# TRACKING ADAPTATION IN LIVESTOCK SYSTEMS

## KEY MESSAGES

A new tool–**Tracking Adaptation in Livestock Systems** (TAiLS)–helps governments to take stock of climate adaptation efforts in the livestock sector.

The **web-based tool** was developed collaboratively, integrating inputs from various governmental stakeholders as well as livestock keepers from across diverse production systems.

The TAiLS tool covers three dimensions – **climatic hazards, climate change impacts, and adaptive capacity and actions** – and a large number of indicators.

TAiLS tool supports countries' reporting requirements under the Paris Agreement, and may **help to channel funding towards adaptation** where it's needed most.

The development of the TAiLS tool also offers **broader insights for advancing adaptation tracking**, including the need to include diverse actors, work collaboratively, and tailor methodologies to local contexts.

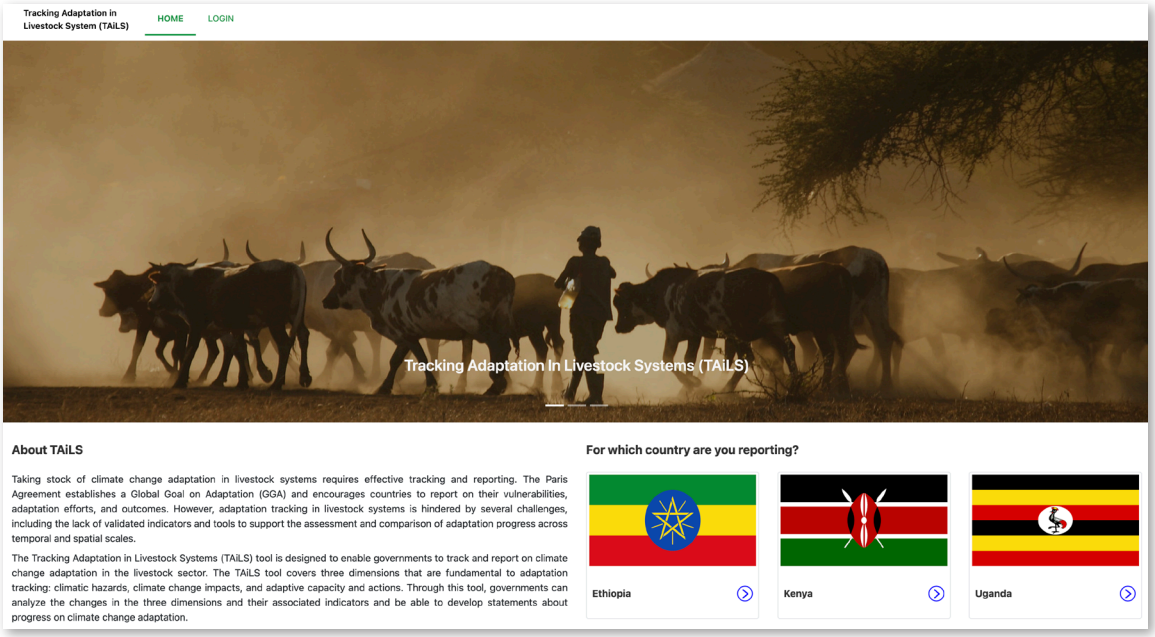
## SUMMARY

Taking stock of climate change adaptation requires effective tracking and reporting. The Paris Agreement established a **Global Goal on Adaptation**, and encourages countries to report on their vulnerabilities, adaptation efforts, and outcomes.

But adaptation tracking in livestock systems–and many other sectors, too–is hindered by challenges such as the lack of validated indicators and tools for assessing and comparing adaptation progress across temporal and spatial scales.

To address this, the International Livestock Research Institute (ILRI), in collaboration with government officials, livestock keepers, and researchers in Ethiopia, Kenya and Uganda, has created a new tool, dubbed **TAiLS–Tracking Adaptation in Livestock Systems**.

The tool has been prototyped with government officials in these countries and has already gained significant buy-in. The development of the TAiLS' tool also offers insights for adaptation tracking more generally, highlighting the need to foreground collaborative, fit-for-context approaches to its design and implementation.




Screenshot of the login and home page of the TAiLS tool, featuring the three focus countries of Ethiopia, Kenya and Uganda. Source **https://tails.ilri.org/**

## THE CHALLENGE

As the impacts of climate change deepen and widen, agriculture in many parts of the Global South sits at the sharp edge of humanity's resulting struggle. In East Africa alone, about 8.9 million livestock died from drought in 2022, with disastrous impacts for farmers and livestock keepers' food security and livelihoods.

