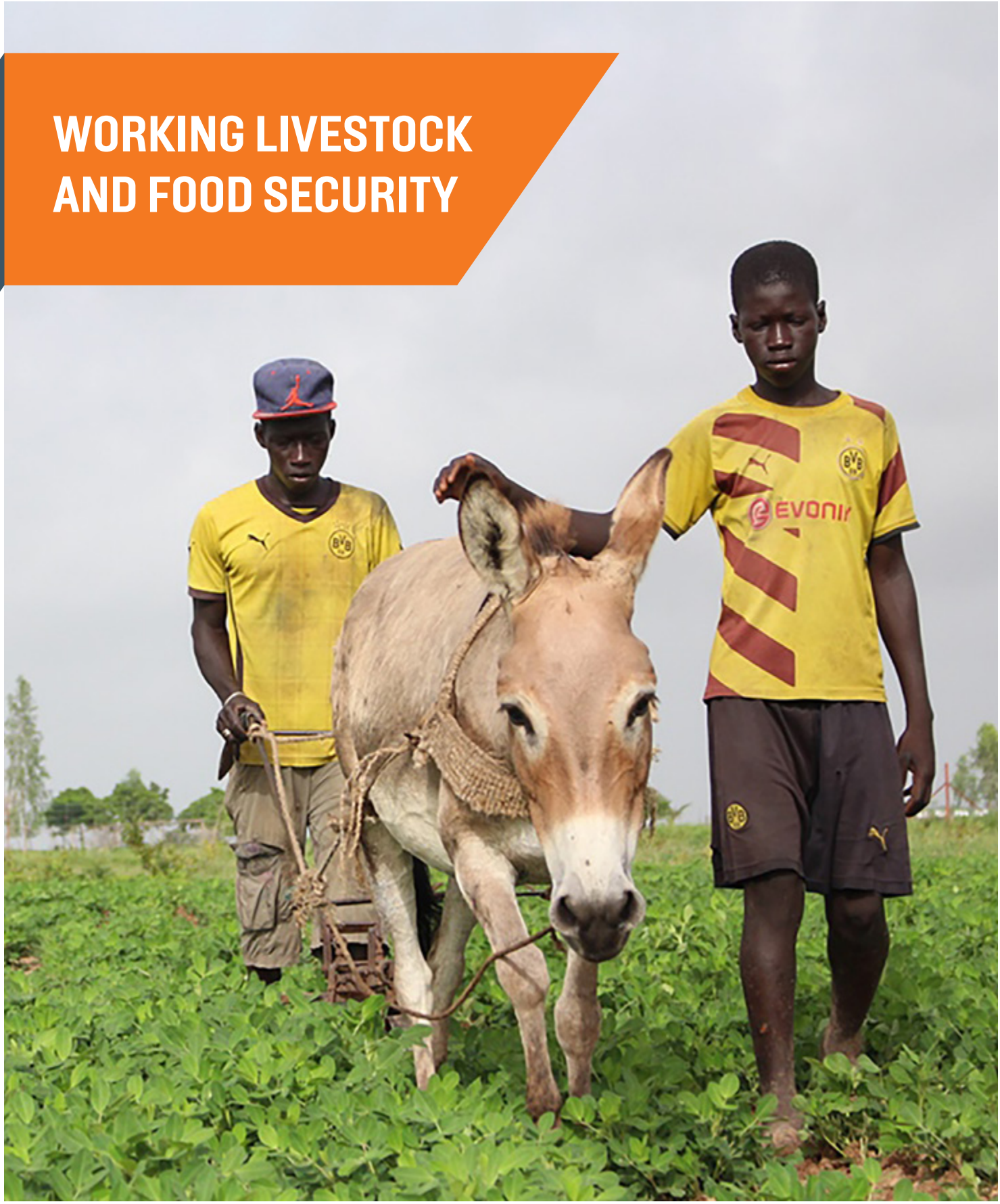
WORKING LIVESTOCK AND FOOD SECURITY



The urgent case for recognition in the food security agenda for policy and programming

BROOKE
ACTION FOR WORKING HORSES AND DONKEYS

Contents

A horse transports fodder for other livestock, India

Photo: © Atul Locke/Brooke
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Executive Summary

The Rome Declaration on World Food Security, published in 1996, states: "Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

Food security is a key element of the Sustainable Development Goals (SDGs), underpinning many, as well as having a dedicated goal: "to end hunger, achieve food security and improved nutrition and promote sustainable agriculture" (SDG 2).

