Diversification of Rural Economy-A Review of Issues

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Abstract

Diversification of rural economy is considered necessary to lessen the burden on agriculture in the face of mounting population pressure, to reap the scale economies arising out of complementary and supplementary enterprises or inter-enterprises growth linkages, boost the employment opportunities for rural masses and so on. It is also essential for strengthening the income and consumption base of rural poor and overall development of any region. The literature review on the topic offers ample scope for a critical and retrospective examination of the work done on diversification of crops and other related enterprises. Hence, because of conspicuous lack of research studies and inadequate empirical evidences regarding diversification and other aspects of rural economy, it is extremely important to examine the extent of diversification of rural economy; secondly, its effect on income consumption and poverty; thirdly, its constraints and last but not the least its determinants at micro level.

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Introduction

Science is a systematically organized body of knowledge based on generalization, principles, theories, or laws which traces out a casual relationship between cause and effect. For the future research to be undertaken, the scientific inquiries become a sound base of knowledge which is accomplished through systematic thinking, factual observations and past experiences. Before initiating any study, a critical and thorough glance over the studies already conducted relating to the subject, therefore, becomes imperative for conceptual clarity and to raise the crucial and important issues. For this reason, the research work already conducted on the topic has been critically reviewed.

Literature Review

Acharya, et.al. (2011) analyzed the economics of crop diversification in Karnataka. By collecting secondary data for a period of 26 years from 1982-83 to 2007-08, the nature and extent of crop diversification in the state of Karnataka has been analyzed by them using Composite Entropy Index (CEI) and Multiple Linear Regression Model. The results revealed that almost all
the crop groups have higher crop diversification index during post-WTO (1995-96 to 2007-08) than during pre-WTO (1982-83 to1994-95) period, except for vegetable and oilseed crops. The results emphasized that the creation of basic facilities of infra-structure such as proper roads, transportation, market, fertilizer availability and sustained supply of irrigation water is necessary pre-requisite for creating enabling situation for explaining the process of crop diversification and agricultural development, as most of these parameters were bound to affect the nature and extent of crop diversification.

Agarwal (2004) conducted a study in the Coimbatore district of Tamil Nadu on land holdings of big, small and marginal categories, and revealed, as expected, that the increase in aggregate net income was higher under irrigated conditions than in dry land farms, as higher- value crops could be grown in garden land farms due to irrigation facilities. A comparison of the performance efficiency under two conditions, garden land and dry land, had confirmed the hypothesis that inclusion of dairy and other allied activities in the farming system enhances farming efficiency in terms of input-output ratio and reduction in risk.

Ahlawat et. al. (1977) suggested integration of crop production with rearing of high- yielding milch animals as one of the measures to solve the problem of seasonal income, under employment, high risk and uncertainty associated with crop farming on small farms.

Bains (1968) in his study in the Union Territory of Delhi emphasized that small land holding with abundant labour leads to its low productivity. He also mentioned that appropriate crop combination, crop varieties and fertilizer with adequate irrigation will cause a phenomenal increase in production.

Banerjee (1974) concluded that any programme for the improvement of the lot of small farmers must be accompanied by higher liberalized credit as it helps not only in increasing the income but also in reducing the disguised unemployment. He also showed the importance of livestock enterprises (buffaloes) in augmenting the income of small farmers.

Balishter and Singh (1988) studied the role of new agricultural strategy in diversification of agriculture. The authors concluded that the average farm size had increased in case of small farms, while there was decline in case of medium and large farms due to adoption of new strategies. The authors further remarked it is possible that the introduction of new farm technology led to marked increase in income and also increasing inputs may have motivated small farmers to make their farms more viable (by leasing-in-land ) and medium and large farmers lend out a part of their land to others because of relatively higher outlay on farm inputs. Secondly, the shift in cropping pattern had led to significant enhancement in the productivity of the crops on which the farm economy of the sample farmers largely depends.

In a study on diversification of agricultural economy of U.P., Bhatia and Tiwari (1991) reported that in favour of secondary and tertiary sectors, there had been gradual diversification. The authors also reported that while factors such as tenancy, draught force discouraged diversification, milch animals had a positive impact on diversification.

