







UNIVERSITÄT

CENTRE FOR DEVELOPMENT
AND ENVIRONMENT



Farmer-Managed Seed
Systems & Community Seed
Banks: From coexistence to
transformation

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FMSS Why this matters

Most smallholders source seed outside the certified channel

NUS/landraces →
nutrition,
resilience,
Agrobiodiversity

Binary formal vs. farmer debates

= lost performance

Adaptive varieties
for low input
farming conditions
= Resilience



The seed systems reality and new framework

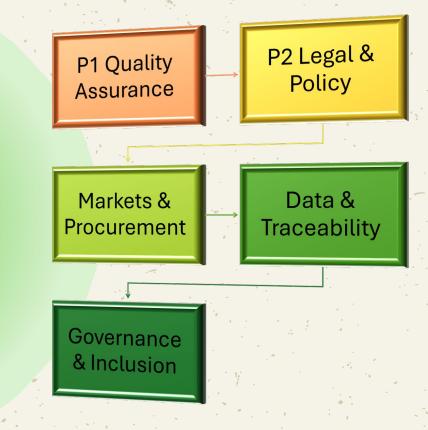
Formal /Certified

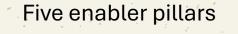
Farmer-managed

Nested Seed Governance "Operating System"

Intermediate/
Integrated

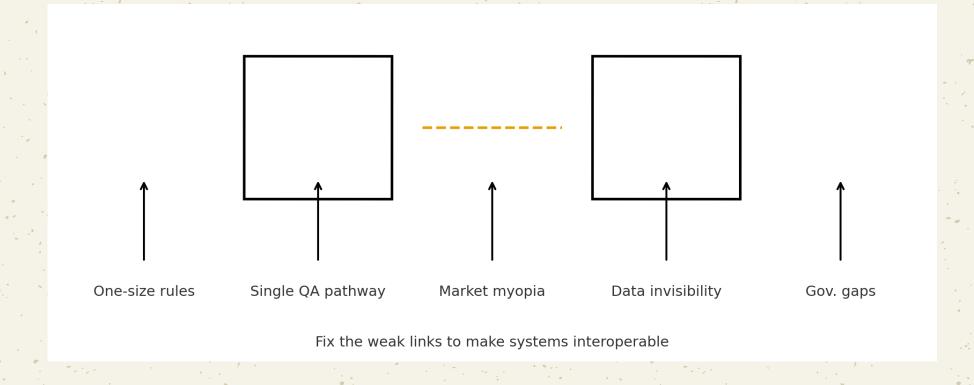
Open-Source/Commons





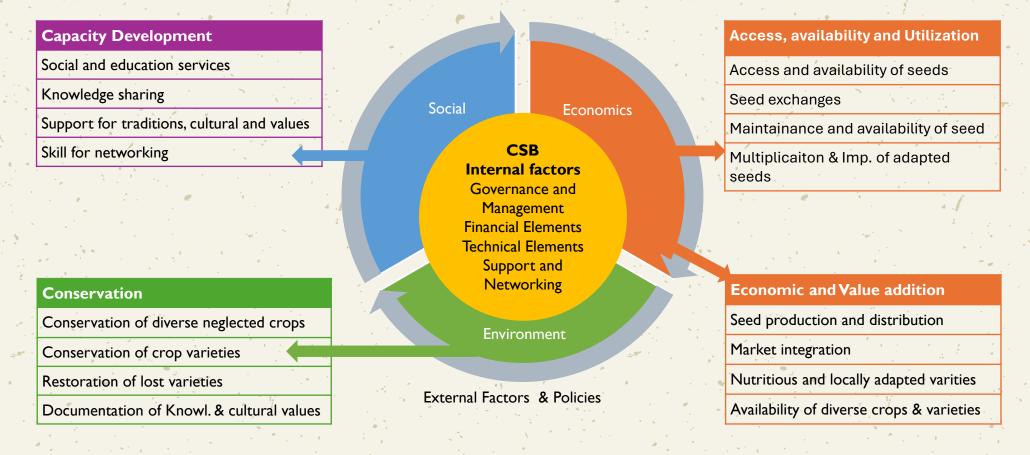


Where it breaks





Community Seed Banks









Community Seed Banks

Cas	se	1	2	3	4	5	6	7	8
Reg	gion	West Bengal	West Bengal	Orisha	Orisha	Orisha	Karnataka	Karnataka	Karnataka
	ar of ablishment	2012	2016 (2010 start of indigenous seeds saving)	2012 (2001 start of indigenous seeds saving)	2019 (2016 farmer survey and farmers training)	2015 FPC (2002 start of indigenous seeds saving)	2020 (2018 start of seed saving trainings)	2019 (2023 new formation)	2022
(Ñu	adership umber of embers)	Core committee (15)	Founder of CSB	Leadership committee (5)	Coordinator of seed bank	Seed bank manager	Core committee (10)	Core committee (10)	Core committee (10)
cor (Nu	chnical mmittee umber of embers)	MCG (11 groups at village level seed banks)	Core committee (11)	Core committee (21)	Seed bank committee (-)	Core committee (19)	SHGs (14) Village committee (25)	SHGs (22) Village committee	SHGs (5 groups at village level) Village committee
me (Vil	mber of embers llages/ useholds)	1500 (11/750)	350 (-/350)	.165	250 (16/42)	2000 (22/-)	250 (22/-)	120 (10/-)	100 (5/-)
	mber of llection	33	136	1200	200	400	150	100	64
Cro	ops	Vegetables (9 NUS), pulses, Rice paddy	Rice paddy, vegetables	Rice paddy (mainly), vegetables, oil seeds, millets	Rice paddy	Rice paddy (200), indigenous varieties (200)	Millets (mainly), pulses, maize, cereals	Millets (mainly), pulses	Ragi, fox tail, horse gram, black gram, bottle guard, Amaranthus (NUS)
See	. 1	n Voluntary basis	Voluntary basis	Voluntary basis	At least the same amount	20kg: 25kg	1:2 Agreement card	1:2 Agreement card	1:2 Agreement card



Community Seed Banks

Case	1	2	3	4	5	6	7	8	
Governance and management	3	2	2	3	3	2	2	2	gr.
Technical element	s 2	2	3	2	3	1.	1.	1	X
Support and Network	3	2	2	3	3	2	2	2	
Financial elements	s 2	2	· .3	1	2.	2	0	1.	X



Community Seed Banks: Key Recommendations



- 1. Income-generating activities need to be developed for viable business models.
