sticky)	Tena Keze, Tena Kade, RuboleKetseKekru, Dzusa Ru Be, Zasheyi Ru, Rape Ru, Kotisu, Pfutsemi Ru, Zupforu	Yellow color, height 3 to 5 ft, grown in cold and warm areas
		Plain red rice (non–sticky)	RuboleKetseKerha, Chizami Ru, Tedzu Ru, Tena Keha, Chathe Ru	Yellow or sunset yellow color, height 3–5 ft, grown in cold, warm and very cold areas
		Moderate sticky white rice	RuboleEphe Keha, Khuzhabo Ru Keha, Mekrirela Ru, Missionary Ru, Bache Ru (cold and warm)	Yellow color, height 3–5 ft, some with long seed or purple and maroon roots, grown in cold and warm areas
		Moderate sticky red rice	Rubole Mene, Khuzhabo Ru Kekru, Kakhrimi Ru	Yellow or sunset yellow color, height 3–5 ft, grown in cold and warm areas
		Scented white rice	Tura Ru	Brown–striped yellow color, 5–6 ft (Warm Areas)
		Scented sticky white rice	Tenibe	Dark brown seed or yellow color, height 4–5 ft, grown in cold and warm areas
		Black rice (moderate sticky)	Kechu Ru	Black seed, height 4–5 ft, grown in cold and warm areas
		Off–white rice (non–sticky)	Ewutanyi	Yellow color, height 4–5 ft, grown in cold areas
		Sticky white rice	Dzusa Ru Menebe, MenabeMezolhi Ru, Menabe Mode Ketsi, Menabe Mode Kadu, MenabeRubole, PolaruMenabe, Rhezumi Ru Menabe, MesulumiMenabe, PochukhinyiMenabe	Brown with yellow stripe, yellow, tail seed, black stripes; height: 3 to 6 ft; grown in cold and warm areas, warm areas, cold areas
		Plain millet	Meratshu, Tsuzelu, Menibru, Tumele, Ewutshu, Eletsu, Kerhatsu	Brownish, black (hairy), yellow, red; height: 3–4 ft; grown in cold and warm areas
		Sticky millet	Ephekerhatsu, Menatshu	Yellow; grown in cold and warm areas
		Millet (slightly sticky)	Kutsantshu	Yellow, height: 3–4 ft; grown in cold and warm areas
		Finger millet	Ebatsutsu	Brown; grown in cold and warm areas
		Sticky (short) millet	Thotsebe Mene	Grey with blue tint, height: 3–4 ft, grown in cold and warm areas
		Plain (short) millet	ThotsebeKetse	Grey with blue tint, height: 3–4 ft, grown in cold and warm areas
		Plain white millet	ThotsebeKekru	Height: 5–7 ft, grown in cold and warm areas
		Sticky brown (hard skin) millet	Thotsebe Mene	Height: 5–7 ft, grown in cold and warm areas
		Plain brown (soft skin) millet	ThotsebeKetse	Height: 5–7 ft, grown in cold and warm areas
		Sorghum (white)	TenakruKekru	Height: 5–10 ft, grown in cold and warm areas
		Sorghum (red)	TenakruKerha	Height: 5–10 ft, grown in cold and warm areas

Organisation/ Individual	Seed bank	Crop name	Varieties	Characteristics
		Maize	ElinoMekrita	Light orange, height: 8–12 ft, grown in cold and warm areas
		Maize	Etsunhetsu	Mixed colour, height: 8–12 ft, grown in cold and warm areas
		White maize (Sticky)	Pochumi	Height: 6–10 ft, grown in cold and warm areas
		Purple dark maize (sticky)	PochumiKechu	Height: 6–10 ft, grown in cold and warm areas
		Mixed maize (sticky)	Pochumi Kere	Height: 6–10 ft, grown in cold and warm areas
		Yellowish white maize (sticky)	PochumiMezu	Height: 6–10 ft, grown in cold and warm areas
		Maroon maize	MekritaKerha	Height: 8–12 ft, grown in cold and warm areas
		Plain white maize	MekritaKekru	Height: 8–12 ft, grown in cold and warm areas
		Puff corn maize	MekritaMapukru	Yellow, height: 6–8 ft, grown in cold and warm areas
		Red seed maize	Keni Kerha	Grown anywhere
		Black seed maize	Keni Kecu	Grown anywhere
		White seed maize	Keni Kekru	Grown anywhere
		Short plant (brown seeds) maize	Keni Buwa	Grown anywhere
		Sesame	Pochu	Black seed, grown anywhere
		Coriander	Dhaniya Edipfuzu	Wild coriander, long and spikey, grown in cold and warm areas
		Coriander	Dhaniya Kade	Big leafy coriander, less fragrant, grown in cold and warm areas
		Coriander	Dhaniya Ketsi	Small leafy coriander, more fragrant, grown in cold and warm areas
		Basil	Netsu	Fragrant basil, black seed, grown in cold and warm areas
		Basil	Netsu Keda	White head basil, white flower, grown in cold and warm areas
		Rosella	Kekronyi (red plant)	Red plant, dark brown seed, favorable in warm areas
		Rosella	Kekronyi (green plant)	Green plant, dark brown seed, favorable in warm areas
		Mustard leaves	MenayieEvokeni, MenayieKetsi Mene, MenayieMechupfu, MenayieEchupfopfo, Menayie Mene Thobu	Evokeni: Big, green; Ketsi Mene: small, soft, green; Mechupfu: small, hairy, green; Echupfopfo: thin, curled, green; Mene Thobu: radish–shaped, soft, all of which are grown in cold and warm areas
		Cabbage	Kubi Mene Kerhoketo, Kubi Kerhoketu, Kubi Kezuke To	Mene Kerhoketo: Long stem, thin spreaded leaves, Kerhoketu: Long stem, thick spread leaves, grown in cold and warm areas

