Land Management and Fiscal Cadastre Process Using Geo Information Science over the Darkhan, Mongolia

BATTOGTOKH DEMCHIG, Mongolia

Key words: land management, cadastral mapping, land taxation, geoinformatics on land administration

SUMMARY

Good practices and sharing experiences on good land administration and specifically address the challenges and difficulties in Mongolia.

Mongolia is the world's nineteenth-largest country with the territory of 1,565,000 km². Using the modern technologies like Remote Ssensing and Geo Information Science combining with e-learning distances are very important tools for better decision on Surveying and Land administration field.

Land related matters are of high importance not only in Mongolia, but also globally. Especially for the developing countries need good experiences and sharing knowledge.

Every country should have a formal system of registration for land and property rights in order to facilitate good governance and to provide secure ownership of land, investments and other private and public interests in real estate. Effective systems for registering land ownership, land values and land use are the foundation on which the efficient operation of a market economy depends and under in the sustainable and productive management of land resources.

Land administration sector of our country has reached new stage of development during the transitional economy and has been contributing tremendously to the intensive development of nation's society and economy.

Project involves following 2 phases:

-Land Management Fiscal Cadastre Phase 1 (2004-2007)

-Land Management Fiscal Cadastre Phase 2 (2007-2010)

The project covers advisory services in: transparent valuation methods for immovable properties, land management plan, updating of the cadastral and land registration mainly using GIS platform, providing information for users and public, amendments to the relevant legal framework, land survey work, development of mortgage market, e-learning and distance education and training for land specialists and countryside professionals.

Government of Mongolia started to privatize the land by law since 2003. Many works are implementing based on this privatization. Following works are implementing nowadays:

-Cadastral mapping using modern technology

-Analogue to digital conversion work

-Survey work

-Improve and educate professions

-Creation of national land information system

-Creation of valuation database based on real market price

-Training a human capacity and human resource in various field using distance and e-learning

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-Making land-related information more open, transparent and easy to access for the public

