

Challenges in Attracting and Retaining Rural Youth in the Near Future in Agriculture

Neeta Mahawar^{1*}, B. Sri Sai Siddartha Naik², Tirunagari Rupesh³, Sharvan Kumar Yadav⁴,
Raghuvir Singh Meena⁵ and Swetha Dhegavath⁶

¹Ph.D. Research scholar (Soil Science & Agricultural Chemistry), RVSKVV, Gwalior, MP

²Ph.D. Research scholar, Department of Agronomy, RCA, MPUAT, Udaipur, Rajasthan

³Ph.D. Research scholar, Division of Soil Science & Agricultural Chemistry, ICAR-IARI, New Delhi

⁴Senior Research Fellow (Agronomy) in ICAR- NPOF, MPUAT, Udaipur

⁵Ph.D. Research scholar, Department of Agronomy, RCA, MPUAT, Udaipur, Rajasthan

⁶M.Sc. Research scholar, Department of Soil Science & Agricultural Chemistry, PJTSAU, Hyderabad

*Corresponding Author E-mail: neetamahawar987@gmail.com

Received: 13.11.2020 | Revised: 29.12.2020 | Accepted: 14.01.2021

ABSTRACT

Currently, Indian agriculture is facing variety of emerging challenges in spite of the assembly boom, the concerns have shifted from production to more complicated, subtle and multifaceted issues. A number of the contemporary problems in Indian agriculture are land fragmentation, labour shortage, depletion of natural resources, global climate change, low profitability, competition due to market liberalization, nutrition and gender issues etc. Under such circumstances the agriculture sector needs new ideas, innovations, rebranding and revitalization to combat these prevailing challenges. Generally youth is willing to adopt new ideas and technologies and thus they will easily transform this status of farming. The youth might be the perfect catalyst to change the poor image of persons involved in farming, especially within the rural communities given their greater possibility to adapt new ideas, concept and technology which are all important to change the way farming is practiced and perceived. This scenario of adjusting agriculture in India demands the energy and vitality of youth.

India being the youngest nation within the world has massive youth resource to supply to agriculture sector but unfortunately, youth participation in agriculture is declining. With this scenario, this paper aims to debate some pertinent issues in present context like importance of youth involvement and reasons for growing interest of youth in farming sector, channelizing enormous youth workforce of the country into agriculture, strategies for attracting and retaining youth in agro-based rural enterprises and institutional efforts to leverage youth for agriculture.

Keywords: Youth, Agriculture, Rural, Farming, Challenges.

Cite this article: Mahawar, N., Sri Sai Siddartha Naik, B., Rupesh, T., Yadav, S. K., Meena, R. S., & Dhegavath, S. (2021). Challenges in Attracting and Retaining Rural Youth in the Near Future in Agriculture, *Curr. Rese. Agri. Far.* 2(1), 7-16. doi: <http://dx.doi.org/10.18782/2582-7146.127>

This article is published under the terms of the [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/).

INTRODUCTION

In India, youth constitute a numerically dominant potential, resourceful and also adventurous segment of the population. Quite 50.00 per cent of India's current population is below the age of 25 years and over 65.00 per cent below the age of 35 years. Majority of them live in rural areas. At one hand, we've over 50 per cent of population involved in agriculture (Anonymous, 2016) that contributes to only 17.4 per cent of the GDP (Indian Economic Survey, 2015-2016), resulting in poverty and threatened livelihood of farmers and on the opposite hand we are demanding for more youth involvement in agriculture. Nearly 35 percent of the country's population falls under the 15-35 years of age limit and roughly 75 percent of them live in rural areas, disattachment with farming on such a large scale is worrisome. The rural youth could be the ideal target for skill training in these new areas of agricultural growth and to do this effectively there is a need to mobilize young farmers. Organized groups of young farmers will be useful for introducing new production technologies and organizing effective input and output markets. The responsibility of the youth is to carry forward the tradition of farming not only because it is connected with the traditions and culture of our country, but also it has the potential of keeping the economy healthy even at times of recession by all means. There's also a coffee level of policy and investment intervention that focuses explicitly on rural youth and on youth employment opportunities within the agriculture and agribusiness sectors (Proctor et al., 2012). To explain the targeted rate of growth of farming as an entire, still there's a dire got to bring necessary evolutionary changes within the way of farming it's practiced at present. Under these circumstances, it's too superficial to market more youth involvement in agriculture without giving critical insights into the existing facts.

