

Attracting and Retaining Youth in Agriculture

Introduction

The global population may reach 9 billion by 2050, and youth would represent around 20% (FAO, 2014). Most young people (around 85%) live in the developing countries (UNDESA, 2011). India has a comparative advantage over other countries in terms of the distribution of its young population. As per India's census, the total youth population increased from 168 million in 1971 to 422 million in 2011. In 2017, it reduced to 356 million (10–24-year-olds), against China's 269 million. India's population has been observed to remain young longer than China's and Indonesia's, the two major countries, along with India, that determine the demographic features of the Asian continent (CSA, 2017). India also enjoys a demographic dividend with more than 60% of its population of working age. According to a World Bank report, in India, the working-age population will outnumber the dependent population for at least three decades (until 2040). As per the National Higher Education Commission (NHEC) estimates, the average age of the Indian population in 2020 will be 29, as against 40 in the USA, 46 in Europe and 47 in Japan (British Council, 2014). Agriculture still remains the key sector, providing livelihood and employment opportunities to more than 60% of India's population living in rural areas. Overall, in the developing world, youth and agriculture are the

twin pillars of progress and prosperity, keys to achieving global SDGs (Paroda *et al.*, 2014).

The progress and prosperity of a nation depend, to a large extent, on its well-trained, enlightened and disciplined youth. Indeed, young people are a major resource and agents of change for overall growth and development, as they possess tremendous enthusiasm, creativity, energy, imagination and dedication. The energy and passion of youth, if harnessed properly, can bring significant positive change in all sectors, including agriculture and society as a whole (Saharawat *et al.*, 2013). Young people are creative digital innovators and active citizens eager to contribute positively towards SDGs. While the world's youth cohort is expected to grow, employment and entrepreneurial opportunities for youth, particularly those living in developing countries' economically stagnant rural areas, remain limited, poorly remunerated and of poor quality (Percy-Smith and Akkermans, 2011–12). Therefore, it is vital that young people are brought into the mainstream of agriculture.

Major Challenges

In the recent past, retaining youth in agriculture has been one of the major challenges in the developing world. The principal challenges in retaining youth in agriculture include: insufficient access to knowledge, information and education; limited

access to land; inadequate access to financial services; lack of formal and informal on-the-job training; limited access to markets; and limited involvement in decision-making and policy dialogues (Saharawat *et al.*, 2013). Over the years, the community has become gradually poorer due to small land holdings, which comprise over 80% of total farm households. Multiple risks associated with agriculture intensify the challenges owing to over-exploitation of natural resources linked with rapidly increasing globalization, soaring fuel and food prices, volatile markets and growing climatic volatility. Youth is a great resource, to be used for agricultural development. In the past few decades, because of rapid industrialization and urbanization, youth and agriculture are experiencing unprecedented transformation. Another major dilemma in the developing world is the poor social image of agriculture and, hence, rural youth are moving towards the urban sector, looking for alternative and better opportunities (Paroda *et al.*, 2014). It is evident through successful business models of leading public and private sector organizations, as well as multinational companies (e.g. the IT sector), that youth are more innovative and productive as well as receptive to new technologies. On the contrary, in the agriculture sector there is a wide gap between energy (youth) and experience (older people), which is a cause of the backward nature of farming and the slow adoption of innovations and new technology. These are huge losses in the technology dissemination process, delinking science with society and making farming non-remunerative, non-resilient and unattractive to youth (Saharawat *et al.*, 2013).

Under the above scenario, agriculture is not a remunerative and respectable profession, particularly for youth, and is not a sustainable pathway to meet food, nutrition and livelihood security. The challenges are complex and interwoven. Therefore, youth has to be motivated through advances in innovation, capacity development, partnership and a participatory approach, through enhanced skills and a positive attitude towards their role in the overall agricultural and rural development of the country.

Role of Youth in Agriculture

The challenge to retain youth in agriculture has been recognized globally. It first figured

