

Research Article

Role of Education in Small Farmer's Empowerment in India

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ABSTRACT

Indian agriculture is predominantly a small holder's economy as characterised by small, fragmented and uneconomical land holdings. Their livelihood fully depends on agriculture. There are many issues and challenges for small holding agriculture in India as small farmers lack all types of resources, i.e. natural, financial as well as human resources. Small and marginal farmers particularly women, have low literacy level and lack of education leads to low levels of awareness regarding the farm technologies and their usages, institutional credit sources and schemes, bio-fertilisers, minimum support prices and the various government's support initiatives. Lack of awareness not only reduces farmers productivity but also destroy the effectiveness of the government policies, like in the case of rural credit as apart from the issues of access of rural credit to small farmers, literate farmers only have the ability to execute the amount of loans rationally because without knowledge, even if a farmer easily gets a loan under the theme of financial inclusion, he cannot be able to handle or rationally use the given amount of that loan causes not only loss of money but a destruction of scarce financial resources in the hands of farmers and failure of government policies. The result is that, there will be no effect on agricultural growth or improvements in small holder's agriculture on the one hand and destruction of government's financial viability on the other hand. While, there are many complex factors that influence sustainable development and food security, it is awareness among small and marginal farmers that can play an important role in their empowerment. Against this background, this paper aims to evaluate relationship between education and small farm holder's sustainability. The main focus of this paper is to analyse the effect of imparting education and making them aware towards the government policies, productive inputs and diversified opportunities of present scenario and provide them a level playing field in the global market.

Keywords: Agriculture, Small Farmers, Education, Financial Education, Inclusive Growth, Productivity and Empowerment.

“My notion of democracy is that under it, the weakest should have the same opportunity as the strongest” - Mahatma Gandhi

INTRODUCTION

India is predominantly an agricultural economy as more than two-third of the country's population depends on it as a principal source of livelihood. India is the land of marginal and small farmers constituting more than 80% for whom farming is a major livelihood activity. But there is a continuous decline in agricultural GDP from more than 50% in the 1960s to 14% in 2011–2012. According to agricultural census 2011–2012, 84.97% of small and marginal farmers taken together operated only 44.32% of land, 14.30% of semi-medium and medium farmers operated 44.77% of land and 0.73% of large farmers operated 10.92% of land. There is vast inequality between the number of agricultural land holders and their land sizes. Small and marginal farmers were characterised by small size of cultivated land as less than two hectares, limited resources, low technology base and a little know how, limited capacity of marketing, storage and processing and are often vulnerable to value and supply chain opportunities. On the one hand, there is continuous deterioration of livelihood of small and marginal farmers in general and women and SCs and STs in particular and on the other hand, there is continuous decline in the viability and sustainability of agricultural sector. In such a situation, the future of sustainable agricultural growth and food security fully depends on the performance of the small and marginal farmers.

The ultimate objective of developmental planning is to ensure improvements in quality of life and human development which calls for development opportunities for all which can remove regional, social and economic disparities and empower the poor and marginalised section of the society in an inclusive manner. Agricultural growth is one of the important paradigms of inclusive growth as it is the basic structure for pro-poor growth and its success and sustainability is a key for small and marginal farmer's empowerment. Farmers are the main players or agents of the economic growth process but they lack the rights over the basic means or resources i.e. natural, capital, and human and face challenges of livelihood. Public policies supported empowerment processes in the rural areas through giving rights over resources like land through land reforms and financial capital through multi-agency approach to credit flows.

Indian government has been playing a critical role in influencing the production processes and capacity or productivity by providing subsidised inputs and

marketing facilities through procurement of crops at support prices which places considerable burden on the government. In spite of all these impetus, still the conditions of small and marginal farmers is vulnerable.

One of the most important reasons behind their deprivations is lack of education, awareness and knowledge and they still depends on traditional farming on the basis of traditional experiences. Public policy initiatives try to empower them but their lack of knowledge and awareness restricts their ability or power to enjoy those benefits as sometimes they get exploited in the hands of landlords, money lenders and large farmers simply because they were unaware of their rights and opportunities in a real sense. Sometimes they do not able to handle or manage the resources causing destruction of resources in the hands of ignorant farmers. Educating a farmer is the dire need of the nation so that they can understand their situations and seek the right solution based on rationality by combining the indigenous knowledge with the improved knowledge.

