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SUSTAINABLE ANIMAL AND AQUATIC FOODS

FAO recognition of good practices and innovations: Integrated herd health packages that benefit the well-being of livestock keepers and their animals

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Outcome Brief

Contents

Authors: Rebecca Doyle[1,2], Theo Knight-Jones[1], Peter Oba[3], Emily Ouma[3], Wudu Temesgen[1], Karen Marshall[4], Isabelle Baltenweck[4], and Michel Dione[5]

1 International Livestock Research Institute, Ethiopia
2 Animal Welfare Centre, University of Edinburgh
3 International Livestock Research Institute, Uganda
4 International Livestock Research Institute, Kenya
5 International Livestock Research Institute, Mali

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Summary

In many developing livestock sectors, livestock experience a high burden of disease that results in low productivity. Herd health involves proactively improving and maintaining the health and production status of livestock to attain higher levels of food production, livelihoods and welfare.

Our **Integrated herd health packages that benefit the well-being of livestock keepers and their animals** was selected as one of the 50 top examples of "recognition of good practices and innovations in sustainable livestock transformation, One Health, animal health, and Reference Centres".

As a part of the Food and Agriculture Organization of the United Nations (FAO)'s 80-anniversary celebration, FAO has recognized good practices and outstanding innovations that drive sustainable livestock transformation with a One Health perspective. By acknowledging pioneering efforts from stakeholders across the livestock sector, this recognition showcases impactful solutions across value chains and inspires future actions toward integrated, sustainable, and health-oriented livestock systems.[1]

More than 407 applications from 72 countries were submitted to the FAO call and evaluated by an independent jury panel, representing government, the private sector, NGOs, civil society, and academia, with balanced regional representation, and quantitatively assessed all applications.

The Sustainable Animal and Aquatic Foods (SAAF) Initiative is the current follow-on program that builds on the next phase of the integrated herd health work. SAAF is working across a number of countries in Africa and Asia, including the pig value chain in Uganda and the small ruminants value chain in Mali.

[1] FAO. 2025. Recognition of good practices and innovations in sustainable livestock transformation, One Health, animal health and Reference Centres; https://www.fao.org/one-health/highlights/recognition-of-good-practices-and-innovations

Background

Our herd health management and policy stream works to improve livestock based livelihoods through food system integrated methods including: Developing and testing innovative approaches for livestock keepers to better manage the health and productivity of their livestock, including welfare and environments; Expanding the delivery of animal health services in low- and middle-income countries (LMICs); Enhancing the understanding, measurement and management of livestock disease burden; and Providing guidance for national and regional animal health programs, strategies and policies.

Our animal health research has strong synergies with One Health challenges, including food safety, antimicrobial resistance, pathogen emergence, and their solutions, concerning animal health and well-being and how we manage it.

Summary of the innovation

The innovation recognized by FAO focuses on the implementation of an integrated herd health package. The integrated herd health package focused on preventative herd health actions, and it included the consideration of animal welfare.

As a part of the Sustainable Animal Productivity for Livelihoods, Nutrition, and Gender Inclusion (SAPLING) Initiative, integrated herd health packages were developed for the small ruminant value chain in Mali, pig value chain in Uganda and the small ruminants value chain in Ethiopia. SAPLING employed a theory of change (ToC) approach, using participatory workshops to co-develop interventions by country and value chain. This means that the integrated herd health packages were developed with and for the next- and end-users to make them relevant.

Along with the integrated herd health packages being specific to these different contexts, their development was grounded in program-level objectives to ensure that it also addressed other critical components of sustainability, including gender equity and nutritional and food security. This holistic approach to herd health is empowering to the recipients of the program, with direct benefits to the well-being of both livestock keeping families and their animals.

An integrated herd health package approach gives livestock owners knowledge and technology on options for what they can implement in their system, and within their sphere of control. This approach means that they can innovate where they decide, considering their own needs, risk taking threshold and other intrinsic and extrinsic factors.

The integrated herd health package approach recognizes that improved livestock productivity with food security and greater livelihoods will not be achieved through improved animal health alone. However, a multiplicative effect is achieved when livestock genetics, nutrition and feeds are advanced in unison. Furthermore, improved livestock health and nutrition will improve animal welfare.

Because of the ToC process, different features were focused on in different integrated herd health packages, however, common features of the integrated herd health packages included:

- *Preventive health measures*: Regular vaccination programs were established to prevent common livestock diseases and disease surveillance for early detection were put in place for prompt response to outbreaks.
- *Animal nutrition*: providing balanced diets using locally available feed resources, improving overall animal health and productivity.
- *Veterinary services*: Community-based animal health workers were trained to deliver essential services, ensuring timely treatment and reducing mortality rates. Expanding the use of the private sector in livestock health service delivery was a part of this in Ethiopia for example.
- *Breeding and genetics*: Promotion of resilient and disease-resistant livestock breeds enhances herd quality and productivity.
- *Hygiene and housing*: Improved housing designs were introduced to protect animals from harsh weather and reduce stress and disease risk.

