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REVIEW PAPER

An Impact of Extension Advisory Services on Farmer: Review

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ABSTRACT

The study focused primarily on how extension services helped communities during the pandemic and discussed the implications of the research for the future work of extension services and its impact on agricultural production. About 80-85% of the farmers are working with a great risk of dry season. In contrast, extension projects that promote rural adult learning and agriculture-dependent economies have been essential vehicles for disseminating knowledge about agricultural technologies, helping farmers hone their managerial and technical skills. Extension programs are expected to decrease food insecurity and poverty and increase farm income. Extension advisory services address the knowledge gaps of agricultural workers working under difficult conditions. Restrictions on the movement of crowds have caused an unprecedented shift in daily life to a remote and virtual environment. Agents struggled to adapt their distribution model while delivering fast service to their customers in this unfamiliar environment. The work is based on material from case-specific project assessments, participant observations, organizational reports, documents analysis and actual interviews.

HIGHLIGHTS

- Behavioral change has been made among the farmers that led them towards batter decision-making.
- Informative demonstration were conducted on online.
- Farmers change their practices as per advisory service.
- The change practices resulted in higher income.
- Farm advisory services led changed practices resulted higher remuneration to farmers.
- Advisory services were use full in enhancing crop production and sustainability.

Keywords: Advisory services, extension, capacity building, Covid-19, online learning

Behavioral science through extension is a scientific foundation. Extension activities do not end with *dissemination* and *disposal of knowledge or innovation* but it is a continuous process, which requires all strength and intelligence. Extension activities are carried out until the beneficiary shows a change in behavior (Sánchez-Reinoso, 2020). Agriculture is significant in the Indian economy as 70% of the total population is engaged directly in agriculture and it accounts for approximately 30% of the GDP. About 1.5 billion farmers are small landowners on the planet, followed by 75% of the happiest people in the world. Most of the people faced the extreme limits of poverty, depending on agricultural enterprises for their livelihood. In

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developing economies, agricultural activities are often dependent on small-scale (Lowder *et al*. 2016). However, the agricultural sector constitutes a significant part of the gross national product and employs- a large part of the rural population of those countries (Baffoe-Bonnie and Kostandini, 2019). These small landowners and minimal livestock producers provide 80% of the food in many non-industrialized countries. Thus, when pastoralists face such threats in non-industrial areas, they lack valuable resources to supplement their problems (Davis and Franzel, 2018). Under such conditions, agricultural extension services (EAS) proved as a powerful tool to help smallholder farmers to break the cycle of productivity, vulnerability and poverty. To spread the knowledge of agricultural economics, farmers need agricultural extension (Rusliyadi *et al*. 2018) since extension provides specific guidance and support to some smallholders, therefore, extension found to be crucial to help farmers and communities in crisis for understanding the consequences (Spielman *et al*. 2012). While delivering agricultural extension services through extension staff, farmers become aware of cultivation practices of different crops, making the farmers more responsive to their needs and goals (Oliveira, 2020). According to Grove *et al.* (2020), World Bank stated that under difficult situations, access of technology is essential for enhancing food security and boosting farmers' livelihood level (Anonymous, 2018). However, paradigm shift in extension service from traditional way to scientific supports farmers using ICT point of supply chain management. The extension platforms innovating continuously a batter functionalities like data driven personalized services credit, insurance, market, input supplies, aggregation models, traceability, *etc*. (Meera, 2020). By means of wide network of diverse, stakeholders are participating in research, extension, education, marketing, agro-processing, *etc*., reorienting the need for extension.

Major halt in COVID-19 pandemic

Consequently, informative demonstrations were conducted on online mode to differentiate various techniques and hands on practices It was observed that the intermediaries also got benefit of conducting informative demonstrations since the epidemic COVID-19 taught the people to adapt and modify their ways and means of life (Villabona, 2018).

Impacts on food supply among farmers

As per practical aspects, the farmers engaged in agriculture failed to sell their produce in the market as a result they could not get even the amount equivalent to expenditure spent for the production of crops. Hence, they faced problems in their survival due to lack of money for day to day requirements.

