



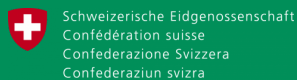
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Capitalisation note

Sustainable structuring of the ruminant sector between Santo Antão and São Vicente: local innovations for quality meat production in Cape Verde



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Project : Structuring the ruminant meat production sector on the islands of São Vicente and Santo Antão, strengthening production systems, product promotion and marketing

Country : Cap-Vert

Implementing institution : Associação dos Amigos da Natureza (AAN) and Associação de Criadores de Curral de Tortolho (ACCT)

Executive summary

The project implemented on the islands of São Vicente and Santo Antão aimed to sustainably restructure the ruminant sector by introducing innovations adapted to the constraints of island life. Activities focused on setting up a breeding centre, adapting a laboratory for artificial insemination, producing fodder using hydroponics and treated water irrigation, and promoting agricultural by-products such as enriched sugar cane bagasse. More than 2,000 m² of fodder crops were planted, high-potential breeding stock was introduced, and several technicians and farmers were trained.

A key lesson learned from the experience is that the success of such innovations depends on providing beneficiaries with progressive support, combining training, demonstration and technical assistance, as well as integrating equipment into viable, locally-driven economic models.

It is recommended that local insemination capacities be strengthened, sustainable fodder production chains be structured, and institutional partnerships be consolidated to ensure the technical, economic and health viability of the innovations implemented.

Key messages

- The project addressed a key challenge for the islands of São Vicente and Santo Antão: structuring a family-based ruminant sector that was unproductive and dependent on imports, by sustainably improving the quality of animal production, the resilience of livestock systems and local food security.
- To achieve this, it mobilised an innovative combination of activities: genetic improvement through a reproduction centre and a suitable insemination laboratory, local production of livestock feed from under-exploited resources (hydroponics, agricultural by-products), capacity building for livestock farmers, and the structuring of key infrastructure such as the municipal slaughterhouse.
- The project has made it possible to produce high-quality fodder locally at a lower cost, introduce artificial insemination in ruminant farming, and strengthen the technical skills of livestock farmers, thereby contributing to a better valuation of animals on local and tourist markets.
- The momentum generated around the circular economy, in particular through the valorisation of agricultural by-products such as enriched cane bagasse, has strengthened the autonomy of livestock farmers and created new economic opportunities at the local level.
- Experience shows that sustainable change requires gradual support for beneficiaries, combining awareness-raising, training and demonstration, and that the success of technical investments depends on their integration into viable economic models, supported by solid local structures and an appropriate regulatory environment..

Challenge

A poorly structured and low-productivity family farming system

On the islands of São Vicente and Santo Antão, ruminant farming is essentially a family and subsistence activity, practised by around 99% of producers. This farming system is characterised by low productivity, linked to structural, socio-cultural and environmental factors. These factors include the scarcity of land and water resources, soil fragility, extreme climate variability and the use of rudimentary production techniques. These constraints significantly limit the profitability of livestock farming and undermine producers' incomes.

The sector contributes only 1.2% to national GDP, but its local socio-economic importance remains significant, particularly in terms of resilience, poverty reduction, food and nutritional security, rural employment and household savings. Given the country's increased dependence on imports of animal products, strengthening local livestock farming appears to be a strategic priority.

A fragmented value chain between two complementary islands

The project was designed to better structure the ruminant value chain between Santo Antão, an island with high potential for fodder and animal production, and São Vicente, an island with a more commercial and consumer-oriented vocation. Despite this geographical and functional complementarity, the lack of coordination between stakeholders, appropriate logistical mechanisms and marketing optimisation measures limited the efficiency of the entire sector.

This imbalance increased the system's vulnerability to climate hazards, inter-island transport challenges, and the weak technical and organisational capacities of local stakeholders. This resulted in insufficient promotion of local products, poor supply to urban and tourist markets, and low remuneration for livestock farmers.

Expensive and externally dependent animal feed

Livestock feed relies heavily on imported inputs, the costs of which have been greatly exacerbated by the war in Ukraine, tensions on the global grain market, and rising sea freight prices. The lack of local fodder crops, the absence of a sector for the valorisation of agricultural by-products, and the lack of appropriate technological solutions (hydroponics, wastewater treatment, etc.) made access to quality animal feed difficult and unsustainable.

This increased dependence poses a structural threat, particularly during prolonged periods of drought, which are frequent in Cape Verde, and calls for innovative local solutions to strengthen the resilience of livestock farms.

An urgent need for technical and genetic modernisation

Despite the establishment of pig insemination laboratories, ruminant farming remained largely untouched by genetic innovations. Importing breeding animals is prohibitively expensive and logistically complex due to the country's insular configuration. The potential for introducing breeds with high meat production potential through artificial insemination remained under-exploited.

Local genetic improvement, combined with infrastructure upgrades (breeding centres, municipal

slaughterhouses, feed production units), was becoming essential to increase the quality and competitiveness of meat production, meet growing demand (particularly in the tourism sector), and reduce dependence on imports.

