CHAPTER I
INTRODUCTION

Agriculture is the most important human activity throughout the world. Commensurate with all the advances in technology, it is still the only reliable source of food and an important source of fibers and other products, whose synthetic substitutes are often not good as the natural products and/or more expensive to produce. Development of agriculture is indispensable for the development of a nation and even the mankind. Considering this, many distinguished economists from time and again have emphasized and reiterated the role of agriculture in the development of a country. Eminent economists like Leibenstain H., Lewis W.A., Johnston B.F. and Mellor J.W. have emphasised the importance of agriculture for economic development (Leibenstain, 1957; Lewis, 1954; Johnston & Mellor, 1960). Development of agriculture also facilitates the development of secondary and tertiary sectors. A country can withstand any upheavals if it is self-sufficient with food items and has sufficient raw materials to feed its industries.

In most of the underdeveloped countries, agriculture has been the major contributor to their national income and employment accounting for 40 to 60 per cent of national income and 50 to 80 per cent of the gainful employment of their labour force (Johnston and Mellor, 1960). Even now, it is the only source of livelihood for over 50 per cent of their population (Gardener & Tsakok, 2007). Indian economy is still considered as one of a developing economy where agriculture sector is contributing nearly 18 per cent to its GDP and provides employment to 49 per cent of its people (Government of India 2014-15. Economic Survey of India, 2014-15). Right from the Second Plan, efforts have been made by Government of India to diversify and transform the structure of the
Indian economy. Over the years, even though the relative dependence of the economy on agriculture sector has steadily declined, yet it is the largest source of employment and an important contributor to the overall socio-economic development of India (Government of India 2010-11. Economic Survey, 2010 -11). The green revolution of 1966-69 has helped considerably to improve the productivity of agriculture sector and to achieve self-sufficiency in food grain supply. However, slowly farming is becoming a less attractive occupation due to high cost of cultivation, low returns and uncertainty. Therefore, there is a need to study the area specific problems associated with the agricultural development.

1.1 Education and Agricultural Development

Education is vital for socio-economic development of a country (Kavari, 2000; Iihan, 2001). It raises productivity and creativity of people and promotes entrepreneurship and technological advances. Education and training enable the development of agriculture as well by influencing the agricultural practices. In India, majority of the farmers (85%) belong to marginal category owning, around 45 per cent of the total operational holdings, while 15 per cent of the farmers with medium and large size holdings together own around 55 per cent of the operational area (Government of India. (2010-11).

Agricultural practices widely differ from country to country, region to region, place to place and from farmer to farmer. It also changes over a period within the same area or region or country due to the demand or due to dynamic factors influencing agriculture, such as changes in technology or research findings of soil suitability, availability of additional or alternate sources of irrigation. The green revolution, which started in India during 1960s, has helped in bringing remarkable changes in agricultural practices. Farmer is the pivotal force for agriculture development being responsible for the
selection of crops and animal enterprises suitable to his farm for getting optimum
returns from cultivation. Agricultural practices do not come by chance but are chosen
by the farmers depending on various factors, such as geographical location and
prevailing natural conditions, soil and water resources, pattern of crop demand, market
accessibility and past experiences. Hence, to understand agricultural practices followed
by the farmers, there is a need to study the farmers’ socio-economic background such
as. educational level, family size and size of land holdings, organizational participation,
family income and asset structure of farmers (Ahmed T., 2006).

The planners and administrators have realized that the resource-poor farmers have not
been able to fully adopt the improved technology from time to time. To develop
technologies more relevant to these types of disadvantaged farmers, Government of
India has introduced various farmer enrichment programmes from time to time, such as
National Demonstrations Operational Research Projects, Lab-to-Land and National
Agricultural Research Projects. However, these programs could not help to completely
overcome the problems of marginal and small farmers who are socially and
economically backward. Resultantly, the productivity did not considerably increase due
to the lack of proper awareness about the innovations, improved technology, lack of
resources to purchase the required inputs and continuation of the use of inappropriate
technology (Mosher A.T., 1966).

