

ADB NSDI Workshop Kazakhstan



8 November 2024

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1. Prioritization

Priority areas

- Digital maps – framework data and DEM
- Functional Areas (Administrative boundaries) data sets
- Transformation of existent cadastral data to the new unified geodetic reference frame

Rationale

- Digital elevation model flood management and navigation international airports. This is required and planned for year 2025
- Critical for the improvement of statistics data information and services for evidence based decision making
- Enhancement of cadastral and land registration data for improvement of the land and property management in the country

2. Implementation Plan (3-5 years)

| Key Components | Details | Implementation plan |
|-------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legal framework | Necessary laws | Review and update the Law on Geodesy Cartography and Spatial Data, Regulations on geospatial data supply chain, data licensing within 3 years |
| Governance | Institutional setting | Establishment of the Interagency NSDI Commission, Coordination Unit (DGC), Working Groups on Laws and Regulations, Standardization, etc. – within 1 year |
| Financing | Size, source | State budget, anticipated loan from International Financing Institutions and donors (discussions, negotiation with ADB. Approximately USD 100 million 5 years) |
| Data acquisition | Target areas, quality | <ol style="list-style-type: none"> 1) Digital Terrain Model (for flood management – 20 cm vertical accuracy) 1 year; 2) Base Map (framework data – imagery of 50 cm and 30 cm of resolution), Administrative Boundaries (functional areas) during 2 -3 years; 3) Upgrade and expansion CORS network and Network Control Center (NCC), Hybrid Geoid model during 4-5 years. |
| IT systems | Target IT systems, services | NSDI Portal and Platform (open source based), near real time services for the data sharing and dissemination. Provision of modern technical (software and equipment) |
| Innovation | Appropriate technologies | Upgrade and expansion GNSS and RTK CORS, airborne LiDAR, UAV applications |
| Data standards | Target data sets | CORS network extension and hybrid Geoid model, Base Map (framework data), data modelling, administrative boundaries (functional areas), Digital Terrain Model (for flood management) |
| Partnership | PPP, international | Establish relations with the OGC |
| Capacity building | Which areas to focus | New technology and techniques for spatial data acquisition and processing |

3. Proposed Technical Assistance (2025)

- A. Title: Geospatial Data capacity enhancement
- B. Budget: USD 1 million (year one – USD 450K, year two - USD 350K and year three – USD 200K)
- C. Key components
 - a) Spatial Data Model development (framework data)
 - b) Vertical Reference (precise levelling network) adjustment
 - c) Hybrid geoid model computation
- D. Implementation strategy
 - a) Who is the leading agency ? – the MDDIAI (DGC)
 - b) How to coordinate with other agencies – Establishment of the Interagency NSDI Commission, Coordination Unit (DGC).