



Factsheet 2: IndoDairy Smallholder Household Survey Sampling Design and Survey Roll-out

Critical aspects of the survey

The aim of the IndoDairy Smallholder Household Survey (ISHS) was to improve understanding of farm-level profit drivers, management and technology options in relation to cost of production, contribution of dairy (milk and cattle sales) to household income, enterprise profitability and viability. Comparative analysis of technical options, labour use, risk and sensitivity analysis to price, input costs and other factors were also included. Additionally, the survey obtained information on sources of feed and input use, marketing activities and channels, sources of capital, access to and participation in government support, credit and subsidy programs, sources of information, collective action, adoption of management practices and technology, barriers to adoption and growth (including social and cultural) incentives which would improve adoption and attitudes.

The IndoDairy project collaborated with five dairy co-operatives in West Java and used a purposive proportional random sampling method to select 600 dairy households. A team of experienced enumerators carried out the survey using digital data collection applications between August and September 2017.

Collaboration with Dairy Co-operatives

Dairy farmers in Indonesia are typically members of village level co-operatives (*koperasi desa unit* – KUDs). In order to identify and address issues faced by smallholder dairy farmers, it was important to take into account the role of dairy cooperatives and processors. Considering the perishable nature of fresh milk, cooperatives' role in managing milk collection from farmers and milk delivery to processors is critical. Given their position as intermediary institutions, the dairy cooperatives form an integral component of the whole of chain activities in the dairy sector and play an important role in aiding the Government of Indonesia to distribute support, such as government purchased dairy cows and credit subsidies to dairy farmers. In addition, it was also important to understand what successful strategies cooperatives had deployed in West Java to improve smallholders' milk production and quality. These factors highlighted the need to initiate collaborative partnerships with leading dairy cooperatives in West Java and engage in consultations with them to develop the survey and engage in further project activities. Scoping studies were conducted in November–

December 2016 to discuss and initiate collaborative partnerships with five KUDs. Five KUDs from four different districts of Bandung, Cianjur, Bogor and Garut were chosen as key partners. The collaboration with the KUDs ensured the data collection exercise for the project would target smallholder dairy producers consolidated in the West Java province.

These dairy cooperatives include:

1. KPBS Pangalengan
2. KPS Cianjur Utara
3. KUD Giri Tani
4. KPS Bogor
5. KPGS Cikajang Garut

Sampling Design

The Indonesian dairy industry is highly concentrated in Java, which accounts for 99% of the dairy cattle population and 95% of dairy production. Most of Indonesia's dairy farmers reside in West Java with close proximity to key urban centres like Jakarta, Bandung and Bogor.

The IndoDairy Smallholder Household Survey (ISHS) collected information from 600 smallholder dairy farm households. A purposive proportional random sampling method was utilised to identify the sample.

The identification of the sample consisted of the following stages:

1. The five dairy cooperatives who were key collaborators on the project were contacted and a list of active farmers with each cooperative (KUD) was shared.
2. The active member farmers became the study's population for sampling.

3. A proportional sampling method was used to determine the number of farmers that were interviewed from each KUD.
4. The farmers were randomly selected using simple random sampling tools.

This sampling design method ensured that our survey sample would be representative of the smallholder dairy farmers in West Java. Table 1 presents the sampling distribution of the ISHS.

IndoDairy Smallholder Household Survey

The Centre for Global Food and Resources (CGFAR) at the University of Adelaide and The Indonesian Centre for Agricultural Socio Economic Policy Studies (ICASEPS) led development and implementation of the household survey.

The survey instrument was comprised of a detailed questionnaire that collected information at the household level and included questions that captured:

- Household socio-demographics
- Household asset ownership
- Individual animal information
- Calf and herd management
- Expenses and costs associated with dairy operations
- Milk production
- Sales and marketing of products from the dairy farm
- Adoption of technology and management practices
- Farmers' attitudes to technologies and perception of change
- Household Food Insecurity Access Scale (HFIAS) and consumption behaviour
- Abbreviated – Women's Empowerment on Agricultural Index (A-WEAI)

Table 1. Sampling distribution of the IndoDairy Smallholder Household Survey (ISHS).

District	Dairy Co-operative	Number of respondents	Percentage (%) of respondents
Bogor	KPS Bogor	15	2.5
Bogor	KUD Giri Tani	65	10.9
Cianjur	KPS Cianjur Utara	80	13.3
Garut	KPGS Cikajang Garut	140	23.3
Bandung	KPBS Pangalengan	300	50
	Total	600	100

Survey roll out

To improve the efficiency and quality of data collection the project digitised the survey using CommCare, a mobile-based application, allowing data to be input and monitored in near real time. The IndoDairy project brought in the technical expertise of Oikoi, a Research for Development Support Company, to build and refine the digital survey application to ensure a smooth implementation of the study.