Empowerment can only be done through realising the veiled energy hidden in the farmer's community by imparting skill and awareness rather than only depending on redistributions from the haves to have not or various policies. Low literacy level and lack of education leads to low levels of awareness among farmers regarding the technology usage, institutional sources and schemes and the various government supportive initiatives. There are large inequalities in the literacy levels of large and small farmers causing differences in their prosperity levels which prove that education affects farmers prosperity. Hence, the success of any agricultural policies and policies for small and marginal farmers can be made possible only through the application of those policies in a knowledgeable and participatory kind of environment created by an educated farming societies. Hence, for a sustainable agriculture, it is essential to identify the constraints that most of the marginalised farmer's faces. While there are many factors that promotes sustainable development and food security, education among farming community specially marginalised sections can play an important role in improving their productivity and hence their sustainability.

REVIEW OF LITERATURE

Singh and George (2012) have emphasised that there is dearth of information on organic farming in India and he suggested that to promote organic farming, government should make policies and plan trainings and educational modules for farmers. Kokate and Singh (2013) have emphasised that access to technological information is one of the most important enabler for small holders to improve productivity sustainably. Sundar and Ramakrishnan (2013) have emphasised that generally small farmers perceive crop insurance that has mainly suited for large-

farm size farmers, its extent of risk sharing was very low and the premium rates is not affordable by small and marginal farmers. Nguyen and Cheng (1997) have found that the household heads, who are decision makers within each farm, are handicapped in getting the best of the improved seeds and modern agricultural practices if they cannot read or write and poor households are more likely to have illiterate household heads because they cannot afford education. Prato and Longo (2012) have emphasised that empowerment processes can be supported in rural areas where poor people face pressing challenges to their livelihood by supporting their rights and access to resources through participatory and accountable knowledge.

OBJECTIVES

The study entitled 'Role of Education in Small Farmer's Empowerment in India' has the following objectives:

- a. To overview the relationship between education and small farmers.
- b. To analyse the role of education with the various aspects of agriculture growth.

ROLE OF EDUCATION IN SMALL AND MARGINAL FARMER'S EMPOWERMENT

Rural infrastructure development is critical for India's agricultural growth and the capability which is to be developed through which they can be efficiently used may be called as human resource development. Education is the main source of making an individual into a human resource or a human capital. A large section of the Indian agriculture has a weak asset base as sustainable agricultural development requires an efficient combination of land, capital and labour, lack of any of them reduces viability, for example, land and capital becomes meaningless if a peasant does not apply its labour. So, to make a labour into a human capital, it is imperative for policy makers to design the policies according to the status, needs, level of awareness and their present situations. Development of human resources for the socio-economic development of the people is not a new concept; it was also prevalent in ancient and successive philosophies in India. Education is a form of learning in which the knowledge, skill and awareness is imparted in a group of people, developing a power of reasoning, judgment and preparing individual for a decent life. It may be formal or informal in nature. In India, there are large disparities in urban and rural, male and female and small and large farmer's literacy levels.

There is enough evidence to suggest that size of farmer's holding and level of formal education are positively correlated. Since small farmers are far behind in terms of formal education, they are inherently at a greater disadvantage

(Government of India, 2009). Table 1 shows that literacy and mean years of education are lower for landless and small holding farmers compared to medium and large farmers. Along with the disparities between farm size and literacy levels, there are large disparities between the male and female literacy rates and mean years of education show that within small farmers' groups there are large gender disparities existing and hence women's are more vulnerable. The low level of farmer's education limits their knowledge or information on agriculture and hence restricts their reliability towards the usage and applications of agricultural inputs and technologies as their awareness level is associated with the education levels which are lower for small and marginal farmers which means low skill level. The small-farm size is not a key restriction on overall farm capability as there is an inverse relationship between the farm size and land productivity in a labour abundant country like India.

Table 1: Literacy and mean years of education of unorganised agricultural self-employed workers, 2004–2005

Land Size/Class	Literacy rate			Mean years of education		
	Male	Female	Total	Male	Female	Total
Landless	45.6	25.5	34.0	2.2	1.5	1.8
0.01–0.40 ha	59.2	31.1	43.7	3.7	1.7	2.6
0.41–1.00 ha	64.5	31.7	51.4	4.1	1.7	3.2
Marginal	62.5	31.2	48.1	3.9	1.7	2.9
Small	68.7	34.8	55.9	4.7	1.9	3.6
2.00–4.00 ha	70.2	37.1	57.6	4.9	2.1	3.8
>4.0 ha	77.4	42.0	63.3	5.8	2.5	4.5
Medium & Large	72.9	39.0	59.7	5.3	2.2	4.1
All	67.4	34.1	53.4	4.5	1.9	3.4

Sources: Source: NSSO 61st Round Survey on Employment–Unemployment, Computed.

