Mapping Tool - Integrated Framework for Sustainable Agricultural & Food Systems Transformation

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Purpose of this Document

The purpose of this document is to present the results of a mapping exercise on developmental projects across the Asia-Pacific region. It highlights how these projects are implementing sustainable farming practices through the Food Systems framework. This document is intended to help programs to apply principles and activities related to sustainable agriculture and food systems by showcasing practical pathways. It also aims to foster learning in various projects to build stronger, more sustainable food systems in the region.

Background - The Genesis

The global movement toward systematic and holistic approaches to agriculture and food systems is gaining significant momentum. Initiatives such as BMZ's special initiative, ***"Transformation of Agricultural and Food Systems,"*** and its Asia Strategy illustrate this shift. Similarly, within GIZ India, the Environment, Climate Change & Biodiversity Cluster prioritizes sustainable development and ecological principles to conserve natural resources and address resource degradation, ultimately aiming to enhance human quality of life.

Building on insights from the GIZ India Green Cluster analysis, the Working Group (WG) on Agriculture conducted a mapping exercise for relevant GIZ projects in the Asia-Pacific region. This exercise utilized an integrated framework that combined a theory of change narrative with a Sustainable Agriculture and Food Systems approach to outline pathways for sustainable food systems transformation. This framework was developed collaboratively by GIZ India's Food Systems Transformation (FST) core group, an international expert and an Indian Consultant, incorporating input from project teams, sector experts, GIZ HQ sector projects (Food and Nutrition Security and Agroecology), and international agencies.

Theory of Change

The theory of change (ToC) of an integrated sustainable agriculture and food systems framework (SA-FS framework) outlines 10 key pathways that are necessary for achieving transformation, focussing on crucial aspects such as sustainable and resilient production systems, efficient and inclusive supply chain management, connecting consumers and producers, addressing food security and nutrition, and strengthening policy environment. Each pathway has derived from Sub-dimensions of the food systems framework and the 13 agroecological principles outlined by the HLPE. 10 Pathways for Food Systems Transformation through Agroecology (formulated as hypotheses) are elaborated in the following table.

Pathway	**Explanation**
Production Systems	If the primary **production systems** of agricultural and food products – focussing on small-scale producers, herders, and fisher folk – are based on an efficient use and ***recycling***[1] of local renewable resources, ***reduction of external inputs***, preservation of ***soil health, animal health***, ***biodiversity***, and diversification without destroying hunters', gatherers' and indigenous people's livelihoods, then more sustainably

[1] Agroecological principles are formatted in bold and italics, food systems dimensions in bold only.

Pathway	Explanation
	produced and nutritious **food** is **available** and **accessible** for the primary producers.
Agroecosystems' Synergy	If positive ecological interaction, integration and complementarity among the elements of agroecosystems (animals, crops, trees, soil and water) with a landscape approach can create ***synergies***, then the effects for sustainable food supply will be even further enhanced.
Food Supply Chain	If in addition to the primary production, **storage and trade**, **packaging and processing**, **retail and marketing** of food also follow the principles of ***recycling*** and ***reduction of external inputs*** and will ensure **food quality and safety** while preventing food losses, then the whole **food supply chain** will be more sustainable. Markets need to ensure **physical access** to **acceptable** and **affordable food** (economic access) for those consumers who do not produce themselves. Appropriate **information, guidelines and advertising** can and must be designed to support this connectivity and fairness as well as the functioning of markets. A proactive approach to ***connectivity*** links producers and consumers both in rural areas and from rural to urban areas and ensures proximity and confidence between them (i) through promotion of ***fair*** and short distribution networks and market access and (ii) by re-embedding food systems into local economies.
Economic Gains	If these changes in the food supply chain can be realised, then farmers and other business actors can save on external inputs and realise **economic gains** that can be invested in further improvements in agroecology and improved diets or other elements of the food system.
Economic Diversification	If ***economic diversification*** of on-farm incomes is realised, then small-scale farmers have greater financial independence, value addition opportunities, and choices while enabling them to respond to demand from consumers.
Food Consumption Behaviour	If the **consumer behaviour** positively reacts to the more sustainable and nutritious food supply, **diets** will be improved in quality, quantity, diversity, safety and adequacy – either directly through the consumption of own production or indirectly through savings from less external input or incomes that are generated in the food supply chain or through economic diversification (see pathway 4).
Nutrition and Health	If diets are improved in this way, the **positive nutrition and (diet related) health outcomes** and **broader economic, social and environmental impacts** can be expected.
Policy and Governance	If appropriate **policy and governance**, taking these agroecological principles and food systems dimensions into account, is ensured, then the chances for agroecological transformation of food systems to become a success are much higher than without such a favourable political environment
Support System – AE Adoption	If other **systems supporting food production/the food supply chains**, e.g., economic systems (including agriculture and agribusiness) and energy systems, also apply the 13 principles of agroecology, then the transformative effects on food systems will even be stronger.
Inclusive Growth	If these key elements of the 'WHAT' are realised in such a way (the 'HOW') that gender sensitivity, inclusiveness, do-no-harm, ***co-creation*** and sharing ***of knowledge*** and innovations, ***social values*** of local

