Sustainability of Farming System: Implication for Extension Educational Programming

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As the world population continues to grow geometrically, great pressure is being placed on arable land, and biological resources to provide an adequate supply of food while maintaining the integrity of our ecosystem. There has been growing concern about the environmental and health risks associated with modern agriculture. Overuse and persistent application of chemical fertilizers and insecticide beyond the recommended dosage adversely affected the Sustainability of Farming System (SFS). Agricultural systems have to not only produce crops, but they must also produce food that is safe to eat, and minimize ecological impacts. Within this framework establishing sustainable agricultural system is much more difficult than it would first seem. Environmental scientists give three criteria for sustainable agriculture. 1) It must feed the world's hungry today. 2) It must feed the world's hungry tomorrow. 3) It must prevent deterioration of soil and water. Sustainable agricultural practices facilitate SFS that help maintain environmental ecosystem diversity.

Purpose and Methods

The main purpose of this study was to assess SFS in corn growers’ farms and determine the growers’ farming practice behavior in respect to sustainable and unsustainable farms. This was a descriptive-correlational type of study. The corn producers of Central province in Iran made up the population of this study. By a completely randomized sampling technique, 346 corn growers were selected as a sample. A questionnaire was designed to gather needed data including growers’ professional, social, and economical characteristics; information regarding sustainable practice, and usage of chemical fertilizers, minerals, and pesticides; level of accessed technical information; and level of participation in extension educational programs. Sustainability of farming system was measured by adopting a technique and formula offered by Herzog, and Gotsch (1998).

Major Points and Lessons Learned

The result of the study indicated that majority of the farmers used the chemical fertilizers beyond the recommended dosage due to lack of proper knowledge and a false belief. This resulted in more than 58% of farmers’ lands being either partially or totally unsustainable. This implied that unsustainable farming behavior, particularly over fertilization, are widely practiced by farmers. About 41% of the respondents’ farms are considered as sustainable. The SFS was highly correlated with farmers’ technical knowledge. Also, the amount of accessed technical information showed to have statistically significant relationship with farmers’ SFS. Similarly, farmers’ level of participation in extension educational programs had strong association (r=0.62) with their SFS. The result indicated that the majority of the farmers’ technical knowledge was in “average” level. On the other hand, farmers’ age and level of formal education had a moderate association with their technical knowledge level. This implied that younger and more educated farmers were better situated to increase their technical knowledge level. This study confirms earlier national studies that showed farmer’s heavy usage of chemical inputs was due to farmer’s lack of proper understanding and knowledge. For this reason, the author concludes that farmers’ technical knowledge is essential to any sustainable agriculture practices.

Educational Importance

This study provided valuable information regarding how widespread unsustainable practices are among corn growers in Central province. Similarly, with respect to sustainable farms, information regarding corn growers’ practice behavior and their professional characteristics are realized. Extension program dealing with corn growers’ sustainable practices should utilize this information for educational purposes to promote sustainable practices in Central Province.