

Achieving zero hunger

through women empowerment approaches in agriculture

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Women continue to perform farm operations on par with men although they are gender specified responsibilities which were prevalent for generations together. These roles and responsibilities have evolved taking into considerations of physical, biological, social nature of both men and women. In the process of development, men often get the opportunities for capacity building in extension, training, credit and market aspects, ignoring the major contributions of women in their gender specific roles. This results in skewed development of men and women in scientific farming, ultimately affecting the productivity and profitability.

Key words: Agriculture, Empowerment, Women, Zero hunger

THE advancement of women in developmental paradigm of any nation is a pre-requisite for achieving social and economic equity. The progress of women in all sectors of economy would boost the growth rate and development indicators. Agriculture is no exception. It provides major emphasis for role and responsibilities of women in India. Well demarcated roles are prevalent for both males and females along with joint roles in many activities. When these roles get scientific inputs from experts of relevant field, there is a huge possibility of enhancing productivity and profitability of farm enterprises. However, the extension, input and market delivery is often directed at male members of the family, neglecting the dominant roles played by females in the agriculture sector thereby depriving opportunities of facilitating a profitable farming for women with scientific base. In this background, it would be appropriate to understand the level of women empowerment, technology transfer paradigms for women and associated factors and concerns in equitable development for achieving zero hunger in India.

Role of women in farming and gender concerns

Involvement of women in the recent initiatives like farmers' friend, farmers' producer companies, and ICTs such as Farmer's Portal, Kissan Call Center, mobile phone text messages to farmers, field videos, community radio and Kissan Channel should be encouraged. Although, the scope of these extension tools is massive especially *mKisan* portal which was inaugurated in 2013, has sent more than 2,100 crore text messages. *Kisan* Call Centers cater to nearly four crore farmers through its wide network. Millions of messages are sent every day to farmers by various organizations/service providers; and there are nearly 800 web sites in their service. The extent of extension reach and the challenge of optimally using these activities and interventions needs to be further strengthened to cater the needs of women farmers.

Position of women in access to development indicators

As per *Census 2011*, the population of India is 1,210.19 million comprising 586.47 million

(48.5%) females and 623.72 million (51.5%) males. Out of 150.18 million households in the rural areas in 2004-05, 16.67 million (11.1%) are Female Headed Households. India is ranked 131 out of 189 countries listed in the United Nations Development Programme's latest *Human Development Report 2016* and is also ranked 125 out of 159 countries in the Gender Inequality Index. Rural societies in India are largely heterogeneous in nature. Despite seven decades of planned development programmes in the country, poverty, hunger, malnutrition, nutritional disorders and diseases are yet to be completely eradicated in the villages. Nearly 80% of children and 50% of women in the country still suffer from hidden hunger caused by deficiency of iron, zinc, vitamin B₁ and vitamin B₁₂. However, the most of the facilities as available in the urban areas are also found in rural India, the access of rural population to safe drinking water, institutional credit, health and sanitation, quality education, formal employment, different ICT tools and road infrastructure is comparatively low.

Health of rural and urban women

The Infant Mortality Rate was 49 for female and 46 for male with the overall Infant Mortality Rate of 47 in 2010. Life Expectancy at Birth has increased more among women (64.2 years) as compared to men (62.6 years) in 2002-06. The Maternal Mortality Ratio has come down from 254 during 2004-06 to 212 during 2007-09. About 57.4% women in rural areas and 50.9% women in urban areas suffered from anaemia during 2005-06.

Despite achieving considerable progress, 48 million out of 159 million stunted children of the world are from India (about 30%). There are 3 dimensions of hunger namely calorie deprivation which is due to less energy consumption, protein deprivation which is due to inadequate consumption of protein-supplying food commodities like pulses, milk, eggs, fish and meat, and hidden hunger, which is caused by the deficiency of micronutrients such as iron, zinc, iodine, vitamin A and vitamin B₁₂. India has a considerable number of people having these deficiencies. Therefore, achieving 'Zero Hunger' by 2030 is a big challenge for India.

