6TH INTERNATIONAL RICE CONGRESS

CGIAR INITIATIVE ON Gender Equality

iied

Bundling Social and Technical Innovations for Agri-food System Transformation

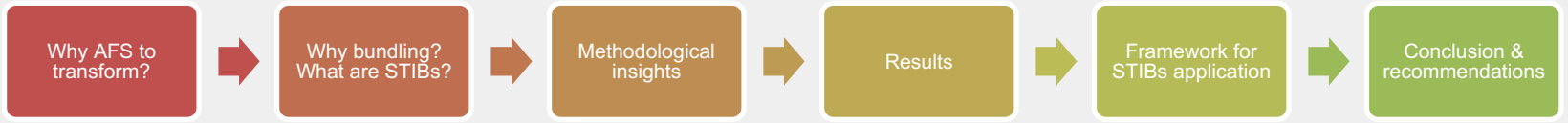
Hom N Gartaula[1], Ranjitha Puskur[1], Eileen Nchanji[2], Kevin Johnstone[3], Prama Mukhopadhyay[1], Sam Barrett[3], May Thazin Aung[3],

[1]International Rice Research Institute, India
[2]Alliance of Bioversity International and CIAT, Kenya
[3]International Institute for Environment and Development, United Kingdom

IRRI CGIAR

Outline

6TH INTERNATIONAL RICE CONGRESS



IRRI CGIAR CGIAR Initiative on Gender Equality iied

Need for the agri-food system (AFS) transformation

6TH INTERNATIONAL RICE CONGRESS

- Shocks and stresses (weather, environmental, diseases, conflict, economic, political) appear to be rising in frequency and/or intensity, and commonly cascade, with one triggering another.

- Today's agri-food systems fail to ensure healthy diets for all - a necessary condition for food security.

- AFSs do not provide equitable and inclusive livelihoods for about half of the world's labor force → 1.3 billion people - who work in agri-food value chains.

IRRI CGIAR INITIATIVE ON Gender Equality CGIAR iied

Barrett et al. 2022

Key features of the AFS in the changing context

6TH INTERNATIONAL RICE CONGRESS

decentralized individual and collective **h**uman (H) agency that drives systemic change

the intrinsic **h**eterogeneity (H) of AFSs locally and globally

pervasive **s**pillover (S) effects

essential role of **s**cientific (S) research.

IRRI CGIAR CGIAR Initiative on Gender Equality iied

Barrett et al. 2022

AFS objectives in the long-run (2045-70)

6TH INTERNATIONAL RICE CONGRESS

healthy (H) and nutritious diets

equitable (E) and inclusive value chains

resilience (R) to shocks and stressors, and

climate and environmental **s**ustainability (S)

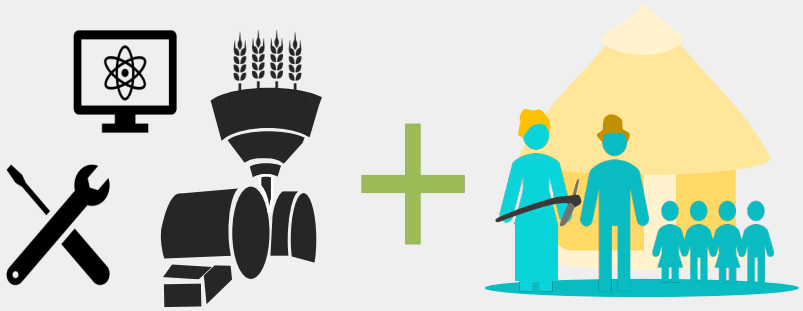
IRRI CGIAR CGIAR Initiative on Gender Equality iied

Barrett et al. 2022

Why Bundling?

6TH INTERNATIONAL RICE CONGRESS

…identifying and bundling the right innovations for the right contexts is an intrinsically social process, one that demands cooperation that is in shorter supply than are brilliant scientific insights.



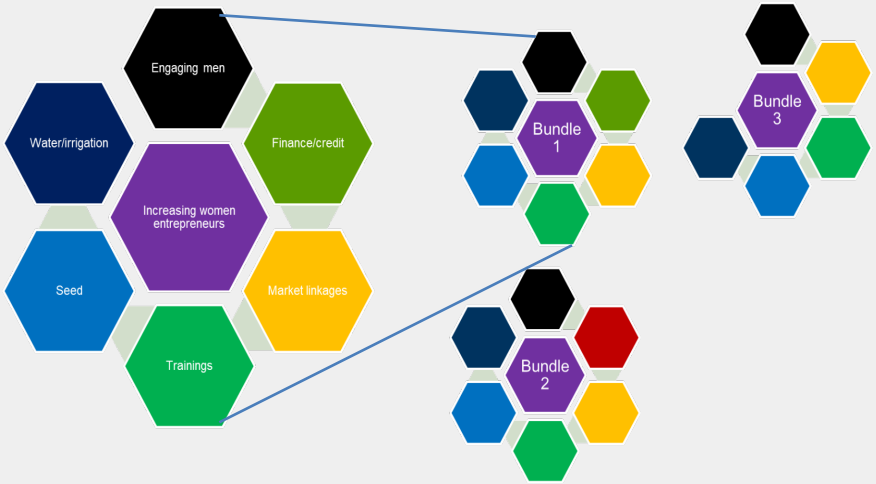
‘The key point is that **science and engineering can design and adapt the raw materials**, but ultimately **stakeholders must work together to assemble the right bits** into fit-for-purpose combinatorial innovations.’