- 2. Select suitable varieties adapted to environmental conditions and farmers needs through surveys and participative variety selection.
- 3. Achieve and maintain high-quality seeds through adequate seed management, infrastructure, and seed loan policy.
- 4. Establish a governance system that allows for equal participation in decision-making and access to the CSB by addressing social barriers and gender roles.





Policy pathways practice 1

Truthfully labelled seed

'Public' pathway



'Private' pathway

Cultivar developed

by individual producer or farmer group, private seed company, State Agricultural University, ICAR institutes or public organisation.



Official Variety release by AICCIP

DUS testing for distinctness, uniformity and stability (2 years) VCU testing: value for cultivation and use (at least 3 years of multi-location trials under conventional farming, additional on-farm trails) description and suitability for specific agro-climatic zones openly accessible.

Central level



Central Variety Release Committee, Indian Ministry of Agriculture



Cultivar release for one or more agroclimatic zone(s) which may include one or more state(s)



State level

State Variety Release Committee



Cultivar release for a specific state only, which limits its seed production to one state





Notification under Seed Act of 1969

Statutory function that enables the quality of seed to be regulated during sale so that farmers are guaranteed to get seed of sufficient quality.



Once the variety is notified, in general, it becomes the Indian government's asset.

Certification of seed

Seed production is performed by registered seed producers under supervision of governmental or other authorized seed certification agencies.

Seed certification is done by the authorized seed certification agency who is responsible for the quality of the seed sold to farmers



VCU testing of new cultivars in multilocation trials under organic conditions (3 years) including on-farm trials under supervision of universities or officially recognized organization on contract basis for seed companies and farmers / farmer organizations with licence for seed sale

Truthfully labelled seed



No official seed certification The seed producer or supplier is liable for the seed quality of the lot delivered to farmers



Seed quality is guaranteed as per minimum seed standards (only) of germination and genetic purity, no field inspection

By private seed companies on contract basis

By FPOs with license for sales

By individual farmers with license for sales













India's Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

Purpose & key definitions

Why enacted: TRIPS-compliant, sui generis protection of plant varieties in India; balances breeders' rights and farmers' rights.

