

MANAGEMENT PARTICULARITIES IN LAND RECLAMATION FIELD

Bogdan DUMITRU¹

Scientific Coordinator: PhD. Associate Professor Vasile ZECHERU¹

¹University of Agronomic Sciences and Veterinary Medicine, Faculty of Land Reclamation and Environmental Engineering, Marasti 59, 011464, Bucuresti, Romania, tel./fax. (+40) 21 3183076, E-mail: bogdanfdumitru@yahoo.com

Corresponding author email: bogdanfdumitru@yahoo.com

Abstract

The author treats the particularities of land improvements area from the perspective of management science. This article aims to define the land reclamation works, specific issues and foreshadows some solutions and approaches from a managerial point of view meant to internalize the added value and competitive advantage.

In the author's opinion, capitalizing the vast managerial experience from the last decades produced significant scientific accumulations regarding management of an organization based on concepts such as those related to performance, quality and environmental protection, etc . Therefore, a modern approach in tune with these requirements, makes the difference between a building well designed, efficient, economically profitable and one that is developing without perspective and without concern for control, performance and efficiency.

At the end of the article the conclusion is that a quality management applied in the field of land reclamation works is a prerequisite for success. In order to achieve a higher performance there is a severe need for management.

Therefore, management is the qualified process exercising the planning, organizing, coordinating, training and control without which you can't provide decisions, so necessary, and, also, through which organisations from land reclamation domain are fulfilling their specific missions .

Key words: *decision making, land reclamation works, management, organization, sustainable development*

INTRODUCTION

Through land reclamation works we understand the works made for the fields meant to protect, conserve and improve it. These targets sustainable development which must take into account the needs of this generation and of those who are to come, to use as much as possible a "green" technology of land improvements and at least try not to bring important changes to the area. These works aim to provide a satisfactory agricultural production and where possible, increase it. Land reclamation specialist must identify the land issue which makes it less profitable for agriculture and come up with effective solutions that have a low environmental impact. Solutions that produce serious and irreversible damage are not an option. These

works are performed, usually in rural areas, area of special importance great for society not only because of its dominant share but especially for its outstanding features. This space should be helped to develop using our science results but also to keep their ethnographic characteristics. In order to do that we need well defined projects, organization, capable leaders, coordination, a verification system and a efficient communication between land reclamation engineers and land lords, all these aspects are provided by a solid management. An agricultural land may have many flaws. The three issues that land can encounter, and which are found in our country as well, are:

(i)- the excess of water – which may come from rainfall and \ or from groundwater located

at a shallow depth, difficulty which can be remedied by draining drainage works. Another cause of excessive water are floods, situation which is remedied with works on rivers and damming. This situation is to be found on about five million hectares in our country, the land with small slopes (1-3%) and a high content of clay. Factors that cause water excess are both natural and anthropogenic. After draining the soil is more ventilated, microorganisms activity can take place in good conditions, physical and hydro conditions improve along with soil structure and its permeability. The plant root system can develop normally and healthy, chemical fertilizers are no longer washed away, hydrophilic plants are controlled, pests and diseases specific to areas with excessive water are prevented. (Sorin Cimpeanu, I. Plesa, 2001)

(ii)- water deficit which is caused by climate change in the last years is a problem increasingly harder to neglected, problem that can be controlled by applying a rational amount of irrigation. In irrigation it must be taken into account soil-water-plant-climate relationships and is necessary to understand the penetration processes, storage, movement, and loss of water in the soil. It also must be considered the plant vegetation stage depending on which it should be given a more or less amount of water. The best way to find ground water requirement is when the engineer goes on the field, takes a soil sample and he determines the water deficit in a laboratory. Ideal humidity range for the plant is between minimum threshold and field capacity thresholds which differ depending on soil texture. Irrigation norm is determined by the consumption and water loss of the plant, the initial and final water reserves in the soil, rainfall and groundwater contribution. Watering methods are determined by the ground level and the culture which is planted. The most common methods are sprinkler irrigation, dropwise and for rice using submersion. (Berca M. 2006)

(iii)- soil erosion - due to solar radiation and gravity on the Earth's crust occurs an inexhaustible kinetic energy which is keeping the soil in a constant transformation, both water and air contributing to this phenomenon. Agriculture shows interest mostly for the first 20-30 centimeters which represents the active layer of soil, layer where there are most of the nutrients that the plant needs. Annually in our country are lost an average of 189 tons / square km. This phenomenon is produced on slopes and in our country about five million hectares are affected by erosion and the phenomenon is strong on 1.2 million hectares. Obviously the most significant soil losses are recorded in mountain and hill areas, areas that have been deforested, irrational expolatete and on lands which although it was found that the soil erosion process manifests no action was taken. The main factors influencing soil erosion are slope of the land, slope length, vegetation and torrential rains. Methods to control this phenomenon are from the simplest such as plowing parallel with level curves, to their most complex and expensive such as embankments. (Constantin E., Maracineanu Fl., 2005)

