Abstract:

Agricultural activities continually exposed to various uncertainties. Types of varies risks menace security and welfare of farmers and rural households. Therefore, support from farmers and manufacturers against their revenue volatility leads to increased motivation and produce. Hence, implementation of agricultural insurance policies is one of the most important government programs for risk management in agriculture. But common insurance problems in country based on the crop yield reduction. One of the recent and famous successful policies of agricultural insurance is revenue crop insurance. Revenue insurance manages produce and market risks simultaneously and it can designs for spatial crop or multi crops. In this study attempted to design the pattern of crop revenue insurance and multi-crop revenue insurance for select crops in Sistan region. After that was used from prices at farm and average region yields in the years 1362 to 1388. Then was applied parametric approach for recognition and simulation distribution probability risk. In this study was employed Gaussian copula function for determining joint probability density distribution and then simulated it by Monte Carlo technique. As a result expected indemnity for wheat, barley and alfalfa revenue insurance in 1389 at 90% coverage level obtained 1278.2, 1154.7 and 4377.5 through revenue guarantee and simulated revenue. With assist of multivariate simulation techniques and copula function, expected indemnity for multi crop revenue insurance for wheat, barley and alfalfa obtained 6435.3 thousand rials in hectar at 90% coverage level. In the result, expected indemnity and premium rate of multi-crop revenue insurance was lower than sum of indemnity or premium rate for all crop revenue insurance. Therefore crop revenue insurance is an appropriate alternative Instead of yield crop insurance and So multi crop insurance is sufficient option for revenue risk management.

Key words:
Revenue Crop Insurance, Multivariate Simulation Technique, Sistan

University of Zabol
Graduate school
Faculty of Agriculture
Department of Agricultural Economics

The Thesis Submitted for the Degree of Master of Science.
(In the Field of Agricultural Economic)

Designing revenue crop insurance plan using multivariate simulation technique in Sistan region

Supervisor:
Dr. A.R. Karbasi

Advisor:
Dr. M. Sabuhi Sabuni

By:
M.A. Roshanfar

February 2011