Table 1: Distribution (%) of demographic and social characteristics of agriculture extension officers

Sl. No.	Particulars	Percentage (%)
1	Gender	51
2	Male	49
3	Female	00
Total 100		
1	Highest educational qualification attained	02
2	Certificate	39
3	Diploma	56
4	Bachelors' degree	06
5	Masters' degree	00
6	Doctorate degree	00
Total 100		
1	Religion	04
2	Traditional	58
3	Traditional	09
4	Protestant	20
5	Pentecostal	07
6	Apostolic Sect	02
7	Other Christian	00
8	Muslim	00
Total 100		
1	Usual place of residence	17
2	Urban	10
3	Peri-urban	73
4	Rural	00
Total 100		

Source: *Bright (2021).*

Impact of mobile mode on farmers

Challenges faced by the extension worker in conducting farmers training or other capacity building activities. In these situations, the mobile phone turned out to be as a sign of hope for the farmers who received suitable advisory services (Dhulipala, 2020). By means of use of mobile facility significantly improved farmers' recall, knowledge and help to adopt the techniques. It is confined that mobile phone services proved a promising source of information that can improve farmer outcomes and increase the intake of agricultural extension (Singh *et al*. 2023). In addition, farmers who receive agricultural recommendations via mobile phone are more likely to adopt innovative practices (Fabregas *et al*. 2019).

Extension Services through Yojanas

The programmes are being discussed to rural people to avail the beneficiaries pertaining to farm inputs and to improve their socio-economic profile. Where transfer of technology supported for adult learning in far flung areas of rural solving problems and motivate to having active participation (DansoAbbeam *et al.* 2018).

Capacity building for Agricultural Research and Development

It is confirmed that training needs assessment effect the clientele perception of working which they learnt (Lynton and Pareek, 1990). Strengthening the capacity of individual's continues to promote their skills for smell enterprises. The subsequent development of new strategic plans to fill the gap and changing the decentralization structures of information (Hall *et al.* 2012). It provides some idea of how extension and advisory services can be helpful to build resilience in promoting different types of output (Davis *et al*. 2014).

Krishi Vigyan Kendra's (KVKs) bridging/ maintained required gap in research

KVKs have been playing as a cornerstone in dissemination agricultural extension information across the country to acknowledge the challenges faced by stakeholders in agriculture and to provide and/or adopt practical solutions. KVKs have been resource centre of agricultural technology supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district and are linking the NARS with extension system and farmers.

After validating these ideas, research is needed to provide more concrete policy recommendations on the role of advisory services in strengthening resilience, particularly in post-conflict and in far flung areas.

(I) Core competencies of extension agents to supported smallholder resilience?

(II) Identified gaps at the country level?

(III) Delivery models are found to be effective for smallholders?

(IV) Extension and advisory services are flexible and adaptive

(V) Extension and advisory services coordinate in resilience-building (Davis *et al*. 2014).

1. Changing Priorities of Extension and Advisory Services

During the pandemic time and have also focused on realigning the extension priorities post the COVID-19.

2. Strengthening Extension and Feedback Mechanism

The extension services at different levels is looking to ensures effective coordination with all agencies like ATMA, KVK, programmes and schemes of extension. These agencies made liaison and encourage participation in private firms' organizations and NGOs for their active involvement in delivery of extension services (L.E. and C, 2015). The National Agricultural Research System (NARS) may come up with sensitizing programs along with conducive (Anonymous, 2017). Keeping this in view feedback mechanism of Agricultural Extension Services by farmers was measured as significant as towards profile of farmers in rural areas (Hossain *et al.* 2018).

3. Improving Research-Extension Linkages

Hence, to improve the relevance, effectiveness, and efficiency of research outputs, stronger linkages are needed between the research clientele and its end users

in the region. Developing a social network involving all the stakeholders of EAS for timely dissemination of information to all agricultural sectors is very essential at this point of time. The potential of social media has to be exploited to bring location specific and commodity oriented trans formative changes in the agriculture extension delivery system (Chander and Rathod, 2020). Well functioning research and extension systems and their linkages constitute a vehicle through which relevant technologies and practices can be communicated to the farmers for manning the climate-related risks (Kokwe *et al*. 2020).

4. Gender and Extension

As a woman's extension workers disseminate the technologies to the other women farmers both in formal and informal mode. A group mobilization approach few leading women farmers may be trained for the transfer of technologies and deployed the link women extension functionaries between farmers and Department/NGO (Chander and Rathod, 2020).