Darkhan-Uul province situated 220 km from the capital city. Currently works implementing with the project side over Darkhan including definition of land and public apartment market price criterion, valuation information is combined with digital vector layers, cadastral mapping and registration of project area, base data and data source information of parcels, land and valuation database process using Remote Sensing, GIS and computer aided technology with surveying. Various training courses implemented with public and specialists.
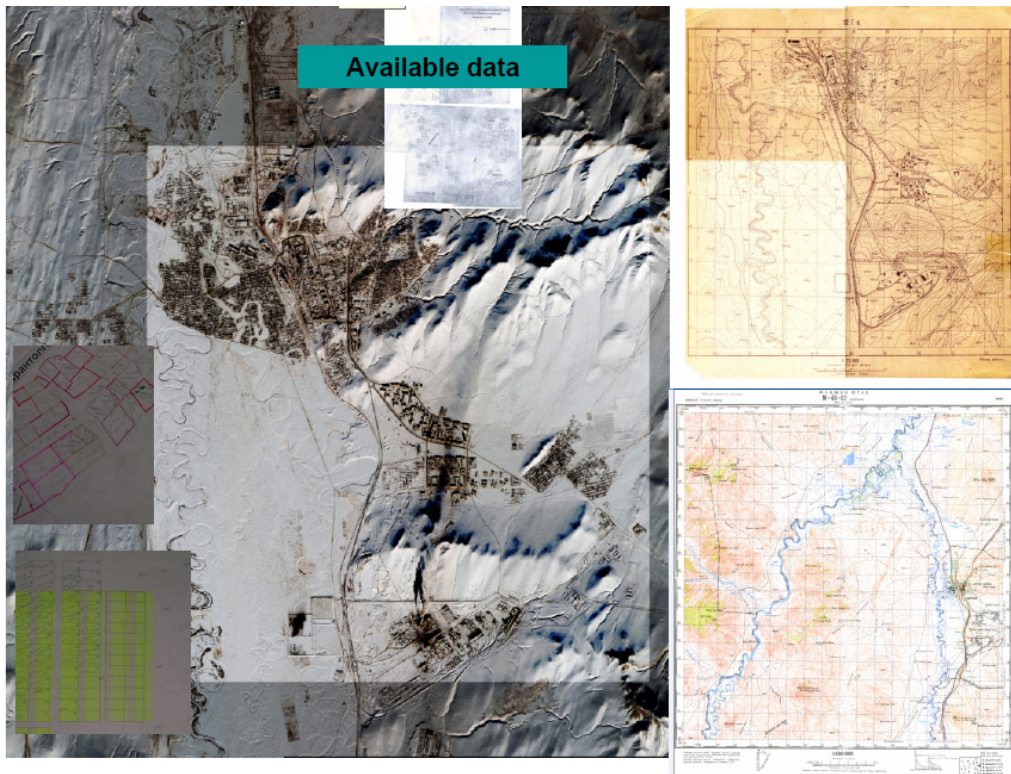
Figure 1. Project database design and implemenation
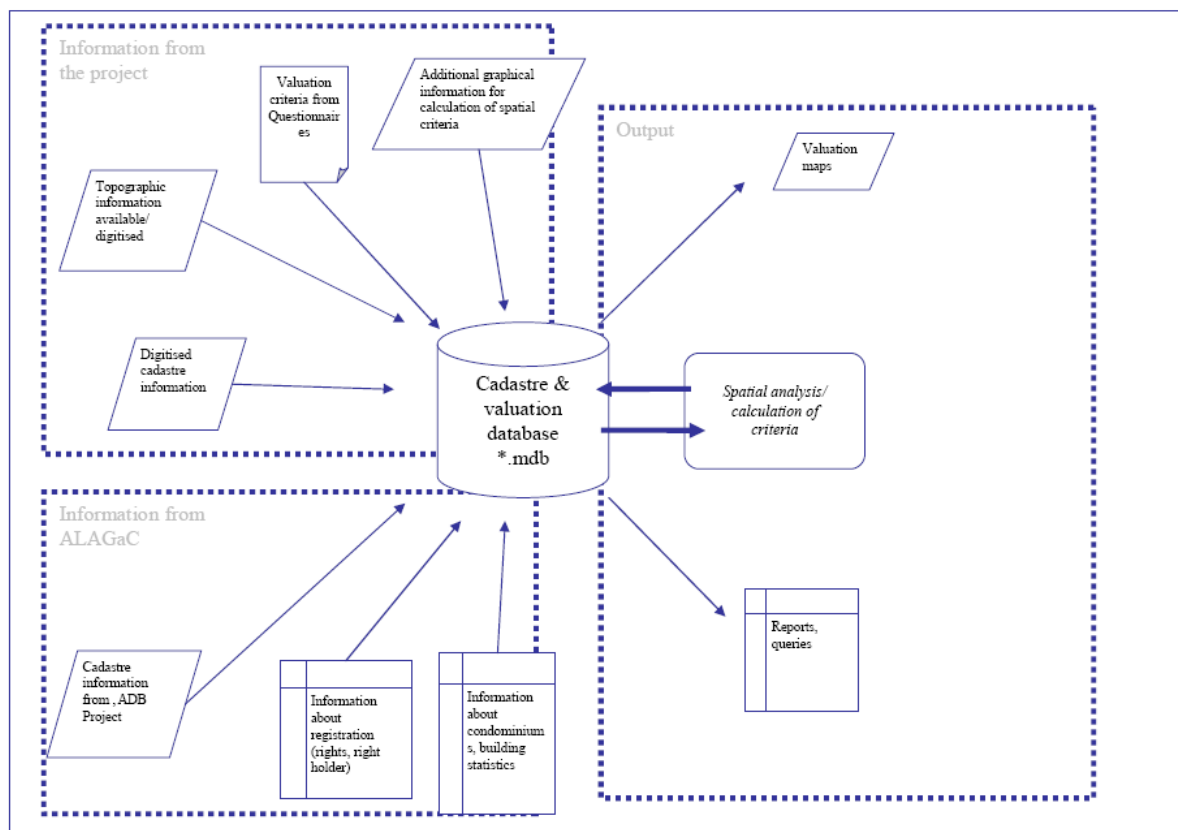
Situation in the beginning of the project was:

-Immovable property price is not reasonable in the market
-Existing valuation zone is not suitable
-Used cadastral map is analogy and old difficult to update, accuracy with uncertainty
-Land record sheets and maps are not sufficient
-Land administration office and immovable registration office was one organization
-Participating parts have been waiting for the project output

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Figure 2. Available data at project starts.