Economic opportunities not sufficiently exploited

Finally, the lack of organisation among livestock farmers and the absence of productive or commercial alliances structuring the sector limited their ability to access higher value-added markets. The sector remained largely invisible, poorly connected to public policy, and under-represented in the country's economic circuits. Municipal slaughterhouses, often under-utilised, did not meet current health or commercial standards, hindering product promotion and consumer confidence.

In this context, the project emerged as an integrated response to several levels of obstruction: genetic improvement, sustainable feeding, organisational strengthening, infrastructure modernisation, and integration into high-potential marketing channels (tourism, institutional markets). The challenge was twofold: to strengthen local food sovereignty and to position family farming as a sustainable and structuring economic driver for both islands.



In practice

Activities carried out

The intensification of quality meat production on the islands of São Vicente and Santo Antão mobilised a coherent set of technical and organisational innovations, responding to clearly identified needs within the sector. The project was based on an integrated approach, combining genetic improvement, local production of livestock feed, capacity building for farmers and modernisation of infrastructure.

The first steps consisted of engaging local stakeholders in a process of change through information

sessions, meetings and roundtable discussions. This phase enabled a participatory assessment of the livestock farming situation to be carried out, focusing in particular on gender integration, the number of animals owned per household and the expectations of beneficiaries.

A series of targeted training courses was then delivered. These covered livestock farm management, goat farming, conducting initial slaughter, carcass cutting and utilisation techniques, and reproductive biotechnology, with a particular focus on artificial insemination. These actions enabled farmers to adopt new practices and develop their ability to take advantage of the technical innovations available to them.

On the technical side, several infrastructures were strengthened or put in place. The reproduction centre of the Associação dos Amigos da Natureza was supplied with breeding stock with high meat-producing potential. A pig insemination laboratory was adapted for ruminants, laying the foundations for a wider deployment of artificial insemination in the sector. At the same time, a solar-powered hydroponic fodder production system was created, along with drip irrigation systems using treated wastewater from the island of São Vicente. These facilities have made it possible to start producing livestock feed locally, while making use of under-exploited local resources.

The project also introduced agricultural by-products, such as sugar cane bagasse enriched with urea, for the manufacture of livestock feed, in conjunction with the association's production unit. Training courses were organised on these new practices, particularly on pasture enrichment, compost cake production and preservation techniques..

Results achieved

The effects of the project quickly became apparent in the field. The breeding centre began to produce crossbred animals with characteristics superior to those of local species, even in the absence of immediate widespread use of artificial insemination. The technical capacities of livestock farmers were strengthened, and initial feedback from beneficiaries indicates a better understanding of production processes, meat preservation and feed formulation.

Hydroponic fodder production using treated water has been successfully implemented, with prospects for replication in other localities. The introduction of enriched bagasse has helped to make animal feed more accessible, while creating a sector for the reuse of agricultural by-products, in line with the circular economy approach.

At the institutional level, the strengthening of the breeding centre and insemination laboratory, as well as support for the development of viable business models for local structures such as the municipal abattoir, have laid the foundations for a more structured and quality-oriented livestock farming system. The project has thus helped to initiate a process of sustainable intensification, based on solutions adapted to the realities of Cape Verde's islands.

As a testimony to the supply of animal feed to farmers in Santo Antão and São Vicente threatened by drought and food shortages on the market, one beneficiary said : *« It was important, at a time when there was a shortage of the product on the market, farmers had great difficulty in obtaining feed. Thanks to this partnership, we are able to obtain it at a much lower price than the market price. We received 200 25-kg bags. »*

Challenges encountered

Several constraints slowed down or complicated the implementation of these innovations. The limited duration of the project, combined with a busy schedule and delays in the disbursement of funds, reduced the scope for carrying out all the planned activities on time. The project team, which was small in relation to the scale of the interventions, had to show a high level of commitment to meet the deadlines.

On the economic front, inflation and the general rise in input prices complicated the implementation of certain actions, particularly those related to construction, equipment imports and island logistics. The Covid-19 pandemic also hampered group activities, limiting the scope of collective training.

Finally, women's participation remained below initial targets, despite the project's efforts, illustrating the persistence of strong socio-cultural barriers to women's access to resources and opportunities in the livestock sector. Despite these challenges, adjustments were made along the way, notably by prioritising structural actions, pooling activities and strengthening communication with partners and beneficiaries. These efforts made it possible to maintain the project's ambition while ensuring the gradual adoption of the innovations introduced.

Lessons learned and recommendations

⊙ **Local adoption of innovations is based on a gradual process of awareness-raising, training and demonstration.** The introduction of new techniques, such as artificial insemination or feeding based on agricultural by-products, was well received when beneficiaries were informed in advance, involved in the diagnostic process and given targeted training. This progression, from awareness-raising to practical experimentation, facilitated understanding of the issues at stake and strengthened confidence in the project. In line with this approach, it would be appropriate to consolidate this sequence in future projects, allowing sufficient time and resources for the gradual development of stakeholders' skills before introducing more complex innovations.