Organisation/ Individual	Seed bank	Crop name	Varieties	Characteristics
		Beans	Erumedzu (Short), Kerha, Evoribo, Erumedzu (Long), KubatseKekru, KubatseEbokepfo, KubatseKerha, KechutsheKetse, Khrokhrotse, Kuzhakhubutse, Ebo Kehutse, Ezathochetse, Kechutse Keha, Chure Mene, ChureKetse, Karhurhude, Karhurhutsi, Karhurhujo, Kethunawu, Arhuketsi, Arhukade, Arhukecu, Tsulutse (Long), Tsulutse (Short)	Kidney beans (pink–blue–red striped seed, white base); black seed; soft and hard cover; long white bean creeper; green beans (creepers – long, short, short sat, flat); maroon beans (creepers); purple beans (Flat purple, creepers); Green and black seed variety (soft cover, creepers); Rice beans (hard cover, creepers); Naga dal (green – light yellow seed, small light yellow seed, green cover with green Seed, Green Cover with Greyish Mix Seed); Soya Bean (Hairy Cover – Light Yellow Seed, Yellow; Black Seed, Brownish); Long & Short Green Wing Bean (Brown Seed). All grown in cold and warm areas except Naga dal (green – light yellow seed) which grows in warm areas.
		Peas	Motor (Soft Peas)	Yellow, grown anywhere
			Motor (Peas with Cover)	Yellow creeper, grown anywhere
			Motor (Hairy Peas)	Light green and brown seed, grown anywhere
		Sponge Gourd	Rasuse (Scented)	Flat black seed, grown in cold and warm areas
			Rasuse (Long)	Flat black seed, grown in cold and warm areas
			Rasuse (Short)	Flat black seed, grown in cold and warm areas
		Bottle Gourd	Eriha	Used as natural bottle, grown in cold and warm areas
		Pumpkin	Mude (Big Pumpkin)	Very big, grown anywhere
			Melomi (Medium Pumpkin)	Normal pumpkin, medium seed, Grown Anywhere
			Hamuha (Heart Shaped)	Small and roundish, grown anywhere
			Thurha (Dull Orange)	Little elongated shape, powdery looking, grown anywhere
			Hamuh Ketha (Long Shape)	Vertically long, grown anywhere
		Ash Pumpkin	Muso Thobu	Scented, smooth looking skin, grown anywhere
			Muso Ezatha	Scented, smooth skin, grown anywhere
		Cucumber	Payitse Mene (Soft Shell)	Soft to bite, grown anywhere
			PayitseKetse (Hard Shell)	Hard to bite, grown anywhere

Organisation/ Individual	Seed bank	Crop name	Varieties	Characteristics
		Taro	EdzunuDzubu, EdzunuDzurha (Red Malanga), EdzunuMekriDzu (Tropical Malanga), EdzunuEtsheDzu (Bigger Malanga), EdzunuEsodzu (Smaller Malanga), EdzunuDzutha (long and short), EdzunuEtsephakhDzu, EdzunuYidekha	Small, potato-like, slippery; red or white base when peeled; overgrowth like ginger (big and small); grows outward (above ground); edible stem (raw), no fruit; big and round shape; grown anywhere
		Sweet potato	Mekarhu (Red)	Red skin, grown anywhere
			Mekarhu (White)	White skin, grown anywhere
			Alu Kerha (Red)	Red skin, grown anywhere
			Alu Kekru (White)	White skin, grown anywhere
		Yam	Emimewe (Red Yam)	Very long and big, grown anywhere
			Emimewe (White Yam)	Very long and big, grown anywhere
			Ewebazu	Short, purple and white when sliced, grown anywhere
		Chilli	KutsamiTshutsheKekru, EfubruzuTshutshe, Kutsatshutshe, Etshutshe Mejo, EtshutsheEvotsu Ruso Mejo, EtutsheThobu Mejo, EtutsheKechu Ketha, EtutsheKechuKedzu, MekhretshutsheKekru Ketha, MekhretshutsheKekruKetsi, Mekhretshutshe Mejo Ketsile, Mekhretshutshe Mejo Ketsi, Etshutshe Mejo Kethao	King Chilli White (yellowish white, 2–4 ft), King Chilli Brown (brownish, 2–4 ft), King Chilli Green (green, 2–4 ft), Small Chilli (normal) (green, 2–4 ft), Curl-Shaped Green Chilli (medium sized, 2–4 ft), Short Fat Chilli (green, short and fat, 2–4 ft), Long Black Chilli (black and long, 3–5 ft), Short Fat Black Chilli (short and black, 3–5 ft), White Long Chilli (grows upward, 3–6 ft), White Small Chilli (grows upward, 3–6 ft), Green Very Small Chilli (grows upward, 3–6 ft), Green Small Chilli (grows upward, 3–6 ft), Green Long Chilli (15–30 cm, grows upward, 3–6 ft); cold and warm areas
		Tomato	BonatseMezu, Bonatse Keha, Bonatse Keha Tesu, Bonatse Keha Ketsi, Bonatse Ketha Thobu	Cherry Tomato; yellow, flat and round (Mezu), red, flat and round (big) (Keha), round (medium) (Keha Tesu), round (small) (Keha Ketsi), red and long (Ketha Thobu); cold and warm areas
		Eggplant	Lekhutse (green, white, purple), Lerutse (bitter eggplant), Kudetse (green, purple, white)	Small, round (Lekhutse), tiny, round, green (Lerutse), vertically long (Kudetse), grown anywhere
		Lady Finger	Bendi	Plain Lady Finger, small and big fat sized, grown anywhere

Odisha

Organisation/ Individual	Seed Bank	Crop name	Crop Variety / Local Landrace	Characteristics
Harsita Priyadarshani	Harsita Priyadarshani Indigenous Seed and Grain Bank (Koraput)	Paddy (Rice)	Kalabati (Black Rice)	Drought & heat tolerance, short growing season, indigenous landrace, soil adaptability, grows in barren & dry fields
			Tulsi Bhog	(High Fibre Rice)
			Rogusai	
			Chhatianaki	
			Haladichudi	
		Millets	Bhalu	Drought tolerance, heat tolerance, short growing season, Indigenous Local Land Race of our Region, Soil adaptability, Cultivate Barren and Dry field also.
			Bhati	
			Mami	
		Ragi (Finger Millet)	-	Drought tolerance, heat tolerance, short growing season, Indigenous Local Land Race of our Region, Soil adaptability, Cultivate Barren and Dry field also.
Agragamme, Sambhav	Various seed conservation initiatives			
NIRMAN (Supported by SWISSAID)	Community Indigenous Seed Bank, Raisar (Nayagarh)	Paddy (Rice)	Basumati	
			Chinamali	Drought resistant
			Paunchhi	Wind resistant
			Baushamuta	
			Kandhalai	
			Niali	
			Dhusura	
			Barsha	
			Sariagota	Low water requirement

			Pareba	
			Chandra	
			Bishnubhoga	
			Alatapata	
			Turi Baikani	
			Ratanachudi	
			Shaluagaja	
			Kalajhira	
			aathaphutia	
			Hendalata	
			Baigana Manjhi	
			Kuluchi	
			Pathara	
			Kusumakundha	
			Saruchinamali	
			Borochheri	
			Kusumakoli	Low water requirement
			Banapuri	
			Gangabali	
			Nadiaphula	
			Turi	
			Limbaphula	
			Juli	
			Jhilipi	
			Kalakoili	
			Mukushila	
			Kala bhutia	
			Bhutia	
			Mugajai	
			Lata	
			Nali Dhusura	
			Bajrachhunchi	
			Sathia	
			Dhala katashi	
			Kala putia	
			Sathar	
			kima	
			nali katashi	
			Kalakanchi	
			Dhalaputia	

