The Food and Land Use Coalition
India Country Platform

Breaking Barriers: Youth and Agriculture

THEMATIC TRACK SUMMARY

Venue: Sariska

Date: February 16, 2022

Time: 11:30 AM - 01:00 PM (IST)

Suggested Citation

World Sustainable Development Summit (2022), Breaking Barriers: Youth and Agriculture, Thematic Track Summary (Rapporteur: Lakshmi G), New Delhi: The Energy and Resources Institute.

Actionable Messages

Message 1: Concerted efforts needs to be made to bring more youth into the agricultural fold and simultaneously work on strengthening agricultural education and curriculum so as to ensure that students currently engaged in this sector continue with it in the future.

Message 2: Along with skill development, financial literacy and credit availability, apprenticeship opportunities are required to effectively engage rural youth in agriculture.

Message 3: Attention might be given to put in place the real time management and information system, agri-logistics, monitoring and implementing the agriculture infrastructure fund for infrastructure. Also building and online database of all agri input dealers along with their skill sets.

Message 4: Adapting curricula in agricultural education through the approaches of extension services.

Message 5: To regularly organise an annual event with several digital output activities to maintain the momentum and impact of this initiative and take agriculture to the next level.

Narrative

Dr Vibha Dhawan, Director General, The Energy and Resources Institute, welcomed the speakers and audience of the thematic track, 'Breaking Barriers: Youth and Agriculture'. She brought a few important facts related to agriculture in India wherein she informed that India has a total of about 17 % of the world population but only has 2.4% of the world's land area which is cultivable. In the past 40 years, Indian agriculture has made a tremendous progress caused by the Green Revolution. However, in the last decade the agricultural scenario has been facing challenges including declining profitability, depletion of natural resources, the resurgence of new pests and diseases, global warming, climate change and so on and that poses a threat to sustainability of Agriculture. To address these issues, we need to be region specific and that has an interdisciplinary focus, capability and skills for Innovation and sustainability, efficient use of natural resources across its diverse agro ecological regions, high yielding varieties, high quality human resources etc. For the growth and development of agriculture in India, it is crucial to motivate and encourage the youth towards agriculture, and the new technologies and innovative farming practices can also enhance the productivity and effectiveness in this sector. The most significant factor is that the farmers and their children do not want to adopt agriculture, which would have long term impact on agriculture. She mentioned that, with 35% of the Indian population in the age group of 15 to 35 and 75% of those residing in rural areas, agriculture remains and will remain the dominant source of youth employment. Here is the need of attracting youth towards agriculture by providing proper employment opportunities and skillsets. TERI-FOLU initiative takes lead towards this.

Dr Jayahari K M, India Country Coordinator, Food and Land Use Coalition (FOLU) started his opening address by briefing FOLU's vision, which is precisely about an efficient food system in India, which is a sustainable and lucrative business for producers and supply chain managers and it allows the citizens to access, consume and absorb healthy diet. He stated, the human resources employed in agri and allied sectors in India will not be enough to cater the transition from the present manner to a sustainable agriculture. It will require a lot of skill, capacity, awareness building to take the agriculture and food system in India from the present situation to cater the needs of the future by 2030 / 2040. Despite the current trend of youth moving out from agriculture, there are people from IT and other industries taking voluntary retirement to put their efforts in agriculture, mostly, not for livelihood but as a passion. He stated that FOLU's vision is to shape the future of agriculture and food system for India, to reduce the miseries and challenges of the farmers, attract youth towards farming and so on.

Dr Ramesh Chand, Member National Institute for Transforming India (NITI Aayog) in his key note address also stated that today's farmers do not want their children to adopt farming, and are looking for employment in other sectors. On the other hand the professionals from other sectors are coming back to farming. He shared a data from his study on employment in agriculture, 234 million are engaged in agriculture as main workers during 2019-20. The workers in the age group 15-29 are 47 million; i.e. 20% of total workforce in agriculture is in the age group of 15-29 and rest is 30-60 age group. In agriculture 74% of youth are self-employed and 26% are casual, regular or salaried workers. Hence, they are the decision makers in agriculture and that throws the interesting factor that relates to probability of youth staying in agriculture. Again, if we look at the age group 15-29 out of total workers, 37% of this age group is working in agriculture. But if we look at the total of all ages then 45.6% are in agriculture. He also stated that unlike earlier India is no longer deficit in food production but have surplus to the extent of 7% at aggregate level. We have moved from shortage management to surplus management at aggregate level, except in edible oil and pulses. Also we need to look at the sustainability; declining, over exploitation of water table, soil, climate change etc. We need to re-imagine agriculture by the way of chemical free, organic, natural farming. He also stated the main two stakeholders in farming are young and old people; where it is easy to work with young farmers, with more education, they are willing to take risks, adopt latest technology, willing to experiment, easily moulded to changes, open to new ideas etc. All these are required to break the barrier.

