



Tropentag, September 14-16, 2022, hybrid conference

“Can agroecological farming feed the world?  
Farmers’ and academia’s views”

## The changing land use and its impact on the traditional cattle production system in Sumbawa island eastern Indonesia: Current situation and the way forward

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### Abstract

Sumbawa island is one of a few islands in Indonesia that remains the major source of local cattle for inter-island export. Its cattle population has increased steadily from less than 100 in the 1970s to more than 600,000 in 2021. However, a rapid transformation is changing the cattle production system from large herd communal grazing system to semi-intensive smallholder system, that may decline the population of local cattle on this island in the near future. A rapid assessment has been conducted to analyse factors contributing to this transformation. The results show that the rapid transformation has been a result of massive change in land use in the last 20 years. The number of communal grazing areas in Sumbawa District for example, has declined from 59 sites 20 years ago to only 6 effectively functioning grazing area in 2021. Most of the grazing areas are now utilised for crop production (especially maize) in wet season. More than 1000 ha of a large communal grazing area in Dompu district has been converted to sugarcane production, forcing some of the animals to be taken home by the owners. Over grazing of the communal grazing areas also allowing a very extensive weed invasion. All these factors have caused significant reduction in carrying capacity of this grazing area in the last 10 years. On the whole island, a very rapid change in land use has been occurring in the last 10 years as maize production expanded extensively to cover dry land areas including communal grazing areas. Maize expansion not only occurring in the dryland areas, but also in the irrigated land. In the dry season, most irrigated land is now planted with maize, leaving a short period for cattle grazing from maize harvest to the start of the rice planting season. Considering smallholder system is not efficient for cow-calf production, many farmers have started to spare their own dry land areas only for cattle grazing. This seems to be a promising alternative, therefore supports should be provided for this private “mini ranch” system to make the cow-calf production system effective.

**Keywords:** Cattle production, communal grazing area, land use, weed invasions