

Abstract

The objectives of this study are to define the Appropriate Cropping System at Nahaeo District, Loei Province using multiple criteria decision making technique and to identify the land use type using Remote Sensing technology for land use planning. The multiple criteria decision making technique were used physical, bio, socio-economic factors and existing skill and knowledge of the farmer in the study area. In addition, Landsat 7 ETM+ was used to identify the land use type.

The results show that almost the study area was a moderate suitable for cropping. The moderate suitable for cropping were identified in 2 groups as more than 50% and less than 50% of the study area in each cropping system. The area of moderately suitable for cropping systems were identified more than 50% as Single Cropping, Monoculture Cropping and Intercropping as 229,623.05 rai, 229,623.05 rai and 219,037.10 rai respectively.

The area of moderate suitable for cropping systems were identified less than 50% as Relay Cropping, Multi-Storeyed Cropping, Ratoon Cropping and Parasitic Cropping. The area are 193,001.58 rai, 91,993.81 rai, 13,195.31 rai and 22,492.45 rai respectively.

The results showed that the study area are Built-up and village, Forest, Orchard, Soil (Bare land), Glutinous rice, Corn and Water bodies as 28,637.39 rai, 132,482.54 rai, 46,675.43 rai, 115,887.76 rai, 24,596.96 rai, 42,024.29 rai and 1,668.66 rai respectively. The accuracy of the result is 74.28 percent.

The high resolution, better than 1:50,000 scale, was strongly recommend for further study.