



Junior Scientists Tandems

Final Report

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Start and end date of stay at IARC/ GRI: 5th June 2025-5th Dec 2025

Title: EVOLUTION OF PASTORAL INFORMATION SYSTEM FOR RANGELAND GOVERNANCE AND MONITORING AMONG THE RENDILE AND BORAN

Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ)



This report presents an account of my six-month career exploration stay as an ATSAF Junior Scientist, funded by the Arbeitsgemeinschaft für Tropische und Subtropische Agrarforschung (ATSAF). The program, which ran from Jan 2025 to March 2025, was hosted by the International Livestock Research Institute (ILRI) in Kenya and enriched by an exchange with the Deutsches Institut für Tropische und Subtropische Landwirtschaft (DITSL) in Witzenhausen, Germany from June to November 2025. It combined field-based research in Northern Kenya with mentorship, institutional exposure, and professional development, and it offered me the opportunity to grow as both a researcher and an early-career scientist learning how information is generated and shared among pastoralists.

At ILRI, my host institution in Kenya, I worked under the mentorship of Dr. Alessandra Galiè, whose guidance and support went far beyond academic supervision. She encouraged me to reflect on the broader relevance of my work for gender, equity, and resilience in pastoral systems. My academic supervisors, Dr. Hassan Guyo and Prof. Oliver Wasonga of the University of Nairobi, anchored my research in rangeland ecology and pastoral livelihoods, while at DITSL, I benefited from the support of Dr. Patricia Kiprono, Dr. Lilli Scheiterle and Prof Brigitte Kaufmann during data analysis and thesis writing, where their feedback sharpened my analytical and writing skills. At DITSL, I found a stimulating and collegial atmosphere thanks to Dr. Christian Hülsebulch, Jenny Wagner, Ute Dietrich, and Inka Seibel, whose openness and encouragement created a productive and welcoming environment for me to learn and share ideas. I was also introduced by supervisors at DITSL to Tropentag conference, I sent my abstract and I was selected for a poster presentation to share part of my research work and it was one of the best platforms for networking and also to get feedback on my study. Below is a photo from Tropentag 2025, Bonn,



The fieldwork component of my study was conducted in two main regions: Sololo (Moyale Sub-County) among Borana communities and Lower Laisamis (Laisamis Sub-County) among Rendille communities. In Laisamis, I held focus group discussions with 10 elders and 10 youth across Imooti, Lependera, Mpagas, Mpang, Ngurnit, Namarei, Dupsahai, and Hargurayo, where participants shared how information systems are organized and have evolved within their grazing institutions. Similarly, in Sololo, I conducted FGDs with 8 elders and 7 youth from Ariya, Oga, Walda, Dadach Elele, Bori Junction, Bori Godha, Adadi, Ambalo, and Badaan Rero. To complement these group discussions, I carried out 14 semi-structured interviews in each area—28 in total—with active herders and knowledgeable elders who provided deeper insights into daily practices of information gathering, interpretation, and decision-making. In addition, I conducted 10 narrative interviews in Laisamis and 6 in Sololo, which allowed me to collect life histories and detailed accounts of how individuals and families navigate pastoral information flows across seasons and crises. These diverse methods not only ensured inclusivity capturing perspectives of both youth and elders but also gave me the opportunity to triangulate findings, strengthening the reliability of the insights into how pastoral information systems are changing in both Borana and Rendille contexts. My fieldwork was facilitated by the Centre for Research and Development in Drylands (CRDD), where I received technical guidance and field support from Dr. Hussein Tadicha. CRDD helped me navigate pastoral institutions and build trust with communities, making data collection both smoother and more meaningful. Walking with herders during grazing and water search trips gave me first-hand exposure to how ecological indicators are read and how decisions are made in real time. These experiences were transformative, deepening my participatory research skills, cultural sensitivity, and adaptability in challenging environments.