			Ganjeijata	
			Annada	
			Kaburi	
		Pulses	Kauchi	
		Green gram		
		Black gram	Khunda Bhack gram (Khunda biri)	
			Laha- Bhack gram (Laha biri)	
		Pigeon pea	white Pigeon peas	
			red-Pigeon peas	
			big-pigeon peas	
		Horse gram	White-horse gram	
			black- horse gram	
			Red-Horse gram	
		Bellar gram	Big-Bellar gram	
			Small-Bellar gram	
			Black-Bellar gram	
			Long-Bellar gram	
		Cow pea	Ranga baragadi	
			Batula chana	
			Sarukhunda biri	
			Mankada danti	
			Laha kankadadandi	
			Baragadi	
			Tula Baragadi	
		Millet	Janhara	
			Khupa mandia	
			Kuiri	
			Suan	
			Badamandi khua mandia	
			Haladia maka	
			Dhala maka	
		Oil seed (Mustard)	Dhala sorisha	
			Chhota sorisha	
			Budha Sorisha	
			Denga sorisha	
			Peshu	
			Rashi	
			Jada	

		Okra (Bhindi)	Chhota bhendi	Disease pest resistant
			Bada bhendi	
			Chhota Janhi	
			Bada Janhi	
			Dhanua lanka	
		Dhania		
		Khadashaga		
		Brinjal	3 varieties	
		Sponge guard	3 varieties	
		Bottle gourd	2 varieties	
		Cucumber	1 variety	
		Okra (Bhindi)	3 varieties	
		Bitter gourd	5 varieties	
		French bean	6 varieties	
		Pumpkin	4 varieties	
		Tomato	4 varieties	
		Spine gourd	1 variety	
		Amaranthus	2 varieties	
		Guar	1 variety	
		khada saag	2 varieties	
		Tuber	Rasuna	
			Amba suadi ada	
			Baralendi saru	
			Narangi Haladi	
			Kala haladi	
			Ragini Haladi	

Telangana

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
Deccan Development Society (DDS)	Sangham Seed Bank, Machnoor Village, Sangareddy District, Telangana	Sorghum (Jonna)	Paccha Jonna, Erra Jonna, Gareebu Jonna	Paccha Jonna accumulates rainwater; Erra Jonna has softer flour; Gareebu Jonna is harvested quickly (100 days) and is bird-resistant.
		Pearl Millet (Sajjalu)	Not specified	Drought-resistant, nutrient-rich, ideal for low-rainfall regions.
		Foxtail Millet (Korralu)	Used in festivals	Withstands dry conditions, provides high yields.
		Little Millet (Saamalu)	–	Drought-resistant, grows in poor soils, requires minimal water.
		Barnyard Millet (Oodalu)	–	Grows quickly, thrives in low-input farming, flood-resistant.
		Finger Millet (Ragi)	–	High calcium content, improves soil fertility, drought-tolerant.
		Kodo Millet (Arikelu)	–	Pest-resistant, rich in dietary fiber.
		Pigeon Pea (Thogari)	–	Nourishes the soil, withstands erratic rainfall.
		Green Gram (Pesarlu)	Ganga Pesari, Chamki Pesari, Balenta, NeelalaPesari	Drought-resistant, rich in protein. Ganga Pesari sheds excess rainwater; Chamki Pesari is pest-resistant; Balenta is sticky-textured.
		Black Gram (Minumulu)	–	Used in intercropping, high protein content, improves soil nitrogen.
		Field Bean (Chikkudu)	Theega Bebbari, Erra Bebbari, Nalla Bebbari, MooduNelalaBebbari	Theega Bebbari is a long-duration creeper; Erra Bebbari has red seeds; Nalla Bebbari is more pest-prone.
		Cowpea (Bebbarlu)	–	Drought-resistant, nitrogen-fixing, provides fodder.
		Horse Gram (Ulavalu)	–	Heat-resistant, grows in poor soils, improves digestion.
		Chickpea (Senegalu)	–	Drought-resistant, requires minimal inputs.
		Red Lentil (Siri Senegalu)	–	Hardy, resistant to pests.
		Grass Pea (Lankalu)	–	Thrives in dryland farming, tolerates waterlogging.
		Sesame (Nuvvulu)	Tella Nuvullu, Nalla Nuvullu	Tella Nuvullu has high oil content; Nalla Nuvullu is used in rituals.

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
		Niger (Gaddi Nuvvulu)	–	Rich in iron, drought-resistant.
		Linseed (Aviselu)	–	High omega-3 content, improves soil health.
		Safflower (Kusumalu)	–	Protects against pests, used in multi-cropping.
		Mustard (Aavalu)	–	Pest-resistant, used for oil and greens.
		Wheat (Godhumalu)	Katte Godhuma, Boda Godhuma, NallamulluGodhuma	Katte Godhuma has strong panicles; Boda Godhuma is softer; NallamulluGodhuma has black thorns, grows in lowlands.
		Rice (Vadlu)	Tella Budda Vadlu, Nalla Budda Vadlu, Erra Vadlu, Poraka Vadlu	Tella Budda Vadlu has small grains; Poraka Vadlu is long-grained and fast-growing.
		Coriander (Dhaniyalu)	–	Grows well in red and black soils, improves digestion.
		Carom (Voma / Ajwain)	–	Naturally pest-resistant, helps in digestion.
		Sunflower (Poddu)	–	Used as a trap crop for pest management.
		Sorrel (Pundi Kura)	Thella Pundi, Erra Pundi, Nalla Pundi, GumozPundi	GumozPundi is grown for fiber; Erra Pundi has early-maturing seeds.

Uttarakhand

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace	Characteristics
BAIF	Khetikhan Community Seed Bank (Champawat)	Red rice (rufipogon)	Red rice	Climate–resilient traditional variety, lower lodging property, requires less manure and fertiliser, high nutritional value
		Rajma (Phaseolus vulgaris)	Rajma	Climate–resilient traditional variety, survives in water–logged conditions, highly resistant to pests and diseases
		Black Soybean (Glycine max)	–	–
		Finger Millet (Eleusine spp.)	–	–
		Kodo Millet (Paspalum spp.)	–	–

West Bengal

Organisation/ Individual	Seed bank	Crop name	Crop variety / local landrace/traditional	Characteristics
SwitchON Foundation	Multiple seed conservation projects	Paddy	Kalabhat	Flood–resistant (survives 3–4 feet water stagnation above soil surface)
			Jhanji Aus	Upland direct sown early variety; drought tolerant
			Jhulur dhan	Short duration of 90 days
			Chamatkar dhan	Very low nutrient & water requirement
			Radhunipagol dhan	Aromatic rice / Organic input best suited
			Kerala Sundori dhan	Submergence and drought tolerant
		Pulse	Bidi (Bhadria)	Urad dal of short duration and stress tolerant
		Millet	Arjuna	Short duration, High yielding Finger Millet variety
			Serali Gundli	Short duration, High yielding Little Millet variety
		Oilseeds	Sesame (Khosla variety)	Drought–tolerant, thrives in sandy soils
Amarkanan Rural Socio Environmental Welfare Society	Amarkanan Rural Socio Environmental Welfare Society Community Seed Bank	Maize, millets, ragi, vegetables	Many varieties	–