Chand et. al. (1986) highlighted the importance of diversification in Himachal Pradesh. The authors found that diversification of agriculture is of complicated nature in Himachal Pradesh because of wide variation in agro-climatic conditions between different regions. The authors had examined diversification at all levels. But, in the districts falling in mid and high hills, the diversification tends to be more benefitted. The same was also true for medium and large farmers. Thus, to induce the balanced development, in the state, there was a need to redefine
the development strategies. There was a potential for the development of horticultural crops in lower hills also but it has remained untapped due to lack of technical know-how among farmers, unremunerative market and emphasis of state government on temperate fruits only. There is, however, need to give equal emphasis to the development of horticulture in the region. To the weaker section, land constitutes major constraint for increasing farm family income. Thus, extension of non-farm enterprises along with assured marketing facilities was essential to provide them sustained and minimum customary level of living.

Cheema and Sahota (1987) observed that factors like marketing problems, excessive mining of ground water, and deterioration of soil fertility and multiplication of diseases were compelling the Punjab farmers to diversify their farming to the present rice-wheat system. The authors stressed the need for supporting farm enterprises like mushroom, cultivation of medicinal and aromatic plants for raising overall farm productivity.

Dhawan and Kahlon (1978) revealed that small farmers were rational in making investments but the amount of credit supplied by various institutions was not adequate to meet the requirements even at the level of existing technology. The commercial institutions should come forward to help the small farmers in meeting their credit requirements.

Deoghare et. al. (1990) highlighted the utility and usefulness of mixed farming on small farms by taking crops, dairy and/or poultry enterprises into the orbit of farming system. The combined enterprises had shown their potential in raising the net farm income to steer them out of the clutches of poverty as well as in generating more employment opportunities for the so far underutilized farm labour, whether bullock operated or tractor operative.

Gupta and Tiwari (1985) concluded that large and wealthier farms of Allahabad district of Uttar Pradesh were relatively less diversified and tenancy was observed to discourage diversification and family size did not affect the level of crop diversification.

The diversification of rural economy of India had been studied by Haque (1985). The author concluded that despite occupational shift in the rural sector from crop production, forestry and logging, poultry, fishing in recent years, the country’s rural economy would still continue to remain largely crop based in the years to come. The author also concluded that occupational shift from crop production to animal husbandry, poultry, fishing as either independent or subsidiary occupations did not seem to have uniform bearing on the incidence of poverty in all the regions of the country. Therefore, no generalized relationship between rural diversification and poverty could be established.

Jha and Jha (1995) emphasized the inclusion of dairy into the farm plans and further found a vertical integration of fodder production along with dairy. Dairy enterprise involves less risk and is also labour intensive. Hence, for further strengthening dairy enterprise, provision of liberal credit structure shall go a long way in increasing farm returns on sustained basis.

Krishnamohan (1984) in his study stated that an unit of 100 poultry birds gave an income of Rs.200 per month after deducting all the expenses like feed and bank installments for the credit obtained.

Kachru and Srivastava (1990) in their study on diversification of agro-based activities for rural development revealed that (a) low cost technologies and equipments have been developed by various R and D organizations in India and are available for use in agro-based industries to generate employment opportunities in rural India and increase the income of farmers by value addition of agricultural produce. (b) A number of activities had been identified which could be
adopted by the farming community during the lean periods of work load. (c) Agricultural residues and by-products could be converted into economical items such as feed, fuel and building materials.

Dimensions and determinants of diversification on Kangra farms had been studied by Mahajan (2003). The author concluded that large farms had more diversified cropping structure than small farms of both irrigated as well as un-irrigated areas. In the overall farms situation, un-irrigated farms were found to be more diversified in terms of number of crops where as reverse was observed for income diversification. For farm categories, the results of income diversification showed that large households were found to have more diversified income structure than small households in both the areas. As far as employment diversification is concerned, large farms had more diversified occupational structure than small farms of irrigated areas while, for un-irrigated areas reverse was observed. In terms of livelihood options in the overall farm situation, the employment structure was found to be more diversified in case of un-irrigated areas than in irrigated areas. Based on regression analysis, the study showed that both economic variables such as the dichotomous variables for bullock and the extent of tenancy, the number of fragments of holdings, and size of operational holding as well as social factors like, age of the head of family and family size were the important determinants for explaining the process of income diversification in both irrigated as well as un-irrigated agriculture. The regression results for the determinants of non-farm income diversification inferred that for irrigated areas, irrespective of farm categories, the factors like family size, head-age and head-education, size of operational holding, gross farm income and dummy for bullock were found to be significant variables for explaining the process of off-farm income diversification. While, for un-irrigated areas, family size, head-age and head-education and operational holding size were found to be the four major factors for explaining the variation in diversification of non-farm income sources.