It is true that small holdings have higher productivity than medium and large farms. But, it is not enough to compensate for the disadvantage of the small area of holdings. The cost of cultivation per hectare is high on small- and marginal farms than medium- and large farms. Access to technology is one of the most important enablers for smallholders to improve productivity sustainably. Innovative mechanisms for technology transfer are required to bring relevant tools, knowledge and knowhow to farmers (Kokate and Singh, 2013).

Educating Farmers through Extension Services

Technology plays an important role in improving agricultural productivity. Improving the knowledge of new techniques and technologies along with providing them physical resources can dramatically increase the farmer's level of productivity. Agricultural extension provides knowledge of agronomic technologies and skills to small farmers as it consists of spreading of useful and practical information including improved seeds, fertilisers, implements, pesticides, livestock's, etc., but in India, there are lots of weaknesses prevailing like region, farm sizes and crop biasness as inadequate emphasis on the needs of rainfed areas, not capable to cope with emerging challenges and unskilled village extension service providers. Extension should not be merely a technology transfer with the help of extension workers but it must play a technology development role by promoting appropriate technology development, the workers who involved in imparting of technologies must be well skilled who present government policies in a right way. Public extension system has a key role in educating farmers and helping them to take right decisions.

The challenge before extension agencies is how to deliver knowledge to all farmers, and especially how to involve and motivate the resource – poor farmers with a holding size below 1 ha to take command of their situation and reduce the innovation adoption period. Given the meager marketable surplus at individual farmer level for small farmers, there is need to organise the farmers around the commodity for getting them the benefits both mutually within the community and in interaction with external agencies supporting the development process. Developing farmer's organisations and federating them at block/district/State level and linking their economic activities with the market assumes special significance as it helps to attain the power of scale economies and collective bargaining to the advantage of farmers (11th Five Year Plan, 2008).(Government of India, 2008).

There are many risk factors behind all the farmers in general and small and marginalised farmers in particular as they are the most vulnerable and resourceless section of the society. Weather and climatic changes are the biggest risk factor affecting the farmers performances and leading to decline in agricultural production which demands the development and implementation of appropriate methods to address issues of vulnerabilities to weather and climate changes. There is a great need to assist farmers to develop their adaptive capacity with improved planning and better management decisions which will only be carried out through enhancing awareness of information's among small farmers. This objective would be fulfilled by interacting local farming communities with the meteorological centres, agrometeorological field units, krishi vigyan kendras (KVKs) etc. and transferring of information and measurement techniques compatible with the farmer's

understanding and easy techniques to measure unexpected calamities. So that they can make pre-plan farm operations and cropping plans by getting the information in advance. Indian government provided input subsidies like fertilisers which are irrationally used by the ignorant farmers most of them are small and marginal farmers because large farmers are more educated and able to get technical supports for their applications.

Imbalanced use of chemical fertiliser has led to declining fertiliser response in the fertile irrigated regions. Excess use of some nutrients, driven in part by imbalanced subsidies, has led to depletion of other nutrients from the soil leading to deterioration of the soil health. Lack of knowledge on the part of the farmers about the importance of soil health and information about the status of the soil on his particular farm is an important constraint (*ibid.*). There is a need to apply fertilisers in a best practice manner. Farmers must be aware regarding their application proportion, timing and negative externalities caused by their irrational applications.

The adverse impact of agriculture based on synthetic fertilisers is visible in the degradation of soil fertility, taste and quality of food. In such a situation, there is a great need to direct farmers towards organic farming as it must prove to be a boon to curb these adverse effects. Organic farming aims at sustainable farming system that will preserve the environment and farm productivity in a balanced, sustainable and ecologically stable way. Small farmers must be aware about the benefits of organic farming as it has the ability to secure their small piece of land. Small farmers are very risk adverse and susceptible to any change due to their vulnerable situations. A change in attitude, belief and thinking is prerequisite as it requires basic skill and knowledge to run the organic farms effectively which can only be done through imparting awareness regarding various aspects of organic farming.

In India, there are large variations in region's agro-climatic conditions and crops productivity. Most of the times, small and marginal farmers grows crops unsuitable with respect to soil and climate. Increased farmer's knowledge and skills regarding region specific farming practices like to decide which crop to grow, based on soil, climate and water availability and most importantly on their nutritional value and profits, how to implement sustainable agricultural method and tools which will maximise yields. Like in arid areas, where crop farming is very unsustainable, skills regarding other diversified and allied activities are very necessary to supplement their income.

