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RISK PERCEPTION AND RISK MANAGEMENT STRATEGIES BY FARMER S IN AGRICULTURE SECTOR OF PAKISTAN

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Abstract

The present study focuses on the risk perception and risk management strategy used by Pakistani farmers in agriculture sector. Agriculture activities are the basic source of revenue and play an important role in the growth of its GDP. The sector helps to provide the gainful employment to a large percentage of population especially in Pakistan. Farmers are always operating under risky conditions. They have to face many risks and uncertainties arising from natural, economical and social environments. The more the farmers would learn about risk possibilities and risk management tools available to them, the better they will be in a situation to cope with it. The basic purpose of research is to provide the pragmatic insights that how farmers in Pakistan perceive and manage the risk. Farmers in the districts of south Punjab will be targeted through conducting detailed interviews and using questionnaires by asking questions about specific issues. Moreover, literature will be reviewed for its application in risk perception and management by farmers. Research findings can be helpful in developing an integrated risk management strategy framework, which will prove beneficial for agriculture sector in Pakistan.

Key words**:** *agriculture, risk perception, risk management*

INTRODUCTION

Agriculture and other related activities are the major source of revenue and living for developing countries, especially in rural areas. It plays an important role for improvement in GDP. But the biggest issue is that agricultural production is exposed to a variety of risks and can vary based on certain situations and other related conditions. The basic reason of huge risk factors is because of high dependence on natural environment like temperature deviation, crop disease, rainfall, pollution etc. and most important instability in prices due to changes in market conditions (Singla & Sagar, 2012). Sources of risk in agriculture can be classified as "business risk" (crop uncertainty, marketing problems etc) and "financial risk" (loans, funds etc) (Hardaker JB, 2004). Individual's perception of risk can highly influence their investment and business decisions. In this regard, farmers tend to use different risk management or risk avoiding strategies to minimize the influence rate. It is important to fully understand farmer's risk predictions and that how it can affect their behavior in order to develop and maintain sustainable business and to use effective programs and policies which can be implement at desired level. (Krogmann, 2001).

Few things in nature are certain (Williams, 1999). There are occurring constantly changes in weather and competitive forces, that's why it keeps future always uncertain and unpredictable. Further, he claimed that risk is a very extensive subject because everything we do has an element of risk.

Ellis, in 1998, identified four types of risks: natural risks (weather, pests and diseases), market fluctuations (input and output prices), social uncertainty and state actions. Most analysts state the difference between risk and uncertainty on the assumption that these are biased issues based on the decision maker's personal point of view about certain happenings. Production for a specific yield highly depends on "biophysical factors" (rain, type of soil and its quality, diseases and pests), input prices, availability of resource and specific consumption requirements (Korir, 2011).

It is necessary to clearly perceive the associated risk and utilize a useful strategy to cope with it in time (Hess, 2002). As, he states that due to poor risk management, it can direct towards a decline in farmers' earnings and as a result can lead to sale of their resources, use of savings or a decrease in living standard. with no use of formal techniques to manage risks, farmers might be invest less, might not implement advance farming tools and resort to take low risk, low capitulate strategies which affects overall production and prices (Sarthak, Cole, & Tobacman, 2010).

Farmers and other participants in agriculture business can handle the several sources of risk before or after the happening of an unfavorable incident with the help of using "ex ante" and "ex post" strategies (Singla & Sagar, 2012). Farm size, age, innovativeness and risk aversion determine the alternative option of risk management strategy by farmers (Pennings, 2008). The identification of the sources of risk is important because it helps to choose the appropriate management strategy. Different farming systems and methods, the ratio of agricultural income to total family income, as well as the size of land, differentiates their risk response.

Farm enterprise diversification is used to cope against yield and price risk, disease and pest attacks and as well as weather variations. Farmers also adjust the level of inputs and output in order to manage risk (Ellis, Household Strategies and Rural Livelihood Diversification., 1998)

Natural hazards can be managed by irrigation, crop insurance and by growing resistant varieties. Market risk can be managed by price stabilization programs, provision of in-time information and credit subsidies.

MATERIALS AND METHODS

Self-administered questionnaire was used to collect primary data. As mostly farmers in Pakistan are illiterate that's why questionnaire was translated to them in Urdu to get appropriate response. The survey covered questions regarding different types of farming activities like rice, wheat, potato, sugar cane etc. Appointments were made with farmers and interviews were conducted door-to-door especially in rural areas to be get sure about certain queries. The questionnaire included questions regarding following issues: risk attitude and sources of risks; possible risk perception strategies used by farmers; their basic goals and objectives to highly utilize their business. Some questions were asked to measure demographic characteristics of farmers like education, land size, yearly income, family size etc. 5-point likert scale (ranging from 5=strongly agree; 1=strongly disagree) was used to measure the response. Sample size was 200.

RESULTS AND DISCUSSIONS

In order to identify major sources of risk and strategies used by farmers, descriptive analysis was used to measure the results. Questions were asked about production, marketing, human, financial, political and social risks (Ahsan, 2010).

It was analyzed that production risk is considered as most important by farmers. It is consists on weather variations and crop diseases. Almost, 62% respondents reported it as a major risk. Regarding market-related risk, fluctuations in demand and prices of crops were highly ranked. Survey results show that variations in input prices play an important role in creating risk. Institutional risk related to changes in economic and political conditions were ranked at third level.

Farmers were asked to rate different types of risk management strategies according to their products. Produce at lowest possible cost was considered the most important risk management strategy.

Liquidity and solvency were also found as important risk management strategies. Bardhan, in 2006, fFound the same observation regarding Indian dairy farmers.

Developing and maintaining good relations with government and implement advance business technologies were also considered useful risk management tools.

CONCLUSIONS

The results show that larger farm size and thus higher yearly productions increase the scope of contribution per hectare of farm and thereby increase the rentability of the farms.

The significant finding of this study is that farmers have a clear perception of various factors of risk related to their business, and they also keep on trying to have a clear strategy for how to handle those risks.

Results of this study could also provide some practical guidelines to policymakers for formulating and implementing effective policies and management strategies.

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