In an another study on empirical analysis of crop diversification on Kangra farms, Mahajan (2004) concluded that crop diversification had been found to be higher in more-diversified farms. In the overall farm analysis, diversification of crop was higher under developed agriculture than in backward agriculture. The evidence of statistics in relation to the determinants of crop diversification had suggested that both the social factors like distance from town/metal led road, age and education of the head of family and family size as well as economic factors such as farm income and non-farm income, extent of tenancy, tractor and bullock density and farm size are the important significant determinants for crop diversification in developed category in terms of promoting agricultural production. While, the number of fragments of holding, extent of tenancy, net-farm income and off-farm income are the four more important economic variables for explaining the variation in diversification indices in the backward category.

A block level study for the indicators of development in Kangra district of Himachal Pradesh had also been studied by Mahajan (2005). It was concluded that out of the twelve blocks of the district, Nurpur and Panchrukhi were the most developed blocks as far as infra-structure and agricultural development are concerned. The least developed blocks in Kangra district were Lamba-gaon and Nagrota surian.

Mahajan (2009) had done a pioneering work with regard to the examination of the impact of diversification on income, consumption and poverty. It is very important to understand the evidence which was concluded from the study that high level of diversification especially income stands no guarantee for high level of income, and households in order to meet both ends diversify to various income sources. Hence, unless efforts are made to improve the productivity of existing enterprises/resources, the emphasis on diversification of rural economy shall have no dividend.
Based on regression analysis of income diversification in an another study, Mahajan (2013) revealed that both economic and social variables were important determinants for explaining the process of income diversification in developed category, while family size and dichotomous bullock were significant variables in backward category. Alternatively, the proportion of off-farm income of the total household income was also taken as a measure of rural diversification. In this regard, he concluded that both the economic factors such as the extent of tenancy, number of fragments of holding, tractor density and social factors like age and educational status of the household-head and family size were found to be important for explaining the process of diversification of non-farm income in both developed as well as in the backward categories.

Mahajan (2014) in his study on constraints in diversification of rural economy had identified the major constraints in agricultural diversification on Kangra farms. These constraints were lack of timely availability of inputs and labour, poor marketing facilities, lack of training and technical know-how, high price fluctuations, lack of, irrigation water and lack of capital. For diversifying to non-agricultural enterprises like starting flour mills, crusher and buying productive assets like thresher, poor access to credit and high initial investment were reported to be the major constraints. In short, the study had identified the problems of rural diversification and had suggested solution to accelerate the process of diversification. It had suggested that efforts should be made to improve the productivity of resources which are available at present and problems and constraints as mentioned above should be addressed.

Maji and Rahim (1995) had stated that diversification had several inferences. It means selecting a good number of crops for cultivation having different inputs at various juncture in order to meet the risk or to reduce the income variability. It may also mean combining early, mid-season and late-maturing varieties of the same crop and last but not the least it may mean combination of agriculture and allied enterprises such as crops, fishery, livestock, mushroom cultivation, sericulture, rabbity etc. They observed that the objective behind diversification is not only increasing income and employment, but also reduce risk of various types. They also observed that the larger the farm size, the more the cropping pattern gets diversified and intensified.

Mani and Varadarajan (1985) stated that the larger farm diversified most and small farm followed. Functional analysis showed that diversification helped farmers to reduce their risk in farm business, but not for increasing farm income (or) for reducing labour needs. They also stated that research should be done to combine the objectives of increasing farm income, increasing resource use efficiency and reduction of risk for the farmer to optimize.

Effect of crop mixtures on income and employment in Anantapur district had been studied by Nagaraja (1988). The author inferred that crop mixtures not only give relatively higher monetary return but also provide more opportunities of employment. In brief, the system of crop mixtures harmonizes the goals of increasing employment associated with an increase in output.

Pope and Presscott (1980) in their study, conducted for large cross-sections of California farms concluded that (a) large farms were more specialized, (b) wealthier and less experienced farms were more specialized, (c) cooperative form of ownership was more specialized compared to other form of land ownership. The authors also concluded that diversification and farm size were positively linked because of the presence of sufficient diseconomies of scale to warrant diversification.

Rao (1985) highlighted the importance of diversifying the rural economy in Indian conditions. The author pointed out that sustained increase in income could not be obtained without diversifying the rural economy and widening the base of economic activities.
Similarly, in yet another study, Rao (1987), confined to Karnataka state, concluded that under IRDP, 70 per cent of the beneficiaries had received schemes falling under land linked sectors of animal husbandry and agriculture; village industries and service accounted for only 13 per cent of the beneficiaries. Another surprising finding of the study was that trading activities like petty shops, tea stalls observed more beneficiaries than industry. Thus, diversification of rural economy brought about by rural development programmes had to confine with land linked activities. The author pointed out that there is an urgent need for in-depth analysis of the structure of rural economy.

