

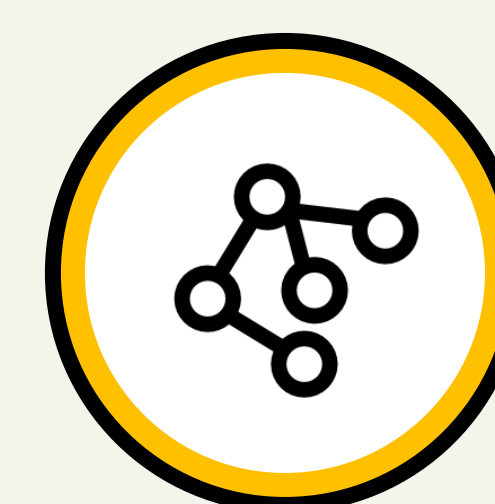
## STEP 1: Pattern Analysis of Land Use/Cover Change

This step quantifies historical land use/cover change patterns, finds the major trajectories and identifies the hotspots. This step consists of remote sensing study, field work and spatial analysis of dominant land use/cover change and trajectories from time series of land use/cover map.



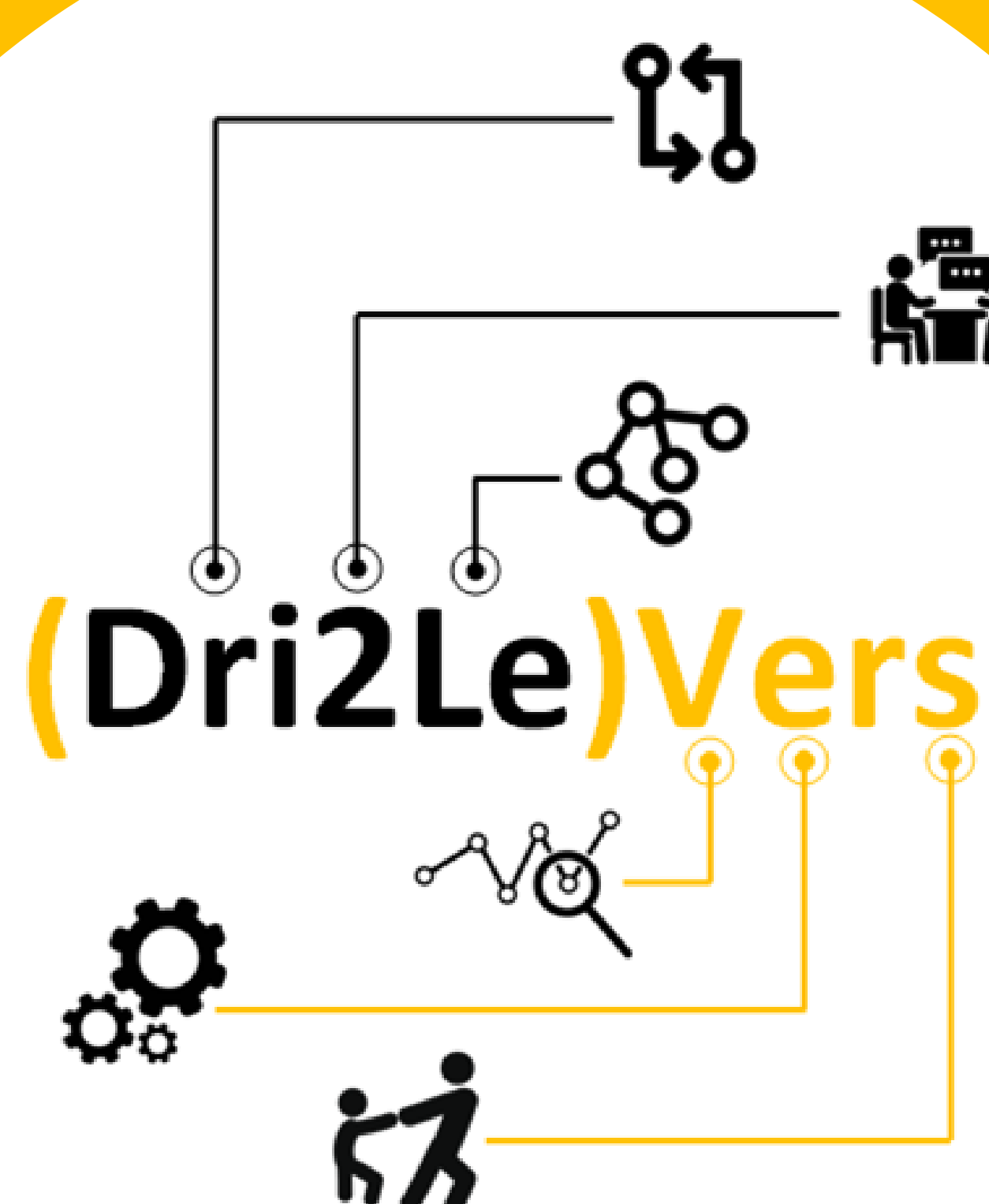
## STEP 2: Local Knowledge on Land Use/Cover Change