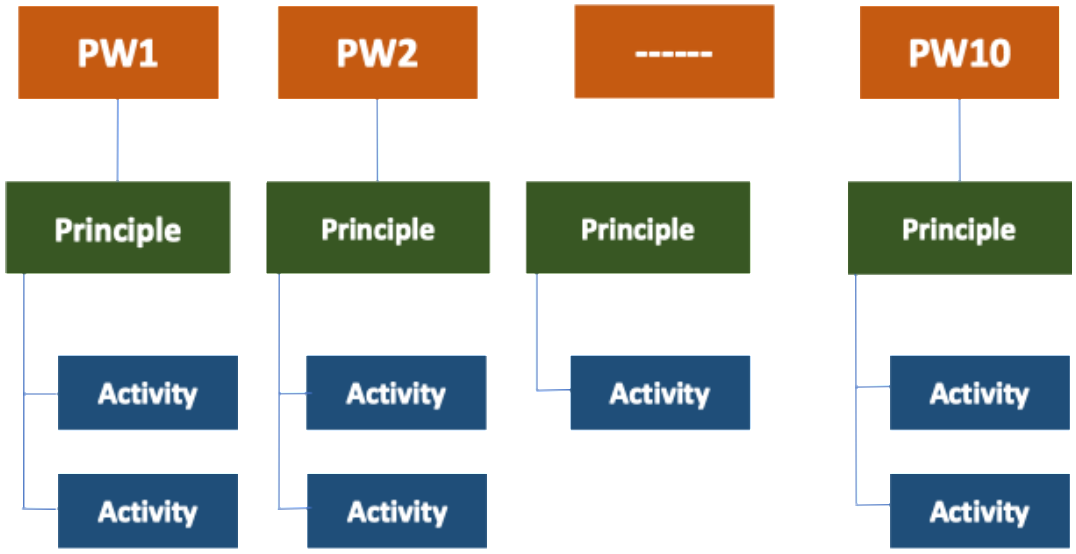
Pathway	Explanation
	communities and provision of healthy, diversified, seasonally and culturally appropriate ***diets*** (see pathway 6), ***fairness*** (see pathway 1), ***connectivity*** (see pathway 1), strengthened social organization and ***participation*** in decision-making by food producers and consumers prevail, then the pathway to sustainable food systems is paved.

Methodology for FS/ AE Project Profiling

A methodology was developed to gather infrmation aligned with the FS/AE framework, using a self-appreciative inquiry approach. This approach enables participating projects to share relevant information, which is then analyzed and compiled. The findings aim to support the dissemination of FS/AE perspectives within project stakeholders..

Framework Basis and Questionnaire Design

The SA/FS framework serves as the foundation, encompassing 10 pathways (shared in previous section) and 46 principles, which are further broken down into 57 actionable activities promoting agroecology. Each activity is translated into a question to assess its applicability to the projects. The questionnaire can be tailored to align with the sector's needs while maintaining the core pathways and principles. The majority of questions are close-ended, allowing respondents to select options or input numerical values.



The methodology facilitates voluntary participation from projects and stakeholders across the sector. An open call can be issued to relevant projects and stakeholders within the region or beyond to invite them to participate. Project teams should assign 2–3 members to engage with the consultant and respond to the questionnaire, ensuring comprehensive and accurate data collection.

Tool Development and Analysis Plan

The structured data collection process involves using a digital tool (link given below) for creating and managing surveys. This tool facilitates efficient data input by respondents and automatically saves responses in the tool itself.

Method to Fill the Questionnaire

Respondents should read each question carefully and mark activities as ongoing, planning, completed, or not in focus. To provide the most appropriate responses, teams are advised to involve multiple members and seek clarification from the consultant if needed.

Dos and Don'ts

Dos	Don'ts
Carefully read each question before answering.	Do not skip questions or leave responses blank.
Involve team members for accurate inputs.	Avoid guessing or assuming information.
Provide responses that reflect the current status accurately.	Do not overstate or exaggerate activities.
Wherever needed put your observations through examples.	Do not rush through the questionnaire.

Reference to the Digital Tool for Mapping

For more details and to access the relevant resources, visit the following link: https://responsive-dashboard-orpin.vercel.app/ (this is a dummy version and draft one.

