



Food and Agriculture
Organization of the
United Nations

FAO Global Conference on

Sustainable Livestock Transformation

Better production, better nutrition,
better environment, better life



FAO Headquarters, Rome (Italy)
25-27 September 2023

TWELVE SUCCESS STORIES



Twelve success stories of sustainable livestock transformation

FAO is organizing the [Global Conference on Sustainable Livestock Transformation](#) in Rome, Italy, from September 25 to 27, 2023. Simultaneously, there will be a joint exhibition highlighting sustainable livestock transformation and agricultural mechanization, held in the FAO atrium and outside building A, running from September 25 to 29. This exhibition will primarily feature livestock machinery and showcase 12 success stories in sustainable livestock transformation. Listed below are the 12 stories chosen from a pool of 158 submissions received during the [call for proposals](#) that was open from June 1 to June 16, 2023. The selection

process, conducted by an FAO task force, considered factors such as geographic diversity, stakeholder representation and type of livestock system.

During the conference, the presenters of these 12 success stories are expected to be present near their exhibits in the Atrium between 13:00 to 14:00 on September 25-27, 2023. This allows them to engage with conference participants and address any questions or inquiries related to their stories. Additionally, the joint exhibition's official launch, focusing on sustainable livestock transformation and agricultural mechanization, is scheduled for September 26 from 18:15 to 19.00.

Story 1

From a household initiative to a cooperative model: Empowering Tibetan families in China

CHINA

PRESENTER: MR RUIJUN LONG, PROFESSOR, LANZHOU UNIVERSITY

On the Qinghai-Tibet Plateau, where 95 percent of the yak population live, yaks are vital for milk, meat, wool, fuel and transport. Yet, challenges like grassland degradation, decreasing performance, and youth moving away from pastoralism impede yak production.

With numerous livestock but limited land, the joint-stock cooperative model has gained traction as it allows effective grassland, livestock and labour management. In 2014, locals formed the Laoerdu Cooperative, involving Lanzhou University and local government. They blended scientific with traditional knowledge on how to better utilize the rangelands under transhumance systems to boost yak production and ecosystem management.

This cooperative initiative increased yak milk output by 50 percent and average household incomes from 6,000 up to 18,500 RMB in 2022.

Furthermore, the cooperative restored >1,600 ha of rangelands and refined the practice of culling bulls at 4-5 years and cows at 9-10 years, hence curbing methane emissions by over 10 percent. Additionally, it eased the labour burden for women, as 60 percent of milking duties shifted to men.



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Story 2

Enhancing sustainable biosecurity in Viet Nam's poultry production

VIET NAM

Presenter: Mr Nhu Van Thu, *National Biosecurity Advisor, Emergency Centre for Transboundary Animal Diseases (ECTAD), FAO Country Office for Viet Nam*

Poultry is an important source of protein in Viet Nam with many individual households managing small and medium-sized parent flock farms or hatcheries to meet the urban demand and increase income. However, lack of guidance on sanitary operations leads to poor biosecurity conditions, affecting product quality, spreading pathogens and endangering worker health.

Between 2012 and 2021, the Government of Viet Nam, with FAO support, promoted good biosecurity practices in 102 biosecurity model poultry farms. Local authorities and farmers developed context-specific standards and promoted their adoption, with minimal financial support.

Consequently, farmers reduced production costs, particularly in model poultry farms, where a 30-50 percent decrease in antibiotic use was achieved due to a reduction in common diseases like chronic respiratory disease and diarrhoea. This led to increased profits, enhancing the sustainability of their livelihoods. These biosecurity practices were officially endorsed by the Vietnamese Government.



Story 3

Walking the last mile through dairy technical innovation

KENYA

Presenter: Mr Joseah Siele, *Researcher, Egerton University*

Kenya's smallholder farmers constitute 80 percent of dairy producers and contribute 56 percent of total milk production. However, many, particularly in Mogotio Sub-County, suffer from on-farm milk losses resulting from improper restraining, consumption by older calves, spoilage, and non-marketability of low-quality milk. The local cooling plant estimates that each household loses on average 32,940 litres of milk annually, exacerbated by limited access to advisory services.

In 2022, the Mogotio dairy innovation platform capacity-building programme was launched to equip existing government extension officers with skills and tools to work with dairy producers to tackle these issues.

Using mobile technology and face-to-face interactions, each extension officer now provides regular advisory services to more than 5,000 farmers, leading to a 20 percent increase in the amount of milk marketed. This reduction in milk losses has significantly improved farmer returns, with the average income from milk sales per household reaching 1,482,300 Kenyan shillings annually.



