

Measuring the Effects of Released Urban Waste Water on Economic Instability of Savojbolagh Villages

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1. Introduction

Various studies show that developments which are not environmentally friendly are not sustainable. Realization of sustainable development hinges on pursuing economic growth and satisfying all the basic needs, along with keeping the necessary conditions for this status to continue (Alavizadeh, 2007). Instability is the option confronting stability. Instability subsumes the dimension of time. Instability is indicative of future threats which might be identified later in time. For instance, waste water, considering the amount of pollutants they contain, are a threat to the public health and the environment and can imperil the human health and its existence (Faraji, 2011). Thus, produced waste water contains various microbial, physical, and chemical pollution. The direct release of streams of waste water in human environment spoils the underground and the surface water sources and contaminates them. Due to the penetration of waste water, all the sources such as water, soil, and air would be contaminated. Besides, the plants, the marine creatures, and animals would suffer, too. Hence, they are endangered in various ways (Naghsinepoor, 1373). To this end, the present research aims to evaluate the effects of released urban waste water on the economic instability of Savojbolagh villages. Taking the mentioned points into account, it is hypothesized that there is a significant difference between the economic status of households who are subjected to waste water and the ones who are not.

2. Theoretical Framework

Instability is directly contrary to stability and is the statuses or conditions prevailing in the natural, social, economic, spatial, and the physical structures which lack the necessary interaction, leading to a settlement's inability to satisfy the needs of its habitants, which will ultimately make the settlement incapable of prolonging its evolutionary survival or make it problematic (Yari, 2008). In case changes are introduced at a rate that the system cannot respond properly, the system will lose the chances of its stability. Nowadays, the stability of the human

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existence is threatened by factors such as the technological change (innovation), the economic dynamism, the rapid increase in population, and the degree of environmental and social changes (Rezvani, 2004). Economic indicators and the process of economic policies' creation are inextricable and prosperity is based on a collection of related economic indicators such as the official and unofficial employment, unemployment, level of sources' rent, level of fair distribution, and that of survival in the local and global economy (Kazemi, 2001). Waste water is surplus liquid waste produced by industrial, agricultural, husbandry, urban, residential, hospital, and laboratory activations which are discharged into the water or the soil. Generally, waste water is composed of the bathroom and the kitchen sullage along with wastes that are usually a complex mixture of organic and inorganic compounds, the complete identification of components of which, in practice, is nearly impossible.

3. Method

The data for the present research was gathered through the document analysis and the field survey. To this end, two research groups completed a questionnaire: the first group comprised of heads of households that were subjected to the waste water and the second group included heads of households that were not subjected to the waste water in the area under study along with interviews with heads of households who had lived for 20 years in the villages under study. For analyzing the data, Mann-Whitney test and Morris matrix model were utilized using SPSS. The reliability of the study was confirmed with a Cronbach's alpha of 0.731. The research population comprised of two groups of households: Those subjected to and those who were not subjected to the waste water in 8 villages (Mahdiabad, Malekabad, Arababad Khosravi, Khosroabad, Gichagh, Vibag, Gazersang, & Ghochsar) of which 288 samples were selected according to Cochran's formula.

4. Conclusion and Discussion

The Mann-Whitney for economic indicators including the area under the cultivation of agricultural products, increase in livestock reproduction in the village, diversity of agricultural products, increase in the cattle products, willingness to invest in the village, housing satisfaction, and fertility of agricultural land is 5.764, 5.651, 5.724, 5.292, 5.820, 6.260, and 6.346, respectively; with a significance level of less than 0.05 ($p < 0.05$), therefore, there is a significant difference among the economic indicators of households subjected to the waste water and those who were not subjected to the waste water with a significance level of 0.095. For other indicators, considering the significance level of higher than 0.05 ($p < 0.05$) there is no significant difference between the households subjected to the waste water and those who were not subjected to it. The findings of the second matrix revealed that the indicators of income security, increase in cattle products and housing satisfaction with averages of 0.26, 0.27, and 0.32 respectively, are in the second place and have a high level of instability; indicators of increase in the area under cultivation of agricultural products, increase in livestock reproduction, automation of agricultural products, diversity of agricultural products, purchasing power, degree of land-use change, fertility of agricultural lands, investment outside

the village, and the job security with averages of 0.40, 0.47, 0.42, 0.42, 0.43, 0.43, 0.52, 0.56, 0.56, and 0.59 respectively are in the third group and have a moderate level of instability. Finally, the indicator of the degree of willingness to invest in the village with an average of 0.61 is in the fourth group with a low level of instability. The findings of the third matrix revealed that the indicator for the degree of willingness to invest in the village with an average of 0.39 is in the second group and has a high level of stability. The indicators of job security, investment outside the village, fertility of agricultural land, degree of land-use change, purchasing power, the diversity of agricultural products, the automation of agricultural products, increase in livestock reproduction, and increase in the area under the cultivation of agricultural products with the averages of 0.41, 0.44, 0.44, 0.48, 0.57, 0.57, 0.58, 0.58, and 60 respectively are in the third group with a moderate level of stability. The indicators for housing satisfaction, increase in cattle products, and income security with the averages of 68, 0.73, and 0.74 respectively are in the fourth group and have a low level stability. According to the studies, the findings reveal that for the economic indicators including the area under the cultivation of agricultural products, increase in the livestock reproduction in the village, diversity of agricultural products, increase in cattle products, willingness to invest in the village, housing satisfaction, and fertility of agricultural lands with Mann-Whitney values of 5.746, 5.651, 5.724, 5.292, 5.820, 6026.00, and 6.346 respectively and a significance level of less than 0.05 ($p < 0.05$), there is a significant difference among economic indicators of households subjected to the waste water and those who are not subjected to it, with a significance level of 0.095. For the other indicators, considering the significance level of higher than 0.05 ($p > 0.05$) no significance difference is observed among the households subjected to the wastewater and those who are not subjected to it. Identifying the average for the intended economic indicators among the two households (subjected to the wastewater and not subjected to it) revealed that the indicators of income security, increase in cattle products, and housing satisfaction, respectively, are placed in the group of instable indicators and in the villages under study. Regarding the two types of households, there is a significant difference regarding the released urban waste water which has the most effect on these indicators while has no influence on the other indicators.

5. Suggestions

1. In implementing the plans, priorities should be given to places where the waste water has created more problems.
2. Harsh laws should be enacted for preventing the release of sullage or the waste water in the villages.
3. Rapid implementation of plans for collecting and treating waste water, considering the fact that the waste water in these regions would be released to the ditches and the surface water which would cause pollution throughout Savojbolagh.

4. The activities of Water and Waste water Co., with regards to the waste treatment plants and related issues, should be in accordance with those of the municipality across Savojbolagh county.

Keywords: Sustainable development, Economic instability, Released urban waste water, Savojbolagh

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