Whether youth should be attracted and retained in agriculture can be a serious debate today and wishes thorough exploration.

Whom we call 'Youth'?

Youth often refers to the quantity of transition from childhood to adulthood, encompassing processes of sexual maturation and growing with social and economic autonomy from parents (Bennell et al., 2007). Youth can also be defined as those between age range from 15 to 40 years old supported variety of things deemed slot in terms of their maturity, ability to think positive and risk taking (Silva et al., 2009). The United Nations (UN) General Assembly (UN, 2011) and therefore the International Labour Organization (ILO) (2005) defined youth as people between the ages of 15 and 24. The working party recommends that 18 to 30 years aged should be the age criterion for Youth (GoI, 2012). The govt of India (GoI) officially defines youth as persons between the ages of 15 and 29 years supported the advice of National Youth Policy 2014 (NYP, 2014). The definition of GoI is most accepted in Indian context.

Unfortunately, India features a Youth Development Index with a worth of 0.48 which is sort of low. When gender disparities in youth development index are considered, the worth is reduced further (The Commonwealth, 2015). Presently, there are variety of socio-economic factors giving rise to distress for the youth like role and value conflict, emotional adjustment, career decision, unemployment etc. (Sahni, 2013) and lack of employment opportunity is the major among all. The rising levels of youth unemployment not only causes direct economic loss, but the social impact of joblessness is additionally manifested by increased crime, psychological state problems, violence, substance abuse and social exclusion. As high as 963 youth within the country within the age group of 18 to 30 committed suicide because of unemployment within the year 2014 (NCRB, 2014).

Importance and engagement of Youth in Farming sector

Young people bring energy, vitality and innovation into the workforce. Most of the new innovations (both technical and institutional) require a talented agricultural manpower. As an example, promotion of high value agriculture, precision farming, organic cultivation, Hi-Tech horticulture, micro-propagation, Integrated Pest Disease & Nutrients Management, floriculture, medicinal and aromatic plants cultivation, high-risk and high-returns, agri-ventures like protected agriculture, Post Harvest Management etc. Development of backward and forward linkages requires well trained young farmers with enthusiasm and keenness for farming. Within the most adverse and risky situations, children have an unprecedented resilience and skill to cope (UNFPA, 2006).

Youth might be the perfect catalyst to vary the poor image of agriculture given their greater possibility to adapt new ideas, concepts and technologies (Akosa, 2011). Though there are risks like drought and cyclones that are completely external factors to limit the likelihood to succeed, we'd like to think about farming as a crucial industry to depend on even within the era of industrialization and urbanization. Therefore, a loss of youth means a loss of the chance to modernize and be competitive in present era of globalization. The involvement of youth in agricultural production is critical not only due to the necessity to feed the country, but most significantly because it offers options for wealth creation and financial security. Potentially reducing the issues of accelerating youth unemployment involves securing the interest and participation of children in agriculture by deliberate shift in policy, training and promotion that specifically targets the youth. Thus, there's got to strengthen on-farm, also as off farm rural employment opportunities to combat rural poverty and to secure adequate livelihood for rural youth. Connecting the enormous youth resources to exploit vast range of opportunities in farming sector can give Indian agriculture a whole new stature.

Why are rural youth leaving farming?

Primary data across multiple countries confirms that youth are not attracted to low-wage, low-value production, and are instead attracted to modernization/ new practices, use of technology, and opportunities for “quick money” with relatively higher earnings than staple crops .At present there's insufficient youth participation within the agricultural sector in India. The survey of 5000 farm households across 18 states conducted by Centre for Study of Developing Societies (CSDS) (Sood, 2014) claims that 76 per cent farmers would like to try some work aside from farming. 61 per cent of those farmers would like to be used in cities due to better education, Health and employment avenues there. Furthermore, shifting out of farming is common among farmers below 30 years age and research in other countries also showed that occupational mobility is higher among younger farmers and that they were found to be more sensitive to income differentials between farm and non-farm occupations (Sharma & Bhaduri, 2009). Slightly more than half (51.42%) of the rural youth possessed medium level of income, 28.57 per cent of them had low level of annual income and 20.01 per cent of them had high level of annual income. India is losing quite 2,000 farmers every single day which since 1991 and therefore the overall number of farmers has dropped by 15 million (Sainath, 2013). The migration of rural youth to cities is around 45 per cent within the country, which is sort of alarming. Out of total migrants from rural to urban areas youth account for 30 per cent (Hazra, 2012). This has several implications for the longer term of Indian agriculture and India's food security. It's imperative to seek out the explanations for growing disinterest of youth to be involved in agriculture.

