**Guideline, Methodology, Tools for Impact based forecasting (IBF) for supporting mid-term and yearly planning process**

**Data required for GIS Base Map development on 4 Aimags ( Dornod, Sukhbaatar, Zaykhan, Khovd ) and whole country :**

| **SL** | **GIS Layer** | **Data type** | **Purposes** |
| --- | --- | --- | --- |
|  | * Admin Boundary ( Aimag) * Soum Boundary | * Polygon shape * Line | * Local Level Development Planning * Aimag level Risk-informed development planning * Sectoral development planning |
|  | **Communication network**   1. Road ( carpeting, paved, earthen ) with structures 2. Rail |  |  |
|  | **Landcover**   1. Agricultural land 2. Wet land/Swamp/Marshland 3. Waterbody 4. Lake 5. River ( Major) 6. Sand , Barren land 7. Desert 8. Desert Steppe 9. Dry steppe 10. Grassland steppe 11. Forested Areas 12. Permanent snow, ice , 13. Glacier/permafrost 14. Altai Mountains 15. Mountain/hill areas 16. Ecologically critical areas |  |  |
|  | **Government Installations**   * Aimag Office building * Soum Building * Municipality building Statistical office * Livestock * Agriculture | Point |  |
|  | **Socio-economic infrastructures**   * Settlements * Ger * Bank / Financial institutes * Public building/Government * Educational Institutes ( types ; School, college, university ) * Health care centers ( hospital, clinic, family welfare center, ) * Emergency Shelters * Food god won/Food Storage facilities * Hay/Fodder storage facility * Market Place * Wholesale Market * Religious temple * Household * Grocery market * Deep tune well * Community water access points * Power station ( coal , Microhydro) 13 mini and small hydro power plants * He mentioned that in Mongolia, to date, 13 mini and small hydropower plants (SHPs) had been * constructed, of which two were SHPs with a dam that operated all year round, and one an SHP without a * dam that worked only in summer. The other ten are equipped with mini-turbines and also operate only * during summer. Out of the 13 hydropower plants, three are equipped with fish passage facilities, i.e. * Dorgon hydropower plant, with a capacity of 12 MW constructed on the Chonokharaikh River in Khovd * Province; Bogdiin hydropower plant, with a capacity of 2 MW constructed on the Bogdiin River in * Zavkhan Province; and Tosontsengel hydropower plant, with a capacity of 0.38 MW constructed on the * Ider River in Zavkhan Province. The Dorgon hydropower plant can operate all year around, but the * Tosontsengel and Bogdiin plants operate only seasonally, i.e. in summer between 15 April and 15 October )phone coverage areas * Water treatment facility * Water pipeline network | Point/polygon/line |  |
|  | **Other Physical Infrastructures**   * Power distribution Lines * Telephone/cell phone towers * Water /Gas supply pipeline * Water heating points * Power Plant * Electric Sub station * Water treatment plant * Deep tube well | Line/points/polygon |  |
|  | **Livestock Veterinary/ care center**   * Emergency Livestock Shelter * Emergency Fodder/Hay Stockpiling place/building | points |  |
|  | **Weather Observation Stations**   * Meteorological Station/ Automatic Weather Station * Radar Station * Post * River gauging station   hydrogeographic characteristics of  Mongolia, mentioning that there were more than 5 000 rivers in three drainage basins  Dams | points |  |
|  | **Land use**   * Cultivable areas ( Crop type ; wheat, corn, vegetables ) * Barren land * Pastureland * Fodder production land |  |  |
|  | **Mineral resources**   * Mine | Points |  |
|  | **Waterbody**   * River * Canal * Lake * Water retention pond for agriculture/livestock drinking * Rainwater harvesting point | Points/Polygon shape |  |
|  | Disaster Emergency Operations Center (EOC)   * Emergency Shelter * Emergency Relief Supply Point ( Water, Medicine, Food, Shelter kits, cooked food) |  |  |
|  | **Agricultural Infrastructures/Structures & Natural resources**   * Agriculture Offices * Drainage network * Water retention ponds * Irrigation points * Deep tube well /water pump for irrigation * Constructed Green house for agriculture * Seedling & Sapling production point * Small holder farming areas * Fruit garden * Agro-forestry areas * Forest areas * Integrated Farm Management Areas * Bio manure production points * Fodder/grass cultivation areas * Food process industries * Agriculture input supply points ( Seed, Fertilizer, Veterinary ) | Polygon/ points Line |  |
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