Dr Manish Anand, Senior Fellow, TERI, briefed about the TERI-FOLU (Food and Land Use Coalition) scoping study. FOLU is a joint initiative between The Council on Energy Environment and Water (CEEW), Indian Institute of Management, Ahmedabad, TERI, World Resources Institute (WRI) and Revitalizing Rain fed Agriculture Network (RRAN). The study highlights the varying levels of capabilities and skill requirements across agriculture and allied sectors from the perspective of Sustainable food and land use system, as India is striving to find ways of achieving food and nutrition security. He emphasised the need of an assessment of the capabilities and skill requirements in agriculture

and allied sectors in order to understand, plan for and address the emerging challenges and opportunities in the sector. This must be an integral part of agricultural and rural development efforts at national and sub-national levels. There is a decline in Agricultural Research Intensity Ratio in recent years which remains unchanged during 2000 to 2017 ranging to 0.27- 0.3% of agricultural GDP mainly due lack of R&D spending. The scientists are not able to spend time in research due to other engagements. He pointed out the need for rain fed agricultural system, close links between science and public policy, institutional capacity in skill building etc. The recommendations of the study categorised into policy planning and coordination, capacity, demand side measures, and information system.

Dr Satender Singh Arya, CEO, Agricultural Skill Council of India (ASCI) mentioned that the level of formal skilling in agriculture sector has been absolutely low and less than 0.5 though we claim to have almost 47% of the entire workforce engaged in agriculture. ASCI has got various skilling initiatives and has 186 job rolls with various levels. He stressed the need of start-ups, Applications, making use of Applications and skilled usage of Applications. He also stressed financial literacy, youth to youth entrepreneurships, credit availability with training, spreading short success stories, development of para professionals, providing apprenticeship opportunities etc. and the need of filling the gap between National Rural Livelihood Mission (NRLM) and Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY).

Dr A K Singh, Deputy Director General (Agricultural Extension), Indian Council of Agricultural Research (ICAR), addressed the ICAR's role in providing training programmes, hand holding sessions, including long term training programmes. He briefed about Zonal technology management, which has 22 BPD units to provide technology incubation and commercialisation, agri business incubation centre, to commercialize agro technologies and provide incubation support, training to entrepreneurs, incubating youth for commercialising technology. He mentioned about the Govt of India's important programme Atal Research and Innovation for Small Enterprises (ARISE) which is a business model for youth who are interested in biotechnology, IT, agri inputs and precision farming. He also mentioned the programme- Attracting and Retaining Youth in Agriculture (ARYA), which attract and empower youth in rural areas, establish a network of group on agriculture and related activities like processing, value addition and marketing, create linkage with different institutions and stakeholders.

Dr Rashmi Aggarwal, Joint Director of Education & Dean, Indian Agricultural Research Institute, described the various agricultural curriculum. Highlighting how the course curricula or inbuilt course can be made for attracting the youth in agriculture sector. Youth do not want to take up agriculture as a profession and also at the same time there is agricultural production is itself is seeing a lot of changes like the climate change and other forms of environmental degradation which pose serious threats. She mentioned the need of launching National schemes to introduce formal standardise agricultural training programs and that several countries are also taking such projects of agriculture skill development with sustainability objective. She mentioned different programs which would help to increase the youth involvement in agriculture.

Mr Sharath Loganathan, Co-Founder-Ninjacart stated the importance of post-harvest in marketing, which requires to transport 1200-1300 tonnes of vegetables within 14 to 18 hours of time so as to ensure that post –harvest the produce reaches the destination. He mentioned the barriers involved and stated that innovations are still stuck in the note books and are not reaching the market. He pointed about the youth's hesitance to come forward for this sector, where he emphasised the requirement of training and skill empowerment. India as a larger producer needs to have trading, marketing platform.