Farming sector is facing variety of problems today like indebtedness, climate change, inadequate Govt. support and credit, unregulated market, land degradation, infrastructure etc. which makes youngsters lose interest in agriculture (Chaudhary & Chaudhary, 2013). There are variety of reasons

which distract youth to keep faraway from farming like low return as compared to the trouble, perception of status related to farm activities and therefore the interconvertible fact that highly educated professionals working on farms isn't intellectually satisfying, because it doesn't involve creativity and expression.

The investment climate in agriculture is additionally not capable to attract private firms needed in marketing, processing, input supply, and finance (Brooks et al., 2013). There's decreasing interest among youth in entering agriculture related fields mainly due to the persistent perception of agriculture as an outdated field with minimal financial returns (Paisley, 2013).

Youth are disinterested in agriculture due to better opportunities in cities of employment, better pay or a more desirable job (Foster, 2014). A number of the foremost important factors for youth to shift out of agriculture are attraction towards white collar jobs, uncertainty of crop production, low income, unassured income of service, low profit, inadequate credit etc. In many cases, agricultural labour migrates to urban areas because urban wage rates in even the unorganized sector are better than those prevailing in agriculture (Mehrotra et al., 2013). The typical size of operational land holding is additionally declining in rural areas because of land fragmentation. It's decreased from 1.35 ha per individual in 2000-01 to 1.10 ha per individual in 2010-11 (Agricultural Census, 2011). This phenomenon might compel many to shift towards urban areas due to lack of natural resource left back home. Under these circumstances youth can't be blamed completely for leaving agriculture. In certain situations, their decision to shift out of farming and rural areas is righteous. Some researchers justified the migration of rural youth to urban areas and also suggested that oldsters got to acknowledge and recognize the perceived changed trends of needs of the youth dictated by globalization (Naamwintome & Bagson, 2013). This creates a contradictory situation. But at an equivalent time we cannot

deny the very fact that this section of the population are constrained by several factors to interact in farming that justifies their moving out of agriculture. What's needed immediately to resolve this conflict is to rebrand and reform agriculture by making a composite plan of action to model agriculture as per the necessity and demands of youth.

Effective strategies and opportunities to attract youth

1. Income Generating Activities in Agriculture-

The income generating agribusiness activities, youth/ farmer can take up are Mobile Soil/water testing kits/ laboratories; Land preparation consultancy/ customized land preparation techniques for farmers; Compost preparation out of rural waste and marketing; Vermicomposting; Micro-irrigation lay out consultancy by less studied rural youth as professional graduates charge more; Hybrid Seed production skills/ hybridization techniques for rural youth; Weed control through customized implements manually operated/petrol operated by letting these small & low cost implements; Plant protection techniques such as extracting neem oil, production of NPV at labs and preparation and marketing of Trichoderma cards; Price forecasting consultancy and charging for the service and Agriculture Journalism as a source of income in foreign exchange activity. Some policy recommendations to be adopted immediately to bring for attracting and retaining youth in agriculture, Installation of Agri information kiosk at every village panchayat level and training by the corporates, NGO's, KVK and SHG's.

2. Income Generating Activities in Animal Husbandry -

To develop livestock, youth should take up interest and enter into value addition and small scale industries in the enterprises such as Dairy farming, Meat production and processing technologies by developing indigenously. Livestock can be a largest source of employment and income generating activity by commercializing it with all the natural resources available in India. Role of

Indian Women in generating income and their savings, will benefit investment in Animal Husbandry for Infrastructure and inputs.

3. Income Generating Activities in Fisheries

-

A farmer/youth/women can take up to as a profitable business and also, in creating employment to rural people of both coastal and Inland fisheries practitioners such as Fish / shrimp Farm Managers; Shrimp / fish Hatchery Managers; Shrimp hatchery technicians; Aqua lab technicians; Aqua lab Managers; Fish Retail outlets; Mobile Fish retail outlets for Fish Value added products; Ornamental fish rearing and breeding units; Ornamental fish fabricating units; Ornamental retail fish marketing shops.