Based on the second phase of project plan we are trying to improve training and learning approaches for people and under content development of land administration and surveying with geo information science. For this we have to implement integrated learning environment and practical using costs and benefits e-leaning on land administration field with surveying.
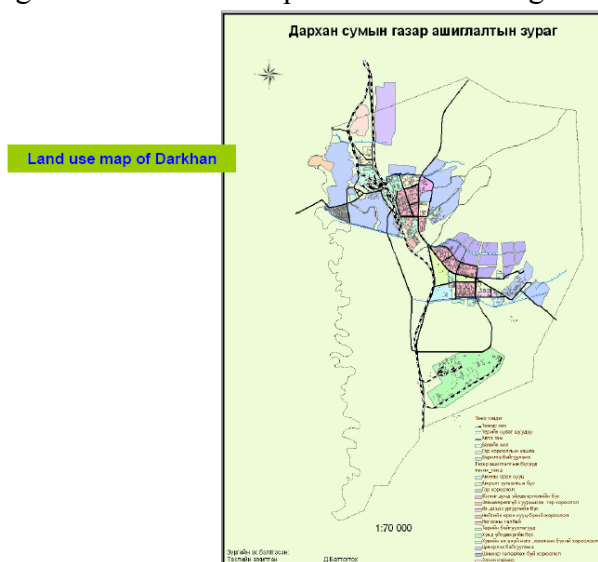
Figure 3. Land Use map of Darkhan. Mongolia. 2007.

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Figure 4. Land Use Plan of Darkhan. Mongolia. 2007.
Figure 5. Bag boundary. 2007.
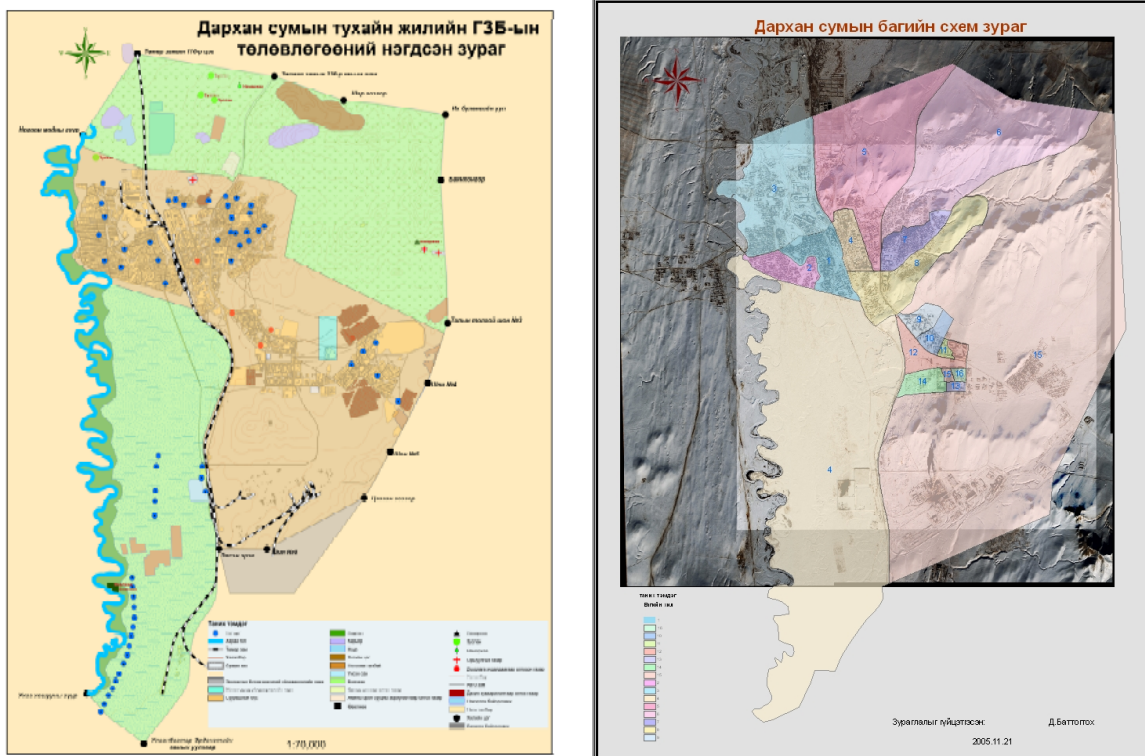
Photo 1. Citizen's representative meeting in Darkhan