Thanks to the implementation of schemes such as Integrated Child Development Services, National Rural Health Mission, MGNREGA and reforms in Public Distribution System in several states, the stunting rate in children below three years declined from 53% in 1992-1993 to 38% in 2015-2016. Besides, the high economic and agricultural growth rates contributed in improving the nutritional outcomes in the country.

The access to formal education to women can improve the health status of women and children in rural India. The main reasons of females never attending school are 'expensive cost of education', 'not interested in studies', 'education is not considered necessary' and 'required for household work'.

Major reasons to promote women empowerment in agriculture

The important reasons for promoting women empowerment in the field of agriculture and allied

enterprises are as follows:

- Less possibility for food and nutrition security with persistent gender disparities.
- Failure of past farm innovations to proportionality benefit men and women led to missed opportunities to capitalize the technologies and market trends.
- Weak property rights lead to sub-optimal decisions and missed opportunities to enhance productivity.
- Women are risk averse to adopt an unfamiliar technology.
- Unequal income between men and women leading to limited ability of women to afford and invest in agriculture.
- Rural women's access to finance happen to be mostly from micro-finance (small loans).
- Health of women seriously impaired when physical exertion coincides with illness or food scarcity.
- Pregnant women lose weight by season and birth weight also vary by season.
- Premature termination of breast feeding while carrying important farm operations.
- Insufficient gender disaggregated data availability in the country prohibit planners to prepare gender specific programmes.
- Rights to land ownership and use are still in paper only.
- Exclusion of women from water management and irrigation projects - a key factor for frequent failure in many places.
- Lack of extension service provision for women (Worldwide between 0.05% and 10% in India – VLWs).

Approaches in women empowerment

Following approaches can be helpful for promoting women empowerment in the agri-sector.

- Gender sensitive extension with recruitment of more female extension officers.
- Involving women in technology transfer models such as custom hiring centres.
- Women centric contract farming, public-private partnership models and producer companies.

- Periodical gender auditing of development programmes.
- Women led entrepreneurship models in agriculture.
- Women centric policies in agriculture.

Successful stories

Central Institute for Women in Agriculture, Bhubaneswar validated different approaches like gender sensitive para-extension worker model, public-private-partnership model and gender mainstreaming approach not only in Odisha, but also experimented in collaboration with agricultural institutions in other parts of the country.

Gender sensitive para extension worker model: The project on para-extension worker model was taken up in an action research mode in one irrigated (Padasahi and Tankibanta villages) and one rainfed cluster (Simor and Kantamalli villages) of Khurda district of Odisha between 2007 and 2010. Each cluster had about 400 farm-families wherein two men and two women village para-extension worker who were selected from their own village on pre-determined qualification. After the expiry of the project period, they were asked to collect service charges from the beneficiaries as no honorarium was paid to the Village Para-Extension Worker. The impact evaluation in 2013 revealed the need for partially institutionalizing of the model for bringing overall sustainability of villager's livelihood from agriculture and allied enterprises. Para-extension worker model is an ideal approach to reach 110 million farmers spread over 650 districts and 6,000 blocks in the country, as reaching this huge number of farmers through conventional extension system is a herculean task in the current circumstances.

Gender mainstreaming approach: Central Institute for Women in Agriculture in partnership with Department of Agriculture, Government of Odisha and 'Pallishree'— a Non-Governmental Organization popularized line planting in 2012 during *kharif* under 'Bringing Green Revolution to



Eastern India' -a flagship programme of Government of India in Giringaput village of Khurda district by mobilizing 210 farmers to carry out line planting in 270 acre. Promotion of line planting alone is likely to increase 15 to 20 per cent paddy yield as per the results of present study.

Public Private Partnership model: The study of selected public-private-partnership models in agriculture covering cultivation of quality protein maize in Khurda district of Odisha, cultivation of vegetables in Coimbatore district of Tamil Nadu, mushroom cultivation in Kerala and vermi-composting in Jorhat district of Asom revealed that farm-women obtained 20% more income and 10% additional employment generation. PPP models enhanced the access of farm-woman to training, market, extension and financial services. They also helped the farm-women to build up their confidence and team spirit. The critical inputs from these field level demonstrated models would help to form strong decentralized extension strategy and provide valuable inputs for strengthening transfer of technology approaches and thereby enhancing the productivity and income in eastern India.