4. SBI Programmes for Promotion of Youth Involvement in Agriculture-

The State Bank of India (SBI) in partnership with reputed NGOs like MSSRF, BAIF Development Research Foundation and Seva Mandir initiated the SBI Youth for India programme which is a rural fellowship program launched in 2011 to draw youth to rural developmental activities. Available opportunities provided by the SBIRD to the rural youth to take agriculture and its development are Value chain and Food Processing industry finance; Customized Farm mechanizations and Combined harvesters; Finances for Irrigation, dig well, bore wells, sprinkler, drip etc.; Cold storages and rural ware houses finance Export of processed medicinal and aromatic crop finance; Dairy value chain (scheme Dairy plus) and Chilling centre finance; Poultry finance and Contract farming finance and Quick gold loans for farmers to invest in their agribusiness.

A viable future: Attracting and Retaining Youth

In a study it was found that mass media exposure and extension agency contact had positive effect on youth to engage in agricultural income generating activities, while higher socio-political participation tended to reduce youth participation in agriculture (Umunnakwe, 2014). Some of the effective extension strategies could be more NGO

participation, counseling and guiding rural youth, creating awareness about youth programmes, entrepreneurship development, promotion of scientific farming and agri-business. Reasons for the success of youth, if considered for involving in policy making by taking their collective feedbacks and facilitating them with good Communication reach, Advocacy and Networks.

Pointing out the differences other nations have made to bring their youth into agriculture such as, Philippines - institutionalizing, promoting and protecting the youth rights; Vietnam - prioritizing the great respect for farmers of their country; Taiwan - by supporting the young and professional to take up agriculture; Korea – reducing its interest in all agriculture related finances to support youth to take up agriculture in their countries.

Mass media and Information and Communication Technologies (ICTs) can also be used effectively to attract youth attention into agriculture. ICT programmes like Gyandoot, MSSRF-VKC also open up opportunity for unemployed rural youth. E-marketing and e-commerce facilities can also open up new avenues for youth involved in agri-business. Umunnakwe et al. (2014a) witnessed that, slightly more than two-fifth (41.70%) of the youth had high mass media exposure, followed by medium (30.77%) and low (27.53%) mass media exposure. Community radio and social media too can play vital role in encouraging and making young farmers aware about the possibilities in agricultural sector. One such example is Digital Green that work through people based extension systems using participatory videos. It creates a platform for educated youth to come forward in serving the agricultural community in a participatory mode (Afroz, et al., 2014).

A strong commitment to youth development as a priority area by State Agricultural Universities (SAUs) and other institutes engaged in agricultural education would be a significant step toward redirecting attention and commitment of resources to meet

significant goals of linking youth to agriculture (Russell, 1993). The vast network of agricultural universities and colleges can play a leading role in inculcating self-confidence and capabilities in the students required for taking up agriculture as a profession.

Farm-graduates can begin with launching of agri-clinics and agri-business centers (ACABC) in villages as rural enterprises. ACABC schemes as already under operation, should be extended for accommodating larger numbers of agricultural graduates in villages to start up new rural enterprises. Government's engagement in youth issues is very crucial to ensure that the youth is recognized as a valuable resource for the advancement of the Indian society and factors like poverty, social exclusion and economic marginalization. Initiatives must be taken at national level to provide improved and easier access to resources and insurance to youth, implementation of programs that benefit youth exclusively, mainstreaming and prioritizing youth issues in national policies, and promoting youth participation in national development and decision making processes. A farm youth policy especially for addressing youth issues can be formulated including suitable institutional arrangements for its implementation.

Training on product processing, value addition, marketing, advertising, branding can be offered and organized largely by agricultural extension agencies. Promotion of agro-tourism will also provide opportunities for youth to get ideas to create new livelihood options (Pemandu, 2013). Capacity building, technical skill development, building 'soft' skills such as communication, leadership, business skills and mobilization of young farmers to take up high-tech ventures and micro enterprises are other areas that are to be taken care of by the present extension system.