Use of modern agricultural inputs requires adequate information, knowledge, training,
etc. Educated farmers can make use of all the inputs in a better way than illiterate or
less educated farmers and are also capable to estimate and analyse the costs and benefits
of cultivating different types of crops. How far educational level of farmers can
influence agricultural practices is needed to be understood for taking appropriate action
to improve agricultural productivity. Education is found to have significant impact on
agricultural development (Dey, 1978; Tilak, 1979; Mook, 1981; Azhar, 1981; Jamison and Lau, 1982; Weir and Knight, 2000; Weir and Woldehana, 2003; Zavalc, Mabaya and Cristy, 2005; Gullacher, 2008; Kumar, 2008; A.C. Egun, 2009). The studies conducted at the international level (Shultz, 1964; Greshon et al, 2003; Thomas, 2005; Hendrick and Kumar, 2008) as well as in India (Milton and Wallace, 1982; N. R. Ravi Prakash, 1989; Singh and Narendra, 1995; Atibudhi and Sahoo, 2000; Gaonkar, 2000; Malk, 2000; Mishra and Hossain, 2000; Ramanmurthy, 2003; Laxmi and Mishra, 2007; Pawde et al, 2011; Makwana, 2013) have focused on the influence of education on agricultural practices. Some studies have found the influence of education on the type of crop cultivated by farmers (Saini, 1963; Hiremath, 1989; A. Narayanoorthy, 2000; Awasthi et.al, 2000; Surabhi and Pradyuman, 2000; Bhosale, 2000). Thus, the studies reviewed reveal that, education has an impact on economic development, agricultural productivity and agricultural practices. However, in Goa, intensive research on impact of education on agricultural practices is not found. Considering this, the present study attempts to throw light on the link between farmers’ education and agricultural practices in Ponda taluka of Goa.

1.2 Aims and Objectives

The prime aim of the present research is to study the influence of farmers’ education on adoption of agricultural practices in Ponda taluka of Goa.

The specific objectives of the study are:

1. To get an insight into the agricultural scenario of Goa with special reference to Ponda taluka.

2. To study the socio-economic status of farmers visa-a-visa their levels of education and size of land holdings in Ponda taluka.
3. To review the changes in the pattern of cultivation of crops over a period in Ponda taluka of Goa, and to identify the changes in the cultivation of various crops by level of education and size of land holdings.

4. To assess the reasons for shifting cultivation from low value crops to high value crops by the farmers in the taluka.

5. To empirically analyse the existing agricultural practices and its relation with levels of education of farmers in the study area.

6. To estimate the cost of inputs, productivity and net average income from the main crops grown in the study area.

7. To ascertain the views and ideas of farmers required for the improvement of agriculture in Ponda taluka.

1.3 Hypothesis

The study hypothesises that,

1. There is a positive relation between the level of education of farmers and the cultivation of high value crops.

2. Farmers prefer to undertake cultivation of non-food grain crops rather than food grain crops.

3. The rate of return in the cultivation of non-food grains is more than that of food grain crops.

1.4 Sources of Data and Methodology of Study

The present study confines itself to the investigation of relation between education of farmers and different agricultural practices in Ponda taluka of Goa. The term agricultural practices are used in a broad sense. It not only includes the methods in
which agricultural activities are carried out, but also reveals the proportion of area under
different crops, rotation of crops, area under double cropping, use of different inputs in
production process, farm management system, costs and benefits of producing different
crops.

For this purpose, the study makes use of both primary and secondary sources of data.
The primary data is collected directly from the selected farmers (sample) of Ponda
taluka through a structured questionnaire. The study collected required information
from about 5 per cent of the farmers of the taluka by using stratified random sampling
technique from across the village panchayats.