Agricultural diversification towards high-value crops can potentially increase farm incomes, especially in a country like India where demand for high-value food

products has been increasing more quickly than that for staple crops. Indian agriculture is overwhelmingly dominated by smallholders, and researchers have long debated the ability of a smallholder dominating subsistence farm economy to diversify into riskier high-value crops (Brithal *et al.*, 2007). This tendency exhibits a pro-poor biases as large farmers have comparative advantages in terms of skill and knowledge regarding needed seed varieties, irrigation facilities, credit access etc. to flourish in a field of diversification. In such scenario, small farmers need a broad-based knowledge of techniques of food processing, horticulture, animal husbandry, and livestock and fisheries development.

Over the past 20 years, new trading policies have liberalised and integrated markets. Some farmers have benefited while others have seen their incomes fall. The terms of trade have been volatile. The integration of world markets has formed closed supply networks where buyers and sellers sign contracts to produce and trade a wide range of specialised products. This new organisation of supply chains is unfamiliar territory for many smallholders. It is accompanied by a market concentration, with a small number of companies dominating large parts of the agri-food system, leaving smallholder farmers with little market power in comparison. There is concern that rural poverty might worsen as supermarkets expand, but connecting small farmers more directly to changing consumer demand and major market offers real hope as well. The devil is in detail of the contracts that can be negotiated and the support that can be given to farmers to help them to do their part and obtain remuneration (Syngenta Foundation for Sustainable Agriculture). At present, government supported the concepts collectivisation of small farmers by supporting group farming, cooperative farming and contract farming to increase the size of holdings and can use their scarce resources for optimum uses and reap the benefits of increased markets at both national and international levels. But still the success of these initiatives and empowerment of small farmers depends on their knowledge by which they can secure their rights by clearly understanding their terms and conditions with the contracts and can exert pressure in cases of fraudulent activities by the large companies as in India, most of the time these types of activities has taken place. Hence, education can affect small farmer's sustainability in India. Not only this, farmers also require a diverse range of information about post-harvest aspects including processing, marketing, storage and handling.

Agricultural marketing is also a critical element for small farmer's sustainability and more in case of diversification activities as agricultural marketing have been changing rapidly in recent years, with rising demand for high quality and high value products. Small farmers often face obstacles in accessing these markets due to their fragile knowledge and lack of education regarding tactics, channels and

pros and cons of these markets. Education and market skills relieved them from exploiting intermediaries and enhance their bargaining position.

The frequency and severity of risks in agriculture demands some type of insurance against these risks. Crop insurance can play a vital role in supporting the agricultural sector and mitigating the financial losses suffered by marginal farmers. It will facilitate farmers to adopt risky but remunerative technology and farm practices but due to lack of knowledge and awareness, they thought that it is made for large and medium or high income farmers. Rural financial institutions and other agencies connected with the task of providing crop insurance must inculcate information regarding the importance, rates and products and divert their financial resources for right purpose and in right directions.

Financial Literacy

“Financial literacy, and education plays a crucial role in financial inclusion, inclusive growth and sustainable prosperity”—Government of India.

India has the most extensive rural financial system with the vast networks of banks branches with the sole motive of eliminating the exploitive money lenders but still the vast majority of rural poor still does not have access to formal finance and the vast financial network is still unable to replace moneylenders. The indebtedness for the small and marginal farmers from formal institutional sources is lower than large farmers, but it is higher in terms of informal sources. The dependence on money lenders is the highest for sub-marginal and marginal farmers and the share of formal source increases with the size of land as it is true as per table that education among the farmers increases with the land sizes and hence this is clear that education affects the dependence of farmers whether on formal or informal sources of finance. Apart from the issues of access of rural credit to small farmers, literate farmers only have the ability to execute the amount of loans rationally because without knowledge, even if a farmer easily gets a loan under the theme of financial inclusion, he cannot be able to handle or rationally use the given amount of that loan causing not only loss of money but a destruction of scarce financial resources in the hands of farmers and failure of government policies. The result is that, there will be no effect on agricultural growth or improvements in small holder’s agriculture on the one hand and destruction of government’s financial viability on the other hand.

Financial literacy helps the farmers to develop knowledge awareness and skills to manage financial products efficiently, to avoid indebtedness, freedom from exploitations, understanding of dynamics of market mechanism and making small farmers to make wise decisions and acts as a vibrant participator in the credit markets.