In this context, **adaptation actions are an urgent priority**, and they also need to be tracked in order to synergize actions across and within sectors and countries. Adaptation tracking should also help to channel funding to where it's needed most; and to meet international reporting requirements.

The Paris Agreement requires countries to submit Nationally Determined Contributions (NDCs), which reflect each country's commitments to climate mitigation, adaptation, and the mobilization of resources for climate action. It has also established a Global Goal on Adaptation, along which countries can track and evaluate adaptation efforts and outcomes.

The implementation of adaptation tracking for international reporting is hampered by a lack of agreed methodologies and data. **Adaptation is an abstract and multi-faceted concept – not a discrete physical object like methane. As such, tracking and reporting on it requires methodological innovation and concensus on frameworks that integrate actions at multiple scales** – from farm-level shifts in technologies and practices, to policy reforms and investments by sub-national, national, and regional actors.

Livestock production systems are also very diverse, and entail complex interactions between economic, social, environmental, and political dimensions – all of which impact their relative climate vulnerability, and the feasibility of different adaptation options. Significant gaps in the sector's data systems complicate the picture even further.

> **"It's a privilege to benefit from a process that is going to come up with a tool that will enable us to look at the interventions we have. The tracking tool is a novel idea that would support us in understanding, at the programmatic level, the progress we are making."**
>
> **BERNARD KIMORO**
> Head Climate Change and Livestock Sustainability Section
> Kenya Ministry of Agriculture, Livestock and Fisheries

## OUR INNOVATION

Enter the International Livestock Research Institute (ILRI)'s new tool TAiLS – Tracking Adaptation in Livestock Systems. Developed in collaboration with government officials, livestock keepers, and researchers in Kenya, Uganda, and Ethiopia, the web-based tool enables national governments to track and report on adaptation efforts and results in their respective livestock sectors.

To develop the tool, the scientists worked closely and iteratively with **research partners, policy makers, and livestock keepers in Ethiopia, Kenya, and Uganda** to develop adaptation tracking indicators that were simple to use, fit for purpose, and aligned with their respective plans and priorities. Through this process, the researchers gained significant governmental buy-in. The **alignment of the tool with existing government systems of producing data** also enhances the chances of the tool being continuously used while reducing the data collection and reporting burden.

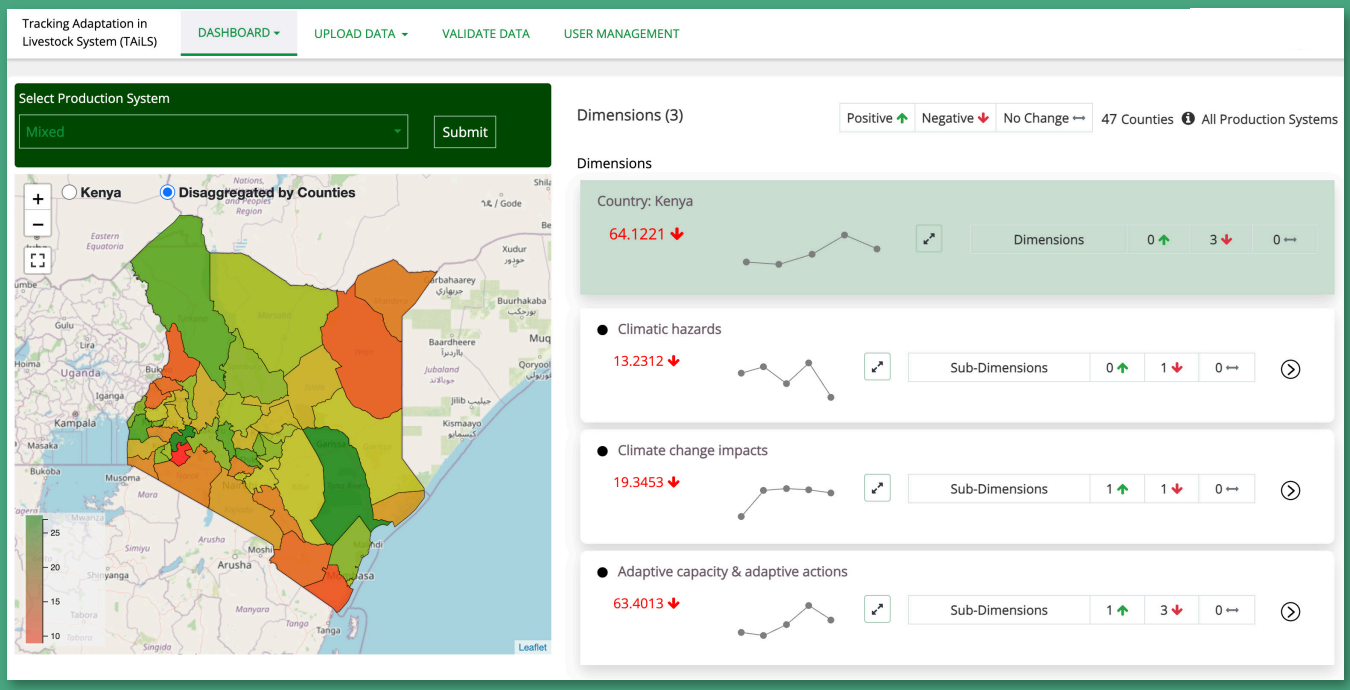
The completed tool covers three dimensions that are fundamental to adaptation tracking: **climatic hazards, climate change impacts, and adaptive capacity and actions**. It uses around 96 indicators associated with these dimensions to capture changes within and between different populations – including different parts of natural and social systems, such as the quality of the pastures and the relevant institutional reforms.

