

Long-Term Sustainability of Community Seed Banks in India

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Introduction

Community seed banks (CSBs) are vital grassroots initiatives with high potential for biodiversity conservation, climate adaptation, and enhancing food security [1,3]. Major challenges for long-term sustainability of CSBs include organizational and economic viability and knowledge transfer across generations [2]. Strengthening these systems by ensuring farmers' rights to produce, save, exchange, and sell seeds is crucial. Objective of the study was to gain a better understanding of the functioning of CSBs and to identify enabling or hindering factors that contribute to their long-term effectiveness.

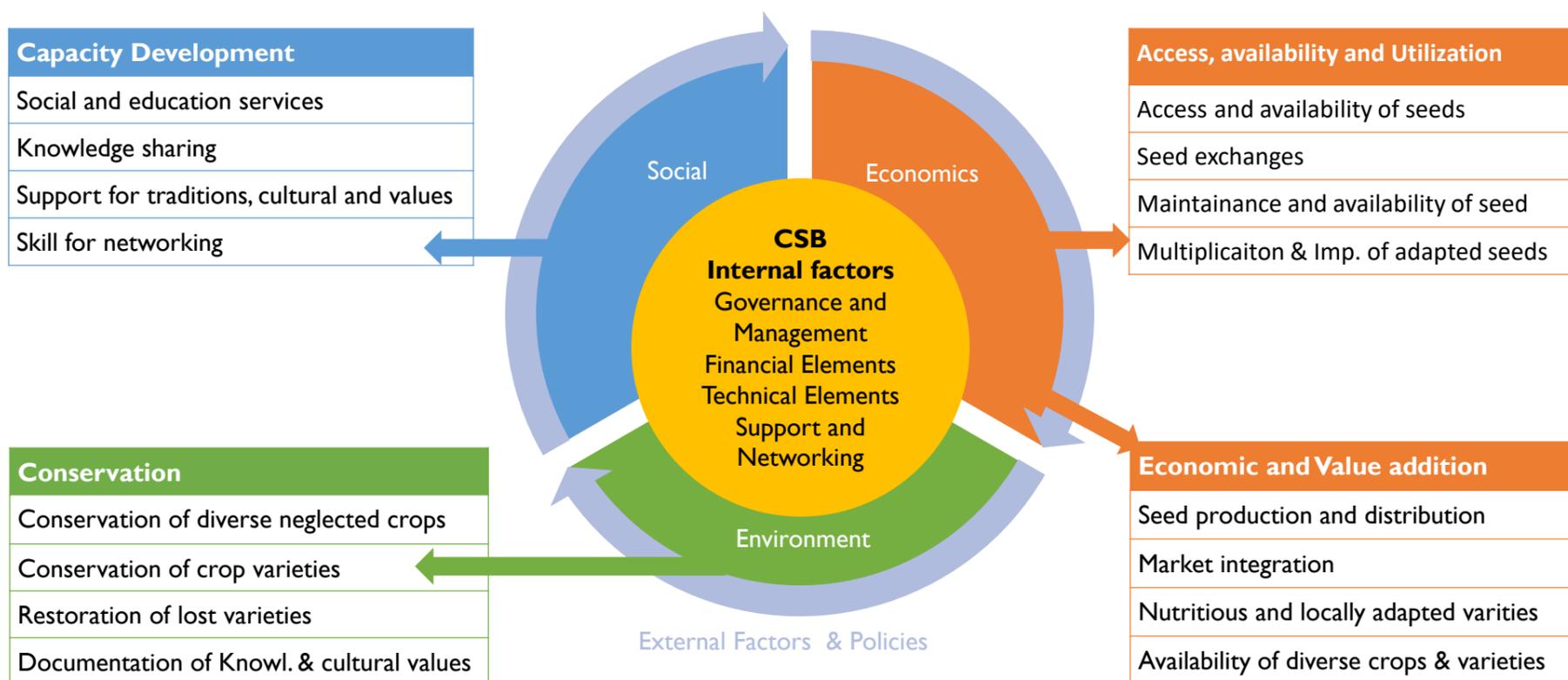


Figure 1: Visualization of the conceptual framework

Methodology

The study analyzed eight Community Seed Banks (CSBs) across diverse agroecological regions in India (West Bengal, Odisha, and Karnataka). These CSBs, established between 2012 and 2023 with NGO support, focused on conserving local seeds and traditional farming methods. Our methodology involved a two-step process: a detailed literature review to build a conceptual framework of CSB operations and their influencing factors (Fig. 1) followed by an empirical investigation using semi-structured interviews and direct observations at all eight CSB locations.

Results

Enabling factors for the long-term sustainability of CSBs

- 1) Support and networking
- 2) Governance and management
- 3) Policy and legal environment
- 4) Socio-economic context
- 5) Environmental conditions
- 6) Technical elements

Recommendations

- Income-generating activities need to be developed for viable business models.
- Conduct farmers' field days and seed festivals to share experiences within the community and with other CSBs.
- Demonstrate agroecological farming using indigenous seeds and landraces.
- Select suitable varieties adapted to environmental conditions and farmers needs through surveys and participative variety selection.
- Achieve and maintain high-quality seeds through adequate seed management, infrastructure, and seed loan policy.
- Establish a governance system that allows for equal participation in decision-making and access to the CSB by addressing social barriers and gender roles.

References

1] Altieri AM and Nicholls CJ (2012). Sustainable Agriculture Reviews. (SARV, volume 11)
 2] Duthie-Kannikkatt K, Shukla S, Sanyasi Rao ML, Sakkhari K and Pachari D (2019). Sowing the seeds of resilience: a case study of community-based Indigenous seed conservation from Andhra Pradesh, India. The International Journal of Justice and Sustainability 2019, 24(9), <https://doi.org/10.1080/13549839.2019.1652800>
 3] Vernooij R, Adokorach J, Gupta A, Otieno G, Rana J, Shrestha P and Subedi A (2024). Promising Strategies to Enhance the Sustainability of Community Seed Banks. Sustainability 2024, 16(19), 8665; <https://doi.org/10.3390/su16198665>

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