Annexure - Detailed list of Pathway à Principle à Activity

Pathway	Principle	Activity
1- Production Systems	1.1- Recycling	1.1- Closure (as far as possible) of nutrients and biomass resource cycles
	1.2- Reduction of external inputs	1.2- Reducing use of external inputs in agriculture and allied activities at the farm level
	1.3- Soil health	1.3- Enhancing soil health
	1.4- Animal health	1.4- Bettering animal health and ensuring their welfare
	1.5- Biodiversity	1.5- Enhancing or maintaining biodiversity at the farm or landscape level
	1.6- Connectivity	1.6- Connecting primary producers to local sources of sustainable farm inputs like vermicompost, animal manure, plant extracts etc.
	1.7- Fairness	1.7- Promoting principles of fairness at farm level
	1.8- Production systems	1.8- Improving the landscape and farm ecosystems through sustainable production practices
		1.9- Sustenance of local agrobiodiversity contributing to traditional food systems
		1.10- Promoting climate-smart, nutrition-sensitive production approaches
	1.9- Availability of food	1.11- Ensuring adequate availability of food throughout the year among producer households
	1.10- Access to food	1.12- Promoting better nutrition among producer households sourced from their farms production
2- Agroecosystems' Synergy	2.1- Synergies	2.1- Promoting integration of crops and other plants, animals, soil, water to enhance sustainability and production at farm and landscape levels
3- Food supply chain	3.1- Storage and trade	3.1- Measures that lead to reduction in food loss and waste in the supply chain
	3.2- Packaging and processing	3.2- Measures that lead to lessening environmental footprint of packaging and processing activities
		3.3- Food fortification in traditional and mixed food systems
	3.3- Retail and marketing	3.4- Facilitating fair participation of the smallholders in the markets
	3.4- Recycling	3.5- Recycling of waste and effluents generated by the food supply chain within a landscape
	3.5- Reduction of external inputs	3.6- Reducing the dependence of the food supply chain and its activities on external inputs within the landscape
	3.6- Food supply chains	3.7- Making the food supply chain more sustainable and robust
	3.7- Physical access to food	3.8- Promoting access points for healthy & safe foods within the landscape

Pathway	Principle	Activity
	3.8- Economic access to food (affordability	3.9- Ensuring affordability of healthy & safe foods within the landscape
	3.9- Acceptability	3.10- Matching the supply of local food to the preferences of people
	3.10- Promotion, information, guidelines and advertising	3.11- Promoting healthy food through IEC
	3.11- Connectivity	3.12- Building direct connection between producers and local consumers
	3.12- Fairness	3.13- Promoting fair trade practices
4- Economic gains	4.1- Economic gains	4.1- Enhancing the incomes of producers and other participants in the food systems
		4.2- Investing the monetary gains from the development of the food system for further development of healthy foods and the production systems
5- Economic diversification	5.1- Economic diversification	5.1- Promoting multiple income streams from farm-based activities
6- Food consumption behaviour	6.1- Consumer behaviour	6.1- Behaviour change among consumers within the landscape by influencing their knowledge, attitude and practice towards healthy foods
	6.2- Diets	6.2- Adequacy of food for people within the landscape
		6.3- Quality of food for people within the landscape
	6.3- Promotion, Information, guidelines and advertising	6.4- Enabling the community to understand the labelling information and advertisements related to food
7- Nutrition & Health	7.1- Nutrition outcomes	7.1- Achieving specific nutrition related goals across various population segments
	7.2- Health outcomes (diet related)	7.2- Achieving specific diet linked health goals across various population segments
	7.3- Broader economic impacts	7.3- Leveraging gains to create large scale positive economic impacts
	7.4- Broader social impacts	7.4- Promoting social equity by positively impacting vulnerable groups
	7.5- Broader environmental impacts	7.5- Reducing the negative ecological impacts of food production and consumption
8- Policy & Governance	8.1- Policy and governance	8.1- Governance aspects of natural resources within the landscape
		8.2- Governance aspects related to equity and justice for producers and other stakeholders in the food system
9- Support systems – AE adoption	9.1- Systems supporting food production/food supply chains	9.1- Ecosystem support
		9.2- Economic system support: agriculture
		9.3- Economic system support: agribusiness
		9.4- Energy system support
		9.5- Others

Pathway	Principle	Activity
	9.2- 13 principles of agroecology (as relevant)	9.6- Principles of AE under active focus
10- Inclusive Growth	10.1- Gender Sensitivity	10.1- Addressing gender specific challenges
	10.2- Inclusiveness	10.2- Enhancing agency of the poor, marginalised and vulnerable population in decision making, workforce participation and equitable benefit sharing
	10.3- Do-no-harm	10.3- Identifying and reducing negative impacts of the interventions
	10.4- Co-creation of knowledge	10.4- Reducing the negative ecological impacts of food production and consumption
	10.5- Social values	10.5- Reducing the social disparities arising due to food system
	10.6- Diet (healthy, diversified, seasonally and culturally appropriate)	10.6- Adequacy and quality of food available to needy and the vulnerable segments of the society within the landscape
		10.7- Ensuring food sovereignty among the producers
	10.7- Acceptability	10.8- Identifying the opportunities for participation and accrual of benefits to various social segment s from the food system
	10.8- Fairness	10.9- Ensuring equality in terms of benefit sharing within the food systems within the landscape
	10.9- Connectivity	10.10- Creating socio-cultural linkages within different social groups within a landscape
	10.10- Participation	10.11- Promoting platforms, organisations or groups of people to develop, govern and manage the food systems at the local levels