Investment in livestock is not proportional to the contribution of the sector to agricultural gross domestic product (GDP), which can be as high as 40% in some low and middle income countries. There are approximately 112 million working equids (horses, donkeys and mules) in low and middle income countries, but the total number of working animals – including buffaloes, cattle, elephants, camels and others – is unknown. People consume milk and meat from these animals, and use them in production of other food. Working livestock plough fields; transport produce to and from markets; carry water and livestock feed; facilitate access to veterinary care for other livestock; deliver food after natural disasters and sustain the livelihoods of animal owning communities. They support agroecological interventions, which benefit people and the environment, and contribute to One Health and One Welfare, which are approaches that recognise the connections between human, animal and environmental health and welfare. Working animals help 600 million people globally to feed themselves and their families, enabling them to earn three times what they would be able to otherwise.

This report highlights the contribution of working livestock to food security, calls for a wider recognition of their contribution, and investment in interventions to quantify their numbers. It recommends areas where the health and welfare of these animals should be integrated into policy and international development agendas.

Endorsed by:

AT A GLANCE

POVERTY AND AGRICULTURE

770 million people live in extreme poverty and 80% of them are located in rural areas working in agriculture.

(World Bank, 2020)

LIVESTOCK INCREASING PRODUCTION

In parts of Senegal, owning a donkey results in 78% more groundnuts, 46% more maize and 45% more millet produced.

(Brooke West Africa, 2018)

IMPACT OF LIVESTOCK LOSS

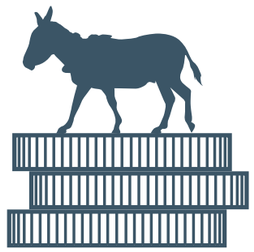
In Burkina Faso, losing a donkey results in an anticipated 50% loss in most cultivated products, including 89% in cowpea and 83% in cotton.

(Brooke West Africa, 2018)

AFFORDABLE ESSENTIALS

Donkey transport enables some households in Kenya to earn approx 11,390.00 KES per month (around £78) to spend on essentials, including food and school fees.

(KALRO 2019)



INCREASING INCOME

80% of incomes earned by some equine owning households in India came from their equid and 10% from buffalo milk sales.

(The Food Economy Group & Brooke India, 2013)

WATER FOR OTHER LIVESTOCK

In the groundnut basin and the sylvo-pastoral zone in Senegal, donkeys supply water to 400,000 small ruminants every day.

(Brooke West Africa, 2018)

TRANSPORT OVER THE "MISSING MILE"

In some cases working equids support 100% incomes for households relying on milk sales in North East Punjab, Pakistan, transporting it to central hubs or across the "missing mile" to milk collection point.

(The Food Economy Group & Brooke Pakistan, 2013)

Foreword

Antonio Rota

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Lead Global Technical Specialist in Livestock Development

The global COVID-19 pandemic has exposed the extent to which the world relies on small-scale farmers for food and made the urgent case for the protection of food security. As the President of the International Fund for Agricultural Development (IFAD), Gilbert Houngbo, has said repeatedly, the pandemic has underscored the need to prioritize inclusiveness, fairness and equality. Disruption in domestic food supply chains, loss of incomes and food price inflation have prompted the World Food Programme to warn that 2021 could be the worst humanitarian crisis year since the founding of the United Nations as the number of people at risk of starvation could spike from 135 million to 270 million[1].

At the International Fund for Agricultural Development (IFAD), we know that half of the world's food calories are produced by smallholder farmers and that more than 800 million of these rely on working livestock[2]. Livestock can make a huge difference to household economies, providing a range of nutritious protein-rich foodstuffs. Beyond their role in animal-source food, the manure produced by livestock is used as fertilisers for crops and their strength utilised in ploughing of crop for cultivation and transportation. Further, their adaptability to harsh climates makes them an asset in resilience and natural disaster response, enabling their owners to plan for the future.

In addition to acknowledging the key role these animals play, efforts and initiatives to "build back better" after COVID-19 must also recognise women as the backbone of many rural communities, taking primary responsibility for looking after many livestock species, including working livestock. We must acknowledge the contributions of rural women in policy and programming, as well as the working livestock to which they so often tend. This will strengthen national and international food security.