6.2 Community Seed Banks

Madhya Pradesh

Community seed bank	Location	Supporting organisation	Resource person	Crop name	Varieties conserved
Ahirwar Seed Bank	Village: Madani, District: Vidisha, MP	Caritas India and Manav Vikas Seva Sangh	Khemchand Ahirwar	Rice, maize, soybean, pulses, vegetables, fruits	Rain Me Sama, Maize, JS1569 Soyabean, 2034 Soyabean, RVS Soyabean, Black Lentil, Moong, Bengal Gram, Green Peas, Tomato, Eggplant, Bottle Gourd, Ladyfinger, Sorghum, Jowar, Kakun, Pigeon Pea, Cucumber, Ridge Gourd, Various Fruits & Roots
Jivan Seed Bank	Village: Karimati, District: Sidhi, MP	Village Development Committee	Biran Singh	Millets, pulses, vegetables, fruits	Sawa Millet, Kodo Millet, Jowar (Dodaniya, Jhalari), Kakun, Desi Macca, Desidhan (Jalhor, Karanthol, Lohandi), Jaw, Desi Chana, Desi Udad, Desi Masoor, Desi Arhar, Ladyfinger, Eggplant, Spinach, Tomatoes (Small & Desi), Papaya, Moringa, Guava, Jackfruit, Bel, Barwati, Palak, Semi, Chillies, Two Improved Varieties of Rice
Sita Ram Community Seed Bank	Village: Dhamnod, District: Vidisha, MP	Caritas India & Manav Vikas Seva Sangh	Pooja Bai	Wheat, Soybean, Vegetables, Pulses, Fruits	Wheat (306, 1544), Soyabean (95, 2044), Lauki, Gilki, Kakdi, Eggplant, Groundnuts, Sesame, Coriander, Bottle Gourd, Moong, Red Lentil, Bengal Gram, Luffa, Moringa, Papaya, Pisi, Ghuiya
Narajan Bij Bank	Village: Maidarani, District: Khandwa, MP	Caritas India	Mahendra	Millets	Kodo, Little Millet, Barnyard Millet, Foxtail Millet, Pearl Millet
Muthava Baba Group	Village: Devlikala, District: Khandwa, MP	Caritas India, ATMA (Agricultural Technology Management Agency)	Babu Sathe	Millets, Pulses, Vegetables	Kodo Millet, Little Millet, Indian Barnyard Millet, Finger Millet, Foxtail Millet, Pearl Millet, Brinjal, Kakdi (big & small), Toor Dal, Soyabean (JK)
Devmaharaj Kisan Samuh Seed Bank	Village: Kolua Jagir, District: Vidisha, MP	Manav Vikas Seva Sangh	Mamta	Maize, Rice, Pulses, Vegetables, Fruits	Maize, Rice, Bengal Gram, Green Peas, Beans, Soybean, Groundnuts, Tomato, Eggplant, Potato, Bottle Gourd, Onion, Coriander, Chili, Mango, Black Plum, Carrots, Radish, Sweet Potato, Mustard, Ginger, Garlic

Community seed bank	Location	Supporting organisation	Resource person	Crop name	Varieties conserved
Chote Anaj Bij Bank	Village: Devlikhurd, District: Khandwa, MP	Caritas India	Chotelal More	Millets	Kodo, Little Millet, Barnyard Millet, Foxtail Millet, Pearl Millet
Chikali Seed Bank	Village: Chikali, District: Vidisha, MP	Caritas India & Manav Vikas Seva Sangh	Rahisa Bi	Various Crops	50 local varieties including Rice, Maize, Eggplant, Pumpkin, Ladyfinger, Tomatoes, Cucumber
Chanchal Community Seed Bank	Village: Norja, District: Vidisha, MP	Caritas India & Manav Vikas Seva Sangh	Sharda Bai	Wheat, Soybean, Pulses, Vegetables	Bada Chana (2–3 varieties like Khajia), Soyabean (2069, 2044), Masoor (Bada, Chota), Moong, Wheat (Luban, 1544, 306, Sharbati, Krishna), Vegetables (Brinjal Bada, Tomato, Chillies, Palak, Methi, Mooli)
Birsa Munda Seed Bank	Village: Gambhiriya, District: Vidisha, MP	Caritas India & Manav Vikas Seva Sangh	Babulal	Millets, Rice, Beans, Vegetables	20 local varieties including Millets, Rice, Beans, Green Peas, Eggplant, Tomatoes, and Various Local Fruits
Balram Samuh Seed Bank	Village: Indrakheda, District: Khandwa, MP	Caritas India	Nadkishor	Millets	Local varieties of Millet including Kodo, Little Millet, Barnyard Millet, Foxtail Millet, Pearl Millet
Baburajput Kisan Samuh Seed Bank	Village: Gunjari, District: Vidisha, MP	Manav Vikas Seva Sangh (training support in 2024)	Baburajput	Millets, Soybean, Rice, Vegetables	Kodo Millet, Small Millet, Barnyard Millet, Foxtail Millet, Pearl Millet, Soyabean–2044, Desi Macca, Desi Jowar, Paddy–1509, Vegetables (Gilki, Lauki)
Aman Seed Bank	Village: Rampura, District: Vidisha, MP	Caritas India & Manav Vikas Seva Sangh	Shila Bai	Various Crops	33 traditional varieties including Maize (2 varieties), Eggplant (2 varieties), Pumpkin (2 varieties), Bengal Gram (2 varieties), Bottle Gourd (3 varieties), Yam (1 variety), Sakla (1 variety), Chickpea (1 variety), Mustard (2 varieties), Sesame (2 varieties), Coriander (2 varieties), Chili (2 varieties), Green Gram (2 varieties), Beans (4 varieties), Lentils (2 varieties), Luffa (3 varieties)