Barrett et al. 2022

IRRI CGIAR CGIAR Initiative on Gender Equality iied

What are STIBs?

6TH INTERNATIONAL RICE CONGRESS



‘The right combination for one specific objective - in the enlarged case of bundle 1, increasing women entrepreneurs in agricultural value chains will differ from the bundle needed in other cases (like bundle 2, 3).’

IRRI CGIAR CGIAR Initiative on Gender Equality iied

HER+ WP2, 2023

Research questions

6TH INTERNATIONAL RICE CONGRESS

- To what extent are the social, technical and technological innovations documented in the literature as bundles?

- How does the existing literature take into consideration the issues of women's empowerment and resilience in agri-food systems in terms of socio-technical bundling?

- How could we be better equipped to identify, prioritize and bundle the social, technical, and technological innovations leading to women's empowerment and resilience?

IRRI CGIAR INITIATIVE ON Gender Equality CGIAR iied

Method: Literature review

6TH INTERNATIONAL RICE CONGRESS

- Applied a systematized sampling technique to Google Scholar, Scopus, and ResearchGate
- Approximately 600 abstracts reviewed
- Around 122 documents with following criteria:
    - Gender and women
    - Gender and technology relationship
    - Are there outcomes? Positive or negative?
    - Supplementary set – without gender specified
    - Tech and outcomes
- 11 example studies with clear mechanisms or outcomes