The direct link between the health and welfare of working livestock and agricultural productivity needs to be comprehensively quantified through further research and pilot projects. International forums such as the Committee on World Food Security (CFS), High Level Political Forums (HLPF) and the UN Food Systems Summit provide a platform to show the key role that smallholder farmers and their animals play in supporting food systems across the world and launch new actions and strategies to build healthier, more sustainable food systems. This underpins the attainment of the sustainable development agenda[3]. It is time working livestock feature in national strategies and action plans to safeguard their health and welfare, enabling them to continue supporting families to put food on the table.

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SUSTAINABLE DEVELOPMENT GOALS

Introduction

Agriculture is the main source of livelihoods for 2.5 billion people and is widely acknowledged as a pathway out of poverty and a key contributor to food security[4]. According to World Bank data, 80% of the 770 million people living in extreme poverty are located in rural areas and most of them work in agriculture[5]. Indeed, small scale farmers produce half of the world's food calories[6], so their contribution to global food security is significant.

Working animals are often a family's sole means of earning a livelihood in low and middle income countries, in some cases enabling their owners to earn three times what they would be able to otherwise[7]. Currently these animals are not sufficiently recognised in the livestock agenda and not adequately included in policy and programming, which leaves them unprotected and threatens the food security of their owners.

Investment in livestock is not proportional to the sector's contribution to agricultural gross domestic product (GDP), which can be as high as 40% in some countries[8]. In 2016 the UN Committee on World Food Security included working animals in their definition[9] of livestock, which was then endorsed by the UN Food and Agriculture Organisation (FAO). While this is a significant step, working livestock are still not always included in national and international livestock policies and their role remains unrecognised from many food security and agriculture interventions.

A draft oxen enables a smallholder farmer to plough her plot in Zimbabwe
Photo: © IFAD

Critical evidence gaps and initiatives to close them

Accurate livestock numbers are crucial to designing and implementing policies, programmatic interventions and investments that will have the most significant positive impact on agriculture and livelihoods across low and middle income countries. Lack of comprehensive and robust data is preventing national governments from recognising the contributions of working livestock to food security and thereby including them in interventions such as livestock vaccinations.

Discussions on food security and nutrition typically focus on the role of animals as meat and dairy producers, as opposed to their contributions through work. The International Livestock Research Institute (ILRI) suggests that this could be because animal traction is often perceived as old-fashioned, with policy makers and governments viewing mechanisation as the key to 'progress' in this context[10]. Whilst these arguments have validity, mechanisation remains a distant prospect in many settings and the absence of animals' current contributions from food security discussions is a critical omission.

Whilst their recognition in the international livestock agenda is not universal, the crucial role of working livestock is acknowledged by several key stakeholders, including the Food and Agriculture Organisation (FAO), the Committee on World Food Security (CFS) and the International Fund for Agricultural Development (IFAD). In 2019, FAO and IFAD launched the United Nations Decade of Family Farming project with a Global Action Plan to boost support for family famers, especially in low and middle income countries. This initiative recognises that investment in global small scale farmers is needed to achieve SDGs 1 and 2 and sees family farmers as key drivers of sustainable development[11]. This is a crucial step towards the recognition of working livestock as drivers of development and must be championed across international livestock stakeholders, including national governments and international thought leaders.

In 2009, the Bill and Melinda Gates Foundation (BMGF) provided a grant to the World Bank to build on their Living Standards Measurement Study (LSMS)[12] – a multi-purpose household survey conducted to measure living conditions and poverty situations, and to establish the Integrated Surveys on Agriculture (LSMS-ISA)[13].

The original LSMS project focused on data fields that were identified as major determinants of poverty and wellbeing, including health, education, price and household situation. In response to a growing recognition of the role of agriculture for livelihoods, poverty reduction and economic growth, the agriculture section was expanded in some countries to include livestock.

Recent LSMS surveys in Niger (République du Niger, 2010), Tanzania (NBS, 2012a) and Uganda (UBOS 2011) include a specific section on livestock that collects information on livestock ownership, herd dynamics, consumption of animal-sourced foods, breeds, use of inputs (i.e. feed, water, labour), access to services including medicines and vaccinations, husbandry practices and production of livestock products, including transport and dung, as well as animal-source food products[14].

