Management of Land Consolidation Projects

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Abstract: Land consolidation (LC) is a complex process conducted to rearrange the land property, or more precisely, rearranging the parcel shape and position including optimization of roads and irrigation systems. LC includes a lot of activities provided in a very sensitive and unpredictable environment because it deals with land property and land owners (farmers) who could behave in concordance with their perception of land property value and their value system. Bearing in mind the long period of land consolidation projects, the land owners could change their initial opinion formed at the beginning of land consolidation projects’ realization. All these facts additionally increase the complexity of the land consolidation process. The lack of literature in the domain of leadership and management during the land consolidation process inspired authors to open discussion about that issue.

1. INTRODUCTION

Land consolidation is a complex lasting process with great importance and effectiveness in the domain of sustainable development (Wójcik-Leń et al., 2019). This process is also burdened by different sources of risk (Marinković et al., 2015) and with its specific characteristics (Nestorović, 2012). The main focus of literature related to land consolidation is directed at decision-making about project selection (Goran et al., 2021); integration of different assessments for land consolidation (Marinković et al., 2019) and cadastral municipalities ranking (Marinković et al., 2016). These researches imply that all steps in land consolidation projects are at risk and that the success of land consolidation projects is closely related to good leadership and good management (Trifković & Nestorović, 2017). Bearing in mind that land consolidation projects are realized under strict legal rules and principles it could be concluded that there is not too much place for managing land consolidation projects. The practice showed that this conclusion might be erroneous. To reduce the risks from the sources caused by unpredictable environment the authors state that establishing good management and leadership in the process of land consolidation could significantly contribute to the successful realization of land consolidation projects.

2. PROBLEM DEFINITION AND PROPOSED SOLUTION

Land consolidation may be considered as a process of transforming the actual state of land ownership and parcel shape to the more optimal one. In other words, it is necessary to transform the organization and shape of the parcel from the actual to the desired state. Figure 1 illustrates the transformed organization of parcels before and after land consolidation in Pirot municipality, Republic of Serbia.

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The transformation from the actual state to the desired state of parcel shape and organization is illustrated in Figure 2.

It is obvious from Figure 2 that after land consolidation the shape and organization of the parcel are changed significantly and a road network is also implemented. This illustration does not stress the complexity and potential problems during land consolidation project implementation but only shows the state before and after land consolidation. In order to illustrate the complexity it is necessary to investigate the environment of land consolidation projects. The land consolidation project is usually realized in the environment of legal regulation, participants (land owners), local authorities, technical resources, LC goals, and natural limitations. Figure 3 illustrates the environment of the LC project.
The participants as a part of the environment are the most complex factor of the land consolidation process. Before all, the abundance of participants, that could count thousands of participants in the certain land consolidation process and subjectivity of the valuation of their land property. Another problem is the level of uncertainty: participants enter their land property which they know well in order to obtain some benefits after land consolidation but with some doubt (risk) if they really will obtain promised benefits after land consolidation. This can be a source of obstacles that could lead to the decision that the LC project is unfeasible.

- Legal rules mean that some conditions must be fulfilled which means that some institutions must be formed and they must work according to law.
- Local authorities also are an important part of the LC environment because they should provide the logistics for LC realization.
- Technical resources are mostly related to the number of experts, knowledge, experiences, technical staff, and other necessary elements for LC realization.
- LC goals might significantly limit the choices of solutions during LC project realization.
- Natural limitations are related to the topography, permanent plantings, and other objects (roads, railroads, irrigation systems, rivers, etc.).
- The environment could be described as complex and potentially turbulent and unfriendly. Hostility of the environment might be caused by the level of uncertainty about the benefits of LC.

Most of the problems and activities in the LC process are structured and predictable. This kind of activity could be covered by general management principles: planning, organizing and control. The manager of the LC project shall take care of the logistics and regulated part of the process. The manager should be an expert in managing of LC project mostly in the domain of legal rules, and technical knowledge and shall be able to harmonize the activities. The unstructured problems are mostly connected with the process of negotiating and the unpredictability of participants’ reactions as well as with the appearance of problems that were unforeseen and could escalate. This analysis leads to the conclusion that including management and leadership in the project of land consolidation shall increase the probability of the successful realization of the LC project (Figure 4).

**Figure 4.** Relation between leadership, management and LC project

Considering the difference in knowledge and skills which shall have leader and manager it could be stated that both leader and manager shall have the same set of knowledge and skills but on a different level. For example leader shall be able to understand the context, shall be skilled in communication with external participants (farmers), and shall have human and social
knowledge. Technical knowledge about LC is desired for the leader but he is not expected to organize the work on site. Managers, on the other side, must be experienced and skilled in providing LC projects which implies technical knowledge, organizational skill, and knowledge about regulation in the domain of LC while human and social knowledge is of less importance. Figure 5 illustrates the leadership and management in LC projects.

![Leadership vs Management](image)

**Figure 5. Leadership and management in LC project realization**

Former discussion based on authors’ experience implies that LC projects are still not fully explored and that there is still a lot of area for investigation.

3. CONCLUSION

Starting from the fact that land consolidation (LC) is a necessary activity from different aspects (from increasing effectiveness of agricultural production to sustainable development issues) and its complexity authors were inspired to research the issue of leadership and management of LC projects. The results of theoretical consideration and practical experience imply that including principles of management and leadership in LC, projects shall increase the probability of their successful realization. This issue deserves further research because of the lack of literature and theoretical consideration.

References