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Figure 6. Cadastral mapping using ArcGIS.

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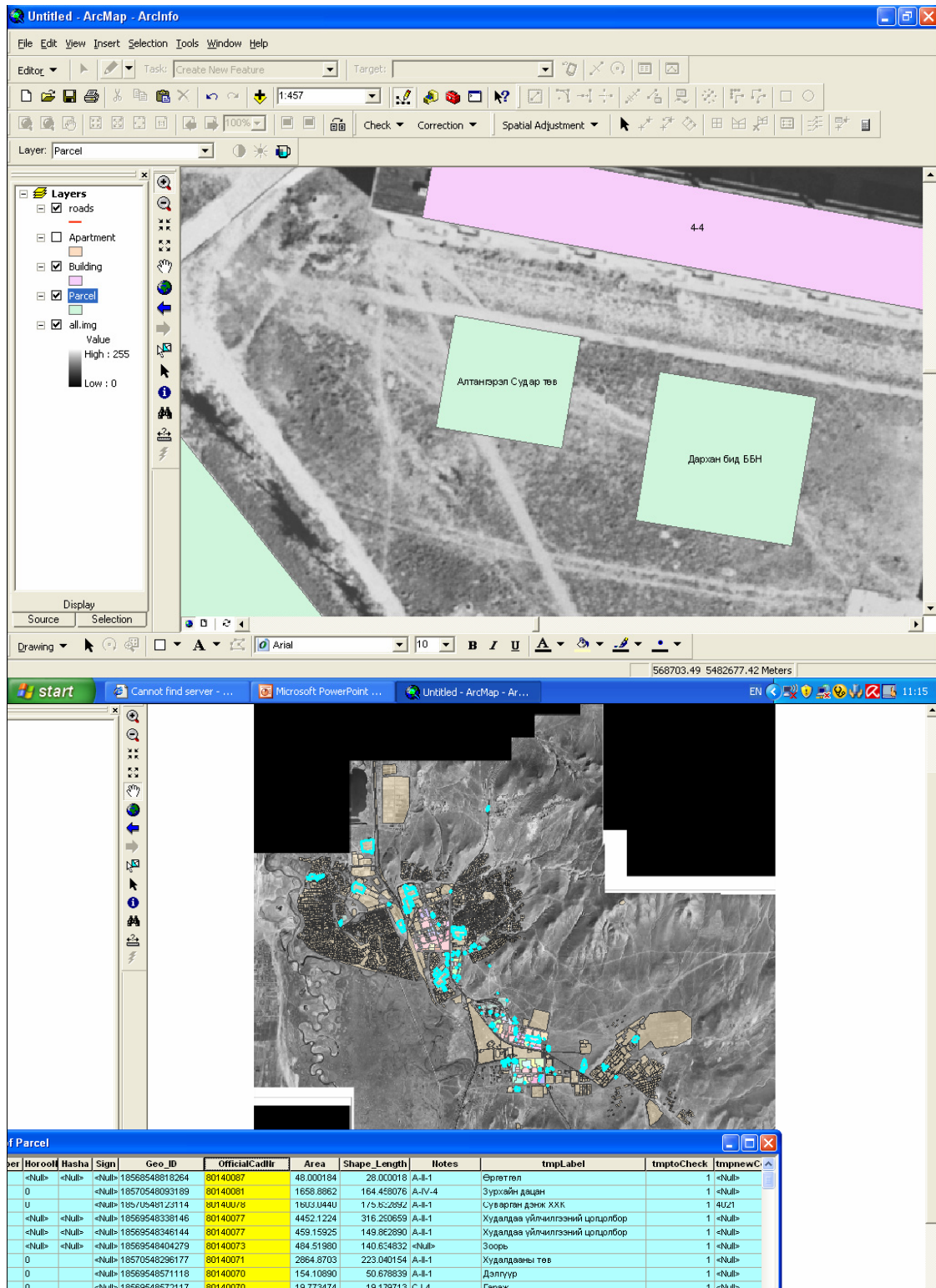
Figure 7. Condominium area delination and apartment price registraion using ArcGIS.

