Roadmap toward Effective Flood Hazard Mapping in China

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1. Significance of flood hazard mapping

China typically suffers from the flood damage.Affected by the climate and topography,torrential rains and floods occur frequently in China and about 40% of the population, 35% of the agricultural lands and 70% of the gross product of the industry and agriculture exist on the alluvial plains that are vulnerable to water inundation.With economic growth, urbanization and the subsequent concentration of population and property,the direct economic loss per unit area has increased to 166 thousand dollars per km^2 in the 1990s, about 6 times than in the 1950s.Therefore,the flood damage relief is an important and urgent task in China.

China has taken many structural and non-structure mitigation measures. Structural measures(dams,levees, retardation areas,etc.) have so far had a remarkable effect.With the steady development of flood control facilities,non-structure measures(flood forecasting and warning system,telecommunication system,etc.)are currently developed rapidly because structural measures are primarily time-consuming and costly and are increasing the potential damage.

As a good example of non-structure measures, flood hazard mapping will play an effective mitigation role in China. A flood hazard map shows necessary information on inundation and evacuation in an easy-to-understand format so that local residents can evacuate quickly to a safe place in the events of floods.

2. Acquirement of the training course

All parts of the curriculum are very interesting and impressive to me and I have acquired much from this training course. It includes:

1) Meaning, significance, effectiveness, contents and development of flood hazard map.

2) Procedure of producing flood hazard and fundamental analyzing method necessary such as hydrologic and hydraulic analysis, runoff simulation and inundation simulation.

3) Preliminary production , dissemination and utilization of flood hazard map.

4) Great enhancement of my awareness about the above by field study and trip on flood hazard map and river management.

3. My actions about flood hazard mapping

In view of the significance of flood hazard Mapping, I think it is very necessary to impel the relevant works in China. According to the practical situation, it seems that two steps should be taken. First, flood hazard maps of retardation areas should be produced to meet the need of the changing idea about flood fighting in China. Then we

can do the same work for the alluvial plains that are possible to be flooded.

After my return to China,i plan to make a lecture about flood hazard mapping for my organization first.Secondly,I want to apply for the applied research on inundation simulation for which 1D or 2D hydraulic models may be used.Finally,i will suggest my organization cooperating with the Office of Flood Control and Drought Relief Headquarter to produce the flood hazard map of a typical retardation area.

4. Thoughts for more effective flood management in Japan

The flood management in Japan is very effective and efficient because of its perfect organization,proper river law amended continuously to reflect changing socio-economic conditions,high-standard flood control facilities,comprehensive mitigation measures,etc.So i can not put forth any valuable suggestions and only some private immature thoughts regarding flood management for reference are listed below.

1) More effective anti-disaster education for understanding is expected so that it will facilitate the evacuation of residents.

2) The capacity of some shelters should be enhanced.

3) The land planning of the areas vulnerable to water inundation should be made more precise or the plan should be implemented more completely.

5. Suggestions for a more meaningful training course

As memtioned above,the training course is very successful and I appreciate the chance provided by JICA and the upmost efforts made by the staff of JICA and PWRI.Some suggestions are put forth only to meet the will of the organizers for better training effect.

1) Longer training period is expected ,such as three months.

2) More detailed contents such as inundation simulation may be more useful to produce flood hazard map.

3) More field studies and visits may be more effective.