In this step, local knowledge on the causal processes of land use change and trajectories in an area or particular hotspots are captured. Proximate and underlying drivers of land use trajectories as well as the linkages among drivers are to be described. The process includes identification of key stakeholders/informant and series of focus group discussions and key informant interviews



## STEP 3: Network Structure of drivers of LULCC

The third step of **(DRI2LE)VERS** attempts to build the a network of proximate and underlying drivers of each dominant trajectory of LULCC and their causal linkages using network analysis. The outputs of this step are: (1) systematic grouping of factors that adopts the hierarchical structure of driver analysis developed by Lambin and Geist (2002); (2) Structural network model of factors, causes, and interdependencies for each major trajectory



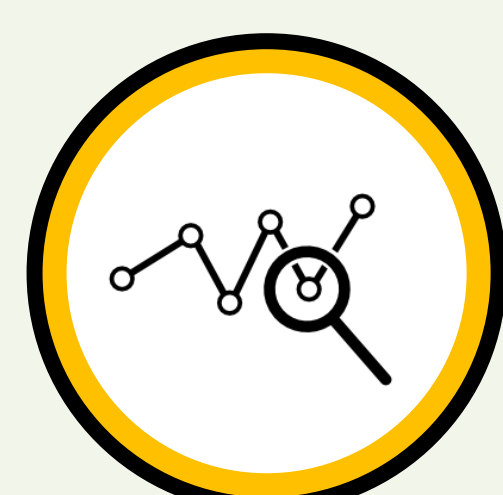
# DRIVERS TO LEVERS

## Combining Multiples Perspectives in Identifying **DRIVERS** and Finding **LEVERAGE POINTS** to Manage Landscape Sustainably