Such data categories must be included in the LSMS surveys of all of the other countries currently involved in this initiative - Burkina Faso, Ethiopia, Malawi, Mali and Nigeria – and rolled out across the continent in order to achieve a better picture of the scale of livestock populations and their various contributions to food security. In addition, wider sample sizes from rural households are needed to ensure this data is representative and comprehensive.

In 2015, the BMFG Agricultural Development team acknowledged that there is no structured way to access and use livestock data in a timely manner and monitor their grantees and partners' progress. In response they funded a 3-year project based at the Royal (Dick) School of Veterinary Studies, University of Edinburgh, UK to "close the livestock data gap" called Supporting Evidence Based Interventions (SEBI)[15]. Working with partners with expertise in veterinary science, data science and communications, as well as livestock owners on the ground, SEBI is uniquely placed to tackle these issues across livestock species, and use this data to implement successful livestock interventions.

An oxen drawn cart waits to transport harvested ragi for threshing in Tamil Nadu, India

Photo: © IFAD

Supporting food production & livelihoods

In 2018 Brooke West Africa conducted an evaluation of the economic contribution of working equids in Senegal[7]. The study aimed to ascertain the monetary and non-monetary contribution of working equids in rural and urban households. It found that in parts of Senegal, families produce 78% more groundnuts, 46% more maize and 45% more millet if they have a donkey. A survey in Burkina Faso demonstrated how integral working livestock are to agricultural production, suggesting that if farmers were to lose their working equids, they would anticipate over 50% loss in most cultivated products, with the largest loss being in cowpea (- 89%) and cotton (- 83%). Smallholders were predicted to lose over 322,000 XOF (equivalent to $577.06) in the absence of animal traction in some areas[7].

Increases in production, or indeed decreases in the event of animals being lost, are directly linked to SDG 2 'zero hunger'. Increased productivity not only provides food for families to eat, but it also enables them to earn three times what they would be able to without a working equid. Similar evidence was found in Mali, where a survey of donkey owners found that 67% had an average monthly income of 167 USD, compared to the country's average income per capita of 55 USD[16]. This information was used as part of a study by Brooke East Africa in collaboration with Kenya Agricultural and Livestock Research Organisation (KALRO) to measure the impact of the burgeoning trade in donkey skins and understand the economic impact that losing a donkey, either through theft or sale, was having on communities. The study revealed that the donkey was considered the most important livestock species by owners due to its use in transportation, enabling them to access hard-to-reach areas, and its role in income generation.

The study found that donkey owning households were earning a mean income of KES 11,390.00 per month (approximately £78) through providing transportation services. This money was spent on household essentials including food, school fees and agricultural inputs such as fertiliser and seed[17]. When visiting people whose donkeys were slaughtered for the trade, Brooke East Africa found increasingly vulnerable communities who struggled to earn a living and put food on the table without their working donkey.

Household Economic Analysis (HEA) baselines conducted with the Food Economy Group[18] in India found that in some cases 80% of the 108,475 INR earned by equine owning households was represented by direct income from their working equid. Of the rest of their income, 10% came from buffalo milk sales. Whilst this relies on animal-source food production, the milk is often transported to small scale dairy facilities by other working animals for sale.

Working livestock help increase agricultural yield, in part because they are very resilient to tough climates. A 2015 study[4] on the role of working livestock in the Somali Region, Ethiopia, highlighted that the use of working animals in harsh agroecological environments contributes to increased farm productivity. The study found that smallholders who use animals for soil tillage can cultivate larger areas more efficiently and quickly than with human labour. The animals adapted to the context easily and were a low-cost, less labour-intensive way to enhance ecologically sustainable means of increasing agricultural production for rural livelihoods. Further, the KALRO study found that donkeys are often resistant to extreme drought and able to continue supporting families' incomes[17].

CASE STUDY:

INADES-Formation in Burkina Faso

Market gardening, the very small-scale production of fruits, vegetables and flowers as cash crops, is one of the main income-generating activities for rural women in Burkina Faso, but it is hampered by a number of constraints, including the high cost of synthetic fertilisers. In 2018, Brooke partnered with local organisation INADES to deliver a pilot project, training 52 women in solid compost production techniques using donkey manure to manufacture organic liquid fertiliser. The women found a number of benefits to the liquid fertiliser in terms of cost, ease of use and effectiveness, producing the same quantity and quality of food as the synthetic fertilisers they used previously. By manufacturing and using organic liquid fertilizer from donkey dung, the women were able to work more independently, having easy and permanent access to the necessary natural inputs. Soil pollution decreased through the use of organic fertiliser, and the resilience and profit margins of the women were improved by reducing their agricultural input costs.