Photo from an FGD sessions in Lower Laisamis





My research focused on the evolution of the pastoral information system for rangeland resource governance and monitoring among Borana and Rendille pastoralists. Initially, pastoralists relied primarily on information about pasture and water, gathered through direct ecological observation, indigenous forecasting, and oral communication networks led by elders. Over time, however, their information needs expanded to include markets, veterinary services, weather forecasts, invasive species, security, and development interventions. The system has become more hybrid and transdisciplinary, combining indigenous knowledge with scientific data, NGO bulletins, mobile phone updates, and institutional advisories. I identified several types of information ecological, market, veterinary, climate, security, and development-related gathered and shared through a variety of actors and channels. Elders, grazing councils, herders, traders, veterinary officers, NGOs, government agencies, and increasingly youth and women all play a role in generating, validating, and transmitting knowledge. Information is exchanged through oral networks, direct observation, radios, mobile phones, community meetings, and even social media platforms among younger herders.

The system has changed significantly, evolving from being localized and ecologically centered to being multi-layered and anticipatory. This transformation has brought strengths such as diversity of sources, cultural legitimacy through traditional institutions, and opportunities for innovation. It has also exposed weaknesses, including unequal access to information among women and poorer households, conflicting messages between scientific and indigenous forecasts, and growing dependence on external actors. Despite these challenges, the pastoral information system remains vital for resilience, helping herders adapt to climate shocks, market fluctuations, and insecurity.

Beyond the field, my career exploration stay at ILRI exposed me to a vibrant international research environment. I attended seminars, interacted with scientists working on pastoral systems, policy, and climate adaptation, and saw first-hand how research connects with development outcomes through partnerships with governments, NGOs, and communities. This broadened my understanding of livestock systems beyond my own project and reinforced the importance of working across disciplines and scales to address complex challenges.

The program concluded with my stay in Witzenhausen, Germany, where I was hosted at DITSL. This was not only an academic experience but also a cultural one. Living in a German university town introduced me to new traditions, social norms, and ways of learning. I was struck by the openness and structure of academic discussions, as well as the collegiality that characterized daily life at DITSL. Beyond academia, I enjoyed experiencing local food, traditions and the rhythms of German life. This immersion taught me patience, openness, and adaptability, while also strengthening my intercultural competence an essential skill for international research collaborations.

Reflecting on this journey, I realize how much my perspective has shifted. I began with the assumption that pastoral information systems were primarily about accessing ecological data, but I discovered that they are far more complex, embedded in social, cultural, political, and economic contexts. I came to appreciate that pastoralists are not merely users of information but active producers of knowledge who interpret and adapt both indigenous and scientific inputs. This realization underscored the importance of transdisciplinary approaches that place pastoral voices on equal footing with scientific expertise.

This stay would not have been possible without the support of many individuals and institutions.

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I am deeply grateful to ATSAF for financial support, to ILRI for hosting me in Kenya and to Dr. Alessandra Galiè for her mentorship, to Prof. Oliver Wasonga for academic guidance, to Dr. Hassan Guyo, Dr. Patricia Kiprono, Dr. Lilli Scheiterle, and Prof. Brigitte Kaufmann for their scholarly input, and to Dr. Christian Hüselbulch, Jenny Wagner, Ute Dietrich, and Inka Seibel for creating a supportive environment at DITSL. I also thank Dr. Hussein Tadicha and the CRDD team for their expertise and facilitation, Mr. Raphael Gudere in Laisamis and Mr. Gabriel Kasha in Sololo for their tireless assistance, and my colleagues Malit Wako, Rufo Roba, and Wilhelmina Nuule for their moral support. Above all, I thank the Borana and Rendille pastoralists who generously shared their knowledge, time, and experiences with me.

My ATSAF Junior Scientist stay was far more than a research program. It was a career exploration journey that strengthened my academic and professional skills, connected me with global networks, and deepened my commitment to bridging science, practice, and community knowledge. It was a turning point in my academic journey and a foundation for my career as a researcher dedicated to sustainable rangeland management and pastoral resilience.