

A History of Mass Movement at Gangneung area, Eastern Coast of Korea, Since the Middle Holocene

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This study intends to reconstruct the history of mass-movement occurrence since the Middle Holocene in Gangneung area, east coast of Korea. For this purpose, the Sacheoncheon basin and the Yeongokcheon basin where large-scale landslides occurred particularly due to typhoon Rusa in 2002 were selected. Detailed field observation revealed that inorganic layers of hillslope origin and organic layers of former humic topsoil or swamp origin alternated in the deposits of the river terraces, floodplains and the present river beds along the uppermost stream. The upper surface of the organic layer indicates the date of colluvial event which is recorded by the overlying inorganic layer. Stratigraphic investigation of the deposits assisted by radiocarbon dating of organic layers enabled to point out the following results:

(1) On the uppermost valley bottom at Gireogigol (Loc. 1), mass movement occurred 2 times between 740yrB.P and 260yrB.P. and 2 times after 260yrB.P., while in Seokgugol (Loc. 2), the occurrence during recent 6,700 years was mass movement was about 10~20 times.

(2) On the backslope of river terraces as Loc. 3, mass movement occurred at least 1 time in the period between the formation of river terrace and about 2,000yrB.P. and at least 1 time after about 430yrB.P.

(3) On the backslope of floodplain as Loc. 4, mass movement occurred at least 1 time after around 2,800yrB.P.

(4) On the backslope of the present river bed as Loc. 5, mass movement occurred at least 1 time before A.D. 1869 and at least 3 times after the A.D. 1869.

From the above facts it is concluded that mass movements occurred several to scores of times after the Middle Holocene in the investigated area.

Keywords: Gangneung, Holocene, valley bottom, mass movement, river terrace, floodplain