The secondary data has been obtained from various published and unpublished official
sources e.g. the relevant information were collected from Zonal Agricultural Offices at
Ponda and Valpoi-Goa, Directorate of Agriculture, Economic Survey of Goa,
Directorate of Archives and Archaeology, Directorate of Settlement and Land Records,
Govt. of Goa, Panaji, Goa; Economic Survey of India, Indian Council for Agricultural
Research (ICAR), Old Goa Centre, Directorate of Census Operations, Govt. of India,
Panaji, Goa.

The collected information was analysed by using appropriate statistical techniques like
mean, correlation coefficient. The collected data have been presented in the form of
tables and graphs. The hypotheses of the study are tested by using Chi square technique.

1.5 Importance of the Study

It is universally accepted that agriculture is the backbone of Indian economy. However,
a vast majority from the modern generation is withdrawing from agriculture due to less
attractive income generation, uncertainty, more physical effort, etc. Goa having very
small proportion of its territory suitable for agriculture depends on other states for
supply of essential commodities such as various agricultural products, viz. food grains, vegetables, spices and condiments and especially milk. To improve the agriculture sector and to make it more attractive, it is essential to know the problems associated with the ongoing farming practices and the problems faced by the farmers and to remove the impediments and bottlenecks coming on the way of agricultural prosperity.

With the notable improvement in educational infrastructure, the literacy rate and educational level of people have improved considerably in the state. Therefore, it is pertinent to know the impact of educational achievements on agriculture sector, if any. Through the present study, an effort is made to analyse the impact of farmers’ education on agricultural practices and productivity. This would enable to understand whether improvement in the educational level of the farmers has any linkage with the crop combination or cropping diversity in Goa. The findings may motivate to bring the improvements needed to be introduced in the educational system or farming practices to make farming a sustainable, attractive and remunerative occupation. It will also help in knowing the needed changes in education, such as introducing vocational education in agriculture and allied activities, training programmes, etc. Based on the significant findings, broad as well as concrete suggestions can be made to bring improvement in agriculture and education sector in Goa. Moreover, synergy between these two sectors can be maintained.

1.6 Limitations of the Study

Any research endeavour encounters certain limitations for which the present study is not an exception. The present study has the following few limitations:

- For an intensive study of agriculture, the present study focuses only on one taluka of Goa due to the constraints of time and resources.
The findings of the research can be applicable only in such areas where similar type of physical and human conditions prevail, viz. geographical location and features and agro-climatic conditions and socio-economic profile of the farmers and existence of welfare oriented administration like in Goa.

The information given by the farmers may have limitations of accuracy as the farmers might not have maintained proper account of various details pertaining to the quantity and cost of inputs used, income generated, etc. Hence, the information provided by the farmers may not be cent percent accurate. Moreover, there are possibilities of reporting errors by the sample respondents.

The data on different aspects of agricultural practices relate only to Ponda taluka and specifically for the year, 2013-14. Hence, the validity is area and time specific and subjected to changes over time and space.

1.7 Scope for Further Research

The study is a humble beginning and expected to facilitate further and detailed investigation into various matters related to agriculture development either at micro level or macro level. There is a lot of scope for further research relating to the analysis of the contribution of education for agricultural development by extending the study to cover some other region in the state of Goa or in any other part of the country.

1.8 Chapter Scheme

The study is presented in Seven Chapters.
Chapter I: Introduction

The chapter I provide an introduction to the study. It highlights the role played by agriculture sector in the development of a nation and also the link between the education and development of agriculture. It deliberate on background of the study, research questions, hypothesis, objectives of the study, sources of data, sampling design and methodology, significance, limitations of the study and scope of the study for further research.

Chapter II: Review of Literature

In this chapter, review of some of the past studies related to the proposed study is undertaken with a view to find the important and notable contributions made either in Goa or other regions of India and other countries. An attempt is made in this chapter to review some of the literature relating to agricultural practices and farmers education. The review of literature provides valuable knowledge about the present study carried out in other regions and also provides some clues regarding the gaps in the studies already made, which enabled to work out a framework for the present study.