Initiatives by Govt. of India and ICAR for encouraging youth

Presently, the organizational setups like Krishi Vigyan Kendras (KVKs), NABARD farmers' club, National Skill Development Council (NSDC) include training and capacity building

of youth in their set of activities. The Economic Survey 2014-15 stated that as per the Labour Bureau Report 2014, the present skilled workforce in India is only 2 per cent, which is much lower when compared to the developing nations (Borpuzari, 2015). Considering the need for skilling the work force in agricultural sector, the Agricultural Skills Council of India (ASCI) has been proposed by National Skill Development Corporation (NSDC), which could be one ideal institution to train rural youth. The ASCI proposes to train, certify and accredit 56.5 million workforces comprising of farmers, wage workers, entrepreneurs and extension workers, over 10 years through its training partners (Hedge and Venkattakumar, 2015). They have also proposed the National Skill Certification and Monetary Reward in order to incentivize youth endeavors. The ACABC initiative in 2002 by Ministry of Agriculture and Farmers' Welfare, Govt. of India in association with MANAGE, SFAC, NABARD encourages unemployed agricultural graduates to launch their own agribusiness startups by providing appropriate training, hand-holding support and credit linkage. MANAGE is providing financial and technical support to the state Nodal agency SAMETI and ATMA/ BTT in implementation and running of the STRY "Skill Training for Rural Youth-(STRY)" in about 10 states of India. It has initiated in training rural youth of the age 18 years and above with minimum qualification of primary school education. It creates an opportunity for rural youth to take part in agriculture and allied activities development.

Govt. of India has launched a number of youth oriented programmes recently, like Skill India, Pradhan Mantri Krishi Vikas Yojana, Start-up India, Stand-up India to promote youth empowerment and entrepreneurship (Singh et al., 2016). Another programme envisaged in XII th five year plan called the Student 'Rural Entrepreneurship and Awareness Development Yojana' (READY) aims solely at entrepreneurship development among the youth (Anonymous, 2013).

Kisan Credit Card also provides farmers with subsidized rate of Interest and encouraging farmers clubs and creating bondage between stakeholders. “ARYA” (Attracting and Retaining Youth in Agriculture) a pilot project launched by ICAR, is finding out many ways to attract and retain youth in agriculture, by identifying their reasons for drawback such as giving no part in policy formation, Land & credit accessibility and mainly support from the parents and the society.

Other initiatives

The Ministers of the ASEAN (The Association of South East Nations) initiated the ASEAN-India Farmers Exchange recognizing the importance of promoting innovation and entrepreneurship among young farmers to achieve more sustainable agriculture development in the region. This initiative is expected to create greater awareness among the young and innovative farmers on the promising career in the agriculture sector. Another endeavor to bring young agricultural professionals on the same platform ‘The Young Professionals’ Platform for Agricultural Research for Development (YPARD) was launched in November 2006. It is one of the dynamic networks of over 4,500 members in 117 different countries dedicated to the exchange of knowledge between youth and the participation in critical conversations in agricultural research for development (YPARD, 2013). There is a need in Promoting Integrated farming and Produce marketing schemes; Nurturing SHGs and encouraging microfinance in many allied agri activities; Promotion on Skill development for rural youth.

To tackle various problems in this sector, more initiatives from both private as well as public systems are required to take care of young farmers through every possible means. On the other side, farmers also have to change their view towards agriculture by considering agriculture as a true business. They have to use their own vision to run the farming business effectively besides help from Govt. and other organizations. If Govt. and farmers both perform their duties in time and

approach systematically, definitely there will be a brighter future of Indian agriculture.

Recommendations by the Youth in Farming

1. Bhanu (2006) revealed that, ‘daily wages should be given to every individual who participate in the activities’, followed by ‘rural developmental activities have to be taken up during off season/summer season’ and leaders who are in the front have to be faithful and true to their sole’ for better participation of rural youth in rural developmental activities.
2. Vaneetha (2006) reported that 33.33 per cent of the farmers opined that farmers are to be trained in the newly introduced farm equipment and 70.00 per cent of farmers needed awareness about the newly introduced farm equipment. More than one-third of the farmers (36.00%) wanted to know the cost of the equipment, and a little more than one-fourth of the farmers (20.00 %) suggested that the equipments should be easy to operate.
3. Direct Marketing: To form Farmer’s Producer Organizations (FPO) at rural areas to increase the profit through Agribusiness activities. Marketing of customized agricultural products to connect urban and rural consumers is their needs. Reducing the supply chain and attracting rural youth by opportunities of employment.
4. Technology support to Youth: Information kiosk at every village panchayths and Helpline Number or guidance portal to be established in each district for rural youth who seek information on agriculture and allied activities. Counseling sessions/ awareness camps at agency level.
5. Public Private Partnership (PPP): Collaboration of institutes with companies to transfer technologies from lab to land which leads to development of Agribusinesses in the country and CSR skill development trainings and placements, which creates more employment opportunities to the rural youth. Ex. Incubation centers and PI industries.

