

The Ngan Sau River with a length of 131 km is considered as the longest river in Ha Tinh. The river brings a large alluvium for cultivation land along sides of the river. It also provides shrimps, river fishes for foods and income. (Photo: ICRAF VN/Tran Ha My)



A beautiful and uncommon pomelo – aquilaria system in home garden at farmer home. They plant aquilaria intercropped with pomelo for double income. At Ha Tinh, a few farmers to apply this model. (Photo: ICRAF VN/Tran Ha My)



★ SMART TREE-INVEST VIET NAM **CLUSTER: HUONG LAM VILLAGE, HUONG KHE DISTRICT, HA TINH PROVINCE**

Huong Lam is a commune located in the dense river and stream system, flow from the mountains to the valleys of Huong Khe district, Ha Tinh province. It has 17,156.59 hectares of the natural area, in which forest area accounts up to 90%. The major land uses in this cluster are natural forests, plantation forests and crop

lands with peanut, green bean and maize. The production of plantation forest and crop has been very high and has been important to the local economy. Currently, the farmers in Huong Lam are exposed to climate-change risks related problems. The deforestation causes the reduction of water

resources and flash floods often occur, leading to the water pollution. Soil erosions and landslides are found in many places. Frequent floods affect the local livelihood and human health.



Many farmers plant sweet potatoes for income and podder. The owner of this garden is a disabled man. He was helped by his children to cultivate his land. "My family has no idea without sweet potato cultivation, this plant is easy to grow the most" – Mr Luong said. (Photo: ICRAF VN/Farmer name: V.L)



Villagers dig hole as the way to cope with water shortage problems particularly, for agriculture water supply. (Photo: ICRAF VN/Farmer name: Le Thi Hang)

