Chapter 10

A Geo-Decisional Tool for the Management of the Agricultural Development Fund Under the Green Morocco Plan

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ABSTRACT

Within the agricultural strategy called Green Morocco Plan launched by the Moroccan government, the funds are allocated by the agricultural development fund to encourage investments. In this context, to manage the grant requests, the agricultural department uses an information system, which processes the files from their submission until the payment of the farmers. However, this system does not take into account the spatial data. This research aims to develop a geospatial model to study the distribution and dynamics of the allocated fund. Through this approach, policymakers will have a strategic key to survey the behavior of the spatial component, to manage funding applications, and to better manage allowed funds. The methodological approach adopted consists of carrying out a mapping of the real world identifying the needs of the future system and modeling the process of the geo-spatial tool. The result of the model will be used to develop and implement a spatial tool for policymakers to improve land information management related to the funded agricultural project.

INTRODUCTION

According to its objectives, the Green Morocco Plan (PMV) aims to redesign the process of farmer support to focus on real actors. To allocate financial funds as grants to farmers, the PMV Department of Agriculture has adopted and adapted a distinction on the type of actors. These grants are assigned within the framework of the agricultural development fund (FDA) to promote agricultural projects in various sectors according to the addressed needs of each category of farmers.

The addressed dossiers requesting funds are managed with an information system, which deals exclusively with data attributes. It does not, however, consider spatial data needed to locate clients. The spatial data would carry out the thematic map analysis to establish a frame for decision making related to requested grants.

The projected solution aims to implement a geo-decisional tool to meet the needs of the decision makers. It will provide an overall visibility of the land subject to these grants, as well as enhance information management between stakeholders.

The approach for developing the tool requires new platforms to enable high performance. This includes the following geo-spatial technologies: (1) geographic information system (GIS) to collect, visualize, analyze, store, and interpret data, as well as understand relationships (ESRI, 2014); (2) global navigation satellite system (GNSS) to provide autonomous geo-spatial positioning; and (3) remote sensing. GIS technology deals with both informational and functional aspects to represent, manage, and manipulate spatial objects' links to attribute data. The purpose of the system is to provide users and decision makers with a strategy to deploy, share, and update data to facilitate decision-making. It will also offer up-to-date geographic information related to the FDA's investment over the territory.

The adopted approach focuses on the development of four areas. The first evaluates existing organizational and procedural structures, adopted grants, existing tools, and corresponding data. This defines the needs of the expected solution. The second is related to the analysis of the first area's results. The third concerns the design and modeling of the geospatial tool in the object-oriented approach. The final key develops the strategy to implement the geo-spatial decision support tool to facilitate the management of FDA grants within the PMV.

The FDA was established to enable incentive investments of agriculture projects and promote farmers' ambitions. It has faced several reforms to meet PMV requirements.

When managing and monitoring requested grants, the department of agriculture uses an information system to generate summary reports, planned investments, and grant dashboards. However, the system does not provide spatial-related data although the spatial information may afford tools to increase control of grant eligibility. With spatial information, managers could establish a spatiotemporal analysis to clearly understand grant allocation and distribution. This approach would require new skills and high-performance platforms based on geospatial technologies, including GNSS and Web mapping tools.

The expected result of this research is to highlight potential offerings of spatial data to obtain answers to the following challenges:

1. Lack of spatial information in running systems
2. Thematic analysis based on summary reports and statistics
3. Absence of the spatial component in existing funding-request systems (existing systems focus on attribute data through computerized information systems)

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