SRI LANKA’S LIVESTOCK SECTOR and CLIMATE CHANGE

Sri Lanka’s livestock sector plays an important role for food and nutritional security; climate change; sustainable consumption, production, and development; rural livelihoods; human health; animal welfare; and the environment. It is vital to integrate the livestock sector into Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and policies to increase resilience, food security, and rural livelihoods while minimizing adverse impacts.

LIVESTOCK in SRI LANKA

The livestock sector (including poultry) plays a vital part in food systems and livelihoods of rural households in Sri Lanka, with more than 600,000 registered livestock farms, most of which are small-scale. However, livestock is also one of the country’s economic sectors that is most vulnerable to the impacts of climate change.

![Livestock numbers without poultry (DCS 2020)](image)

Sri Lanka's livestock sector mainly comprises cattle, buffaloes, goats, sheep, pigs, and poultry. Animal production generated 119 billion rupees in 2018, up from 27 billion in 2010. Dairy and poultry form the vast majority of Sri Lanka’s livestock sector, with the dairy industry considered the most important area for investment and development. Sri Lanka has approximately 21 million chickens and 750,000 cattle and buffalo milk cows.

KEY TAKEAWAYS

- Dairy and poultry form the majority of Sri Lanka’s livestock sector, which is mostly organized around smallholder farming.
- Meat, milk, and egg consumption has increased significantly over the past decades, causing the sector to expand. Livestock contributes to deforestation, greenhouse gas emissions, and other environmental issues.
- Mixed smallholder farming systems can be far less harmful to environment and climate and build resilience of rural communities.
- The NDCs of Sri Lanka under the Paris Agreement and its NAP of Sri Lanka include livestock as one of the priority adaptation sectors to address climate risks.
- However, stakeholders and experts have identified a number of implementation gaps and needs for a sustainable and climate-friendly livestock sector, including the need for dedicated policies, reliable EIAs, research stations and academic research, improved financial and technical capacity, awareness of new breeding methods and breeds, and the need to establish a data system.

Annual milk production has increased by 65 million litres from 2015 to 2019 alone while there has been an eighty-fold increase of meat consumption and a tripling of egg consumption per capita since 1980.
ENVIRONMENTAL IMPACT

The livestock sector contributes to a number of environmental problems such as land degradation, water pollution, and biodiversity loss.

Cattle ranching causes deforestation and destroys carbon sinks resulting in destruction of carbon sequestration. Also, the native grasses as well as propagated varieties of pasture species on grazing lands established by forest clearing absorb less carbon dioxide than forest trees. On the other hand, a portion of the carbon absorbed from plant tissues by ruminants is released to the environment as carbon dioxide and the balance carbon also is released through cattle excreta and other animal products. Therefore, the contribution made by tropical forests acting as carbon sinks is not replaced by livestock rearing.

Furthermore, the pasture lands are mostly managed as monocultures and are inhospitable to many species of birds and invertebrates that require diverse habitats leading to loss of biodiversity. Trees and especially their roots protect soil from erosion and the loss of tree canopy results in fragile forest soil being further degraded causing depletion of soil nutrients due to the loss of leaves that provide it with nutrients.

Even though there are no cattle ranches on natural grasslands or cleared forest lands in Sri Lanka, nomadic systems of cattle farming use natural forests for grazing the cattle, causing degradation of forest lands. Sri Lanka’s forests currently cover 29.7% of the total land area. The NDCs of Sri Lanka target an increase to 32% forest cover by 2030. Achieving this target would require policies and laws to mitigate and control drivers of deforestation and degradation.

The livestock sector's mitigation potential lies in either in the reduction of production and consumption or in lowering emission intensity in production or a combination of both. According to the findings, the mitigation potential can be realized within the existing system making it less expensive and less time consuming than creating a new system. Similarly, the existing multiple trade-offs and competing demands for natural resources will intensify, but reducing livestock product demand in places and capitalizing on the positive aspects of livestock systems such as the potential for sustainable intensification of mixed...
Climate change is considered a major threat to Sri Lanka's livestock sector. The rising temperatures and uncertainties in rainfall patterns associated with global warming are projected to increase the frequency and magnitude of climate variability and extremes. These include droughts, floods, and heat stress as well as secondary risks such as reduced yield and quality of feed crops, pasture availability, water logging, disease risks from new pathogens and vector increase, and changes in growing seasons of forage crops. The impact of livestock rearing on the environment and climate as well as its use of resources will continue to grow if Sri Lanka does not adopt sustainable policies and practices.