Rajasthan

Community seed bank	Location, supporting organisation	Resource person	Crop name	Crop variety/ local landrace no. or name	Characteristics
Sarsvati Seed Bank	The Community Seed Bank (CSB) was established in 2023 with the technical support of Caritas India. The CSB is located in the village of Lohariya Chota in Banswara District in Rajasthan	Mira	Sorghum	2 varieties	Drought–resistant, nutrient–rich
			Rice	3 varieties	Adaptive to different soil types
			Maize	Desi Macca	High–yielding traditional variety
			Jowar–Safed	Traditional variety	–
			Pigeon Pea	1 variety	Disease–resistant, nitrogen–fixing
			Gram	Chana	High protein content
			Udad	Traditional variety	Short duration, high yield
			Moong	Traditional variety	Drought–tolerant, soil–enriching
			Eggplant	Local variety	Pest–resistant, high yield
			Tomato	2 varieties	Juicy, disease–resistant
			Ladyfinger	Local variety	–
			Bitter Gourd	Local variety	High medicinal value
			Bottle Gourd	Local variety	Heat–resistant, good storage life
			Palak, Methi	Local varieties	Nutrient–rich, fast–growing
			Chili	Local variety	High pungency
Sita Mata and Mahima Seed Bank	Two self–help groups (SHG), Sita Mata and Mahima, established a Community Seed Bank (CSB) in 2023 with the technical support of Caritas India. The CSB is located in the village of Pali Badi in Banswara District in Rajasthan.	Santosh Katara	Sorghum	Single variety	Drought–tolerant, high nutrition
			Eggplant	Local variety	Pest–resistant, high yield
			Tomato	Local variety	Juicy, disease–resistant
			Ladyfinger	Local variety	High fiber content
			Pumpkin	Local variety	High productivity
			Chili	2 varieties	High pungency, adaptive

Uttar Pradesh

Community seed bank	Location, supporting organisation	Resource person	Crop name	Crop variety/local landrace no. or name	Characteristics
Uday Community Seed Bank	This seed bank is located in the village of Bhoriyai in the Pilibhit district of Uttar Pradesh. It was established in 2023 with the support of the Bareli Diocesan Social Service Center and Caritas India.	Santram	Rice	2 local varieties	Adaptive to local climate, good yield
			Wheat	2 local varieties	–
Unnati Community Seed Bank	This seed bank is located in the village of Pirataal in the Pilibhit district of Uttar Pradesh. It was established in 2024 with the support of the Bareli Diocesan Social Service Center and Caritas India.	Naresh Kumar	Rice	2 local varieties, Dhan-Hajini, Silki, 6444	Disease-resistant, aromatic, high-yielding
			Wheat	2 local varieties	–
			Moong	Local variety	Short-duration, nitrogen-fixing
Saksham Community Seed Bank	This seed bank is located in the village called Anup Nagar in Mathura district, Uttar Pradesh. It was established in 2023 with the support of Caritas India and its local partner Agra Catholic Diocesan Samaj Seva Sansthan (ACDSSS).	Devesh	Various millets	Local landraces	Climate-resilient

West Bengal

Seed bank	Resource person	Supporting organisation	Crop category	Crop name conserved
Matangini Krishak Dal	Krishna Pal	Indraprastha Srijan Welfare Society (ISWS), Paschim Sridhar Pur, South 24 Parganas	Vegetables	Lady's Finger, Brinjal, Cucumber, Bitter Gourd, Pumpkin, Snake Gourd, Bottle Gourd, Ridged Gourd, Hyacinth Beans, Green Beans
			Leafy greens	Green Amaranth, Water Amaranth, Spinach, Basil
			Roots and tubers	Arum, Yam
Majhera Krishak Dal	Reboti Dhara	Indraprastha Srijan Welfare Society (ISWS), Paschim Sridhar Pur, South 24 Parganas	Vegetables	Pumpkin, Bottle Gourd, Brinjal, Cucumber, Bitter Gourd, Snake Gourd, Ridged Gourd, Hyacinth Beans, Green Beans, Lady's Finger
			Leafy greens	Green Amaranth, Water Amaranth, Spinach, Basil
			Roots and tubers	Arum, Yam
Netaji Subhas Krishak Dal	Panchami Roy	Indraprastha Srijan Welfare Society (ISWS), Paschim Sridhar Pur, South 24 Parganas	Vegetables	Pumpkin, Bottle Gourd, Brinjal, Cucumber, Bitter Gourd, Snake Gourd, Ridged Gourd, Hyacinth Beans, Green Beans, Lady's Finger, Papaya
			Leafy greens	Green Amaranth, Water Amaranth, Spinach, Basil
			Roots and tubers	Arum, Yam
Pather Sathi Krishak Dal	Archana Sinha	Indraprastha Srijan Welfare Society (ISWS), Paschim Sridhar Pur, South 24 Parganas	Vegetables	Pumpkin, Bottle Gourd, Brinjal, Cucumber, Bitter Gourd, Snake Gourd, Ridged Gourd, Hyacinth Beans, Green Beans, Lady's Finger
			Leafy greens	Green Amaranth, Water Amaranth, Spinach, Basil
			Roots and tubers	Arum, Yam

6.3 Seed savers

Andhra Pradesh

Seed saver	Award	Year	Crop name	Variety conserved	Achievements
Shri Raghuveer Nandam, Chodavaram, Krishna	Plant Genome Saviour Reward	2020–21	Rice	Varieties like drought tolerant 'Budumalu'	He shared 50 germplasm lines for coastal salinity screening (Kharif 2022) with ANGRAU's Agriculture Research Station. Recognised for preserving landrace purity, he won the Best Farmer Award 2022 from Go–Aadharitha Prakruthi Vyavasayadharula Sangam and MAHAA News. He maintains varietal purity through asynchronous flowering and traditional storage methods, using sun drying, bamboo baskets with ash and neem leaves, and pest protection with cow dung and mud plastering.
			Tuber	Tubers ('Pendalam', 'Chada dumpa', 'Chilakadadampa'),	
			Cotton	'Konda patti' cotton variety	
			Pulses	pulses ('Macha kandalu', 'Jottalu', 'Nela Chukkllu')	
			Fruits; banana	Amruthapaani, Palayamkodan	

Assam

Seed saver	Award	Year	Crop name	Variety conserved	Achievements
Shri Balin Patra, Lakhtakia, Dhemaji	Plant Genome Saviour Reward	2020–21	deep water rice	Amona Bao' and 'Kekuwa Bao	
			Sali rice	Ampakhi' and 'Suwagmoni'	
Shri Bijoy Lakhi Pame, Kulajan, Sisi Borgaon, Dhemaji,	Plant Genome Saviour Reward	2020–21	Rice	nine deep water rice varieties like 'Negheri Bao', 'Mirem Bao' etc; 'Raja' and 'Ranji' varieties in King chilli and 'Local Bari Paan	The deep–water rice landrace 'Negheri Bao' has been used for introgressing elongation ability gene into 'Ranjit', an improved variety in Rice, suitable for Assam, through a DBT funded project at RARS, AAU, North Lakhimpur

