ASSESSMENT OF COPPING MECHANISM OF FARMERS TO MITIGATE DISASTER DUE TO CLIMATE CHANGE IN CHHATTISGARH PLAIN

O.P. Parganiha*, M.L. Sharma and H.K. Patra

Dept. of Agril. Extn., IGKV, Raipur (C.G.)

Received-13.01.2015, Revised-28.01.2015

Abstract : Agriculture places heavy burden on the environment in the process of providing humanity with food and fiber, while climate is the primary determinant of agricultural productivity. Given the fundamental role of agriculture in human welfare, concern has been expressed by federal agencies and others regarding the potential effects of climate change on agricultural productivity. To examine how farmer's have been mitigating to disaster due to adverse effect of climate change. The present study was conducted in plain zone of Chhattisgarh state in the year 2013-14. For the purpose, 240 farmers of Chhattisgarh plain were interviewed. Based on the results of the interviews most of the farmers (about 90%) mentioned that they faced drought and erratic rainfall as disaster during previous 15 years. Majority of the affected farmers (about 50%) reported that their income and yield reduced due to flooding or heavy rainfall. In case of erratic rainfall, drought and frost same losses had reported by most of the affected farmers. About 61.57, 23.78, 14.42 and 8.04 per cent of affected farmers said that they had lost their livestock due to drought, environmental pollution, erratic rainfall and flood, respectively. As regards to copping mechanism practiced by farmers to mitigate losses from disaster, majority of the farmers borrowed loan to mitigate adverse effect of frost (79.14%), erratic rainfall (72.09%), drought (60.19%) and flood (38.19%). However, poor and marginalized groups were unaware regarding climate change impacts and adaptation measures. Thus, these measures were found to be event specific based on local knowledge and innovations, and not actually to cope with the impacts of climate change.

Keywords: Climate, Disaster, Farmers, Chhattisgarh

REFERENCES

Fischer, G., Shah, M., Francesco, N. and Van Velhuizen, H. (2005). Socio-economic and climate change impacts on agriculture: An integrated assessment, 1990-2080. *Philosophical Transactions of the Royal Society* **360**: 2067-2083.

Funk, C., Dettinger, M.D., Michaelsen, J.C., Verdin, J.P., Brown, M.E., Barlow, M. and Hoell, A. (2008). Warming of the Indian Ocean threatens Eastern and Southern African food security but could be mitigated by agricultural development. *Proceedings of the National Academy of Sciences* **105** (32): 11081-11086.

Lobell, D.B., Burke, M.B., Tebaldi, C., Mastrandrea. M.D., Falcon. W.P. and Naylor, R.L. (2008). Prioritizing climate change adaptation needs for food security in 2030. *Science* **319** (5863): 607–10.

McCarthy, J.J., Canziani, O.F., Leary, N.A., Dokken, D.J. and White, K.S., eds. (2001). Climate

change 2001: Impacts, adaptation and vulnerability. Cambridge, UK: Cambridge University Press.

Parry, M.L., Canziani, O.F., Palutikof, J.P., Van Der Linden, P. J. and Hanson, C.E. (2007). Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom.

Pashupalak, (2009). Climate change characterization of Orissa. Paper presented at the national seminar on "Climate change issues and Mitigation priorities" held at Bhubneshwar on 28th Feb. 2009, organized by Satyasai Charitable and Education Trust.

Wolfe, D.W., Schwartz, M.D., Lakso, A.N., Otsuki, Y. Pool, R.M. and Shaulis, N.J. (2005). Climate change and shifts in spring phenology of three horticultural woody perennials in northeastern USA. Meteorological Organization, Geneva, *Internat. J. Biometeorol.* **49**: 303-309.

*Corresponding Author