In a study of determinants and effects of income diversification among farm households in Burking Faso (West African Semi-Arid Tropics) Reardon (1992), found diversification to be associated with factors such as higher incomes, shortfall in cropping income, terms of trade, and so on. The study, however, found income diversification to smoothen income and consumption over years.

Ramesh Chand (1995) reported that for marginal and sub-marginal land where family labour availability per unit of land is higher as compared to bigger size holdings, vegetable cultivation due to its labour intensive nature is better than other crops/enterprises. He concluded that agricultural diversification through vegetable crops had a huge potential of employment and income generation in Western Himalayan Region. He observed that the factors shaping diversification through vegetable crops were affected by the combining impact of irrigation, infra-structure like roads and agricultural market and some other factors related to development programme itself.

Potential to increase income of rural households through diversifying the agriculture in Ludhiana district of Punjab had been found out by Singh and Jain (1979). The authors observed that introduction of dairy substantially raised the returns of the farmers on fixed resources.

Srivastava and Prasad (1979) revealed that the small cultivators with operational holdings of even below one hectare may stand viable with the adoption of vegetable farming. The per hectare net income received from vegetables was almost four times higher than the food crops. The percentage of return on working capital was about 300 per cent.

The diversification of Punjab economy in favor of secondary and tertiary sectors was also reported by Singh et. al. (1985). The authors found that at the macro level, diversification is significantly and adversely affected by fertilizer consumption, inter-crop value productivity, skewness in the distribution of holdings and per cent cropped area irrigated. At micro level, their study states that diversification was directly related to family size and dairy income and inversely related to size of farm, distance from market and assets per hectare.

Satheesh et.al. (1985) conducted a study in Pithampuram block of East Godavari district of Andhra Pradesh on impact of diversification and liberal credit policy on income and employment. The authors concluded that the adoption of recommended technology coupled with adequate credit facility under crop-dairy-sericulture farming system dynamises the entire gamut of income potential and offers an economically viable and practically feasible solution of low income problem of the non-viable farmers. A liberal credit policy found to be indispensable for the poor section of the farmers like those of group1 for pushing them up for high level of income, as these do not have sufficient surpluses to invest. However, when capital is limited, the crop-sericulture farming system had maximum potential of augmenting income and employment. Besides, the results emphasized the need for strengthening a close co-ordination between credit and other
development agencies and streamlining the flow of necessary inputs and services like extension, marketing etc., in order to benefit the peasants below poverty line.

Singh and Saini (1988) concluded that integration of improved technology of crop and milk production had markedly higher potential for enhancing income and employment on all the categories of farms as compared to the existing technology of these enterprises or adopting the improved technology of crop production in isolation. The lower categories of farms would be benefited more as compared to their larger counterparts. The bias of the improved crop production technology in favour of larger categories of farms with better resource endowments would change rather revert through integration of improved crop and milk production technology in favour of marginal and small farms. The increased income and employment position on lower categories of farms would solve the problem of disparity and bring about a growth in rural sector with equity.

Sharma (1990) highlighted the analytical study of Punjab agriculture. The author concluded that in order to enable the impact of diversification efforts realized in near future, the following need to be done on priority basis: (a) added research emphasis should be given on suggested alternative crops for evolving high yielding pest-resistant varieties. This requires sufficient allocation of funds in respect of these crops. (b) Low cost technology for suggested alternative crops needs to be identified. (c) The possibilities of inter-cropping in the suggested crop alternatives along with specific agronomic requirement need to be worked out for various agro-climatic regions of the state. (d) Arrangement should be made to ensure adequate supply of good quality seeds/ healthy nursery plants. (e) Remunerative support price policy for suggested crop alternative should be introduced. (f) Since the adoption of improved technology for alternative crops requires higher degree of technical skills, there is, therefore, a strong need for strengthening the organizational set up of extension services in this direction. (g) Crop insurance scheme against natural calamities, insect-pests and diseases should be introduced. (h) More agro-based industrial units should be introduced in the state. (i) “Apaani Mandi” scheme recently introduced in the state on limited scale should be expanded to reduce wide market margin between the consumer and producer price in the sale of fruits and vegetables, etc. (j) Since the alternative crop enterprises are relatively more capital intensive, financial institution should, therefore, extend liberal credit facilities to the farmers for the adoption of these enterprises.