The first section reviews the link between education and economic development, second section deals with the relationship between education and agricultural productivity and the third section reviews the impact of education on agricultural practices. The first section explains the relation between education and economic development. Second section, deals with the studies conducted on the relationship between education and agricultural productivity. Both these sections are subdivided into studies undertaken at (i) the international level and (ii) at the national level. The third section reviewing the impact of education on agricultural practices is divided under two heads as (i) Studies explaining the influence of education on agricultural
practices at the international level and (ii) Studies explaining the influence of education on agricultural practices within India. Studies explaining the influence of education on agricultural practices within India are again subdivided as (a) studies explaining the impact of education on adoption of technology and (b) studies explaining the relation between education and the cultivation of particular crop. At the end, concluding observations are drawn from all the reviews which summarizes the views of the eminent economists regarding the impact of education on agricultural development, agricultural productivity and agricultural practices.

Chapter III: Sources of Data, Sampling Design and Methodology

This chapter includes detailed information about how the research problem is addressed. The sources of primary and secondary data, sampling design and methodology of the study are deliberated in this chapter.

Chapter IV: Status of Agriculture in Goa

This chapter throws light on the performance of agriculture sector in Goa from 1961 onwards, i.e. after Goa became liberated from the Portuguese colonial rule and got integrated with Indian Union. It explains the geographical location, socio-economic status as well as status of agriculture in Goa. Data pertaining to the land use pattern, the type of crops cultivated, total production and productivity of land, etc. in Goa are analysed. While explaining socio-economic status, an attempt is made to compare the factors determining socio-economic status of Goa with that of the country. Efforts are made to explain the trend in the development of agriculture sector from the period of Portuguese rule in Goa. The existing pattern of land utilization is shown with the help of a table. An attempt is made to explain the trends in agricultural productivity and recent development in agriculture sector of Goa. The trends show that, there is
considerable increase in production and productivity of agricultural sector in Goa. However, it indicates that, the increased production is not sufficient to meet the demand of the State for agricultural products. Due to increasing labour costs, cultivation of field crops especially paddy is becoming unprofitable. Farmers of the state are therefore increasingly taking up the cultivation of horticultural crops.

Chapter V: Farmers’ Profile in the Study Area

This chapter highlights various features of the study area, i.e. Ponda taluka of Goa. The chapter begins with a brief introduction to Ponda taluka and focuses on the socio-economic features of the farmers in general and sample farmers in particular. The present study has considered variables such as level of education, size of land holdings, family size, type of family system, type of land holdings which enables to understand the contribution of these variables for the status of agriculture in the sample area.

Chapter VI: An Empirical Analysis of Impact of Education on Agricultural Practices and Productivity

This chapter focuses on the main content and findings of the study. It deals with the analysis of impact of education on agricultural practices and productivity and shows the impact of the level of education on agricultural practices and quantum of production. The chapter is divided into five sections. The first section analyses the types of crops grown by farmers. The second section discusses the earnings of farmers by level of education and size of land holdings. Third section deals with an analysis of cost of production, yield and income earned from the cultivation of different types of crops. In this section, efforts are made to find out the correlation between the level of education and various aspects of production. It is found that farmers with higher levels of education devote higher proportion of their land for the cultivation of non-
food grain crops. It is also found that all farmers with every level of education earned higher income by the cultivation of non-food grain crops than that of food grain crops. The fourth section reviews various factors directly and indirectly affecting agricultural activity and views of farmers while the fifth section deals with the testing of hypothesis.

Chapter VII: Summary and Conclusion

This chapter deals with major findings of the study, summary of the study and conclusions derived from the study. Suggestions are made in the light of the issues that have been raised through the study. It also gives an account of the limitations of the study and enlists the scope for further research and enables the academician and policy makers to formulate and implement appropriate policies for a balanced, integrated and overall agricultural development especially in the State of Goa.
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