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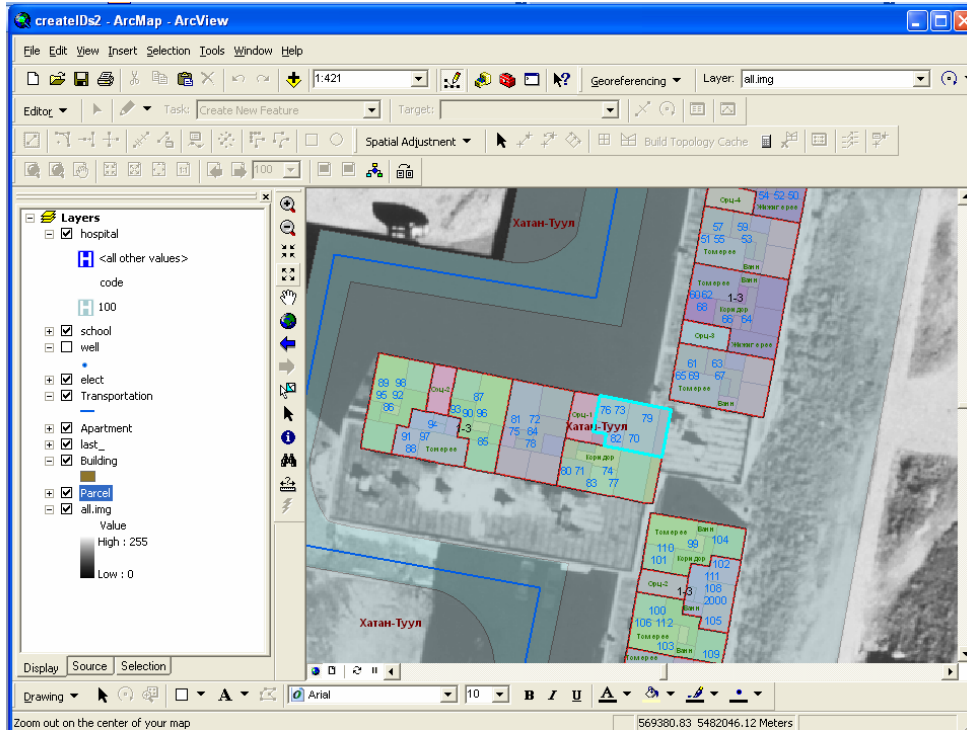
Figure 8. Immovable property registarion and mapping using ArcGIS and existing problem.

