Sampling Design using Remote Sensing in KOREA

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US, EU, Japan, India and China estimate arable land and crop area using remote sensing and aerial photograph. Ministry of Environment, Korea Maritime Institute, Korea Forest Service and National Academy of Agriculture Science of Korea have used remote sensing and aerial photograph. Among them, LUCAS was estimating arable land and crop area for 2 stage sampling method in EU.

Recently, Korea uses 1 meter resolution because we have KOMPSAT-2. So, we thought that a weak point of field survey could be enhanced by sampling design using high resolution remote sensing data to estimate arable land.

Remote sensing data is two dimension grids. So, we considered what proper grid type and sampling design was. And then, arable land data of Ministry of Environment, which has 2.5 meter resolution and purpose surveying distribution of the whole nation land, was used sampling frame. Remote sensing data was used for estimation.

Therefore square grid were selected, stratified two stage cluster sampling was designed. Remote sensing data of specific city was used for estimation.

Likewise, we suggest proper sampling design of arable land estimation of specific city by comparing coefficients of variation, differences and $\sqrt{MSE}$ s of some sampling methods.
REFERENCES (RÉFÉRENCES)


