

## Abstract

The causes of wastewater and solid waste problem are a speedy increase in population, unlimited expansion of industrial sector and increase of demand in restricted resource. The results of action research in situation, cause and management of wastewater and solid waste on highland community as 1) Ban Nong Hoi Gao in Royal Project Development Center Nong Hoi 2) Ban Pa-Kea Noi in Royal Project Development Center Mae Hae 3) Ban Khun Kang Gao in The Royal Agricultural Station Inthanon 4) Ban Nor Lae 5) Ban Kob Dong in Royal Agricultural Station Angkhong 6) Ban Doi Chang in Highland Development using Royal Project System indicated all community have not managed grey water before released, no public relations and no educations to continuously treat wastewater. Four hundred and five samplings of wastewater were taken in 3 times (seasons) and analyzed in physical chemical and biological parameters so many samplings of wastewater could not pass the standard especially BOD, phosphate, suspended solid and fecal coliform. Additionally, the results of wastewater collection on the field investigation show that collected restaurant wastewater and household wastewater were trended to do not reach the wastewater standard. The samples of collected wastewater of Ban Nor Lae are not reach the standard the most as 69%. The suitable system for wastewater management on highland community was installation of grease traps and filter tank in each household while constructed wetland or stabilization pond had to build up in community.

According to the study of situations, causes and management approaches of solid waste (SW) on highland community can conclude that most of study areas are unsanitary SW collection and disposal systems in addition there are not the SW separating system and lacking of community SW management continuously by the agencies such as local government. The study of highland SW characteristic was conducted by collecting the highland SW representatives from different sources such as household, community's shop, and restaurant then finding the quantity and ratio by quartering method. The experiment results that SW generation rate are 0.933, 0.268, 0.185, 0.070, 0.062 and 0.052 kilogram/capita/day which are Ban Nor Lae, Ban Kob Dong, Ban Khun Kang Gao, Ban Nong Hoi Gao, Ban Doi Chang, and Ban Pa-Kea Noi, respectively. Organic waste is the most SW proportion for Ban Nong Hoi Kao and Ban Doi Chang which are 59 and 37 percentage of collected SW respectively. Ban Pa-Kea Noi and Ban Nor Lae were found the proportion of recycle waste the most which are 43 and 68 percentage of collected SW respectively. The

most proportion of Ban Khun Kang Gao's SW are recycle waste and organic waste which are equally; 36 percentage of collected SW. The most Ban Kob Dong's SW proportion is general waste which is 44 percentage of collected. Then, the study information and experiment result were gathering for finding out the causes to purpose the wastewater and SW management solutions for the highland community referring with sanitation principle as waste disposal or utilization with reuse/reduce/recycle.

**Keywords :** Environment, Sanitation, Solid Waste, Wastewater, Highland

