

## Can goat supply chain be tracked in blockchain??

Key Word(s): Blockchain, Goat Supply chain, Transparency, Traceability

### OVERVIEW

Community Initiated Genetic Improvement In Goat (CIGIG) is a project initiated by Heifer Nepal with a goal to increase goat productivity in Nepal. After it's successful run in Palpa, the project is now running on Hupsekot Rural Municipality, Nawalpur, in collaboration with Lekbesi Social Entrepreneur Women's Cooperative, a women-led organization working to provide financial and technical support to farmers. It has 82 member groups with 1672 households.



As a part of our mission to create a transparent goat-supply chain, we visited the highly motivated women-led cooperative to study the feasibility of blockchain and explore if blockchain could add value to the goat supply chain. Most of the farmers involved in this project had access to smartphones and the internet.

203 out of 1672 households were involved in the execution of the CIGIG project. These households were selected based on the number of does on their farm; a minimum of 3. We visited 6 farms under the CIGIG project, to inspect the important data points in the farm level and data record-keeping system. The birthdate and monthly weight of the goats for 5 months were recorded by the farmers themselves. These data were then digitized by a CIGIG facilitator, enrolled by the cooperative. While other important records such as vaccination data, medical information were not recorded. The goats showing better physical performance were selected to be the parent goat and the others were castrated.

Upon this research and field visit, we proposed to create a blockchain-based Livestock Supply Chain Management System (LSCMS) which will record all the information from goat production to its supply. This system promotes fact-based certification while attempting to prove the superior quality of goats raised by the farmers. The supply chain tracking system also makes all the stakeholders accountable for their actions. All the important data points of the goat supply chain will be generated into the QR code. This will enable consumers to quickly track the meat back from the farm to the store where they get their meat from in just a few seconds by scanning the QR code. On top of that, the blockchain will make the data immutable and decentralized making it more credible.