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A Spatial Data Model Desing For The Management Of Agricultural Data (Farmer, Agricultural Land And Agricultural Production)

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Since the beginning of the 2000s, it has been conducted many projects such as Agricultural Sector Integrated Management Information System, Agriculture Information System, Agricultural Production Registry System and Farmer Registry System by the Turkish Ministry of Food, Agriculture and Livestock and the Turkish Statistical Institute in order to establish and manage better agricultural policy and produce better agricultural statistics in Turkey. Yet, it has not been carried out any study for the structuring of a system which can meet the requirements of different institutions and organizations that need similar agricultural data. It has been tried to meet required data only within the frame of the legal regulations from present systems. Whereas the developments in GIS (Geographical Information Systems) and standardization, and Turkey National GIS enterprise in this context necessitate to meet the demands of organizations that use the similar data commonly and to act in terms of a data model logic. In this study, 38 institutions or organization which produce and use agricultural data were detected, that and thanks to survey and interviews undertaken, their needs were tried to be determined.

In this study which is financially supported by TUBITAK, it was worked out relationship between farmer, agricultural land and agricultural production data and all of the institutions and organizations in Turkey and in this context, it was worked upon the best detailed and effective possible data model. In the model design, UML which provides object-oriented design was used.

In the data model, for the management of spatial data, sub-parcel data model was used. Thanks to this data model, declared and undeclared areas can be detected spatially, and thus declarations can be associated to sub-parcels. Within this framework, it will be able to developed agricultural policies as a result of acquiring more extensive, accurate, spatially manageable and easily updatable farmer and agricultural data throughout the country.