

Monitoring Land Use Changes and Determining the Suitability of Land for Different Uses with Digital Photogrammetry

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SUMMARY

Up until now, detailed investigation has not been carried out to identify the current land use pattern in Turkey. Due to lack of control and misdirection of authority, land use traditions have become a serious problem. The malicious implementation resulted in losses of forest land to other uses. This implementation has still been ongoing. However, the process have been overwhelmingly criticized by scientific authorities, because the converted land that should be left for forestry activities with respect to scientific criteria, has damaged natural environment and encouraged other potential landowners to try to claim ownership in forested areas as such. Digital photogrammetric techniques with high accuracy could be used to monitor land use changes occurred as a result of implementing the article 2B of the 6831 Turkish Forest Law by comparing old and new aerial images. With this method, the land subject to article 2B implementation could be reforested or reclaimed as a forest area by taking into account land use suitability pattern determined by scientific criteria. The same is valid for forestland lost before 1982. To implement the method successfully and display the result, a case study area was selected and evaluated based on the historical changes and land use capabilities of converted forest areas. The 1/35,000 and 1/16,000 scale panchromatic and infrared aerial images, taken in 1955 and 2002 respectively, were scanned with 21 and 30-micron geometric resolution. These images were interpreted by using photogrammetric software SSK by Z/I Imaging Inc. and some areas were determined analytically. The historical status of the 2B subjected forest areas (legally converted forest areas) were easily determined in digital form. Such approach could effectively be used elsewhere when the ground truth is ascertained and the land classified according to appropriate land use categories.