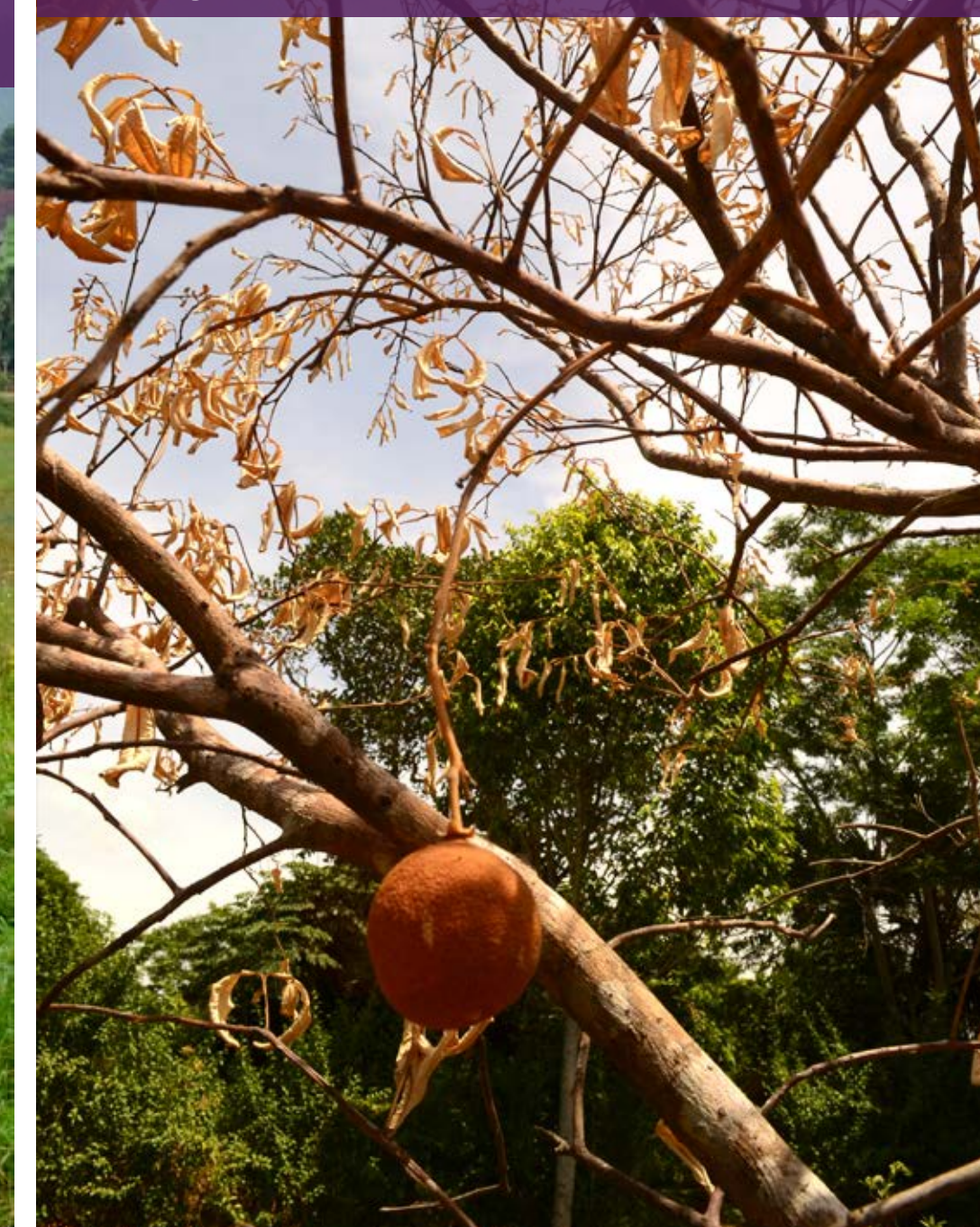


Landslides impact become increasingly serious in the recent years. Landslides and floods often go together, make a big loss in cultivation land and crops. (Photo: ICRAF VN/Farmer name: D.C)

A farmer is worried about paddy area that is affected by the flood. Flood is one of the main natural hazards to local people. Because of the flood, the productivity of agriculture crops is significantly reduced, animals diseases spread and the properties were damaged. (Photo: ICRAF VN/Farmer name: N.T.T)



The result of the prolong drought period in home garden. (Photo: ICRAF VN/Tran Ha My)





Plantation forests are the main source of income. The forest provides income for people here, to meet the needs of livelihood, education. (Photo: ICRAF VN/Tran Ha My)



Huong Hoa farmers plant maize as main livelihood options in agriculture. After harvesting, the little boy's family will husk corn to cope with the food scarcity for livestock in cold spell. (Photo: ICRAF VN/Tran Ha My)



'In recent years, our agriculture land was dramatically reduced and even lost due to landslide and stone sedimentation, so we built the dike to cope with the problems'. (Photo: ICRAF VN/Farmer name: T.C)



The agroforestry products such as pomelo, tea, and orange significantly contribute to the family income. (Photo: ICRAF VN/Tran Ha My)



The landslide on the agriculture land of smallholder caused by flood and storm lead to the reduction and loss of a large part of the area. (Photo: ICRAF VN/Farmer name: N.T.T)

★ SMART TREE-INVEST VIET NAM

CLUSTER: HUONG HOA

Huong Hoa is a mountainous commune located at the end of Tuyen Hoa district, Quang Binh Province with 10,506 hectares of the natural area, in which agriculture area (paddy rice, annual crops and forestry) accounts up to 93.5%. Owing to the slope topography and the dense river and stream system, farmers in Huong Hoa are likely to be hit very hard by climate change and their capacity to respond to climate

change is limited. In addition, their vulnerability is increased due to inadequate resilient capacity; the deficiency of knowledge and information on adaptation; external triggers drive the exposes severely. A wide range of climate change related problems are seen in the commune. Severe floods and storms cause the big loss in livelihood and human life; water shortage creates the low agriculture productivity,

even nothing. Unpredictable cold and landslide, stone sedimentation destroys a vast area of cash crops and food commodities. Generally speaking, vulnerability and adaptation to climate change are urgent issues among many people in there.



Before the drought, the river was really beautiful, however the river now is covered by white sand due to the prolonged drought. (Photo: ICRAF VN/Farmer name: L.N)



The whole agricultural land is buried with gravel and pebble. The owner has lost almost all his land. (Photo: ICRAF VN/Farmer name: L.N)



The drought has made our crop failed to harvest. (Photo: ICRAF VN/Farmer name: L.N)