Bihar

Seed saver	Award	Year	Crop name	Variety conserved	Achievements
Shri Arjun Singh, Masona, Sanjhuali, Rohtas	Plant Genome Saviour Reward; Innovative Farmer; Best Grass Root; Innovator Award 2018	2020–21; 2019; 2018	Rice	Nataki variety	The 'Nataki' turmeric variety (REG/2014/2147) is registered under PPVFRA, while 'Ankit Turmeric' (REG/2014/2161) is in the process of registration. Shri Arjun Singh practices intercropping, mixed cropping, green manuring, soil and water management, rainwater harvesting, micro–irrigation, mulching, zero tillage, and the System of Rice Intensification (SRI) in paddy. He has also developed a Tomato Marketing Hub, benefiting local farmers
			Tomato		
			Bottle gourd		
Shri Satyadeo Singh	Plant Genome Saviour Reward	2021–22	Chickpea	Ujala CH–3 (REG/2018/677) and 'Runa CH–2(REG/2018/678)	Varieties have been identified and recognised by organisations such as Krishi Vigyan Kendra, Munger and BAU, Sabour, Bhagalpur, Bihar. He has also shared seeds of his varieties with BAU, Sabour for crop improvement programme
			linseed	'Chikana S.D.' (REG/2018/680)	
			lentil	'Titoya Masoor' (REG/2014/898)	
Shri Arjun Mandal	Plant Genome Saviour Reward	2021–22	Medicinal plants	Over 100 landraces, wild relatives, and genetic resources of medicinal plants, including tulsi, satavar, safedmusli, brahmi, isabgol, and ashwagandha; Developed 'Sabour OS–1' (Ocimum sanctum) Tulsi variety	Conserving over 100 types of medicinal plants on one acre in the lower Gangetic plains; Commercial cultivation of medicinal plants – Ashwagandha (10 ha), Satavar (24 ha), Tulsi (6.7 ha) using a cluster approach; Supplied an accession of 'Salparni' (Desmodiumgangeticum), an endangered medicinal plant, to ICAR–DMAPR, Anand, Gujarat for conservation and research
Shri Dilip Kumar Singh	Plant Genome Saviour Reward	2021–22	Tomato, Bottle Gourd, Bitter Gourd, Coriander, Brinjal, Okra	Brinjal variety 'Adresh Round' (REG/2014/2133), Tomato variety 'Gulsan' (REG/2014/2146), Coriander variety 'Katnahia Dhania' (REG/2014/2133); Okra variety 'Divya' (REG/2014/2145)	–

Chhattisgarh

Seed saver	Award	Year	Varieties Conserved	Notable contributions
Tulsi Das Sav	Plant Genome Saviour Farmer Recognition	2012	Banana, mango, papaya, ginger, and turmeric– high productivity and disease resistance	
Shiv Nath Yadav	Plant Genome Saviour Farmer Recognition	2012	Conserved and developed paddy varieties: Shiv Darohar–1, Shiv Darohar–2	–

Gujarat

Seed saver	Award	Year	Varieties Conserved	Characteristics
(Late) Vallabhhai Vasrambhai Marvaniya	SRISTI Samman; Padma Shri	2016; 2019	Madhuvan Gajar (Carrot)	High–yielding, sweet, rich in carotene, long shelf life, 40–50 t/ha, up to 65 t/ha
(Late) Genabhai Patel	SRISTI Samman; Padma Shri	2015; 2017	Pomegranate	Pioneered pomegranate farming in Deesa, Banaskantha, creating a niche for the region
Sandeep Brahm Bhatt	Plant Genome Saviour Farmer Recognition	2012	Medicinal Plants	Conserves varieties like Khairi, Kanghi, Salai Guggal, Gudhal, Ratti, Kalihari, Kanasa
Muobatsinh Mamuji Sindhal	Plant Genome Saviour Farmer Reward	2012	Guggal	Conserves a resinous medicinal plant

Himachal Pradesh

Seed saver	Award	Year	Crop category	Variety conserved	Achievements
Shri Garib Das	Plant Genome Saviour Recognition	2021–22	Cucumber	'PaprolaKheera' (traditional landrace)	Conserving 'PaprolaKheera' at Burli Kothi village; medium-sized fruits (18–20 cm), sparse spines, fewer seeds, crispy texture, 3–5 cm flesh thickness, ascorbic acid content (3 mg/100 g); tolerant to fruit flies; light yellow-colored fruits preferred by consumers; identified as valuable by CSK HPKV, Palampur; germplasm used for breeding cucumber varieties suitable for hill agriculture.
Shri Prem Singh Chauhan	Plant Genome Saviour Farmer Reward	2019–20	Apple	6 apple varieties, including APS (REG/2016/1142), a mutant of Red Delicious	promotes ultra-low-density plantation for small landholding farmers.

Jharkhand

Seed saver	Award	Year	Crop category	Variety conserved	Achievements
Shri Bandhana Oraon	Plant Genome Saviour Farmer Reward	2017–18	Rice, garlic, bottle gourd, pumpkin, mustard, toria, groundnut, maize, finger millet	Banjari Raisari (rice), Oraon Dahia (rice), Banjar Rasun (Garlic), TanriLauka (bottle gourd), Banjar Kohra (pumpkin), Tanru-M (mustard), TanriLotni (toria), Banjar Badam (groundnut), Tanrs Makai (maize)	Conserves local crop varieties; endorsed by Director of Research, Birsa University, Ranchi; applied for plant variety protection under PPV&FR Act, 2001 for finger millet, pumpkin, maize, and groundnut

Karnataka

Seed saver	Award	Year	Crop name	Varieties conserved	Notable contributions
Purnanand Venkatesh Bhat	Plant Genome Saviour Farmer Reward	2012	Spices	Nutmeg, pepper, turmeric	Developed method for identifying monoecious, bio–sexual plants at seedling stage
			Plantation crops	Areca Nut, coconut	
Syed Ghani Khan	Plant Genome Saviour Farmer Reward	2012	Fruits	Over 600 mango varieties	Uses traditional methods for conservation
Shankar Langati	Plant Genome Saviour Farmer Reward	2012	Rice	Various traditional rice varieties	Conserves rice, vegetables, millets, and pulses
			Vegetables	Various vegetable varieties	
			Millets	Various millet varieties	
			Pulses	Various pulse varieties	
B.K. Deva Rao	Karnataka Rajyotsava Award; Plant Genome Saviour Reward	2023	Rice	Over 140 Rice Landraces (Raja Kayime, Kutti Kayime, Suggi Kayime, Swasti, Mysuru Mallige, etc.)	
			Vegetables	Cucumber (>10), Brinjal (3), Ivy Gourd (3)	
			Legumes	Cowpea (6)	
			Fruits	Jackfruit (>50), Mango (80)	
			Root Crops	Various Root Crops (10)	
G. Krishna Prasad	Social Impact Award	2024	Rice	Rice Varieties	Conserves over 200 varieties of rice, millets, pulses, and vegetable seeds
			Millets	Various traditional millet varieties	
			Pulses	Various pulse varieties	
			Vegetables	Various vegetable seeds	
Shri Ramakanth Ramachandra Hegde	Plant Genome Saviour Reward	2020–21	Black pepper	Sigandini, Shambhavi and Boppanalli Gold	Under the Directorate of Arecanut and Spices Development, a farmer has successfully produced 1.5 lakh planting materials in his accredited Sigandini nursery. He has signed an MoU with the University of Horticultural Sciences, Bagalkot. The high–yielding 'Singandini' variety matures early, is moderately wilt–tolerant, and suits arecanut–based multi–layered cropping. It features compact berries rich in oleoresin and piperine.

