

# Standing Wealth Pastoralist Livestock Production and Local Livelihoods in Sudan

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This is the second in a series of Policy Briefing Papers which form part of the Environment and Livelihoods component of the UNEP Sudan Integrated Environment Project, funded by UKaid from the UK Department for International Development (DFID). This paper highlights the importance of pastoralist livestock production for Sudan's economy, and outlines ways in which pastoralism can be supported in the future. It is based on a research report (UNEP, 2013 'Standing Wealth: Pastoralist Livestock Production and Local Livelihoods in Sudan'), authored by Saverio Krätli, Omer Hassan el Dirani and Helen Young, that can be found on the UNEP and Tufts websites. See: <http://www.unep.org/sudan> or <http://sites.tufts.edu/feinstein/>



### 'From strength to strength': Improving a system that delivers

This briefing paper presents the main findings of a research study carried out by

the Feinstein International Center at Tufts University which examined the ways livestock management systems in Sudan contribute to securing livelihoods and the wider economy. Research was carried out between February and May, 2012, in Khartoum, West Darfur, North Kordofan and Gedaref states, with three case studies on sheep, cattle and camel production systems in North Kordofan.

Livestock is a towering asset in today's Sudan and key to the country's economic future. The available evidence concerning the characteristics of the supply (states of origin, breed composition and seasonality) indicates that most livestock in Sudan is produced under pastoral conditions. However, this vital part of primary production is poorly captured in official statistics and monitoring mechanisms, and 'pastoral systems' are poorly defined. Thus blindfolded,

interventions for developing the livestock sector risk being off target or, worse, precipitating irreversible damage carrying incalculable costs<sup>1</sup>. Based on a fresh look at what makes pastoral systems operate successfully, this policy briefing paper discusses measures for unleashing the potential of Sudan's livestock sector by capitalizing on the strengths of existing primary production.

### Main finding: A specialization to turn a 'problem' into an asset

Livestock represents 60% of Sudan's agricultural GDP, about 50% of recorded agricultural exports and, by value, the largest sub-sector of the domestic economy (Behnke and Osman 2011). This leading position is held with high levels of specialization and minimum input of external resources. The vast arid and semi-arid territories of Sudan are a valuable resource for animal production, provided that livestock can access pasture selectively. Variable and patchy rainfall means that nutrients become available in unpredictable and ephemeral concentrations. Nutrients accumulate in the plant until they are used by the plant itself to complete its cycle. For livestock, accessing plants when their nutrient content is peaking makes the difference between abundance and scarcity (Krätli et al 2013).

<sup>1</sup> See Sulieman and Elagib 2012; Osman 2011; Fahey and Leonard 2007; Young et al 2005.





Hamari sheep near El Khowei, North Kordofan

In the sheep, cattle and camel systems of North Kordofan, moving livestock strategically over the range to capitalize on these ephemeral pockets of abundance is the key to prosperity, both for 'sedentary' and 'nomadic' producers: when the scale of operations is large enough to allow it, livestock is kept mobile. The sedentary communities in our sample used a pastoral management system with mobility patterns ranging from 60 to 150 km from the village for nine months of the year. Similar strategies are used by livestock traders moving their animals on the hoof to the terminal markets. We expect this to hold true for all pastoral production making use of the arid and semi-arid rangelands of Sudan. Supporting and developing the strategic mobility of livestock according to the logic of pastoral systems is therefore a main avenue to increase the productivity of the agricultural sector as a whole.

## Other findings: A system deeply interwoven in the national economy

Pastoral systems support thousands of jobs and substantial markets well beyond the immediate circle of livestock primary production. The livestock sector's contribution to Sudan's agricultural GDP for 2009 is estimated at between 26.670 and 33.843 billion SDG, while the contribution to exports amounted to 0.581 billion SDG (Behnke and Osman 2011). Thus for 2009 the value of livestock exports, although significant, was about 2% of the value of the domestic market. Livestock in pastoral systems also plays an important economic role *before* reaching the market, supporting hundreds of thousands of pastoral households (Census 2008; Behnke and Osman 2011). Based on our conservative estimate, the value of subsistence milk alone at the time of the census was certainly above 1 billion SDG per year (or 500 million USD). Livestock financial services (investment/credit and insurance) have been estimated, for 2009, in the order of 25 billion SDG (Behnke and Osman 2011). Pastoral livestock generates jobs and auxiliary markets all along the market

chain. Based on the sparse data available, we identified at least 34,000 full-time jobs supported by pastoral systems outside primary production, and a volume of business of at least 350 million SDG beside livestock trade. Behind each 'full-time job' there are several part-time workers and numerous dependents benefiting from the activity. As these figures are the result of conservative calculations on only sections of the value chain, we expect actual comprehensive values to be several times bigger. These goods and services associated with pastoral primary production are invisible to standard methods of market-based appraisal.