Shaik et. al. (1990) studied the impact of watershed management on crop diversification at black soil semi-arid region of Chevella watershed in Medak district of Karnataka state so as to estimate the level of crop diversification and productivity of crops due to diversification under this watershed management. The author inferred that watershed management at Chevella and Mittermari had made clear impact on crop diversification which had become kingpin in establishing the farm returns of dryland farmers in addition to minimizing the risk involved in dryland agriculture in these regions.

The economics of diversification of farming with dairy enterprise has been examined by Throve and Galgalikar (1985). The authors found that the crop enterprise combined with dairy animals had a positive impact on the income of all size groups.

In another study, Walker and Ryan (1990) examined the factors effecting crop diversification in India in semi-arid tropical areas and found difference in resource endowments, draft power availability, extent of irrigation, and extent of farm size as the major determinants of the extent of crop enterprise diversification. The study also found that farmers diversify their portfolio to crop enterprises to minimize the risk and smoothen the income and consumption levels.
Conclusion

In India, the concept of diversification was assigned high priority particularly in the implementation of Ninth Five Year Plan, which has trusted upon diversification of farm plans to produce export oriented agricultural products. It is, therefore, natural that diversification of rural economy including agriculture has engaged the attention of scholars and policy makers in the recent past, as is evident from the ever proliferating literature.

In the studies reviewed, it was found that there was lack of empirical evidences on different aspects of diversification such as the extent and nature of rural diversification, effect of diversification on agricultural development, impact of diversification on income, consumption, employment and poverty of rural households, empirical relationship between diversification and socio-economic characteristics, factors inhibiting the process of rural diversification and so on.

All the above findings revealed that there is still ample scope to study the diversification of rural economy based upon micro data which will help the researchers and policy makers to frame policies for agricultural development in various states of the country.

References


**Author’s Profile**

**Girish Mahajan** did his BSc (Agril.), MSc (Agricultural Economics) and Ph.D. (Agricultural Economics) degrees from Himachal Pradesh Agricultural University, Palampur, Himachal Pradesh, India in the year 1992, 1994, and 1998 respectively. He has excelled in academics; won University Gold Medal during PhD. examination; secured first rank in MSc; got first position in the job oriented elective subject of “Banking, Marketing and Coperation in Agriculture.” Additionally, nine of his research papers have been published in journal of repute and several of his extension articles are published in “Giriraj Saptahik” and Krishi Vigyan Patrika. He has joined at Krishi Vigyan Kendra, Kangra, Himachal Pradesh, India as Extension Specialist in the year October, 2007. Presently, he is working as Assistant Scientist (Agril. Econ) in Krishi Vigyan Kendra- Hamirpur at Bara in Himachal Pradesh, India. He has 11 years of working experience in the field of extension. He had been involved in organizing events of the institution which provides technical extension services to the farming community. In addition, he is also providing advisory services to the farmers relating to marketing problems of selling fruits and vegetable crops in Hamirpur district.
The book under review seeks to provide a fundamental understanding of one of the most hotly-debated topics at International level – “Intellectual Property Rights (IPRs) and Food Security” in all its aspects. The book offers a well-researched defence and examines the tasks including the international bond linking IPRs, agricultural biotechnology, and access to biological resources, food security and globalization, paying meticulous attention to suggestions for the protection of Farmers’ Rights, traditional knowledge, GM crops and the impact of competition laws. It advises a number of proposals for action in installing IPRs in order to reach greater food security internationally.


Hunger is a weighty outrage to human dignity and human rights. It is an elementary limitation to progress, flues disagreement and fault, diminishes output and shortens the life span. At the inception of the Green Revolution, no deliberations had taken place regarding part which IP might play in agricultural modernization. It was largely, the advancement of the new biotechnology foundation upon genetic engineering which impetuous IP into the food security arena. Threading together of issues like Sustainable Agriculture, Effect of Trade specially Agreement on Agriculture, SPS Agreement, WTO Agreement on TBT, Agreement of TRIPS and others initiate on Food security and thereby locate the IPR within the bounce of food security strategies.

The debate on agriculture-proper subject for IP Protection considered the principle categories of IP that are pertinent to food security specifically PVRs, patents, industrial designs, trademarks, GIs, confidential information, copyright and database rights. The international setting of Intellectual Property and the looms taken to the affiliation among IPR, agricultural biotechnology, access to biological resources, food security and globalization, that are managed by the WTO, FAO, CBD and WIPO among the diverse international and development groups highlighted.