Kerala

Seed saver	Award	Year	Varieties conserved	Notable contributions
Sathyanarayana Beleri	Plant Genome Saviour Farmer Reward, Padma Shri	2018–19; 2024	650+ varieties of rice including Chitteni, Akrikaaya, Narikela, Suggi Kayime, Vellatuven, Gandhasaale, Jeerige Sanna, Ghangadale, Kumkumsaale, Kalame, Kottambarasaale, Karijeddu, MysooruMallige	Extensive conservation of indigenous rice varieties.
Cheruvayal Raman	Padma Shri	2023	55+ traditional rice varieties	Recognised for conserving rare rice landraces.
Vasavan N	Plant Genome Saviour Farmer Reward	2012	30 Cashew, 4 Areca Nut, 2 Pepper, 10 Coconut, 20 Jackfruit, 7 Medicinal Plants	Innovated method for controlling tea mosquito bugs in cashew plantations.
Ciby George	Plant Genome Saviour Farmer Reward	2012	4 Coconut, 10 Areca Nut, 11 Nutmeg, 4 Pepper, 5 Mango	Dedicated to the conservation of multiple spice and fruit crops.
Sajeevan Kavumkara	Plant Genome Saviour Farmer Reward	2012	Wild Leafy Edible Species	Established a Food Diversity Centre and Farm School; conserves edible wild plants for food security.
Shri Salim P.M.	Plant Genome Saviour Farmer Reward	2020–2021	44 spices (Cardamom– 'Malabar', 'Vazhukka'), 31 pulses (e.g., 'Kaullathada', 'Piriyan'), 9 banana varieties (e.g., 'Kunnan', 'Vannan ponthan'), 20 tubers (e.g., 'Adathapp', 'Chaerukizhang'), 77 fruit plants, 374 floral diversities (including 94 rare, endemic, and threatened species like Bulbophyllumaureum)	Conservation of traditional and local varieties of crops and rare plant species
Shri Praseed Kumar Thayyil	Plant Genome Saviour Farmer Reward	2020–2021	Rice, banana, jackfruit, mango, turmeric, colocasia, yam, pepper, coffee, amorphophallus, coconut, arecanut, fruit trees, vegetables, tuber crops, spices, other tree species, 163 rice varieties (e.g., 'Jeerakasala', 'Gandhakasala', 'Valichuri'), 15 banana varieties (e.g., 'Poojakadali', 'Mannan'), 10 jackfruit varieties, 15 mango varieties, 4 turmeric varieties, 6 colocasia varieties, 12 yam varieties, 3 pepper varieties, 2 coffee varieties, 2 amorphophallus types, 2 coconut and arecanut varieties, 12 fruit trees, 11 vegetable types, 6 tuber crops, 6 spices, 16 other tree species	Shared rice varieties with Regional Agricultural Research Station, Pattambi and Rice Research Stations at Vyttila and Mancombu; Collaborates with Kerala Agricultural University; promotes in–situ conservation and farming techniques among school students

Seed saver	Award	Year	Varieties conserved	Notable contributions
Shri Sunil Kumar M.	Plant Genome Saviour Farmer Reward;	2020–2021	Rice, banana, pepper, betel vine, coffee, tulasi, colocasia, yams, ginger, turmeric, arecanut, coconut, jackfruit, amorphophallus, mango, guava, cardamom, sweet potato. 106 rice varieties, 12 banana ('Paduvazha', 'Mezhukuthiri'), 8 pepper ('Balancotta'), 4 betelvine ('Naga Vettila', 'Jeeraka'), 4 coffee, 2 tulasi ('Madhura tulasi', 'Mint tulasi'), 1 colocasia ('Makklepotti'), 14 yams ('Chandana Kachil', 'Kuttikachil'), 9 ginger ('Maran', 'Rajakumari'), 10 turmeric ('Sona', 'Kari manjal'), 6 arecanut, 8 coconut, 4 jackfruit, 1 amorphophallus ('Chuvanna chena'), 7 mango, 3 guava, 2 cardamom, 4 sweet potato	Shared 20 traditional rice varieties with Regional Agricultural Research Station, Palakkad, Kerala; 12 traditional rice varieties included in People's Biodiversity Register (PBR) of Nenmeni Grama Panchayat; recognised for exceptional on–farm conservation and organic farming practices
Sushri Parappy A.	Plant Genome Saviour Recognition	2020–21	'Makkal Valarthy/Koonthany' (unique pineapple variety)	Conserving 'Makkal Valarthy/ Koonthany' pineapple for over 30 years; also cultivates banana, tapioca, sweet potato, and minor tubers
Shri John Joseph	Plant Genome Saviour Recognition; National Dairy Farmer Award, National Innovative Farmer Award from IARI–ICAR	2021–22	Conserving nutmeg ('J1–Local', 'J2–Local', 'J8–Sumith Anavitrathi'), tuber crops ('Kachil', 'Adathap'), black pepper ('Vijay', 'Panniyur'), turmeric ('Prakathi'), medicinal plants ('Chittaratha', 'Koduveli'), bamboo varieties	
Shri Vinod E.R.	Plant Genome Saviour Reward	2021–22	Cassava, Colocasia, Greater Yam, Ginger, Turmeric, Banana, Mango, Jackfruit, Black Pepper, Sweet Potato. 53 landraces of Cassava, 89 Colocasia, 16 Ginger, 25 Banana, 15 Mango	Established a seed village; shared landraces with agricultural research institutes; recognised as an NBPGR Custodian Farmer.

