

## Field verification on activity data from pasture in West Nusa Tenggara

The Indonesian Center for Animal Research and Development (ICARD) has a mandate to develop a calculation method of greenhouse gas (GHG) emissions from enteric fermentation. While Tier-2 emission factor (EF) has been established, the quality of activity data (AD) needs further verification. It aims to support Nationally Determined Contributions (NDCs), especially on baseline data and emission reduction calculation.

ICARD's researchers and local officials conducted verification on AD from pasture in West Nusa Tenggara, Indonesia. Fortunately, this activity was completed before the Covid-19 pandemic. West Nusa Tenggara is home to many natural pastures. In this province, majority of cattle are kept extensively. We consider the pasture-fed cattle to consume higher quality forage than those cattle fed with rice straw.

The verification took place in Lar Badi, Sumbawa, West Nusa Tenggara. *Lar* is a local language for pasture that is associated with large pasture areas owned by several villages. *Lar* is a tradition that lasts for generations and is also a local wisdom of the Sumbawa people. The *Lar* boundaries are communally recognised. Lar Badi is one of 59 *lars* in Sumbawa.

Lar Badi has total area 460 hectare. Directorate General of Livestock and Animal Health (DGLAH) has a program to improve 100 hectare Lar Badi with pasture grasses and legumes. The program is part of Pasture Development (*Pengembangan Padang Pengembalaan*) that introduced species of grass and legumes, such as *Brachiaria ruziziensis*, *Indigofera Zollingeriana*, and *Leucaena*.

The estimated number of beneficiary farmers is 177 farmers from 10 farmer groups. The total number of cattle owned by the farmers is 3,200 with 2,941 cattle and 259 buffalos. Cattle will graze in Lar Badi for 10-12 hours during the day. Currently, Lar Badi has several supporting infrastructures, such as fences, water reservoirs, shelter, road access, and an administration office. \*\*\*





### **Retreat meeting on activity data from feed improvements**

ICARD works closely with Directorate General of Livestock and Animal Health to improve GHG calculation from enteric fermentation. DGLAH provides data activity for the calculation, especially on feed improvement programs. However, many of the data needs adjustment and confirmation to produce more accurate results.

The retreat meeting between ICARD and DGLAH was held to discuss some issues. The two day meeting was located in a retreat house of Puncak highland, Cipanas, West Java, Indonesia. Representatives from ICARD and DGLAH identified some programs that related to GHG mitigation, such as Feed Mini Factory, Concentrate Reinforcement Program, Pasture Development, Feed Planting and Development, Feed Self-Sufficiency.

Those programs are considerable potential in GHG reduction from enteric fermentation. Previously, the programs were neglected from GHG reduction calculation. Therefore, activity data from the programs are essential. The meeting produced potential data activity for GHG calculation using Tier-2 method. Some exercises were also carried out at the end of the meeting.

The exercise produced preliminary results on GHG reduction from the programs. Concentrate Reinforcement Program reduces 2,239.77 CO<sub>2</sub>-eq GHG ton per year, Feed Planting and Development reduces 0.0953 CO<sub>2</sub>-eq GHG ton per year, Pasture Development reduces 0.0268 CO<sub>2</sub>-eq GHG ton per year. \*\*\*

