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Non-structural adjustments to floods in flood-endangered rural areas in the Red River Delta in Viet Nam

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The Red River Delta in northern Viet Nam with a dense population is an important socio-economic zone of the country. Because it is a low-lying area, the Red River Delta is prone to floods, the worst of all hazards facing Vietnam. In order to protect the settlement centers in the Red River Basin from flood effects, a number of structural measures have been taken. More than 3500 km of dykes with the height of 6-8 m in average along the Red River have been built for many years. In the last 50 years, together with dyke improvement, various structural measures have been designed and implemented such as constructing reservoirs, flood retention or flood diversion. Despite of these efforts, some areas in the Red River Delta including flood diversion ones are still threatened by floods. Non-structural flood control measures also have been carried out in Viet Nam such as: enforcement of laws and regulations, zoning, economic instruments, efficient flood forecasting and early warning system, public awareness raising and improving information system. The Red River Delta is also an intensive agriculture region. The farmers seem to be more vulnerable to floods than other groups because agriculture activities mainly depend on the weather conditions. In addition to supports from the government, local farmers have to find solutions to protect themselves from floods or to mitigate flood damages. Bearing the ideas in mind, this study with a focus on the non-structural adjustments to floods at the local levels was conducted in rural areas in flood diversion areas in the Red River Delta.

The study results show that, with the long settlement history, the local farmers have experienced a lot of floods. Because of having to live with floods, the local farmers have tried to adapt themselves to the floods. They build houses in high foundations, store dry provisions and foodstuff before flood season, prepare boats/bamboo-rafts, and evacuate old people, women and children to the higher places during flood season. The experience of flood preparedness, response or damage mitigation is widely disseminated. Farmers adjust and adapt their crop calendar and varieties accordingly, especially rice crop to flood-affected situations during flood season. There was an available rice variety called “Loc”, which could withstand during normal floods. The diversification of crops and varieties is one of characteristics of agricultural production in the area. During flood season, poultry and livestock are minimized in term of number so as to evacuate them easily in case of flood occurrence. The local farmers try to generate on-site supplementary jobs during flood season like woodwork shop, handicraft making, etc. About 40% of households are engaged in seasonal jobs, especially in flood season, in neighboring provinces/ cities such as construction, carpentry and motorbike-taxi driving. The uncertainty affects their life, and the economic activities.

Viet Nam has made significant efforts in flood control. The Committees for Flood and Storm Control are established at all levels from the government to localities. Flood forecasting and early warning systems are in priority. At the commune level, a working team is selected to take care of all activities relating to flood control such as providing flood related information, dyke protection and evacuation. Agricultural extension and credit services are also developed by the government in these areas. Policies on production subsidies and development supports are also applied. There are some governmental projects to integrate water resource development into flood diversion have been assigned and implemented in the flood-affected areas. These would be of great help to local farmers to improve their living standards but some problems still exist. The non-structural approach would contribute to the sustainable development in the flood-endangered areas and in the context of climate change.