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A Study on Techno-Economic Consequences in Adoption of Drip Irrigation System by Mango Orchard Growers of Junagadh District in Gujarat State

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The study was undertaken during 1997 with 3 dependent variables (innovation-decision process, techno-economic consequences and extent of economic gain) and 26 independent variables. The major findings were : (1) Majorities (56.57 per cent) of the respondents had medium level of innovation-decision in relation to drip irrigation system. As regards the stages of innovation-decision process followed by the respondents, majorities of them (82.29 per cent) were having awareness-knowledge about drip irrigation system and were found to have reached the persuasion (89.14 per cent), confirmation (88.57 per cent), decision (53.71 per cent) and implementation (51.43 per cent) stages of innovation-decision process. (2) Majorities (73.14 per cent) of the respondents were found to have medium level of techno-economic consequences as a result of drip irrigation system. The adoption of drip irrigation system had resulted in many changes not only in the farming aspect alone, but also in the socio-economic aspects. The system had contributed for a significant increase in area under fruit crops. Cropping intensity and cropping pattern had been changed in the farmer's fields with the inclusion of several fruit and commercial crops. Farm machinery/farm implements had also been increased and many farmers had diverted their cropped area to orchards. (3) Majority (71.43 per cent) of the respondents had accrued medium level of overall economic gain of drip irrigation system. Majority of the respondents had benefited by saving of water, weed control expenses and labour for irrigation and inter-culture operations. A little more than one-fourth of the respondents availed the benefit in respect of fertilizer economy. In addition to this, the respondents got the benefits of better yields, better fruit size, early maturity of fruits and higher market price of the produce under drip irrigation system. (4) A total of nine independent variables namely farm power, material possession, area under drip irrigation, area under mango orchard, irrigation potentiality, cropping intensity, annual income, attitude towards drip irrigation system and utilization of information sources together affected the change in techno-economic consequences to the extent of 73.39 per cent. (5) The most important economic constraints faced by the mango orchard growers in adoption of drip irrigation system were : high cost of spare parts, heavy initial expenses for installation of drip irrigation system and lack capital for covering entire area under drip irrigation system. Major technological constraints faced were : frequent clogging of drippers and microtubes, requires time to time attention for minor repairs, damage caused to the system by rodents and jackals and lack of technical know-how. Important administrative constraints being faced were : inadequacy and uncertainty in power supply, lack of after sale services from the company dealers, non-availability of spareparts at proper time with reasonable rates and lack of proper training. (6) Major suggestions offered by mango orchard growers to overcome the constraints were : provisions be made to purchase drip sets directly from open market, training be imparted alongwith drip irrigation sets for betterment of knowledge and skills, atleast five years guarantee be provided by company agents and drip sets be supervised by company agents, regularly. In addition to this, the respondents also felt that the propaganda about drip irrigation system be made through shibirs and film shows and multi-purpose sub-mains should be designed so as to use in different crops.

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