Madhya Pradesh

Seed saver	Award	Year	Crop varieties conserved
Babulal Dahiya	Padma Shri	2019	Conserves 110 traditional rice varieties and studies their characteristics annually. Also preserves kodo millet and its wild relatives.
			Notable rice varieties:
			• Early ripening (70–75 days): Pasahidhaan, Galari dhaan, Saraya, Sikiya, Shyamjeer, Dihula, Sarekhni.
			• Moderate duration (100–120 days): Newari, Jholar, Karagi, Mungar, Senkurdar.
			• Longer duration (120–130 days): Baadal Phool, Kerakhamah, Bishnubhog, Dilbaksa.
			• Other varieties: Laila–Majnu dhaan, Kalavati, Ganjakali, Bajranga, Ganjakari, Nibari, Kosamkhand, Lachai, Kamalshree, Tilsaand, Vishnubhog, Baadhshahbhog, Kargi (protects against wild boars).
Narendra Singh Sipani	Plant Genome Saviour Farmer Reward	2012	Developed multiple crop varieties:
			Wheat: Waman, Dronacharya, Mohan Wonder, Dry Wonder.
			Maize: Amrit, Star 2001, Star 2011, Star 2026, Star 2042.
			Soybean: Kuber, Chamatkar, Chatarbhuj.
			Pigeon pea.
Sushri Lahri Bai Padiya	Plant Genome Saviour Reward	2021–22	Finger millet, Kodo millet, little millet, barnyard millet, foxtail millet, pearl millet; developed 'JK–95' and 'JK–9–1' varieties. Implemented 'BevarKheti' (mixed cropping system) to benefit landless and small farmers; Established a Millet Seed Bank to exchange seeds with other farmers; Associated with RARS, Dindori, and Nirmaan, MP; recognised by Prime Minister Narendra Modi in 2023, called the "Millet Woman of India" and a Brand Ambassador for millet conservation during the International Year of Millets 2023

Odisha

Seed saver	Award	Year	Crop name	Variety conserved	Achievements
Kamala Pujari	Padma Shri	2019	Rice	Kalajeera (GI tag in Aug 2023)	Conserved over 100 traditional varieties of paddy
				Haladichudi	
				Machhakanta	
				Umuriachudi	
				Asmchudi	
Sabarmatee Tiki	Nari Shakti Puraskar, Padma Shri	2018, 2020	Legumes	Clove Bean	Conserved over 500 indigenous seed varieties
				Jack Bean	
				Sword Bean	
			Rice	Black Rice	

Rajasthan

Seed saver	Award	Year	Crop Category	Variety Conserved	Achievements
Shri Shree Kishan Suman	Plant Genome Saviour Recognition; Jag Jivan Ram Abhinav Kisan Puruskar; the Innovative Farmer Award by ICAR–IARI in	2021–22; 2016; 2022	Mango	'Sadabahar' (dwarf, regular–bearing variety)	Developed 'Sadabahar' mango—ideal for kitchen gardens & high–density plantations; Yields 80 kg (June–July) and 70 kg (other seasons) per tree; Dark orange flesh, sweet taste, minimal fibrousness; Disease–tolerant and resilient; Facilitated by National Innovation Foundation (NIF) for plantation in Amrit Udyan, Rashtrapati Bhawan, New Delhi; Variety under registration (REG/2015/878) with PPVFRA

Uttar Pradesh

Seed savers	Award	Year	Conserved crop varieties
Jai Prakash Singh	Plant Genome Saviour Farmer Reward	2012	Wheat, Paddy, Pigeon Pea, Kidney Bean, Mustard, Wood Apple; Developed wheat variety JP 8661
Chandrashekhar Singh	Plant Genome Saviour Farmer Reward	2012	Red–rice variety Virjan, Paddy–Khushboo 1–S

Uttarakhand

Seed saver	Award	Year	Crop category	Variety conserved	Achievements
Shri Gopal Datt Upreti	Plant Genome Saviour Recognition;	2021–22	Coriander, leafy greens, off–season vegetables	Traditional coriander, 'Golmuli' (vegetable in Kumaon hills), 'Lahi Saag'; Local germplasm of rare and endangered species	Associated with Krishi Vigyan Kendra, Almora; popularised several hybrids and varieties, increasing farmers' income; practices organic cultivation and is commercializing off–season vegetables like capsicum, french bean, cauliflower, broccoli, coriander, tomato, and vegetable pea

West Bengal

Seed Saver	Award	Year	Crop varieties conserved	Notable contributions
Pravat Ranjan Dey	Plant Genome Saviour Farmer Reward	2012	Sujata (Mango Variety)	Conserved and promoted the sweet and scented mango variety Sujata.
Tanmayee Chakravarty	Plant Genome Saviour Farmer Reward	2012	Rice– Radhatilak, Gobindabhog, Megi	Conserved 11 rice varieties.
				Conserved 52 medicinal plants
Shri Nimai Mondal	Plant Genome Saviour Recognition; Krishak Ratna Award	2020–21; 2013	Rice– 15 indigenous rice cultivars, including 'Radhatilak', 'Satia', 'Kalabhat', 'Gobindabhog'	–

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ANNEXURE

Questionnaire

Centre for Science and Environment
Biodiversity & Food Programme

General information

1) Name and location of your community seed bank?.....

.....

2) When was the seed bank established and what was the purpose?

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3) Who manages the seed bank? How does it function?

.....

4) Is there any partnership or collaboration with NGOs or government owned? Role of government?

.....

5) Do you know any other NGOs working in your state on seed banks?

.....

Seed collection and preservation

6) What variety of seeds and types of crops are you currently preserving (e.g., traditional, native, or climate-resilient varieties)?

.....

.....

7) Are there any specific seeds (e.g. varieties of rice, maize, millets, ragi, vegetables etc.) you have which would help in a climate risked world. and what is the reason, why it is suitable?

.....

.....

8) What is the collection method? How do you source seeds for the bank (local farmers, exchange with other banks)?

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9) What methods do you use for storing seeds? How do you maintain their viability over time?

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10) Are there any sustainability initiatives in place to ensure long-term viability and impact of the seed bank?

.....

.....

Community engagement

11) Howdoyouengagethelocalcommunityinseedbankactivities?.....

.....

12) How accessible seeds are these seeds to the local farmers?

.....

Traditional and indigenous seeds

13) What role does these traditional seeds play to your communities' agriculture practices?

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14) What is the impact on local agriculture? How has the presence of seed bank impacted local agricultural practices and food security in your community?

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15) Any success stories or positive outcomes resulting from the establishment of your seed bank?

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Challenges faced by CSBs

16) What are the different challenges your seed bank is facing (e.g. funding, technical, climate etc.)?

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17) Future goals of your seed bank?

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In the face of climate change, we are witnessing the rapid loss of biodiversity that underpins food security and sovereignty. Traditional crop varieties that sustained communities for generations are steadily vanishing from our fields and fading from our diets.

Community Seed Banks (CSBs) play an important role in protecting the seeds needed to support agriculture in a climate-risked world. For example, India has rice varieties that can grow in drought conditions and in saline water. We have heat-resistant vegetable varieties. CSBs play a significant role in preserving these varieties and making them accessible to farmers. Despite their importance, however, they remain under-recognised and underutilised due to lack of awareness, limited policy support, and financial challenges.

This report by CSE is an attempt to map and document the immense diversity available in CSBs across different states of India. The good news is that we have a wide range of traditional crop varieties that are still being conserved by communities. These include grains, pulses, millets, vegetables, oilseeds and more. We need to ensure that the seeds and the efforts of communities preserving them are celebrated.

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