Land reclamation works have their characteristic features:

- long operating life- tens even hundreds of years if exploited rationally
- high specific investment-With values that can reach up to eight - nine thousand euros / hectare
- the investment is recovered in a longer period of time- period can be up to 10-20 years
- have a complex character- must take into account all environmental factors when designing a work so as not to decrease the quality of water, soil or air in the area
- a work is done, usually in several agricultural areas - to decrease and split the investment and maintenance costs at the same time, for that it takes a collaboration between land lords
- rapid evolution in the concept design of facilities- when a new technology appears is adopted by the design engineers

- growth rhythm- the land reclamation works in the world are very sustained, unfortunately in Romania is not. (Dobrescu N. 2001)

Management is a science of its own. The most known and developed management science component is represented by the company management. The essence of management is represented by the study of relationships and management processes. The reason why the management field places a great importance to the company is because the firm is the environment where the management was born and in which most people of any country are operating. Management processes are characterized by the fact that some of the workforce acts upon the other party, the majority, in order to achieve a higher achievements. In practice management is based on two activities: the first is scientific management based on knowledge and appropriate application of technical and methodological elements provided by management science and the second part of the work is based on empirical management personality traits of the leader, the experience and the leaders intuition. Before the emergence of management science skills were the exclusive part of management work.

MATERIALS AND METHODS

Management process, according to Ovidiu Nicolescu and Ion Verboncu, can be divided given the nature of the tasks involved in his development and how to achieve in five functions:

1) Forecast - prediction is the management function that allocates resources according to an prediction on which the company can expect. The results are divided into three categories:
forecasts, are approximate and cover a 10 years horizon, not mandatory;
plans, have a horizon ranging between five years and one month and accuracy is inversely proportional to the horizon, are mandatory, basis underpinning the incorporated activities;
programs, their specificity being a low horizon thus a high degree of certainty. If the forecast function is exercised properly within the

organization will be noticed many improvements including: a systematic performance increase, a judicious allocation of resources, uncertainties and risks are reduced, and last but not least, the manager develops a forward-thinking, forward-looking and innovative way of seeing things.

2) The organization - Is the management function that establishes who and how they will do the job so that the company aim will be brought to the expected end.

In the organization delineates two main subdivisions: overall organization, part exercised by senior management of the company that is materialized by establishing the organizational structure and information system and organization of the main components of the company, is the component in which predominates quantity and is performed by the middle and lower management. Within a company can be distinguished two types of organization, the official one, clear, exact, known as formal organization and organizing that occurs naturally within each group, which is materialized through relationships, known as informal organization. Between these two there must be a balance for the organization to carry on the work under good conditions.

3) Coordination - It is represented by the economic agent dynamism reflected entirely in predictions and organizational system. To ensure effective coordination of proper communication is essential at all levels of management. This takes two forms : bilateral, conducted between a manager and a subordinate or multilateral, between a manager and several employees in the meetings. Coordination is the process by which the issuer, in our case the manager, send a coded message to one or more receivers ensuring that his subordinates understand the message, requesting feedback from them. „Coordination represents a set of processes through which work activities are harmonized, in order to achieve goals and avoid overlapping or non-coverage of important areas of action.” (Zecheru & Nastase, 2005)

4) Motivation - represents the set of processes wherewith the execution staff is convinced to carryout their duties. The instrument of

entrainment is represented by the motivation brought to the employee which can be positive or negative. The positive one is based on the amplification of staff satisfactions and the negative one is based on threatening the staff with the reduction of their satisfactions if the targets proposed are not achieved. Usually positive motivation is being used, because it is more efficient. A good leader is also a keen observer. He must deduce which are the impulses and factors that lead to higher efficiency of the employees and try, as much as possible, to provide them the necessary. If the employees are working in an environment that they enjoy the results will not delay to appear. The two main motivations to which employees respond positively are economical, depending on the effort made within the organization they receive salaries, bonuses and other benefits, and the second motivation is represented by merit recognition motivation at least as important as the first because, as Abraham Maslow observed in his famous pyramid of human needs, esteem and membership are more important needs than the physiological ones.

5) Managerial control - closes management process comparing obtained results with the objectives. It involves four phases: Measuring achievements; comparing achievements with the goals and standards established initially, highlighting deviations produced; determine the causes which led to any breaches identified and applying of the necessary measures. This is a mandatory function organized and led by the tactical and operational management. Control prevent irregularities and fraud, protects information assets and the quality and accuracy of records is very high. An important feature of this function is represented by the flexibility, feature that leads to a dynamic respond to problems that can occur within an organization. For increased efficiency, the evaluation-control function must be an ongoing preventive and corrective evaluating cause-effect process. (Vasile Zecheru, 2005)

Management system within an organization has *four main subsystems* :

1) Decision Making – the main subsystem of any management system. Its main components

are: the leader with the qualities, knowledge and skills that he acquired in time, developed decisions, decisional environment, issues that need to be solved and decision criteria for evaluating alternatives. The essence of leadership is the decision-making system output. To make a decision the manager can address the situation in two complementary ways, the first and most common is the rational way and the second one is an intuitive path that requires much imagination and divergent thinking from the manager.