Entrepreneurial venture of women in dairying: Amritpurkalan, a village in Gharaunda block of Karnal district is hosting number of visitors for a simple reason that resource poor women amply utilized an opportunity shown by National

Dairy Research Institute, Karnal under National Agricultural Innovation Project. There are about 20 Self-help Groups functioning in the village. Initially, only loan obtained from banks were being circulated. There are 500 households who mostly maintain buffaloes. Men folk started milk societies four times in the village to utilize the marketable surplus of milk but failed due to lack of cooperation. In this regard, NDRI carefully trained selected women of this village for three months on value added dairy products preparation. The group was started in 2010 with the name *Anmol Dughd Mahila Samitee*. After training, a group of 5 women members constituted the *samatee*. Over the period of time, only 5 women members were in the group who were confident and courageous.

Scientists of Dairy Extension Division while interacting with the members of group understood that during the initial days women lacked the support of family members and village society for starting the enterprise. But having the strong determination against all the odds they started the dairy value added enterprise. The constraints faced by them during initial days gave enough lessons for further progress. After 2 years of venture, they felt more successful, profitable and empowered economically as well as socially. Each member earns about ` 6,000/month. The task was divided by themselves in such a way that the 2 women work in the morning from

6 AM to 3 PM and other 2 members from 3 PM to 8 PM. The remaining 1-member who is group leader Ms. Kamalesh handles the whole marketing activities from receiving the milk and upto selling the value added dairy products in the nearby city of Karnal.

Festival seasons like Diwali are effectively being utilized for sale of milk products manufactured by them. The successful women group said that their savings were increased; their family status was improved and able to provide higher education for their children. The women group also plans to start packaging of milk products very soon for ensuring higher marketing returns.

Women empowerment strategies for achieving zero hunger by 2030 in India

1. Promotion of gender sensitive Public-Private-Partnership models in agriculture.
2. Making higher investments for developing nutrition-driven technologies such as high nutrient and bio-fortified crops.
3. Capacity building of farm-women on technologies promoting diversification of agriculture.
4. Legalizing land leasing to benefit large number of women farmers.
5. Promoting situation and site-specific land-use plans for different agro-ecological regions.
6. Popularization of Prime Minister *Krishi Sinchai Yojana* scheme with the aim of 'per drop, more crop'.
7. Educating women about Soil-Health Card Scheme for applying



8. Promotion of institutional arrangements for custom hiring services to especially promote small-farm mechanization.
9. Dissemination of a long-term weather forecasting system through mobile-based applications.
10. Ensuring effective implementation of various social safety net programmes with focus on women farmers.
11. Giving emphasis on the non-farm sector to de-stress the agricultural sector, enabling income enhancement of rural households, and checking rural-urban migration.
12. Promoting the bee-keeping,

- livestock, poultry, and fisheries subsectors of agriculture.
13. Updating women farmers on price monitoring and forecasting of major food commodities frequently to take timely decisions.

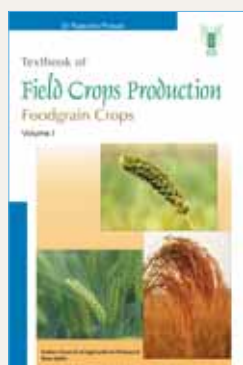
SUMMARY

There is no dearth of gender sensitive models in technology transfer. But mostly, they are in the conceptualization stage or scattered testing in some places or else end up with completion of projects and fewer publications consequently. The models are not upscaled due to lack of support from policy and political angles. The stakeholders in the process of development understood the role of women in building a

strong and vibrant agriculture in the rural areas which can alleviate the poverty, malnutrition and unemployment. This requires appropriate mechanism, institutions, models and policies to facilitate the women to attain their full potential and, thereby, contributing to even development of all members of the society. India will have to make concerted efforts in improving agricultural linkages, women empowerment, health care, sanitation, drinking water, nutrition awareness, and education by adopting a convergence approach.

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TECHNICAL SPECIFICATIONS

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