Interventions and capacity development activities on animal welfare were also included. This recognizes that healthy, well-treated animals are more productive and contribute to livelihoods and household nutrition. In addition

to health, housing and nutrition interventions, work included education and training that helped farmers understand the link between animal welfare and productivity, promoting compassionate and effective management. Stakeholder engagement incorporated questions and concepts of animal welfare to understand issues of animal welfare within the production system. This grounded concepts and action on animal welfare within the whole system perspective.

By integrating these approaches, SAPLING ensured that animal welfare was a key consideration when enhancing livestock productivity, which is a required consideration for sustainability.

Beneficiaries

FAO's recognition highlights the integrated herd health packages as a good practice with relevance for livestock keepers, animal health service providers, and decision-makers in livestock and animal health systems. The innovation was acknowledged for its potential to strengthen herd health management, expand access to quality animal health services, and support sustainable livestock development in low- and middle-income countries. FAO's selection also recognizes the model's value for informing policy, guiding future investment, and supporting scalable livestock health interventions under the Sustainable Animal and Aquatic Foods (SAAF) Science Program.

Outcomes and impacts

FAO recognition is based on the positive result of integrated herd health packages on people's livelihoods. We summarize here these results in the three countries where they were promoted by SAPLING.

Integrated herd health packages resulted in a behaviour change communication package targeting actors in Mali's small ruminant value chain; improved capacity of 132 farm service suppliers (17% women) and 701 farmers (52% women) benefited. The peste des petits ruminants thermotolerant vaccine was deployed with 50,000 sheep and goats vaccinated in Mali's Ségou, Koutiala, and Sikasso regions, thereby improving the productivity of 3,500 rural Malian households.

In Uganda, pig producers adopted improved herd health practices, thereby improving their productivity. Following delivery of the integrated herd health package in Uganda, farmers' understanding of the technical aspects of pig production has increased. Health management and application of biosecurity aspects, such as restriction of access to the pig units for the control of diseases, especially ASF and the importance of ensuring good hygiene in pig production. Farmers have learnt and gained knowledge in various aspects such as housing, adoption of watering nipples, change from rectangular to circular feeding troughs, biosecurity and piglet care. By the end of the program, an increased proportion of farmers were using improved floors, roofs, adopting the use of fences, drinking water nipples, administering iron injections for piglets and installation of drainage channels in pens. These innovations address the animal welfare domains of health, nutrition and environment, and accompany behavioral freedoms that pigs in these systems currently have (including maternal-piglet bonding, free farrowing, adequate stocking density and in many cases freedom to forage). Following the interventions, we observed improvements in key pig productivity indicators, as well as adoption of technical innovations. Results show changes in key reproductive indices post-intervention, with the number of piglets born dead significantly dropping after the intervention.

In Ethiopia, the integrated herd health package significantly reduced the morbidity and mortality of small ruminants. Synergizing with the EU funded Health of Ethiopian Animals and Rural Development project (HEARD), innovative Public Private Partnership animal health delivery models sustainably delivered vaccination, deworming and parasite control treatments to more than half a million animals, establishing private veterinary clinics that are still running years after the project intervention. Livestock keeper training improved flock health and welfare management knowledge, with flock owners having higher knowledge scores after the training. Crude morbidity and mortality were lower in those who had received the integrated herd health package, compared to controls. Most welfare indicators, especially those related to health, were better in the treatment group than the control group. In systems where behavioral opportunities within flocks are extensive, improvements in animal health have a significant net benefit to animal welfare. Income derived from small ruminants was better in the groups receiving the integrated herd health package than in the control groups, showing that the intervention improved income derived from small ruminants.

In summary, the interventions, outputs and outcomes of SAPLING's integrated herd health package are directly related to the FAO's work on animal health, leading to the recognition. The integrated approach of the packages

means that the delivery of technologies and capacity is efficient and is more likely to have both immediate and sustained impact as they approach several opportunities within the system at once. The integrated work on animal welfare within the SAPLING program contributes specifically to the animal health and sustainability. By ensuring livestock transformations are grounded in good animal welfare practices contributes to their sustainability. Additionally, better animal welfare can improve the livelihoods of farmers by reducing losses and improving the quality of livestock products; promoting animal welfare aligns with increasing global demand for ethical treatment of animals, fostering international trade; and, embedding animal welfare into discussions and capacity building work in SAPLING helps to define what animal welfare is and its relevance to sustainable livestock production.

Partnerships and collaborations

Cumulatively for the three years, SAPLING collaborated with 328 partners, of which 107 (33%) contributed to Initiative outcomes and 123 (38%) contributed to Initiative innovation development. Partner types comprised universities (34%); national agricultural research systems (33%); government (national and subnational) (13%); non-financial private companies (5%); international, national, and local NGOs (5%); and others (3%).

Theo Knight-Jones receives FAO recognition for ILRI's integrated herd health packages. Photo: ILRI.

Contact: animal_aquatic@cgiar.org

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