EDUCATION AND INCLUSIVE GROWTH

Inclusive growth is a process empowerment which ensures equal access to opportunities for each and every citizen of a country regardless of their individual situations. Empowering in case of marginalised farmers is about building capacity of small and marginal farmers through farmer's education, training and equipping them with the skills, improved and advanced methods of agricultural technologies. An educated farmer can take a good decision regarding the application of appropriate technology and management of natural resources and understands the externalities of their farming behaviour. Farmer's education has the ability to increase the productivity, income and open their ways towards non-farm activities and hence the economic status of small farmers which improves their life conditions which have positive externalities like reduction in infant mortality rate, educational attainment of the next generations and thereby raising the next generations chances for economic and social well-being and promoting inclusive and sustainable growth.

Education plays a greater role in modernising agriculture because it has the ability to deal with changes induced by technological developments in agriculture and is largely a function of education and hence better educated farmers adjust more successfully than less educated farmers. Education is the most important factor to agricultural production in a rapidly changing technological and economic condition and educated farmers would respond more quickly than uneducated. Hence, farmer's education has the ability to boost agricultural production in a sustainable manner and eliminating the hunger and price rise and promoting global food security. Education not only makes agriculture and small holder's sustainability but also take cares of the government's scarce financial resources. Success of any public policies in agriculture or in any sector of the economy totally depends on the capability of the targeted groups to reap the benefits provided by that policy initiative.

CONCLUSION

Agriculture is the nervous system of India which provides life-supporting base to the small farmers but a vast majority of them lives in an abject poverty and agriculture became havoc to marginalised farmers. Increasing the productivity of both the farmers and the sector is the main objective of the government. Increased productivity for a few years is not a solution if small holders farming cannot attained the sustainable path. Access to technology is one of the most important enabler for small holders to improve productivity which would be supplemented by increased financial capital flows along with the stable rights over natural resources. Education is the sole factor which can give strength to all these three important factors of growth. Because empowerment is about promoting rights of

the poor by themselves by increasing their capabilities to understand their rights and enhance power to secure that rights by building their skills through education which sustainably increase their incomes and enhance their food security and viability. Poor farmers are the marginal participants in knowledge-sharing process, have inadequate access to educational opportunities whether formal or informal which calls for making effective arrangements by the government for imparting awareness and skills through education. Implementing policies for small farmers through increased information technologies would be worthless if the farmers doesn't able to understand them, so disseminating information would be only possible if small farmers have some kind of basic knowledge. Government must encourage specialised institutions to organise farmer's awareness programmes on weather and climate, marketing channels, technologies etc. in different agro-climatic zones of the country to sensitise farmers in an appropriate ways. Government must initiate training to learning by doing and encouraging farmers to conduct experiment and undertake action learning projects and make education a vibrant factor of sustaining agricultural growth and small farmer's livelihood. At last, all these issues cannot be made possible if the government ignore the gender perspective because within farmer's group, women's literacy and knowledge level is very poor inspite of their large proportion in the total agricultural workforce and their contribution in agricultural sector.

REFERENCES

- Brithal PS, Joshi PK, Roy D and Thorat A, 2007. Diversification in Indian agriculture towards high-value crops. *International Food Policy Research Institute*, Discussion Paper 00727.
- Government of India, 2008. Eleventh five year plan 2007–2012. *Planning Commission*, Vol. III, New Delhi.
- Government of India, 2009. The challenge of employment in India. *National Commission for Enterprises in the Unorganised Sector*, Main Report, New Delhi.
- Kokate KD and Singh AK, 2013. Use of mobile technologies for empowering small holder farmers in India. *Indian Council of Agricultural Extension*, New Delhi, pp. 1–9.
- Nguyen T and Cheng E, 1997. Productivity gains from farmer education in China. *The Australian Journal of Agricultural and Resource Economics*, Vol. 41, No. 4, pp. 471–497.
- Prato B and Longo R, 2012. Empowerment of poor rural people through initiatives in agriculture and natural resource management. *International Fund for Agricultural Development, Organisation for Economic Co-operation and Development*, pp. 1–29.
- Singh S and George R, 2012. Organic farming: awareness and beliefs of farmers in Uttrakhand, India. *Journal of Human Ecology*, Vol. 37, No. 2, pp. 139–149.
- Sundar J and Ramakrishnan L, 2013. A study on farmer's awareness, perception and willing to join and pay for crop insurance. *International Journal of Business and Management Inventions*, Vol. 2, No. 1, January, pp. 45–54.
- Syngenta Foundation. Value Chain Approach, *Syngenta Foundations for Sustainable Agriculture*, "Small Holders face Challenges all along the Value Chain", <http://www.syngentafoundation.org/index.cfm?pageID=466>. www.syngentafoundation.org/index.cfm?pageID=341