Ends		Resilience / Ecosystems	Livelihoods		
Levers	Productivity	Services ¹	(Income / Assets)	Nutrition for Human Health	Equity and Empowerment ²
Systems diversification and risk management					
Component improvement	 Breeding "better" staples, non- staples, focus on neglected crops; seed systems 	 Stress tolerance (biotic; abiotic) 	 Higher and more consistent yields 	Breeding for nutrient content	
Agroecological pest management	 Reducing pest and disease losses 	 Reducing vulnerability Storage pest management 	 Access to organic / eco- markets Storage pest management 	 Reduced pesticide exposure Reduced mycotoxins	
Systems diversification	 Focus on neglected crops covering multiple functions Improving systems efficiency; higher value products, including livestock and trees 	 Legume integration in cereal-based systems Systems design for resilience 	 Value chains for globally marginalized but locally important crops; Something to sell all year 	 Dietary diversity Traditional food products Protection of alternative crops that serve as subsistence/ cash safety nets in times of crisis 	 Disaggregation and use of knowledge systems, by gender, caste, ethnic group, etc.
Risk management	Crop diversificationSystems designManaging pests and diseases	 Crop diversification Coping with climate variability and change 	Crop diversification	Crop diversificationSmooth consumption	
Improving farm resource-use efficiency	 Design of systems for improved performance (multi-functional); modeling Integrated soil fertility management Improved input (fertilizer) access Mechanization of small-seeded crops 	 Building soil fertility; water holding capacity 	 Increased profitability via improved input use efficiency and higher yields 		
Building social capital					
Social/ technical innovation				Participatory video	Access to knowledge
Building human and social capital, and collective action ³	 Farmer organization enhance technology access 	 Strengthening of social capital leading to more resilient systems 	 Credit schemes allow people to invest Farmer organization leading to more effective marketing and access to inputs 	 Consistent consumption (social insurance) 	 Designs to increase inclusiveness Strengthening power positions of the marginalized
Markets and Policy					
Improving functionality of value chains	 Incentives based on market opportunities 		 Improving market access for smallholders 	Dietary diversity through more diverse productsWeaning foods	 Ensuring participation of women and marginalized groups
Influencing policy	 Subsidy provision; research investment 	• Subsidies for legumes (not just fertilizer)		• Food safety; Support for nutrition education	
Cross-cutting capacities	 Capacity building: student training; res learning; knowledge management 	earch methods (ex. participa	tory action research); integrated	monitoring, evaluation and plan	ning capacity; farmer-to-farmer

 ¹ Refers to multiple scales and how they function independently and integrated, with an explicit focus on global pressures.
 ² Refers to equality, empowerment, and inclusion of marginalized groups and cultures.
 ³ Including gender, age, and marginalized groups