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A study on geomorphological sketch of middle part of Korea

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Abstract

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The purpose of this study is to clarify the fault structures in the Chukaryong Rift Valley. The Rift Valley has very significant meaning to interprete the development of Korean structural landforms. But till now the mechanism and processes of the formation of the Rift Valley are not clearly proved IMAGEM is very useful in this study. IMAGEM is developed by the Electromagnetic Instrument, Inc. and it covers 0.001~20,000Hz.

Form the field survey data, it is certain that the faulted structures exist in the two points of the Rift Valley. But the Rift Valley is too long and braod to check the all evidences of the faulted structures.

Keywords : geomorphological characteristics, Chukaryong, landforms, IMAGEM

Ⅰ. Purpose

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Ⅱ. Fault structures

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Ⅲ. Vicinity of the Hantan River

In this area, some kind of landforms are developed such as pre-land forms, lava plateau, and present landforms etc. Some river terraces are peculiar features in the

area.

Some conclusions are as follows : The vicinity of the Hantan River is lava plateau formed from the volcanic activity. Some steptoes are located in the lava plateau. Baekeuiri formation means the river bed boulder beneath the lava formation. The development of drainage patterns are unstable and the bifurcation ratio, the ratio of mean length of the river are lower than the other rivers. The relative height of the terraces is about 5~25m and the terraces are alluvial terraces.

In the Jiktang Fall area, bedrock is granite and basalt plateau covered the bedrock. In that point, the old erosion surface is relatively steeper than the horizontal-basalt plateau. Vertical columnar joints are developed and weathering materials creep on the valley wall. The cross section of the landform of the Kosukjung vicinities are somewhat different from the landforms of Jiktang Fall. The bedrock near the Kosukjung is granite that is the same with the Jiktang Fall. But the cross section shows a asymmetrical curve from each side.

IV. Namsan Area

The rock distribution of Namsan-Area consist of two rock types, one is pre-cambrian gneiss and the other is cretaceous biotite-granite. The texture of the biotite-granite is coarse and medium. The weathering zone of the Namsan-Area is about 1m depth and very simple. The distinguished phenomena are faults and joints.

The drainage system of the Namsan-Area is not good development. The joints are well developed in Namsan-Area and confirmed three or four sets. And there are lots of landforms such as tors, tafonis, mass movement and weathering phenomena.

V. Bulam Mt. Area

The purpose of this paper is to prepare the geomorphic information from the Bulam Mt. Area through the photography. Bulam Mt. Area belong to granite mass and highest point is 420m and the general characteristics of the features looks like low and undulating monadnock. In this area two kinds of outcrops are represented. One is fresh and the other is somewhat weathered. Structural geomorphologically, the Area has a significant tectinic phenomena such as joint, weathered bedrock, tafoni, physical weathering, xenolith, dyke, small sized fault and mass movement, etc.

The conclusion are as follows

1) Sheeting joints are predominant and joints control the stream directions.

2) Bedrocks are well weathered and structures like joint play a significant role to disintegrate the bed rocks.

3) Lots of tafoni developed on the granite mass.

4) In physical weathering the roots of plants accelated the weathering of rocks.

5) Various kinds of xenolith represent the index of situation that generated the grannie masses of the study area.

6) Dykes can explain the relation between the bed and the time of formation.

7) It is clear that the existence of small scale fault means the tectonic aspect of the area.

8) Mass movement are well developed on the slopes.

VI. Mt. Boryun, Chungjoo

The Purpose of this study is to prepare the basic data including geomorphological, geological and soil. The Mt. Boryun is located in the vicinify of Chungju city area and influenced the major faults and NamHangang drainage system. The geological rocks distributions and structures and very complicated in this area. About 18 patterns of soils are represented in this area. They are alluvium, grey soils, sediments, reddish yellow soil, debris etc.

VII. Conclusion

- Fault structure -

a) Form the field survey data, it is certain that the faulted structures exist in the two points of the Rift Valley.

- Vicinity of the Hantan River -

b) The vicinity of the Hantan River is lava plateau formed from the volcanic activity.

c) Some steptoes are located in the lava plateau. Baekeuiri formation means the river bed boulder beneath the lava formation.

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