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Tectonic database structure of Iran (case studies: Baladeh & Kermanshah areas in Alborz & Zagros mountains)

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In this system the information is independently produced and there is logic relationship among various information, which can have effective role in enriching the databank.

The information architecture is specified for this database, is called INet and designed by Graphical Theory. INet which consists of Nods and Edges. That will answer logically when a question is raised. That means, the segments of Database will initially change to Nodes and then the logical communication will occur.

In Tectonic database structure, the whole organized information is available on an information network somehow that the users could have access to all data trough regular structure and make optimize use of contiguous information. Such logic relationships provide the possibility for Tectonic database to be considered as reference bank that is its one major goal. In this way making use of suitable tools. Alongside with establishing comprehensive structure of tectonic database, stratigraphy, paleontology and sedimentology and other rock units' databases were established or developed.

For every database at least twenty specialized information fields (layers) were separately identified based on descriptive or GIS ready and calculation or available information. In this way the standard field or the fields that were based on pre-identified data, non-standard and the fields of tectonic database that are in relation with the other databank were defined and the type of relationship was also indicated. Tectonic data that should be processed are divided into 4 groups: Fault surface, Surface exposure,

Lineaments and azimuth data. The relationship among sup-divisions, tectonic observations, calculation methods and the other tectonic information and the related databank such as stratigraphy, paleontology and sedimentology have been implemented considering Iran's conditions.

Since the extensive part of data is GIS ready therefore the system needs to obey a proper SDI (Spatial Data Infrastructure). To achieve this goal, geological maps on scale of 1:250000 were selected (121 sheets of Geological map on the scale of 1:250,000 covering each about 2500km2). Considering maladjustment of the drawn features with legend, geometry and coordinates disharmony, disharmony of features in adjoining maps and disharmony of descriptive information, unification of the maps should be part of this project. Preparation the required data model, map digitization in GIS environment and fulfillment of descriptive and metadata information and subsequently their unification in accordance with the unique geological units have been considered in this unification. It was finally concluded that a suitable environment to be provided to have access to all available data, reports, thesis and maps. These create possibility to process data as well.

It is worthy to mention that all this system's output is geodatabase that can receive the other geodatabase information.