prominently in 2006 during the global conference organized by the Global Forum on Agricultural Research (GFAR) in New Delhi. The deliberations resulted in an agreement to form a youth-led international forum, which led eventually to the formation of Young Professionals in Agricultural Research for Development (YPARD) and the first Global Conference on Agricultural Research for Development (GCARD 1), held at Montpellier, France, in 2010. The importance of youth in agriculture was further emphasized and structurally debated during GCARD 2, organized at Punta del Este, Uruguay, in 2012. GCARD 2 had put forth 'Youth and Agriculture' as one of the topics for focal discussions. The chair of GCARD 2's organizing committee emphasized that, globally, agriculture is considered an ageing and undervalued profession and youth needs special encouragement in all aspects of AR4D. As a follow-up to the GCARD 2 discussions, ICAR, in association with APAARI and TAAS, organized a national workshop on 'Foresight and Future Pathways of Agricultural Research through Involvement of Youth in India', in March 2013, at the National Agriculture Science Centre (NASC) complex, New Delhi. About 300 participants from different ICAR institutes and agricultural universities, including young farmers, students, private sector representatives and senior mentors, attended the workshop. The workshop was to debate the role of youth, being an important critical mass in ICAR, in meeting agricultural R&D needs. Currently, the country has around 7000 agricultural scientists in India's public sector, NARS, of which more than 35% are below the age of 40. The two days of deliberations covered a wide range of disciplines and issues related to Indian agriculture, natural resource management, crop improvement and protection, horticulture, post-harvest technology, livestock and fisheries development, agricultural engineering and implements, ICT and socio-economics. The deliberations identified research needs across disciplines and regions where youth can play a prominent role. The key recommendations of the deliberations include: the urgent need to reorientate agricultural research towards a farming systems mode by ensuring inter-institutional and interdisciplinary collaboration; creating state-of-the-art research facilities; undertaking joint research with the private sector

and international/advanced research centres through the creation of excellent research infrastructure; provision of a seed grant (Rs 1-1.5 million); encouraging scientists to initiate research; short- to long-term training for young scientists at advanced research institutions; emphasizing greater involvement of women in decision-making bodies; and greater emphasis on human resource development through special allocation of funds for skills development (Saharawat *et al.*, 2013).

Retaining Youth in Agriculture

The Attracting and Retaining of Youth in Agriculture (ARYA) programme was initiated by the ICAR after deliberations in the workshop, and is being implemented successfully by the Krishi Vigyan Kendras (KVKs) in different states of India. Overall, the deliberations led to the development of a road map to define and delineate pathways for developing and nurturing a new generation of young agricultural professionals and entrepreneurs, with greater emphasis on technical capacity development, institutional arrangements, innovative networking, appropriate investments and harnessing the full potential of youth, in order to realize a qualitative change in their lives.

The government formulated a National Policy for Skill Development and Entrepreneurship in 2015 to provide an umbrella framework for all skill development activities carried out within the country, to align them to common standards and to link with demand centres. More than 50% of the Indian population is involved in the agricultural sector but hardly 5% of rural youth are involved in agriculture as a profession. Rural youth are an important means to achieve accelerated agricultural and rural development. Accordingly, effective channelling of this resource to constructive activities can contribute to increased prosperity for all. On the contrary, the current developmental models spur migration of educated and skilled youth away from agriculture, leaving a scarcity of skilled and progressive farmers/entrepreneurs in the rural and agricultural sector. Rural youth has been deprived of minimum facilities, needed opportunities and encouragement in innovative farming over time. Thus, most of the youth who remain in agriculture have limited knowledge and skills and are

being forced to find new opportunities in other sectors. As a result, there is an ongoing exodus of rural young men and women from villages to towns and cities, affecting, adversely, rural development and agricultural growth. Considering the huge knowledge and skills gap in the agricultural sector, there is an urgent need to assess skills required within the sector to make it sustainable, entrepreneurial and attractive to youth. The skill development and entrepreneurship programme thus needs greater emphasis on vocational training of rural youth.

In the Asia-Pacific region, the challenges and opportunities for youth in the agricultural profession do not differ much. Different countries are tackling the issue of involving agricultural professionals in the farming sector. There are several youth-led successful models for transforming agriculture in the countries. However, these models lack an appropriate mechanism for regional and cross-border learning from different countries' experiences. Keeping these challenges and opportunities in view, a regional workshop on 'Youth and Agriculture: Challenges and Opportunities' was organized jointly by APAARI and the Pakistan Agricultural Research Council (PARC) at Islamabad, Pakistan, in October 2013, in collaboration with GEAR, CIMMYT, the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Center for Research in the Semi-Arid Tropics (ICRISAT), the International Food Policy Research Institute (IFPRI) and Bioversity International. The deliberations highlighted the emerging phenomena of over-urbanization and growing youth unemployment, which are leading to social disparity, on the one hand, and global food insecurity on the other. Prioritizing investment for attracting youth is, therefore, crucial for future agricultural development. Greater and active involvement of youth in farm advisory, empowering them with knowledge to serve society through the creation of technology-led business models and providing value-added services and creating employment opportunities, is the way forward for enhancing agricultural productivity for a food-secure society. This needs a paradigm shift in our approach and policy focused on youth to transform youth from job seekers to job creators.