2) Organizational – is the result of the organizational function. All the organizational type elements that ensure the framework, combining, splitting and functionality of the work processes in order to achieve the expected results. Forms of organization may be formal, firm's elements being established by the Regulation of organization and functioning or informal represented by elements of organizational character and human relations.

3) Informational system – both people and information are the most important resources for management. As the quantity and quality of information generated and used increases, the evolution and complexity of organizations is growing. A major contributing factor is that the informational system grows from day to day, computers enhancing their performance exponentially. All the informations obtained are processed to capitalize their full potential.

4) Methodological – the subsystem which brings together all the other systems, methods and techniques used within an organization in order to achieve high performance. Most common methods are: management through objectives, focuses on a rigorous formulation of the objectives and strictly monitoring the steps to fulfill them . Management through budgets, is used in many cases with management by objectives and is the method with which to establish the objectives and modalities of action according to the financial capital that the organization is willing to make available to achieve those objectives. Management through projects, is based on a temporary organizational structure, in order to achieve defined goals in a given period of time, approaches based on a strong innovative character. The main person in this type of management is the project manager

who must achieve the objectives in good condition and in the period of time established. Management based on the product represents the management system responsible for a specific product or product family. The manager has a relatively autonomous responsibility within the organization and it must assume responsibility for the product's evolution as far as capitalization. In land reclamation projects can be applied any combination of these methods in order to achieve good results. For various stages of construction can be applied different management methods and, in my opinion, If you use a balanced combination of these four methods you can achieve the results you want. (Vasile Zecheru, 2005)

RESULTS AND DISCUSSIONS

In the following I will be presenting the applicability of the management functions in a land reclamation project. Before a land reclamation project work starts, studies are made regarding the climate, the flows that are brought by rainfall and aquifer, the soil type, topography of the land, and anthropogenic factors that intervene on that agricultural areas so that the land problems that must be combated be foreseen as accurate and the efficiency of the arrangement to be as high. Works once started must be conducted in a logical order according to a well established plan from the beginning so that people, resources and equipment to be used to achieve maximum efficiency, eliminating as much as possible, dead times. Between the designer and the engineer in charge of the execution must be a permanent communication, communication after which they adopt the best solutions. Due to large design and construction periods or the occurrence of some factors that were not initially considered, a project may change and this requires bilateral coordination between the two engineers. If the project is to be operated over a long period of time and the work is to be executed at a great distance from their villages of origin, the workers who are on site need to have all necessary conditions for a decent life, from basic needs such as food, water, electricity, and temporary housing and places designed for their relaxation . At the end of the

week the workers are transported up in their settlements. In the final stage of a land reclamation project, the reception, all involved have the duty to check if they have done their part of the job well. Thus the reception represents all the verifications after is determined if the building project has achieved its purpose. At this stage every organ has his own duty: The Contractor aims that the work completed to correspond with the quality and quantity as prescribed and the work reimbursement to be made only on the basis of actual work in the field. The investor follows the evolution of the project thru his supervisors who always have to check the materials delivered by the manufacturer, all the documentation, records, samples and results of the quality control and have to ensure that the established functional parameters were touched. The designer aims that the work that has been executed under the technical and economical documentation, no change can not be adopted without his approval. The level of responsibility of the manufacturer decreases from the beginning until the end of its reception when he is no longer responsible for the work while at the end of the reception the owner has full responsibility for the work. The warranty period for irrigation and drainage works is 18 months.

CONCLUSIONS

Land reclamation works need to be designed and effectively implemented through organizations (institutions, companies, etc...) in which these works to be managed unified and coherent in terms of economic profitability. All of this can not be possible unless the organizations involved in such activities are conducted properly. In other words, the management of such organizations must be a competent and efficient one. In order to maintain themselves on the market, firms, implicitly the ones in land reclamation field must constantly adapt to the needs of the beneficiaries. For organizations in the field of land reclamation and equally for their management, streamline of the work processes, minimizing technological losses and improving their control systems are just some of main action directions. Gradually, such approaches

lead to a more efficient use of all types of resources, labor productivity growth or, generally speaking, such organizations obtain an advantage against the competition in their field of activity. Of course, for all this to be accomplished, the organization itself needs an efficient management team, genuine leaders, who know the precepts of the leadership science, deeply involved in their projects and thus fully motivated to achieve notable results.

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