5. Public-Private Partnership in Extension

The public-private partnerships which do not exist effectively were one of the best modes of strengthening linkages among various stakeholders for effective research and extension activities. Public-private partnerships found to be a way of method of choice underpinning the government's extension services. The ICAR recommended appropriate models of public private partnership for their startup (ICAR, 2012 and Singh *et al*. 2013). It's confirmed in India more than 450 agri-tech start-ups, growing 25 per cent annually (Meera, 2020). There is an interesting collaboration that was forged during COVID 19 i.e., between the multi-national Bayer and a Pune-based e-commerce firm Agro-Star to deliver its products like seeds and pesticides to farmers (New Indian Express, 2020). Agro-Star is fulfilling farmers' orders through its 500+ strong network of last mile delivery partners, who are doing doorstep delivery of agri-inputs while following hygiene and social distancing norms (New Indian Express, 2020). Experiences of institutional convergence of synergistic strengths the need for working together in spirit and action for producing maximum benefits and sustainable growth (Singh *et al*. 2014).

6. Competency Development of extension worker

EAS providers need to be properly equipped so as to address changes in the development as well as to meet the emerging demands and needs of farmers and FPOs especially on agribusiness value addition, and marketing (Wadkar, 2020). Extension worker need to be equipped to use Facebook, WhatsApp, Twitter, YouTube, *etc*. They need to learn and master skills to Disseminate Information, Demo Monitor, Track, Measure and Analyze.

Work on Nutrition-Sensitive

Extension and advisory (EAS) can played a vital role in promoting nutrition to inculcate the value of healthy life. Considering the nutrition situation of the target population and planning accordingly, making healthy diets more available and accessible, making food more diverse and production more sustainable and making food itself nutritious. It can transform into important services that can easily be incorporated towards EAS.

1. Adopting a food-system approach rather than focusing on production alone.
2. Promoting home/kitchen/school gardens and homestead food production and processing.
3. Adopt a food-system approach rather than focusing on production alone. Promote home/kitchen/school gardens and homestead food production and processing.
4. Raise awareness of nutrition and basic dietary principle in line with national food-based dietary guidelines, hygiene, food preservation and preparation (FAO, 2021).

Use of Information and Communication Technologies (ICTs)

ICTs have created positive impact on income growth in developing and developed countries. In rural areas, ICTs can raise incomes by increasing agricultural productivity and introducing income channels other than traditional farm jobs. Studies depicted that ICTs can improve

incomes and quality of life among the rural poor. In this context, an effort to deliver information to rural masses through ICT, free or at nominal cost, can increase the timely and transparent flow of information to build or strengthen the innovation networks among different stakeholders. Further, ICT's can also revolutionize the interaction through Information Kiosks, toll-free Call Centre, websites, mobile phones software applications etc. New advanced instruments like Personal Digital Assistants may be provided to the Extension agents for technical information, communicating, field recording, database maintenance and scheduling. The scope of social media in offering EAS is tremendous during COVID-19 pandemic situation. Social media such as WhatsApp, telegram, facebook and YouTube are successfully used by extension specialist to offer EAS. Plethora of studies has already indicated the benefits of using social media like whatsapp and youtube (Chander and Rathod, 2020).

Digitals Tools for Agricultural Extension Support

The platform is compatible with basic future and android phones for targeting the audience. However, to make more efficient this IVR platform was successful to disseminate the information among local communicate in case of social distancing (Anonymous, 2021).

Platform to meet the producers and ultimate consumers

Study revealed that University of Nevada, Reno Extension offering virtual question and answers for small business every Wednesday and webinars on specific topics for small business every Friday (Nevada Today, 2020).

Dragged to extension advisories during COVID

In current scenario over 2.15 lakh out of 2.50 lakh *Panchayatas* in the country are ready to provide agri advisories to farmers through Krishi Vigyan Kendra (KVKs) under ICAR that provides extension services to farmers. Aggregate 628 KVKs has been enabled for the digital advisory services through video conference. Under agri clinics model farmers visit their nearby CSC and consult scientist of the ICAR through video conferencing on various issues regarding crops, soil, seeds, fertilizers and farm practices (ET Government, 2021).

Fostering Agricultural Food Practices under Extension and Advisory Services

Advisory services enabling online activity to enhance knowledge management about the crisis and its impact on farmers across the south Asia.

1. Discussing how EAS can support farmers in dealing with impact of pandemic
2. Share good practices from EAS primarily from South Asian Countries and
3. Promote tools and framework to help EAS better address these challenges by advisory service (Vadakkel, 2020).

