

# **Evaluation of Rural Sustainability Criteria of Dena County based on a Communication View: the Application of AHP**

**Nooripoor M.\***

Assistant Prof. of Agricultural Extension Rural Development, Yasuj University

**Shahvali M.**

Professor of Agricultural Extension and Education, Shiraz University

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## **Extended Abstract**

### **Introduction**

Nowadays, rural sustainability is one of the main issues of sustainable development programs in developing countries such as Iran. Of course not only it is useful to know rural sustainability criteria, but it is also more important to evaluate and prioritize them. Thus, based on a holistic view, this study carried out to categorize rural sustainability criteria more detailed than existent literature and then to prioritize the supposed criteria using Analytic Hierarchy Process (AHP).

### **Methodology**

The process of any development project is a communication process, because during this process, some development agents transfer different programs/technologies to customers via some communication channels. Today, the efficiency of such one way communication model is on question, so other alternative two way and interactive models are introduced. However the sub systems of new communication models are

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\*Responsible Author: mnooripoor@ymail.com

different from each other and also from past models, but three major subsystems are common between all of them. These subsystems are Production, Transfer and Implementation of new technologies. Also, with regard to communicative nature of development projects, it is necessary to introduce a comprehensive communication model to identify major components or sub systems of communication process. A lot of specialists have introduced communication theories and models. In this study, rural sustainability attributes were considered based on the basic Rogers and Shoemaker's communication model including "source", "message", "channel", "receiver" and "feedback. According to this view, sustainability elements included: Development organizations as sources, Sustainable programs (socio-cultural, economic-technical, and environmental) as messages, Communication media as channels, Customers (farmers) as receivers and Monitoring and evaluation (M&E) of development programs as feedback subsystems. Therefore, a rural development as a communication process will be more sustainable if there is more: organizational sustainability, sustainable programs, and effective communication channels, focus on real costumers, and appropriate monitoring and evaluation (M&E) system. Sustainability criteria (attributes) for each one of the above elements (aspects) were determined in 2 stages. In stage 1, attributes were obtained from literature review and analytic research. The results of the primary (analytic) study showed that attribute such as decentralization, investment on sustainable activities, more attention to rural youth and women via getting their participation or investment on their special businesses; using two- way interactive methods of training; biodiversity, minimizing the consumption of un- renewable energy sources, minimizing using pastures and natural resources, decreasing soil erosion; increasing the rate of active population, decreasing the rate of rural- urban migration, income improvement, health, nutrition, housing, employment, availability of recreational opportunities are some main sustainability attributes in different aspects. In stage 2,

a survey method was used in Dena County of the K&B province to determine the most problematic criteria for study area. For this purpose, a questionnaire including attributes obtained from the first stage was designed with close-ended statements and Likert-type scale answers. The face validity of questionnaire was verified by five subject matter specialists.

### **Findings**

A pilot study with 30 samples out of research sample was conducted. The reliability coefficient between 0.72 - 0.86 was calculated using Cronbach's Alpha reliability coefficient. Using stratified random sampling, 250 farmers were selected for this stage of the study. The respondents were asked to assess problematic rural sustainability attributes in the region. Based on the mean score and variance, rural sustainability attributes were prioritized for the region. Finally, AHP was used to identify ultimate priority of the selected criteria. The first stage of AHP is the development of decision tree. Decision tree is a structure that shows the relations between ultimate goal and level(s) of attributes. The second stage is Pair-wise comparison of attributes. Decision maker(s) judge(s) about the relative importance of attributes with respect to ultimate goal. They compare and weigh attributes using a bipolar scale from 1 to 9. AHP can be used either to prioritize alternatives and to select optimum one, or to prioritize criteria (attributes). Of course, no alternatives were considered in this study, because the aim of the study was to prioritize just criteria (attributes). The results of AHP showed that "reducing corruption" and "central monitoring" are the main criteria of organizational sustainability, also "youth employment increase" should be considered as the main social sustainability criteria. About environmental sustainability, "proper time of spraying" and "integrated management of plants' pests and diseases" are more important. Analysis of the results also showed that other rural sustainability aspects i.e. using proper

communication media, selecting real customers and effective evaluation- feedback system are generally poor in the study area and should also be considered seriously in rural sustainability programs.

### Conclusion

Based on the above mentioned results, it seems that a real refocusing of the programs such as research and extension activities should be followed in the study area especially in the context of the rural sustainability aspects and criteria. More detailed results are presented in the body of the paper.

**Keywords:** Rural sustainable Development, AHP, Communication, Dena County.

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