STORY 4

Transforming lives through poultry genetics

ETHIOPIA, NIGERIA AND THE UNITED REPUBLIC OF TANZANIA

Presenter: Mr Randall Ennis, *CEO, World Poultry Foundation*

Chicken production is crucial for smallholder producers, especially women, as it provides income and ensures food security and nutrition. However, in sub-Saharan Africa, it faces the challenge of low productivity. Previous attempts to boost productivity by introducing commercial stock from developed countries had failed as they are not suitable in the local context.

To tackle these issues, researchers at the International Livestock Research Institute and the World Poultry Foundation focused on genetics, feed and health to identify suitable and productive chicken under smallholder conditions.

The 110 on-farm tests done in Ethiopia, Nigeria and the United Republic of Tanzania demonstrated that commercial dual-purpose chicken genotypes achieved a remarkable 200 percent increase in egg production and a 300 percent increase in body weight compared to local breeds, resulting in a USD 288 profit per batch of 30 birds. By introducing viable business models and partnering with private hatcheries, they have successfully multiplied and distributed chickens to more than 2.4 million households across Africa.



Story 5

The all women-led cooperative championing manure management

INDIA

Presenter: Mr Niranjana Karade, *Senior Manager, National Dairy Development Board*

Managing livestock manure for agricultural benefits while minimizing environmental and health impacts is a challenge. In 2020, the National Dairy Development Board facilitated the creation of an all-women cooperative of 450 women dairy farmers from the Mujkva and Zakariyapura villages, Gujarat's Anand District.

By installing household-level biogas plants, these women met their cooking fuel needs. The cooperative then procured surplus slurry and enriched it with rock phosphate to yield Phosphate Rich Organic Manure, a sustainable alternative to chemical fertilizers.

Within two years, the women switched to cleaner biogas cooking, saving expenses of firewood. The sale of slurry to the cooperative generated monthly benefits of up to 4000 rupees. Additionally, systematic trials of these slurry-based fertilizers in farmers' fields allowed for a reduction of up to a 25 percent in chemical fertilizer use. This innovative model has been adopted by the Indian Government and replicated across 25 locations.



Story 6

Closing producers income gap in Brazilian livestock

BRAZIL

Presenter: Ms Daniela Mariuzzo, *IDH Brazil Executive Director and LATAM Landscapes Program Director*

Mato Grosso is home to the largest cattle population in Brazil with 34.3 million heads. This region is also a biodiversity hotspot, spanning the Amazon, Cerrado and Pantanal biomes, and is a primary producer of soy. However, it faces challenges, as many ranches are underperforming, and forest areas are cleared to expand production. Moreover, income and livelihood inequalities are commonplace.

Since 2016, actors in the Brazilian beef supply chain co-designed and implemented the “Sustainable Production of Calves” programme, with the support of the Sustainable Trade Initiative.

This programme targets smallholders in Mato Grosso engaged in calf breeding, seeking to reduce income gaps, promote environmental sustainability, regularize land ownership and improve credit access. It achieves this by fostering dialogue along the supply chain and supporting the creation of a comprehensive traceability system that guarantees the beef is “100% deforestation-free”.

To date, more than 600 farmers have benefitted from this programme by selling 2,800 tons of beef from 15,000 calves.



Story 7

Sbaihia site sets a model for agrosilvopastoral practices

TUNISIA

Presenter: Mounir Louhaichi, *Research Team Leader of Rangeland Ecology and Forages, International Center for Agricultural Research in the Dry Areas (ICARDA)*

The state-owned Sbaihia Site in Zaghouan, Tunisia, spanning 4,700 hectares, hosts a mosaic of croplands, rangelands and patches of Aleppo pine and Thuja forests. The site is key for agrosilvopastoralism, supporting 70 households dependent on sheep and goats and olive farming. However, it provides only 60 percent of livestock feed requirements, prompting overgrazing.

Between 2017 and 2019, ICARDA, FAO, and the Direction Générale des Forêts de Tunisie collaborated to restore the agrosilvopastoral system. The project implemented practices like water harvesting, selection and transplant of highly nutritive and palatable shrub and tree species (carob tree and tree medic), reseeding with sulla, a native forage legume species, and fee-based grazing according to number of animals and carrying capacity.

As result, the biomass at the restored site exceeded the control site by up to tenfold, and the cost of feeding dropped from TND 0.9 to 0.35 per day per head. The use of sulla, a melliferous species, also allowed local communities to begin beekeeping and hence diversify their incomes.



Story 8

Improving farmer livelihoods through Alpaca fiber certification

PERU

Presenter: Daniel Aréstegui Otazu, *Manager, Alpaca Civil Association of Peru (ASCALPE)*

Alpacas are vital for the Andean region, providing income to rural households in Peru. However, small and medium alpaca breeders, mainly women, face technology challenges, and take up to five years to achieve profitability as they struggle to get fair prices, often selling through intermediaries.