To use the TAiLS tool, **accredited users upload data** which is then validated, 'cleaned up', processed, and visualised to show progress over time and variation across space. It also shows aggregated adaptation progress at the national level, as well as variation between countries.

The ability to capture adaptation across scales and diverse indicators offers potential for governments and donors to acquire a richer picture of how adaptation is progressing. It allows for comparisons among different geographical regions and enables them to push for more support where it's most needed and best applied, by showcasing countries' actions or inactions with existing resources.

For the livestock sector, in particular, demonstrating the contribution of livestock to adaptation could also help shape the discourse on the role of livestock in climate action at national and global scales.


Climate adaptation measures in important sectors like dairy are crucial for meeting growing milk demand in countries in East Africa, supporting livelihoods and nutrition. Photo ILRI/Kabir Dhanji




**SCREENSHOT OF THE KENYA DASHBOARD:** The completed tool covers three dimensions that are fundamental to adaptation tracking: climatic hazards, climate change impacts, and adaptive capacity and actions. It uses around 96 indicators associated with these dimensions to capture changes within and between different populations.
Source https://tails.ilri.org/

## NEXT STEPS & FUTURE COLLABORATION

The next step in the tool's development consists of training relevant national and sub-national government officials across the three countries on how to use the tool and providing support towards institutionalizing adaptation tracking. Additionally, it is crucial to integrate this adaptation tracking tool into agriculture more broadly. International reporting will be sectoral and will necessarily include crops and livestock, requiring the integration of these sectors to provide a comprehensive assessment of adaptation progress.

The development of the TAiLS tool also provides valuable insights for advancing adaptation tracking in other sectors and countries. Discussions in the policy space are evolving rapidly – including the intent for countries to establish an adaptation tracking framework at COP28.

In highlighting the lessons from developing adaptation tracking tools such as the TAiLS tool, the design of the global framework can be informed by countries' tracking experiences and a consideration of the implications of such a framework moving forward.

For example, the extensive research that informed the development of the TAiLS tool reveals the diversity in actors' experiences of climate risks, adaptation options, adaptive capacities, and aspirations. This shows the importance of involving diverse actors in the design of adaptation tracking tools – including livestock keepers who are already suffering from the devastating impacts of climate change.

The research also highlights that countries have distinct structures and processes for producing data that are relevant for adaptation tracking, which means adaptation tracking methodologies must be tailored carefully to each country's context, in order to leverage existing data systems and increase the likelihood of sustained tracking and reporting.

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## FOR MORE INFORMATION

**https://tails.ilri.org/**

Njuguna L, Biesbroek R, Crane T, Tamás P, Dewulf A. 2022. Designing fit-for-context climate change adaptation tracking: Towards a framework for analyzing the institutional structures of knowledge production and use. Climate Risk Management, Volume 35. https://doi.org/10.1016/j.crm.2022.100401.

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Njuguna L, Crane T. Forthcoming. Tracking climate change adaptation in the livestock sector: insights from co-producing the Tracking Adaptation in Livestock Systems (TAiLS) tool. In Designing climate change adaptation tracking in the livestock sectors of eastern Africa: a case for creating cross-scalar linkages. Doctoral dissertation, Wageningen University & Research

The **CGIAR Research Initiative on Livestock and Climate** is designed to address the challenges that climate change poses to livestock production, providing livestock-keeping communities with the support they need without accelerating greenhouse gas emissions or degrading land, water, and biodiversity.