IRRI CGIAR CGIAR Initiative on Gender Equality iied

Findings

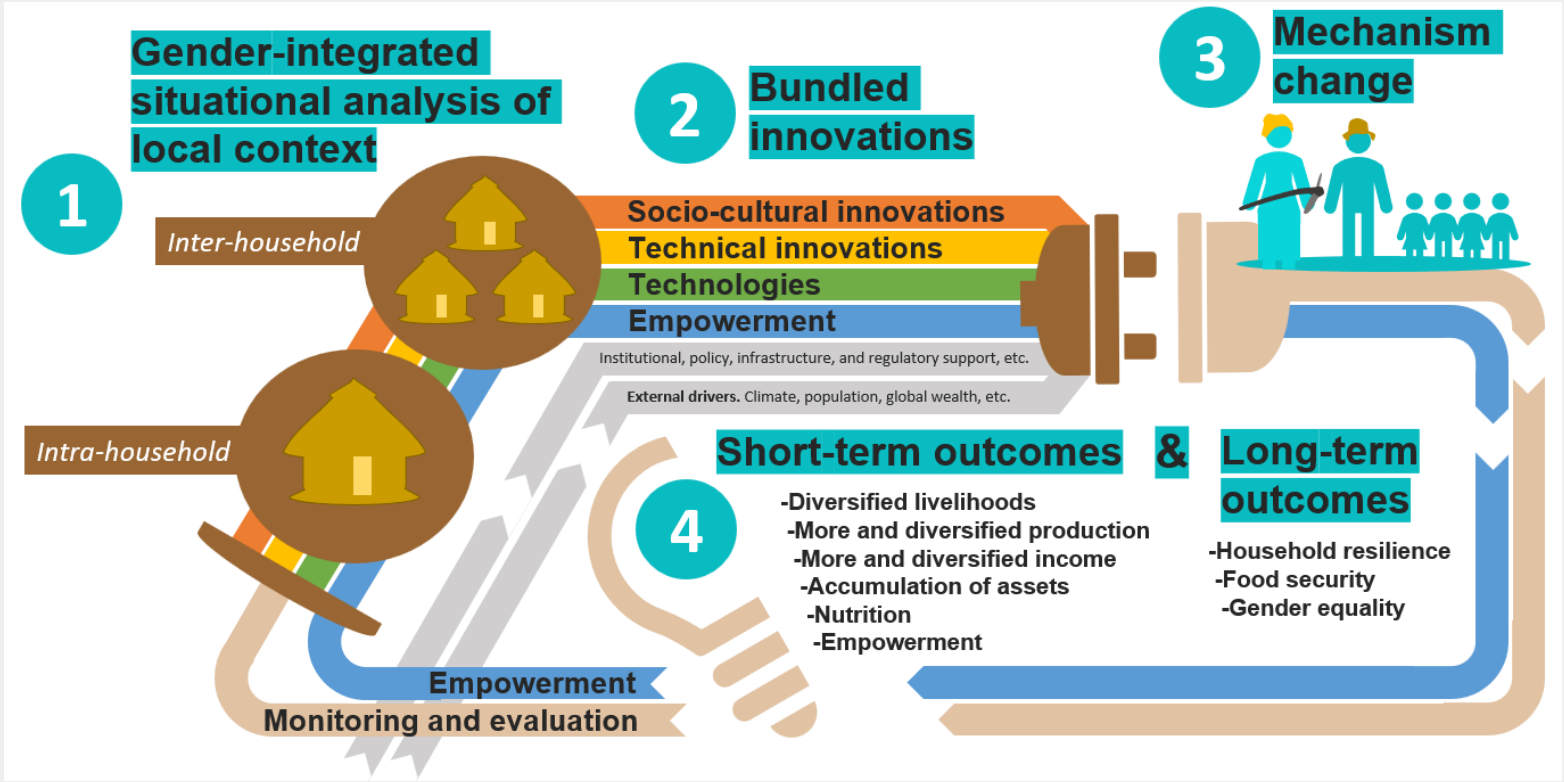
6TH INTERNATIONAL RICE CONGRESS

Literature country, year, title	Bundled interventions and/or contextual drivers [planned and unplanned]	Mechanism- cognitive triggers and processes within people's minds that are changed by engaging with interventions	Outcome(s)
Vietnam, 2017 **Incorporating gender into low-emission development: A case study from Vietnam**	(1) Agricultural trainings—including 'alternative wetting and drying' (2) Reduction in farm input costs (3) Intermediary that can challenge deep gender norms and reduce barriers (4) Women saw trusted neighbours benefitting and attended trainings themselves (5) Information sharing through informal networks	A trusted intermediary (Women's Union) implemented agricultural trainings that also challenged deep seated gender norms, which instilled confidence into women; other women saw their neighbours benefitting, this increased their confidence and pushed themselves to join the trainings, which changed know-how and shifted gender norms in agriculture, which made space for women's agency. Sharing through informal networks bolstered confidence.	Productivity; Income; Profit; Household resilience.
Tanzania, 2020 **Home gardening improves dietary diversity, a cluster-randomized controlled trial among Tanzanian women.**	(1) Agricultural training and inputs to promote home gardens and diversifying diets—including farmer field schools (FFS). (2) Nutrition and public health counselling from agricultural extension workers and community health workers (3) Peer sharing between women in the FFS	A combination of access to nutritious vegetable seeds with integrated health advice changed understanding of nutrition; additional agricultural extension support changed know-how and practices building confidence in women to grow home gardens, while peer sharing disseminated knowledge through trusted network and reinforced that confidence.	Nutrition; Diet diversity; Health; Limited effect on food security
Guatemala, 2020 **Sustainability of agroecological interventions in small scale farming systems in the Western Highlands of Guatemala**	(1) Agricultural trainings including promotion of gender equity (2) Deteriorating land quality and decreasing yields (2) More women involved in promoting agroecological practices within the implementing orgs	Women extension officers implemented trainings in agroecological principles, which instilled confidence in women farmers.	Productivity; Food security; Gender equity.
Kenya, 2021 **Onto the farm, into the home: How intrahousehold gender dynamics shape land restoration in Eastern Kenya**	(1) Training on tree planting and planting basins (2) Outmigration of men can give agency to women	An intra-household approach (engaging both men and women) to restoration can increase Women's confidence and agency implementing tree planting and planting basins schemes on their farms.	Empowerment;

IRRI CGIAR CGIAR INITIATIVE ON Gender Equality iied

Framework for STIBs application

6TH INTERNATIONAL RICE CONGRESS



IRRI CGIAR CGIAR Initiative on Gender Equality iied

Conclusion & Recommendations

6TH INTERNATIONAL RICE CONGRESS

- STIBs approach can be a way forward for more inclusive, resilient and sustainable AFS transformation
- Trial the practical framework to formulate STIBs in the projects and programs
- Develop guidelines and staff specialism in gender integrated situational analysis
- Layer STIBs technologies and interventions within wider set of local planning initiatives for the agri-food system
- Develop monitoring, evaluation, and learning process for women, youth and marginal groups with respect to what works and what does not of STIBs
- Systematically develop and implement longitudinal studies to build the evidence base
- Build on the local, indigenous adaptive capacity, and demand-driven opportunity for ownership and lasting solutions

IRRI CGIAR CGIAR INITIATIVE ON Gender Equality iied

6TH INTERNATIONAL RICE CONGRESS

Thank you!

IRRI CGIAR iied

CGIAR INITIATIVE ON Gender Equality