Objectives: (i) Recognition of farmers' rights; (ii) Protect breeders' rights; (iii) Promote **agrobiodiversity**.

Who is a "farmer" (Sec. 2(k)): cultivates directly/through supervision; and/or conserves/preserves wild species or traditional varieties.

Key categories:

Farmers' Variety (FV): traditionally cultivated/evolved; or wild relative/landrace known to farmers.

Extant Variety: notified under Seeds Act; FV; commonly known; or in public domain.

EDV (Essentially Derived Variety): predominantly derived; clearly distinguishable; conforms in **essential characteristics** except for derived differences.

India's Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

What the Act enables: rights & registration

Farmers' rights preserved: save, use, sow, resow, exchange, share or sell produce/seed—not under a brand name.

Registrable varieties: initial/extant/FV of notified genera/species that meet DUS + novelty (time limits on prior sales). Applicants can be breeder, successor/assignee, farmer/group/community, university/public institute.

DUS/Novelty tests: distinct by ≥1 essential trait; sufficiently uniform; stable on repeated propagation; novelty per India/foreign sale windows.

Researchers' rights: use of protected variety for experiment/research and for creating new varieties.

Safeguards & terms: ban on GURTs/terminator; protection terms—15y (most crops), 18y (trees/vines); compulsory licence possible after 3 years to ensure access; National Register maintained.

India's Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

Institutions, impact & implementation tips

Governance: PPV&FR Authority (exec. body; National Register); Appellate

Tribunal for disputes; 15-member Authority incl. reps from farmers, tribal, women, seed industry, ag university, and states.

Observed impacts (India): revival of indigenous crops; diet diversification; resilience to pests/climate; cultural heritage preserved; empowerment via recognition/benefit-sharing.

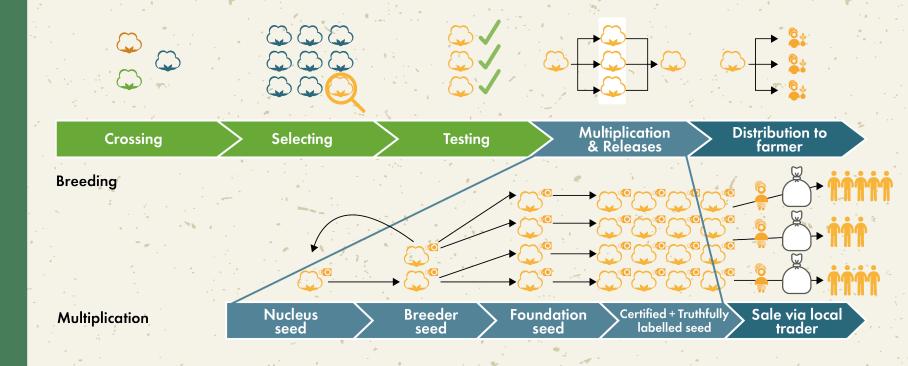
Practical recommendations: engage stakeholders; educate on FV registration & seed-saving; strengthen research/extension; support community seed banks; improve benefit-sharing; foster PPPs for marketing/value-addition; integrate FV into seed & climate policies; empower women custodians.

Limitation: PPV&FR Act is an IP/protection law, not a production or funding scheme. It doesn't provide direct support or finance for maintenance breeding or public sector.



Participatory Plant Breeding Integration into the Certified Seed System





Participatory Plant Breeding Integration into the Certified Seed System

- Two first-ever non-GM cotton varieties
 for organic agriculture on September 8, 2022
- The new varieties have been officially released by the State Seed Sub Committee of Madhya Pradesh
- The released varieties are highyielding and meet industrial fibre quality requirements.



The new organic Desi Cotton variety "RVJK-SGF-1



The new organic American Cotton variety "RVJK-SGF-2"



Conclusions

- 1. CSBs are the backbone: when backed with governance, storage, and light QA, CSBs deliver faster local seed access, conserve diversity, and buffer shocks.
- 2. Policies like PPV&FR enables FMSS legally: it protects breeders and preserves farmers' rights (save/use/exchange/sell unbranded) and offers routes for farmer-variety recognition contextualize it proactively.
- 3. PPB is the bridge: participatory breeding/on-farm selection connects farmer priorities to variety improvement; paired with TL/QDS it gets legal seed to farmers now while releases progress.

Make FMSS visible, legal, investable