Capacity development of youth through informal and vocational training and creating

awareness of new opportunities in agriculture, including secondary and speciality agriculture, would attract youth in agriculture, help bridge the gap between rural and urban and boost rural economies in the region. The local institutional, national and regional leaderships in the Asia-Pacific region, therefore, need to take initiatives for greater involvement of youth in policy planning and prioritization of investment for shaping their future in farming and preparing them professionally for tomorrow's agriculture and the task of feeding, sustainably, a projected global population of 9.2 billion by 2050. The key points to emerge from the regional consultation include: (i) reorientation of agriculture to agricultural research for results (AR4R) by promoting agri-innovation; (ii) agri-business and entrepreneurship through involvement of youth at national, regional and international levels; (iii) urgently linking agriculture with health, environment, nutrition and other basic science disciplines to address challenges by young professionals; (iv) focusing attention on capacity development of youth through vocational training; (v) inclusion of agricultural education in the school curriculum and farmers' participatory approach to technology generation; and (vi) transfer and adoption to ensure faster growth in agriculture. Innovative approaches to developing and transferring technologies, efficient funding mechanisms, openness in knowledge-sharing, much-required marketing reforms and partnership at national and regional level are important areas to pursue; and to make agriculture intellectually rewarding for youth, special emphasis is needed on secondary agriculture, diversification, protected cultivation, crop intensification and use of ICT (TAAS, 2017).

Agriculture is one of the largest employment-generating sectors. Therefore, there is a need to create awareness among youth regarding emerging opportunities. In south Asian countries, existing administrative structures, lack of prioritization of R&D, fragmentation along disciplinary lines, poor coordination and volatile public funding are some of the real impediments that need to be overcome soon through proper policy advocacy and public-awareness mechanisms. Also, there is an urgent need for strong political will and an enabling policy environment for greater involvement of youth in AR4D initiatives. For this, there is a need to focus more on foresight, research partnership and capacity

development. A regional network is urgently needed in the overall interest of future agricultural growth for sharing knowledge, innovations and expertise in similar target environments and socioeconomic settings. For this, international organizations, namely the FAO, IFAD, the World Bank, the Asian Development Bank, CG centres and regional organizations like APAARI, the Association of South East Asian Nations (ASEAN) and the South Asia Association for Regional Cooperation (SAARC) need to devise appropriate mechanisms involving the NARS of the region. The way forward, therefore, warrants providing unblemished and tangible pathways for engaging youth in agriculture through developing and practising farm youth- and gender-friendly agricultural technologies, practices and policies.

In view of the current agricultural challenges, increasing youth population and rapid globalization, developing world agriculture would require a paradigm shift in the mindset, from traditional agriculture as the means of livelihood to a business-oriented, specialized agriculture involving skilled youth in rural areas. It is obvious that empowering youth in agriculture would be an important vehicle for change. The current agricultural occupation scenario has to be made remunerative through scaling new innovations and entrepreneurships. It is clear that quality/skilled youth can only be attracted and retained in farming if it becomes economically rewarding and intellectually satisfying, associated with improved rural infrastructure and better educational and primary healthcare facilities. The comprehensive strategies for plausible transformation in future would demand more rewarding jobs in all agro-based and agro-related activities with equal opportunities and facilities in rural and urban areas, better options for public-private sector investments in agriculture and rural-sector infrastructure, and promotion of small agri-firms and producer companies to promote agri-food and value-chain systems (GLEF, 2014). To empower rural youth, including women, there is an urgent need to transform the extension system into an innovation extension platform that delivers technology-orientated knowledge, inputs and value-added services. The extension approach would have to focus around farming communities rather than an individual farm household approach, as was the case in the past.

Looking Ahead

The present situation demands skill development of rural youth through vocational training and building a cadre of technology agents to provide technical backstopping as well as custom-hire services to smallholder farmers. Another strategy could be to create agri-clinics, where technology agents can join hands to ensure a single-window system of advisory services. In future, efficient agro-advisory in the wake of increasing demand for quality and new agricultural knowledge, together with input support, can be best delivered through pluralistic agricultural extension, i.e. a mix of public and private sector involving participation of youth, in particular. The emergence of private sector institutions such as corporate organizations, community-based organizations, young farmers'

associations, farmers' cooperatives, self-help groups, watershed and water-user associations, producer companies, non-governmental organizations, farmer producers, input providers, service providers, para-professionals (Kisan Mitras etc.), input producers, the corporate sector, organic and inorganic mix fertilizer companies and rural-based, low-cost primary processing enterprises can all be encouraged to save smallholder farmers in India. These specialized agri-knowledge services would help promote speciality, secondary, diversified, value-added and entrepreneurial agricultural systems. Such entrepreneurship platforms would not only empower youth to become knowledge agents but would also attract and retain them in agriculture. Overall, these endeavours would certainly enable agriculture to become a reputable profession.

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