

## On the Analysis of the Physical Effects of Equipping and Renovating the Paddy Fields in the Central Part Villages of Some-eh Sara- Guilan Province

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### Extended abstract

#### Introduction

Agriculture in developed countries is in line with other sections in moving towards economic growth and development. In developing countries, however, the life survival of an increasing number of people depends on agriculture and this number is on fast increase, and there are few job opportunities out of this section. The renovation and equipment plan of fields inspired by renovation school paves the way for farmers to move from traditional agriculture toward a modern one. Since the renovation and equipment plan of fields can influence villagers' socio-economic and physical structure of fields, this article tends to answer the following basic questions:

1. To what extent has implementing the renovation and equipment plan of paddy fields caused physical changes in the paddy fields of the region in the study?
2. To what extent has implementing the renovation and equipment plan of paddy fields influenced the application of machinery and planting mechanization of the fields in the study?

Based on the questions mentioned above, the research hypotheses are:

1. Implementing the renovation and equipment plan of paddy fields through unification, building water canals and drainages, and roads among fields has caused physical changes in the paddy fields of the region in the study.
2. Spatial change (geometric arrangement) of paddy fields in the renovation and equipment plan has caused more applications of agricultural machinery and planting mechanization.

#### Methodology

Based on the purpose of the study, this article is an applied one. Regarding methodology, however, it is descriptive-analytic. Considering the natural, social, economic, demographic, and cultural characteristics, the researchers chose 25 percent of 93 villages of central part based on classified randomization. This includes 24 villages in two groups of 12 villages, and then using Morgan table, 376 families were chosen as sample population for field study. Each group comprises 50 percent of this sample. To choose sample families, the method of systematic randomization was carried out.

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## Discussion and Result

Descriptive findings reveal that implementing the renovation and equipment plan of paddy fields has resulted in many physical changes in paddy fields. These changes include a decrease in the number of land pieces, the number of karts, reduction in the border areas of fields in hectare, farmers' further accessibility to roads among fields, and reduction in the areas of water canals and drainages in hectare. The rate of land reduced as a result of implementing the plan was different in villages, and the lands in the plan were not added to the farmers' lands.

First hypothesis: Implementing the renovation and equipment plan of paddy fields through unification, building water canals and drainages, and roads among fields has caused physical changes in the paddy fields of the region in the study. This hypothesis can be confirmed regarding testing hypothesis indices based on physical changes in lands under the renovation and equipment plan of paddy fields.

Second hypothesis: Spatial change (geometric arrangement) of paddy fields in the renovation and equipment plan has caused more application of agricultural machinery and planting mechanization. This hypothesis can be confirmed regarding testing hypothesis indices based on increase in planting mechanization in lands under the renovation and equipment plan of paddy fields.

## Conclusion

The results indicate that the implementation of this plan has resulted in reduction of karts and land pieces among land users, farmers' accessibility to roads among fields, and independent management of fields. And, this independent management has reduced fights among farmers. Similarly, due to these physical changes in paddy fields, mechanized agriculture is seen more in villages under the plan than the villages that lack the plan.

**Key words:** Renovation and Equipment, Kart, roads among fields, drainages, mechanization