## A policy for staying ahead

Areas of intervention that could assist the development of a vibrant and sustainable livestock sector based on the principles of pastoral production include:

***Securing the conditions for livestock mobility according to the logic of pastoral systems: that is, improving reliable and timely access to pasture where and when nutrients peak.*** ►

- Crucially, interventions must engage with the existing systems of production, and distinguish between the inner logic of pastoral systems and distortions and adjustments following stress or constraints. A comprehensive policy on pastoralism based on the AU framework (African Union 2010), and supported by a clear code of law, is urgently needed to regulate pastoral activities and their interactions with other production systems<sup>2</sup>. Of particular urgency are the restoration of security in pastoral areas and along transhumance routes, and the regulation of the emerging markets in land (in pastoral areas), water for livestock, and crop residues.

***The wider policy and legal instruments concerning the livestock sector need to include the domestic market, and engage with it in a proactive and supportive way—the economic value of pastoral production systems needs to be fully analysed to capture value which is currently hidden.*** ►

- At the moment, much is invisible to official mechanisms for monitoring and analysis, starting from the full scale of the domestic market and subsistence economy (e.g. milk). The present gap in data collection and the obstacles to disaggregate analysis of national datasets need to be overcome<sup>3</sup>. Legal instruments and decision making mechanisms across the relevant sectors need to be reviewed, to encompass the full economic contribution of pastoral use, and to legitimate the forms of land use and development characteristic of pastoral systems.

<sup>2</sup> Cf. Kenya's policy for the development of arid and semi-arid lands (RoK 2012).

<sup>3</sup> Hesse and MacGregor (2006) have drawn attention to the contribution of pastoral systems not only to the national economies but also to environmental services, domestic biodiversity, development of skills and knowledge.



Water bladder near Tinna, North Kordofan



An effective and equitable integration of pastoral systems with the national framework is urgently needed. If pastoralists are to be convinced that the state operates in their interest too, the issue of equity must be addressed and must be in the foreground in developing a general policy on pastoralism and a pastoral code. In the meantime, existing rules and regulations to protect pastoral resources should be enforced, alongside those safeguarding other livelihoods. In litigation between farmers and pastoralists, a guarantee of justice should operate for both parties. Taxation of pastoralism should be rationalized in a coherent system, clearly linking the payment of taxes to an appropriate return in services and governance.

**The regeneration of human resources and institutions specialized in mobile pastoral production should be secured. ►**

► The culture of pastoral production systems needs to be safeguarded as key to their sustainable and productive functioning. Provision of basic services to primary producers, especially in the key areas of education<sup>4</sup> and health, must be tailored around the production system. Understanding of pastoral systems and their mobility strategies should also be promoted through staff training, the media and the curricula of formal education. The penetration of pastoral systems by new players using livestock only as a form of investment should be monitored and regulated, and the long-term economic and ecological implications of a large-scale use of pastoral systems for financial investment should be assessed.

<sup>4</sup> For a strategy for delivering formal primary education to mobile pastoralists outside the school model, see MDNKOAL 2010.

**An approach to the modernization of the livestock sector which constructively engages with pastoral systems and enshrines the participation of pastoral producers is long overdue. ►**

► Programmes for modernizing agriculture invest comparatively little in pastoral systems. Investments for the livestock sector have focused on the off-the-shelf solutions of globalized intensive agriculture (e.g. mechanized dairy plants and large-scale abattoirs). These interventions portray pastoral systems as antagonistic to modernization. Instead, modernization should build on producers' own successful strategies without undermining the coherence of the pastoral production system. As pastoral systems use the environment in a fundamentally different way than globalized intensive agriculture—working *with* environmental variability rather than *against* it—genuine modernization must take this difference into account, mobilizing scientific research and technological development, in a dialogue with primary producers, in order to generate innovative solutions *specific* to the logic of production in pastoral systems. Cases of 'spontaneous modernization' should also be identified, studied, and if possible developed and replicated.

It is hoped that the thoughts expressed in this brief will be considered by government and non-government planners and decision-makers now engaged in policy making and interventions in Sudan.



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