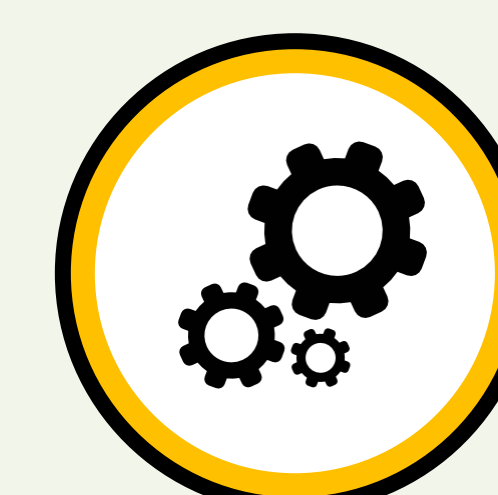
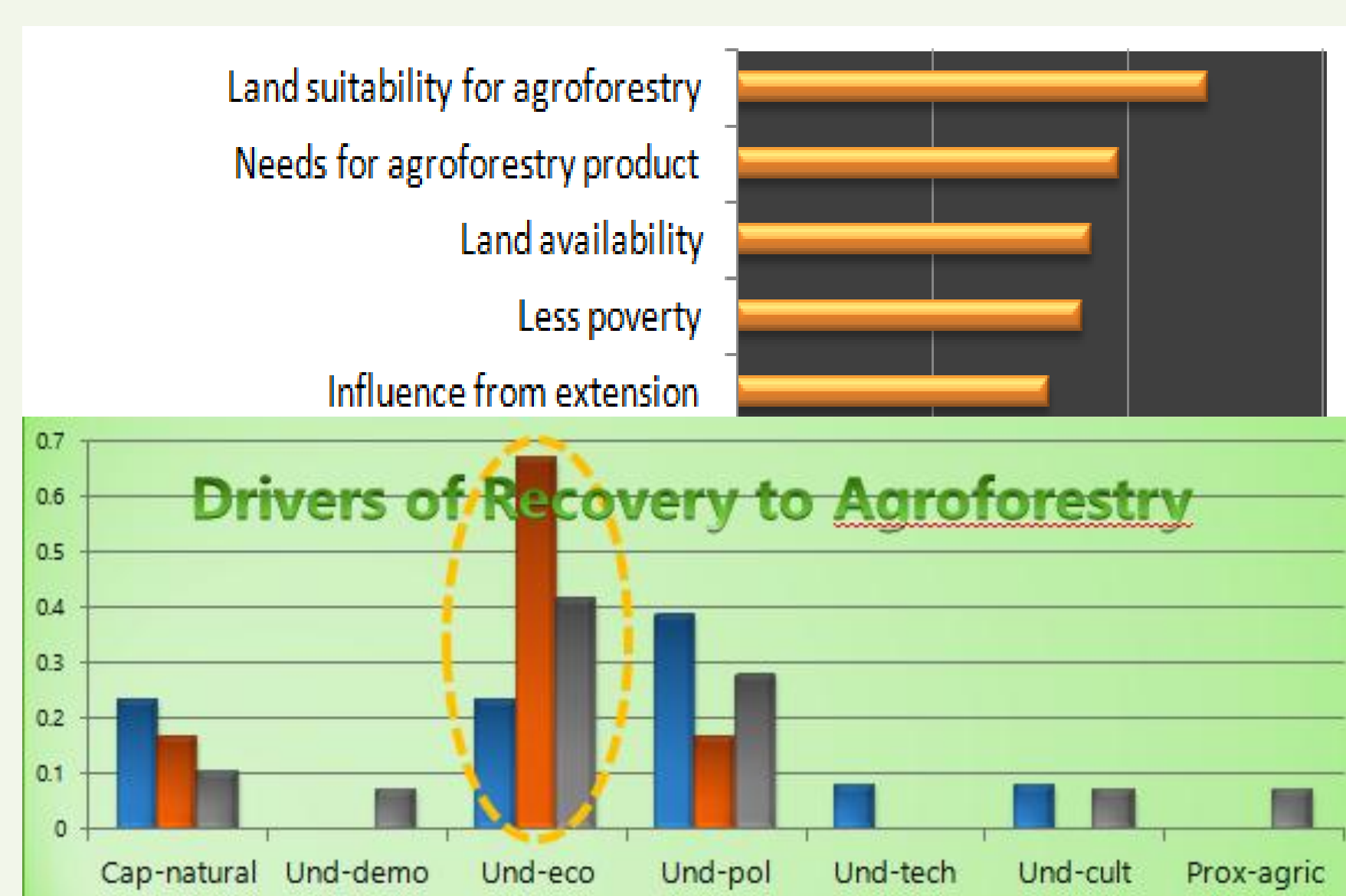
Asri Joni, Sonya Dewi and Andree Ekadinata

## STEP 4: Network analysis of drivers of LULCC

The fourth step of **(DRI2LE)VERS** aims to quantify the structure and patterns observed in the network of each trajectory. Network analysis results in a set of metrics to pinpoint the most influential factors and examine the network dynamics. Such metrics includes in/out degree of centrality and eigenvalues of centrality. The output is an estimated measure of the influence of a factor in driving a particular trajectory



## STEP 4: Network analysis of drivers of LULCC



## STEP 5: Knowledge on potential policy levers



## STEP 6: Scenarios, recommendation and action

The preliminary results will be disseminated and discussed further through another series of stakeholder discussion to identify policy levers at multiple levels. This process aims to formulate scenario and recommendation of intervention to avoid some unwanted land use changes in particular region within the landscape and/or promote favorable land use changes. Fuzzy Cognitive Mapping will be used to support the process

Scenarios and recommendations from Step 5 are considered as response options to alter the future trajectories of land uses toward sustainably managed landscape. The scenarios can further be translated into technical language that can be simulated in LUMENS software (Dewi et al., 2014) to assess the ex-ante impacts of such scenarios on multiple environmental services. Stakeholder facilitation are conducted to transform the selected scenario into policy products.