6. Linking Agri-clinic to every bank - To promote Agri-clinic and Agribusiness centers each bank has to be linked with development of Agri-clinic center in their area of operation, which creates effective awareness about entrepreneurship in India.
7. Target based Agri-finance – Banks to set targets, incentives and credit guarantee facilities to avoid bankers from risk in the promotion of Agri-finance by the bankers to farmers and rural youth. This will induce attraction of rural youth towards agriculture.
8. Lyocks et al. (2013) identified that, majority (51.20%) of the respondents suggested the establishment of youths training and skills acquisition centers followed by, give agricultural loans to youths (31.40%), Promote young farmers associations through internet linkages (12.40%) and Establish farm settlements (5.00%).

CONCLUSION

Agriculture sector, being the largest employer in the country holds the responsibility to provide sustainable and secure livelihoods to its practitioners. Failing to address the present challenges faced by this sector is to condemn India to food insecurity, poverty and increased reliance on costly imports. Unfortunately, farming is no more viewed as a prospective employment option for the youngsters of the country for various constraints that this sector faces today. With careful alteration in the present mechanism of this sector, it can have the potential to engross the massive youth workforce presently available in the country. This would automatically contribute to resolving the crisis of youth unemployment and migration as well. In order to attract and retain youth in agriculture a respectable brand image is to be formed so that people's view on this sector is altered. Today, agriculture needs to be perceived as an enterprise and the farmer as an agri-preneur. Different suggestions mentioned by youth are to be keenly observed and to be put into action by all the stakeholders of farming community. The youth

in farming must be attentive, courageous to take up innovative farming practices which further indirectly leads to the economic development of the nation.

REFERENCES

- Afroz, S., Singh, R., Burman, R. R., Sangeetha, V., & Prasad, R. (2014). An Innovative Participatory Video for Agricultural Information Dissemination: A case of Digital Green. *Journal of Community Mobilization and Sustainable development*, 9(1), 75-79.
- Akosa, A. N. A. (2011). Rural banking and agriculture financing in Ghana – FAGRO as a catalyst. *Ghana Business News*. 7 Jul, 2011, Available at <https://www.ghanabusinessnews.com/2011/07/22/rural-banking-and-agriculturefinancing-in-ghana-fagro-as-a-catalyst>.
- Anonymous, (2013). Youth in agriculture and allied sector. Stateplanning commission of TN, India.
- Anonymous, (2016). Indian Agriculture Industry: an overview. Indian Brand Equity Foundation. Available at <http://www.ibef.org/industry/agriculture-re-india.aspx>.
- Bennell, P. (2007). Promoting livelihood opportunities for rural youth. IFAD Governing Council Roundtable: Generating Remunerative Livelihood Opportunities for Rural Youth. UK: Knowledge and Skills for Development.
- Bhanu, V. L. (2006). Study on aspirations of rural youth and their attitude towards rural developmental activities in Dharwad district of Karnataka state. M.Sc. (Ag.) Thesis. University of Agriculture Sciences, Dharwad.
- Borpuzari, P. (2015). Economic Survey 2015: Only 2% skilled work force in the country, *The Economics Times*, 27 Feb, 2015. Available at <http://articles.economictimes.indiatimes.com/2015-02->