Between 2020 and 2023 a partnership between livestock producers and a private company introduced the Response Alpaca Standard (RAS) fibre certification system. Breeders were provided training and technical assistance in animal welfare, land and herd management, health plans, and record-keeping.

As a result, the birth weight of offspring increased by 5-10 percent while mortality decreased by 10 percent. Additionally, about 300 breeders saw a 20 percent income growth in 6 to 8 months, thanks to increased fibre value and production. Consequently, some of the certified breeders have become reference farms, attracting visitors and empowering women-led initiatives, improving their artisanal identity and connecting with Lima's exporting businesswomen.



Story 9

Beekeeping initiative boosts livelihoods and conservation efforts in Ghana

GHANA

Presenter: Ms Nicola Bradbear, *CEO, Bees for Development*

The Kwahu Afram Plains North District in Ghana's Eastern Region offers abundant resources for beekeeping with large and healthy wild honeybee populations yielding excellent honey flows 2-3 times a year.

Before 2019, local communities engaged in illegal honey hunting in Digya National Park, leading to strenuous work, unpredictable results, compromised honey quality and conflicts with park officials.

Since 2019, a nature-based beekeeping initiative providing low-cost hives and training has benefited the locals. Within five years, 300 beekeepers now sell honey and beeswax to a newly established enterprise, improving their economic situation and supporting education, farming, medical expenses and home improvements. Additionally, incidents of illegal honey hunting have been reduced by 50 percent as the demand for more beekeeping training grows, fostering forest conservation and protection from bushfires.



Story 10

Safeguarding honey producers and consumers from counterfeit honey

ITALY

Presenter: Giovanni Formato, *Head of Apiculture Laboratory, Istituto Zooprofilattico Sperimentale di Lazio e Toscana, Italy and Coordinator, BPRACTICES project*

Due to high demand, honey ranks as the third most adulterated product, following milk and olive oil. Unethical producers often mix it with substances like sugar syrup, endangering consumers' health by depriving them of genuine nutrients. This prevalence of fake honey complicates consumers' ability to ascertain its source and production methods.

To address these concerns, in 2017, the EU project BPRACTICES developed a traceability system for honey. This system has been implemented by a coalition of 12 beekeepers in Italy, who extract and bottle honey from about 120 beekeepers in their vicinity and offer this traceability service at no cost.

The project also introduced a QR code system to inform consumers about the honey's origin, apiary, beekeeper, bee treatments and other practices. Ultimately, this system builds trust between customers and beekeepers, ensuring well documented and informed connections between them.



Story 11

Restoring ecological balance with grazing management

AUSTRALIA

Presenter: Mr Austin Stuart, *Wilmot Co.*

In Australia's New England region, 'Wilmot Cattle Co' is spearheading change by revitalizing farmland through innovative grazing management. As a beef cattle breeding, trading and grass-finishing enterprise spanning 8,000 hectares, they have transitioned from conventional practices to regenerative approaches. This strategy involves infrastructure investments such as water systems and subdivided paddocks, enabling rotational cattle grazing and grouping into larger mobs.

The outcome has been a remarkable improvement in soil health, evident in a 187 percent increase in soil organic carbon and a 0-15cm soil carbon enhancement over 13 years. These grazing-induced carbon sequestration benefits have generated an additional income stream through carbon credit sales.

Furthermore, a 40 percent enhancement in animal performance has been attributed to heightened climate resilience, allowing uninterrupted grazing and trading, thereby boosting farm productivity and profitability. Their success underscores livestock's potential in combatting climate change by restoring soil organic carbon through well-managed grazing. (152 words)



Story 12

Young goat producers at the centre of ecosystem restoration

SPAIN

Presenter: Nicolau Pere Cerdà Pons, Managing Director, Formatges Tramuntana, Spain

In 2019, two young farmers embarked in goat production in the challenging Sierra-Tramuntana region, a UNESCO world heritage site characterized by water scarcity, rugged terrain and steep rocky slopes. They raised 60 Murciano-Granadina goats, a local Spanish breed, for cheese production, while preserving the heritage site. Additionally, they helped the land regenerate through practices like no-till, rotational grazing, use of nitrogen-fixing legumes and no chemical fertilizer.

Over time, the size of their herd has doubled, and their farm now yields 250 litres per day. Notably, their cheese was awarded in 2023 as the best organic product in the Balearic Islands. This success has led to high demand for their product.

Ultimately, this farm has not only contributed to revitalizing the environment through sound grazing practices, resulting in improved soil quality and the preservation of the ecosystem, but it has also inspired others to venture into livestock production as three more young farmers from their community have also embraced their regenerative model.