Supporting farmers on marketing aspects

The co-ordination with ITC was helpful for the farmers to arrange the door step delivery service system of supply of consumable commodities (Pagaria, 2020).

Challenges and Prospects

- Emerged for the implementation in circulation of information
- Mobility of staff and social equity
- Motivation of farmers association and extension services
- Reorientation of farmers support system
- Capacity building for NGOs and private organization

REFERENCES

Anonymous 2012. Capacity Development for Agricultural Research for Development, Tropical Brief, European Alliance on agriculture Knowledge for Development, pp. 1-18.

Anonymous, 2017. Strengthening Agricultural Extension Research and Education - The Way Forward. *National Academy of Agricultural Sciences*, New Delhi, pp. 1-5.

Anonymous 2018. In COVID crisis a tipping point for transformational changes in digital extension? *Agriculture Extension in South Asia*, Blog No. 125 June 2020. https://www.

aesanetwork.org/blog125-is-covid-crisis-a-tipping-point-for transformational ch anges-in-digital-extension, pp. 1-2.

Anonymous 2021a. COVID gives digital push to agri-advisory service and marketing of farm produce. ETGoverment.com. https://government.economictimes.indiatimes.com /news/ digital-india/covid-gives-digital-push-to-agri-advisory-service-and-marketing-of-farm-pro pp.1-2

Anonymous 2021b. Deploying digital tools for agricultural extension support amid COVID-19. West Africa, pp. 1-4. https://www.solidaridadnetwork.org/news/deploying-digital-tools-for-agricultural-extension-support-amid-covid-19/pp.1-3.

Baffoe-Bonnie, A. and Kostandini, G. 2019. Annual and cropping sea-son environmental production conditions effects on smallholder technical efficiency in sub-Saharan Africa: Evidence from Ethiopia. *Agri-cultural Economics*, **50**(6): 779–791.

Bright, M.P., Kudzai, N.T. and Ngavaite, C. 2021. The impact of COVID-19 on agricultural extension and food supply in Zimbabwe, *Cogent Food & Agriculture*, **7**(1): 1-4.

Chander, M. and Rathod, P. 2020. Reorienting Priorities of Extension and Advisory Services in India during and Post COVID-19 Pandemic: A Review. *Indian Journal of Extension Education*, **3**(56): 1-9.

DansoAbbeam, G., Ehiakpor, D.S. and Aidoo, R. 2018. Agricultural extension and its effects on farm productivity and income: insight from Northern Ghana. *Agric and Food Secure*, **7**(74): 1-10.

Davis, K. and Franzel, S. 2018. *Extension and Advisory Services in 10 Developing Countries: A Cross-country Analysis*, pp. 1-4.

Davis, K., Babu, S.C. and Blom, S. 2014. The role of extension and advisory services in building resilience of smallholder farmers. *Building Resilience for food and Nutrition Security*, pp. 1-3.

Dhulipala, R. 2020. Supporting farmers with low-cost dig-ital tools during Covid-19 [Webinar]. *Net Hope*. https://solutionscenter.nethope.org/webinars/view/supporting-farmers-with-low-cost-digital-tools-during-covid-19

Dhulipala, R. 2021. Leveraging digital tools for adaptive food systems in India during the COVID-19 lockdown-ICRISAT. International Crops Research for the Semi-Arid Tropics, pp. 1-3.

Fabregas, R., Kremer, M. and Schilbach, F. 2019. Realizing the potential of digital development: The case of agricultural advice. *Science,* **366**(6471).

FAO 2021. Making extension advisory services nutrition-sensitive. The link between agriculture and human nutrition. *Research and Extension Unit and Food and Nutrition Division*, pp. 1-3.

Grove, B., Archibald, T. and Davis, K. 2020. *Extension and Advisory Services: Supporting Communities before during and After Crises*. Global Agricultural Productivity Report. College of Agriculture and Life Sciences, Virginia Tech, pp. 1-2 https://government.economictimes.indiatimes.com/news/digital-india/covid-gives-digital-push-to-agri-advisory-service-and-marketing-of-farm-pro, pp. 1-4.

Hall, A. 2012. Putting Agricultural Research into Use: Lessons from Contested Visions of Innovation". United Nations University-Maastricht Economic and social Research and training centre on Innovation and Technology: Maastricht, the Netherlands, UNU-MERIT Working Paper Series, 2011-076, pp. 1-6.