The data was collected during the months of August-September 2017 by an experienced team of enumerators. Enumerators visited selected households and administered the survey under the supervision of researchers from ICASEPS. The enumerators had prior experience in conducting agricultural household surveys and were fluent in Bahasa. The locations of the IndoDairy Smallholder Farmer Household Survey have been highlighted below in Figure 1.

Capacity Building

Capacity building has been a critical part of the sampling design and survey component of the IndoDairy project. The IndoDairy project activities have focused on improving the capacity and efficiency of researchers from Indonesian and Australian partner institutions in the field of data collection and analyses. Researchers from [Indonesian Centre for Agricultural Socio Economic and Policy Studies \(ICASEPS\)](#) and [Centre for Global Food and Resources \(GFAR\)](#) had the opportunity to undergo a weeklong training in designing and developing the survey in [CommCare](#) to develop their capacity and skills in tablet-based data collection applications. The training workshops also provided the opportunity to improve skills in interdisciplinary research.

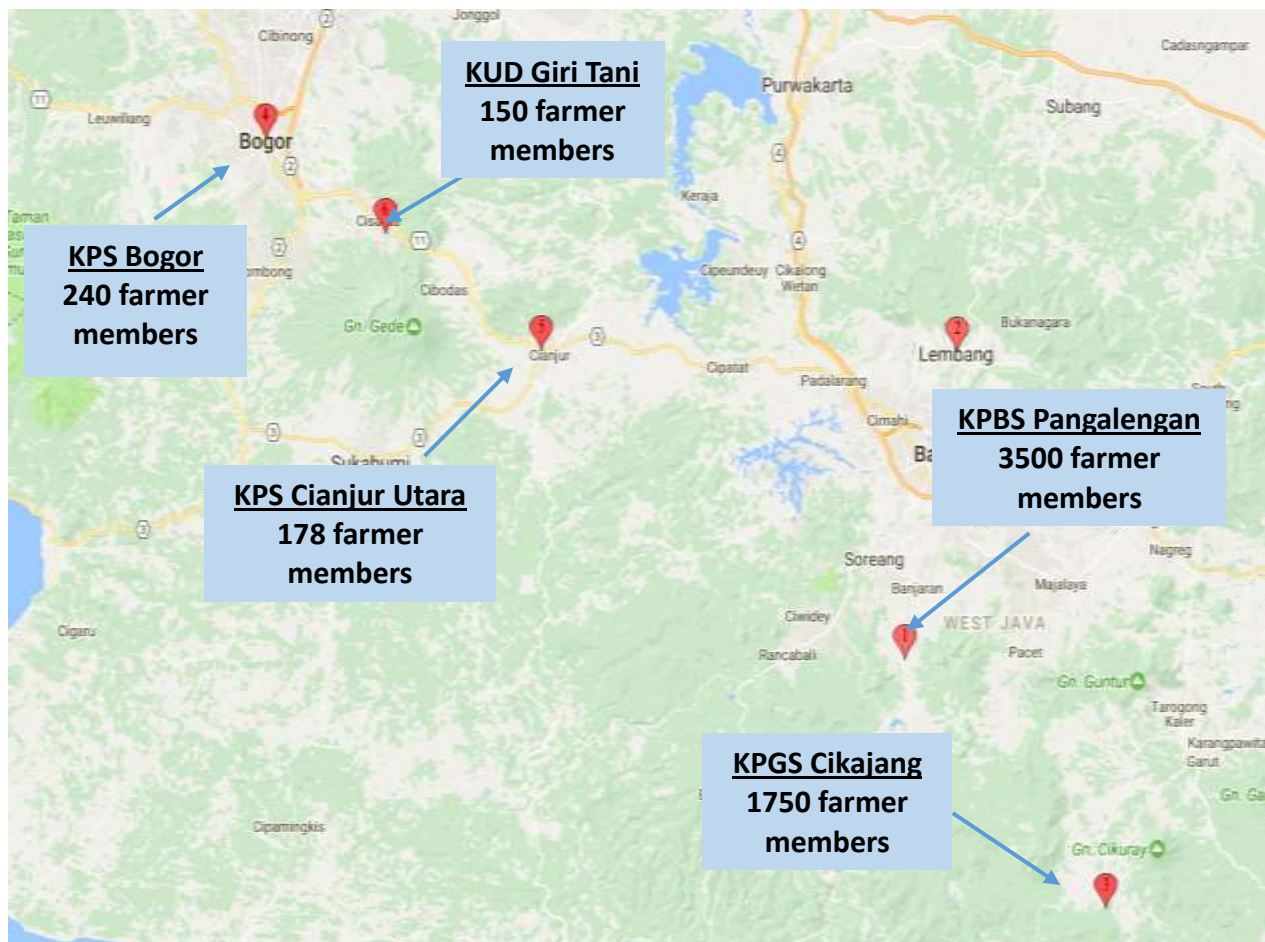


Figure 1. Location details of the IndoDairy Smallholder Household Survey (ISHS).