- /news/59585147_1_nationalskill-development-corporation-economic-survey-totalemployment.
- Brooks, K., Zorya, S., Gautam, A., & Goyal, A. (2013). Agriculture as a Sector of Opportunity for Young People in Africa. Policy Research Working Paper 6473. Agriculture and Environmental Services Department, The World Bank Sustainable Development Network.
- Choudhary, H. R., & Choudhary, A. (2013). Why Indian Farmers and Rural Youth Are Moving From Farming. *Popular Kheti, 1*.
- Forster, K. M. (2014). Researching Youth Disinterest in Agriculture in Peninsular India: Evidences from VDSA Villages: A Case of Dokur and Aurepalle, Telangana. Project report, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), AP, India.
- Hazra, A. (2012). Rural India: Still floating towards cities. *Kurukshetra, 60*.
- Hedge, M. R., & Venkattakumar, R. (2015). Technology Transfer and Skill Development towards Improved Livelihood in Rural India. *Indian Research Journal of Extension Education, 15*.
- Lyocks, J. S., Lyocks, S. W. J., & Kagbu, J. H. (2013). Mobilizing youth for participation in Nigerian Agricultural Transformation Agenda: A grassroots' approach. *J of Agric Ext. 17 (2)*, 78-87.
- Mehrotra, S., Gandhi, A., Sahoo, B. K., & Saha, P. (2012). Creating Employment in 12th five year plan. IAMR Occasional Paper No. 3. *Institute of Applied Manpower Research*, Planning Commission, Govt. of India.
- Naamwintome, B. A., & Bagson, E. (2013). Youth in Agriculture. Prospects and challenges in Sissala area of Ghana. *Net Journal Agricultural Sciences, 1*, 60-68.
- National Youth Policy. (2014). Exposure draft, 2014. Available at <http://yas.nic.in/writereaddata/mainlinkfile/File1039.pdf>.
- Paisley, C. (2013). Engaging youth in agriculture: in vesting in our future. Global food for thought: official blog for global agricultural development initiative. The Chicago council on global affairs. Available on <http://globalfoodforthought.typepad.com/global-food-for-thought/2013/02/commentary-engaging-youth-in-agriculture-investingin-our-future.html>.
- Pemandu, (2013). Transitioning from agriculture to agribusiness. Economic Transformation Programme: A Roadmap For Malaysia. Available at http://etp.pemandu.gov.my/upload/etp_handbook_chapter_15_agriculture.pdf.
- Proctor, F., & Lucchesi, V. (2012). Small-scale farming and youth in an era of rapid rural change. *International Institute for Environment and Development/HIVOS*, London.
- Russell, E. B. (1993). Attracting Youth to Agriculture. *Journal of Extension, 31*.
- Sahni, A. (2013). Stresses and distresses in the youth. *Health Administration, 17*, 75-77.
- Sainath, P. (2013). Over 2,000 fewer farmers every day. The Hindu. 2 May, 2013. Available at <http://www.thehindu.com/opinion/columns/sainath/over-2000-fewer-farmerseveryday/article4674190.ece>.
- Sharma, A., & Bhaduri, A. (2009). The “tipping point” in Indian Agriculture: Understanding the withdrawal of Indian rural youth. *Asian Journal of Agricultural Development, 6*.
- Silva, J. L., Saffril, M., Uli, H. A., & Samah, B. A. (2007). review of contract farming and factors that impinge youth's acceptance to contract farming. *European Journal of Social Sciences, 11*, 328-338.
- Singh, A. K., Adhiguru, P., & Burman, R. R. (2016). Attracting and retaining youth

- in agriculture. *National Youth Convention*, 27 Jan 2016, NASC complex, New Delhi, 9-11.
- Sood, J. (2014). India's deepening farm crisis: 76% farmers want to give up farming, shows study. *Down to earth: fortnightly on development, environment and health*. 11 Mar, 2014. <http://www.downtoearth.org.in/news/indias-deepening-farm-crisis-76-farmers-want-to-give-up-farming-shows-study-43728>.
- Umunnakwe, V. C., Pyasi, V. K., & Pande, A. K. (2014). Factors influencing involvement in agricultural livelihood activities among rural youth in Jabalpur district of Madhya Pradesh. *International J of Agric Policy and Res.* 2(8), 288-295.
- Umunnakwe, V. C., & Adedamola, O. F. O. (2015). Socio-personal correlates of participation in livelihood activities among rural youth in Jabalpur district of Madhya Pradesh. *International J of Agric Res Innovation and Technology.* 5(1), 28-35.
- UN, (2011). World youth report. United Nation Available at www.unworldyouthreport.org.
- UNFPA, (2006). Special youth Programme Report. Available at www.unfpa.org.
- Vaneetha, K. P. (2006). Utilization behaviour of farm equipment in commercial crops. Topical research, Tamil Nadu Agricultural University, Coimbatore.
- YPARD, (2013). YPARD Builds Network of Young Professionals in Agricultural Research for Development. Foodtank. Available at <http://foodtank.com/news/2013/07/ypardbuilds-a-network-of-young-professionals-in-agricultural-research-for>.