⊙ **The use of local resources for animal feed is a strategic lever for resilience in an island context.** The transformation of sugar cane bagasse into enriched feed and the implementation of hydroponic systems have reduced dependence on imports and contained costs for livestock farmers. These actions have demonstrated that well-designed local solutions can mitigate the effects of global crises while creating new economic dynamics at the community level.

To prolong these effects, it would be wise to encourage the structuring of local supply chains around these raw materials, support entrepreneurial initiatives in this sector, and promote the exchange of experiences between territories with similar characteristics.

⊙ **The introduction of breeding technologies requires sustained support and an appropriate institutional environment.** While the project has laid the foundations for a local genetic improvement system, the practice of insemination remains limited by a

lack of local expertise, limited experience and logistical challenges. Although functional, the reproduction centre still needs to become more autonomous and efficient in order to meet the needs of livestock farmers. Strengthening the technical skills of local agents, developing partnerships with veterinary services and integrating these mechanisms into a national animal reproduction strategy would consolidate the gains made and enable wider dissemination.

- ⊙ **Technical infrastructure must be integrated into viable economic models to ensure its sustainability.** The establishment of fodder production units, breeding centres and an insemination laboratory is a major step forward. However, without a clear economic model, this equipment risks falling into disrepair or not being used to its full potential. Experience has highlighted the importance of combining technical investment with consideration of management, maintenance costs and services provided to beneficiaries. Support in developing realistic business plans, based on local demand and users' ability to pay, should therefore be systematically integrated into the design of similar projects.

- ⊙ **The effectiveness of actions in the field depends on strong local roots and shared governance.** The active involvement of the Associação dos Amigos da Natureza enabled smooth implementation that was adapted to the realities of the territory. However, institutional support would have benefited from being better distributed, with greater involvement of local authorities, decentralised technical services and professional associations. This would have allowed for better coordination, pooling of resources and greater ownership of the results.

With this in mind, strengthening multi-stakeholder coordination mechanisms and clarifying the roles of each party from the outset of the project would help to solidify local alliances and reinforce the impact of interventions.

- ⊙ **Integrating actions into existing regulatory frameworks promotes their recognition and sustainability.** Aligning activities with health standards and local policies, such as modernising the municipal abattoir or introducing a quality label, has led to greater institutional acceptance and strengthened the credibility of the project. This consistency with existing legislation also facilitated the mobilisation of public actors. It would therefore be useful in future initiatives to strengthen links with the authorities from the design phase onwards, to support the dissemination of regulatory texts to beneficiaries and to promote their practical application through training and educational tools.

- ⊙ **The social and economic impact of the project remains limited as long as equity, particularly in terms of gender, is not fully taken into account.** Despite a stated commitment to inclusion, the low participation of women highlights persistent barriers to their active involvement in the livestock sector. These barriers may be related to social norms, availability constraints or a lack of targeting in support mechanisms. To better address these challenges, gender analysis should be systematically integrated from the outset of projects, intervention methods (schedules, locations, training formats) should be adapted, and specific actions should be planned to empower women in value chains.

About this capitalisation note

This note is the result of a participatory capitalisation process conducted as part of the Programme to Support Livestock Marketing in West Africa (PACBAO). The aim of capitalisation is to document and promote experiences in the field in order to encourage learning, accountability and the scaling up of promising approaches. The information was gathered through interviews, field visits, document analysis and stakeholder consultations.

About the PACBAO programme

The Regional Programme to Support Livestock Marketing in West Africa (PACBAO) is an ECOWAS initiative with financial support from Swiss Cooperation (SDC). It is part of the implementation of the ECOWAS Regional Agricultural Policy (ECOWAP). It aims to create conditions conducive to increasing livestock farmers' incomes by leveraging the private sector in regional livestock trade and regional public institutions. During its first phase (2018–2023), the programme contributed to strengthening the institutional and operational capacities of ECOWAS and financed 16 pilot projects in 11 countries in West Africa and the Sahel, which generated around ten good practices and innovations. The pilot projects mainly aimed to increase livestock productivity, improve the competitiveness of meat produced in the region in the face of competition from extra-community imports, facilitate and modernise intra-regional livestock trade, and improve relations between value chain actors, facilities and means for processing and transporting red meat.

The second phase of the programme (2024–2028) is in line with this approach and will focus on scaling up existing innovative practices while creating favourable conditions for promoting the livestock and meat sector. Its overall objective is to help meet the red meat and meat product needs of the populations of West Africa and the Sahel through the development of intraregional trade in livestock and meat and the control of extraregional imports of meat products. Specifically, the second phase of the programme aims to increase the supply of livestock and meat in terminal markets by at least 2.6% and reach approximately 500,000 direct beneficiaries, 40% of whom are young people and women.

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