Dr Sangeeta Chopra, Principal Scientist Indian Agricultural Research Institute briefed about the very interesting and useful technology developed called PUSA Farm SunFridge. She briefed the features of the model which is off-grid and battery less system with solar panels for daytime and water battery for night cooling. The models have been installed in few places, where the farmers visits in large number. The technology used is off-grid solar refrigerated batteryless Pusa Farm SunFridge.

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> India is home to 17 % of the world population but has 2.4% of the world's cultivable land area is thus underscoring the importance to sustain this sector through interdisciplinary focus, building and strengthening capability and skills for Innovation and sustainability. In the last decade, Indian agriculture has been facing several issues such as: resurgence of new pests and diseases, declining profitability and Global Warming. For the growth and development of this sector, it is crucial to motivate the youth towards this sector. This will support long-term productivity and efficiency of the sector. It is crucial to motivate and encourage the youth towards agriculture, promoting new technologies and innovative farming practices can enhance the productivity and effectiveness in this sector.

Dr Vibha Dhawan
Director General, TERI

> The human resources employed in agri and allied sectors in India will not be enough to cater to the transition from the present manner to a sustainable agriculture. Skill enhancement, capacity building and awareness is required to take agriculture and food system in India from the present situation to cater the needs of the future by 2030 / 2040. Farming is something that connects nature and humanity in a charming bond.

Dr Jayahari KM
India Country Coordinator, Food and Land Use Coalition

> We have moved from shortage management to surplus management at aggregate level, except in edible oil and pulses. Unlike earlier India is no longer deficit in food production but has a surplus to the extent of 7% at aggregate level. Agricultural has transitioned from shortage to surplus and we now need to reimagine agriculture that is sustainable and leverages youth involvement.

Prof Ramesh Chand
Member, National Institution for Transforming India-NITI Aayog

> There is a need to develop the capacity of next generation of agriculture producers and actors by identifying ways how to engage and empower youth including both women and men. Bringing together the key stake holders, including youth voices to engage in constructive dialogue, action, capabilities and skills for advancing innovation, diversification, commercialization sustainability and increased efficiency across the value chain would provide the desired momentum towards the critical transitions required to transform food and land use in India.

Dr Manish Anand
Senior Fellow, TERI

> Through appropriate skilling, the youth can contribute to modern age agriculture through inter-related disciplines as well. Today, opportunities for youth in agriculture sector are not restricted to strictly farming, but go beyond to include basic & applied sciences, finance, agri economics, drone technology, AI, logistics, etc. An area of focus is reducing agricultural crop and food wastage as this in turn amounts to increase in production.

Mr S Vijay Kumar
India Lead, Food and Land Use Coalition; Distinguished Fellow, TERI

> The level of formal skilling in agriculture sector has been absolutely low and less than 0.5 though we claim to have almost 47% of the entire workforce engaged in agriculture. Agricultural skill should encompass financial and digital literacy so as to effectively engage rural youth. Rural youth aspirations can be addressed through technological orientation. Technology plays a crucial role in not just glamorizing the agriculture sector but also making them aware of the latest up gradation in the sector and its applicability.

Dr Satender Singh Arya
Chief Executive Officer, Agriculture Skill Council of India (ASCI)

> Youth has to be provided all kinds of skilling and training so that they could establish their own enterprises and become entrepreneurs We find that in the rural areas people are not much interested in farming, they leave farming even for petty jobs.

Dr A K Singh
Deputy Director General, (Agricultural Extension), The Indian Council of Agricultural Research (ICAR)

> Youth do not want to take up agriculture as a profession and also at the same time there is agricultural production is itself is seeing a lot of changes like the climate change and other forms of environmental degradation which pose serious threats. Children of farmers are interested in technology or Engineering or medicine but they don't want to take up agriculture as a profession
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> ***Dr Rashmi Aggarwal***
> ***Joint Director of Education & Dean (Acting), Indian Agricultural Research Institute (IARI)***

> A lot of graduates in the agricultural universities are aiming for bank jobs and the landowners who do farming send their sons and daughters for IT. A lot of these innovations are still stuck in the note books and is not reaching the market
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> ***Mr Sharath Loganathan***
> ***Co-Founder-Ninjacart***

> Farmers are open to the use of technology and they have been visiting the Mela Ground – where a demo unit has been placed so as to understand it better.
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> ***Dr Sangeeta Chopra***
> ***Principal Scientist, Indian Council of Agricultural Research (ICAR)-Indian Agricultural Research Institute (IARI)***