

Necessity of Applying Fuzzy Thinking in Technology Development Continuum (Emphasis on the Diffusion and Adoption of Agricultural and Rural Technologies)

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One of the main approaches for empowering small scale and family farmers is Technological development and utilization of the appropriate technologies, which eventually will lead to agricultural and rural development. A short review on technology development continuum in the rural sector (research and development, design and production, diffusion and dissemination, adoption and utilization and outcome appraisal), shows involvement of Extension and Rural Advisory Services across this continuum; however, that in some parts of the continuum is much weaker and unimportant, but facilitating the process of agricultural and rural innovations diffusion and adoption is the original mission and the most important task for Agricultural Extension Agencies and Rural Advisory Services. Many studies showed the failure of reaching this critical mission. In the view of researchers one of the important causes of this failure is that Extension and Rural Advisory services considerate and focused on a specific people of target group population. In fact dividing the population of target group in two absolute (crisp) category: 1) adopters of new technology and 2) rejecters of new technology, causes a large group of people and farmers that whom seem to don't have adopted new technology are denied and disadvantaged of next Extension and Rural Advisory Services help's or may not get desirable services. Therefore this analytical article firstly reviews the role of Agricultural Extension and Rural Advisory Services in the continuum of innovation development, then continues with a critical view of the bivalent approach in innovation diffusion and adoption models and patterns. At the end of article authors by appealing to some experiences and the results of past case studies about the Modern Irrigation Systems adoption (as agricultural technology) will show Necessity of applying fuzzy thinking in the different stages of the technology development continuum, especially in the agricultural technologies diffusion and adoption Phases.

Key Words: Agricultural and Rural Innovations, Fuzzy thinking, Technology Development continuum