Livestock rearing could be less harmful for the climate if conducted as part of mixed farming systems, smallholder or pastoralist systems, and on a smaller scale than the industrialised approach. The climate benefits from low-impact approaches to livestock rearing will likely arise from the reduced deforestation pressure to clear land for growing huge amounts of feed grain. In the Global South, traditional livestock rearing systems can have a low climate impact, and could even provide environmental benefits when conducted in a small-scale, crop-stock integrated manner. Also, in areas vulnerable to crop failure from climate change, keeping goats and chickens on a small scale can provide climate-resilient livelihoods to local communities.

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The NDCs contain livestock as one of the adaptation sectors and build on the NAP commitments for their implementation. They comprise the following:

1. Identification of vulnerability in the livestock sector
2. Introduction of adoptive measures to avoid or minimize adverse effects
3. Introduction of alternative measures to minimize adverse effects of climate change
4. Identification of potential clean and renewable energy sources for livestock related activities
5. Adaptation of integrated waste management systems
6. Promotion of responsible consumption and sustainable production
7. Enhancement of education, awareness, and capacity building

GAPS and NEEDS for CLIMATE ACTION

Existing gaps and needs for the implementation of NDCs for the livestock sector can be categorized under key areas of focus such as gaps and needs related to laws and policies, gaps and needs related to coordination and implementation of activities for sustainable livestock production, gaps and needs related to enhancing the institutional capacity of relevant agencies, and other sector-specific gaps.

Gaps and Needs Related to Laws and Policies:
Except for the absence of legal provisions to ensure animal welfare and humane slaughter of animals, the existing legal framework of Sri Lanka
provides entry points for promoting sustainable production in the livestock sector. However, there remains a need for programmes and tools that promote sustainable production and consumption of livestock produce. A key reason identified for non-compliance of laws in meeting environmental standards in the livestock farming is highlighted as gaps and needs in the Environment Impact Assessment (EIA) process, which has led to certain stakeholders identifying it as a cumbersome process, and requiring enhanced institutional coordination and facilitation.

Gaps and Needs Related to Coordination and Implementation: Among the gaps and needs related to coordination and the implementation of activities in the livestock sector on sustainable consumption and production are the coordination gaps related to Environment Protection Licenses, promotion of local production of feed and forage resources for livestock farming with little pressure on land use, and use of for cattle grazing etc. Similarly, effective coordination between the central Department of Animal and Health (DAPH) and its provincial counterparts is crucial for implementing livestock sector NDCs and promoting sustainability. Among recommendations received through multi-stakeholder consultations is also the need for identifying mechanisms for better coordination of activities among the different institutions for sustainable livestock production.

Gaps and Needs in Institutional Capacity of Relevant Agencies: Enhanced technical expertise on climate action, including areas of mitigation actions, interventions for adaptation, just transition, and better integration of climate risk management into livestock sector plans and policies is among the key gaps and needs highlighted by stakeholder inputs. Further, this includes expertise and awareness on new breeding methods, breeds, and breeding material suitable for vulnerable climate conditions. The need for capacity-strengthening programmes of relevant institutions to introduce technological interventions was also identified as a key need. To ensure that livestock sector is sustainable and climate friendly, it is important address the institutional needs to ensure that activities conducted are facilitated through additional and the recent science on climate change and sustainable development.

WAY FORWARD

Sri Lanka’s livestock sector is vulnerable to the impacts of climate change which need to be addressed with policies, plans, and actions. Integrating climate change mitigation, adaptation, sustainability, and humane treatment of animals into the country’s livestock sector could contribute to enhancing resilience and climate action, especially in the country’s rural households.

REFERENCES

- World Economic Forum (2019). Options for the Livestock Sector in Developing and Emerging Economies to 2030 and Beyond.

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