Hossain, A.K.M.J., Kanani, P.R. and Kalsariya, B.N. 2018. Relationship of Farmers Profile with Utilization of Feedback Mechanism of Agricultural Extension Services. *Guj. J. Ext. Edu. Special Issue on National Seminar,* pp. 1-7.

ICAR 2012. *Policy for Higher Agricultural Education*. ICAR, New Delhi. www.icar.org.in/files/Draft-Policy-21-11- 2012, 20.pdf

Kokwe, M., Chama, T., Pali, P. and Ramasamy, S. 2020. Strengthening of research extension-farmer linkages for field demonstrations in Zambia Testing scalable climate change adaptation practices, *Food and Agriculture Organization of the United Nations*, pp. 1-5.

Lowder, S.K., Skoet, J. and Raney, T. 2016. The number, size, and distribution of farms, smallholder farms, and family farms worldwide. *World Development,* **87**(16–29).

Lynton R.P and Pareek U. 1990. Training for Development. Vistaar Publications: New Delhi.

Meera, S.N. 2020. Is COVID crisis a tipping point for transformational changes in digital extension? *Agriculture Extension in South Asia*, Blog No. 125, https://www.aesanetwork.org/blog-125-is-covid-crisis-atipping-point-fortransformational -changes-in-digital extension/ .

Nevada Today, 2021. Extension offers weekly online town halls and webinars to help small businesses. University of Nevada, Reno,https://www.unr.edu/nevada-today/news/2020/zoom-workshop-for-ag-producers-may-5, pp. 1-2.

New Indian Express, 2020. Bayer ties up with Agro-Star to deliver products to farmers during lockdown. News published, pp. 1-2.

Odoemelam, L.E. and Alamba, C. 2015. Strengthening Technology Utilization through Feedback Mechanism among Farmers in South-East-Agricultural Zone, Nigeria, *European Journal of Physical and Agricultural Sciences,* 3(1): 2056-5879.

Oliveira, MRRd, Ribeiro, S.G., Mas, J.F. and Teixeira, Ad S. 2020. Advances in hyperspectral sensing in agriculture: A review. *Revista Ciencia Agronomica*, **51**(5). https://doi.org/10.5935/1806-6690.20200096

Pagaria, P., Choudhary, L.R., Choudhary, H., Ram, G. and Khan, T. 2020. Extension and advisory services during lockdown due to COVID-19: Efforts by KVK in Barmer district of Rajasthan. *Rashtriya Krishi*, **5**(1): 121-124.

Rusliyadi, M., Jamil, A.B.H.M., Othman, M. and Kumalasari, R.T. 2018. Agricultural extension policy, agricultural growth and poverty reduction in Indonesia. *International Journal of Engineering & Technology*, (7): 5539- 5550.

Sánchez-Reinoso, AD 2020. Use of biochar in agriculture. *Acta Biologica Colombiana*, (25): 327-338.

Singh, K.M., Meena, M.S. and Swanson, B.E. 2013. Extension in India by public sector institutions: An overview. Munich Personal RePEc Archive (MPRA), pp. 49107. http://mpra.ub.unimuenchen.de/49107/ pp.1-3.

Singh, R., Nain, M.S., Sharma, J.P., Mishra, J.R. and Burman, R.R. 2014. Institutional convergence of synergistic strengths for developing women agripreneurs, *Indian Journal of Extension Education*, **50**(3&4): 1-7.

Spielman, D.J., Kelemework, D. and Alemu, D. 2012. Seed, fertilizer, and agricultural extension in Ethiopia. In: *Food and Agriculture in Ethiopia: Progress and Policy Challenges University of Pennsylvania Press*, pp. 2.

Vadakkel, R.S. 2020. COVID-19 and Extension and Advisory Services (EAS): fostering agricultural good practices over the corona virus crisis. Forum for Agricultural Risk Management in Development (FARM-D), https://www.farm-d.org/whatisfarmd/, pp. 1-3.

Villabona, Y 2018. Methodology for the Life-Cycle Assessment (LCA) in combustion processes where the fuel is pelleted agricultural biomass. *Chemical Engineering Transactions,* (64): 427-432. https://doi.org/10.3303/CET1864072

Wadkar, S.K. 2020. Collective Action in Maharashtra to Deal with Covid-19 and its Impact on Agriculture, Agriculture Extension South Asia, Blog 111, pp. 1-2.