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Figure 9. Database structure.
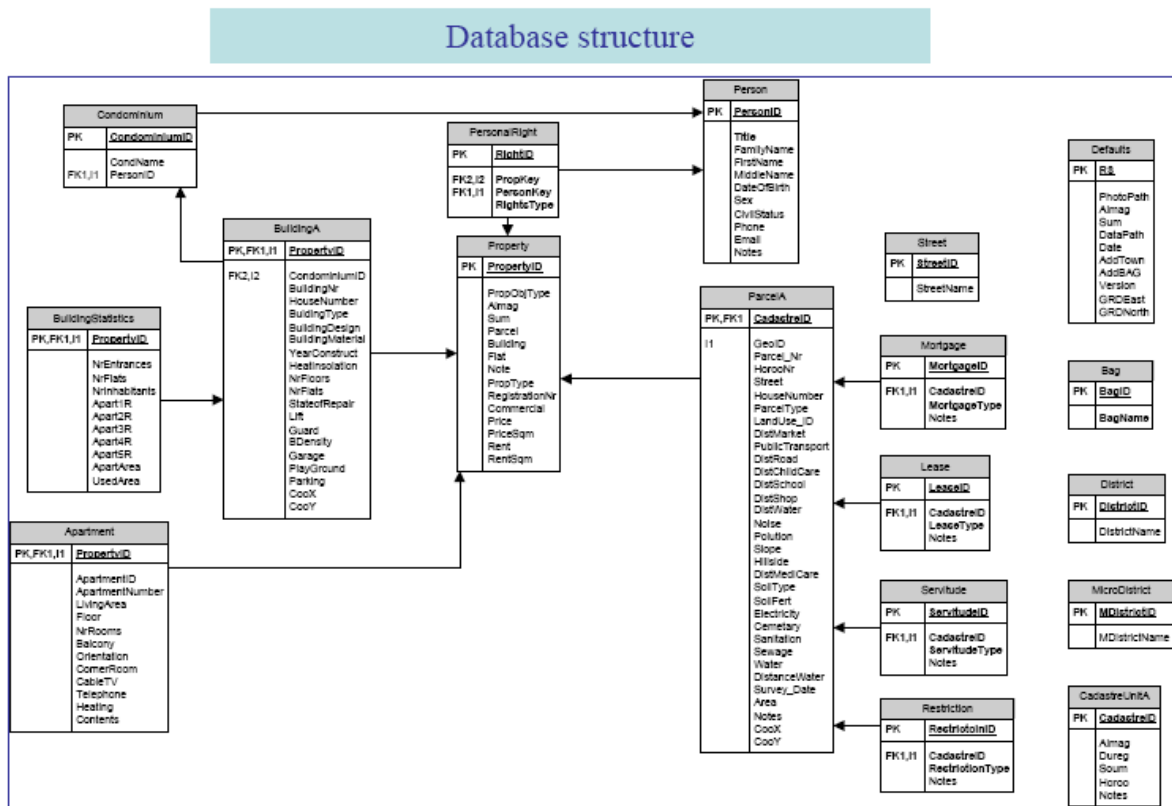
Following works are implementing over the Darkhan province from project side.

-Collecting and processing market price data
-Land Use and Urban Planning
-Existing law and regulation implementation and update
-Defining the clear parcel boundaries
-Field measurement and surveying
-Defining accurate coordinate location
-Parcel Numbering
-Creating local database
-Public awareness of existing law and updates
-Training and distance education on land administration and surveying
-E-learning in Surveying, Geo-information Sciences and Land Administration
-Modern technology remote sensing and GIS use in Land Administration

I hope to sharing knowledge and information, experience on these field among surveyors, Geoinformation scientists and land administration specialists in your workshop will be very helpfull for developing countries development especially in our work over Darkhan.

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Land Management and Fiscal Cadastre Process Using Geo Information Science over the Darkhan, Mongolia

Given name BATTOGTOKH DEMCHIG, Mongolia

1. SUBTITLE

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BIOGRAPHICAL NOTES
BSc The State University of Agriculture of Mongolia

MSc The National University of Mongolia
PG Diploma on RS and GIS in IIRS Dehradun, India

Publications:
Battogtokh Demchig, Dr.M.Kudrat
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Battogtokh Demchig, Ts.Adyasuren.
MSc thesis ''Wheat Growing Environment using Remote Sensing and GIS over the Darkhan Selenge area Mongolia ''

Career:
Instructor and Head of the Land Management Department at Plant Science and Agriculture Research Training Institute.

Regional project officer
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