

3.4 Crop diversification: Knowledge sharing with rural communities in Punjab (India)

High-input cropping systems dominate agricultural landscapes in Punjab State, with 90% of farm land currently supporting wheat and rice. Crop diversification equates to only 10% of agriculture in this region, yet diversifying reduces rural communities' reliance on cereal production, ensuring food security at times when grain yields are affected by drought. An interdisciplinary team of social scientists, nutritionists and agricultural management experts explored barriers in crop diversification from three stakeholder groups' perspectives. Unravelling influential factors which require state intervention, incentives and political to encourage uptake.

Consumer stakeholders

TIGR²ESS researchers led by Punjab University engaged with consumer groups, comprised of community members (individuals and collectives) and organisations (schools, food and hospitality industries and skills training centres). Basic nutrition workshops and training sessions were conducted for each stakeholder group, exchanging knowledge on the benefits of crop diversification, nutritional aspects of fruit and vegetables and providing students with first-hand experience of growing food plants. The study highlighted that educating consumers on the nutritional benefits of a varied diet increased the demand for farmers to produce and supply diverse crops.

Supplier stakeholders

The team engaged with farmers and farmer associations and found when producers grew food for their own consumption, they were highly attuned to the benefits of crop diversification. In contrast, commercial grown crops were selected according to market trends and cultivated for high economic returns, often using intensive farming methods (fertilisers and pesticides). Further, the team identified factors such as seasonality and farm location correlated to crop diversification. To support diversification, farmers were requesting institutional support for training in cultivation techniques and access to equipment for harvesting and processing.

Demand-Supply Chain in Crop Diversification



Various stakeholders in the demand-supply chain of crop diversification

'Crop diversifications is dependent on both consumers and producers. Both must be committed to the aspects of sustainability and nutrition.'

Professor Ramanjit K. Johal,
Panjab University

Institutional support for Crop Diversity

Crop diversification requires institutional support to fulfil the needs of consumers and farmers. However, a current problem is that extension services are short staffed and while NGOs are active, they have limited capacity for outreach.

TIGR²ESS researchers identified the need for government support to incentivise farmers to grow new crops for profit and generate consumer demand for these crops through formal training programmes on nutritional benefits of diverse crop production systems.

FUNDING CALL:	Growing Research Capacity: UKRI GCRF
COUNTRY:	India
TITLE:	Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies (TIGR²ESS)
GRANT NO:	BB/P027970/1
LEAD INVESTIGATOR, CO-INVESTIGATORS:	Prof Ramanjit K Johal (PI, Panjab University), Prof. Suveera Gill (PU), Maitri Sharma, Malika Kukreja, Sheena Chadha
https://tigr2ess.globalfood.cam.ac.uk/	