Agroecological interventions

Agroecology is a practice which applies ecological concepts and principles to agriculture by optimising interactions between plants, animals, humans and the environment, whilst taking into consideration social changes required for sustainable and fair food farming systems[19]. It seeks to improve food yields for balanced nutrition, strengthen fair markets for produce, enhance healthy ecosystems, and build on indigenous knowledge and customs. Working livestock are kept by more than half of rural households and can contribute to ecosystem functions such as nutrient cycling, soil carbon sequestration and the conservation of agricultural landscapes[20].

Smallholder farmers often work in a very diverse range of environments and rely on a variety of production systems, and a diverse range of livestock species. FAO argue that it is precisely this diversity which allows humans to produce food in all types of agroecosystems, including arid areas, steppes, tropics or mountainous peaks[20].

In addition to providing natural tillage, ploughing, sowing, cultivating and harvesting land, working livestock are utilised as producers of natural fertilisers in many rural communities. Their manure acts as fertilizer, saving households money on chemical inputs and supporting agricultural production. A farmer in Nigeria noted that working donkeys are often the primary pillar in their owners' farming[21]. There is limited quantitative evidence on the monetary value of using manure from working livestock as opposed to chemical alternatives but one study estimated that farmers saved an average of US $56 per year on artificial fertilisers by using manure produced by equids and bulls[22]. This estimate highlights another area where working livestock support natural farming systems and are crucial to such techniques. Their welfare therefore must be considered and included as a visible and viable component of sustainable food production systems.

A smallholder farmer harvests 'mombasa grass' in an agroforestry production system

Photo: © OCTUPAN

CASE STUDY:

Condega, a municipality located on the north side of Nicaragua, suffers from regular droughts resulting in low levels of production, loss of wild and domesticated seeds, changes to the rain season and loss of water sources, all of which culminate in food insecurity. Only 21% of the rural population have access to a clean water supply. In 2017, Brooke Latin America and the Caribbean partnered with a local agricultural and conservation not-for-profit called Octupan.

They conducted a joint survey[52] which showed that, whilst equids are of vital economic importance to their owners, this is often unacknowledged, resulting in inadequate care, handling, and mistreatment. Octupan integrated Brooke's work into an existing project by Trocaire which supports communities in adopting sustainable agricultural practices. The project worked on community processes around agricultural production, including working equids as a fundamental link in the production chain for income generation and improving the standard of living.

Working livestock provide crucial transport

Animals have been used to transport people and goods for thousands of years. Traction and transport animals are used in a wide variety of contexts, carrying people and packs in mountainous regions and deserts, transporting water and feed for other livestock and weeding and seeding farmland[23]. From supporting food production to easing access to markets for sale and purchase of food, these livestock species support food security quite literally on their backs.

Agriculture accounts for around 70% of global water use[24], but in many rural communities water sources are often far away from human settlements. In Tunisia, a SPANA project assessment found that 80% of survey respondents living in mountainous areas relied on their donkeys or mules to access and carry fresh water[25]. A similar study conducted by Brooke in 2018 found that donkeys supplied water to 400,000 small ruminants every day in the groundnut basin and the sylvo-pastoral zone in Senegal[7]. Shepherds who were interviewed acknowledged that the use of donkeys to transport water was significantly more efficient than the previous practice of bringing small ruminants to the wells. A group of women in Nakuru County, Njoro Sub County, Rare Ward in Naishi village reported in the 2019 KALRO study that the income obtained through work performed by donkeys enables them to purchase other domestic animals and diversify their income[17].

"Farming is made possible by donkeys. All household animals rely on donkeys which are the ones carrying and bringing feed and water for cows, chickens, sheep and goats."[18]

Participant from Brooke's 'Voices from Women' report

India has been one of the three countries worst hit by the COVID-19 pandemic, recording an average of 93,000 infections daily at its height in September[26]. Government-implemented restrictions on movement have had a profound impact on smallholder farmers and those in the business of animal transport in the state of Uttar Pradesh. Equine carts used for transporting goods and passengers were left unused and their owners were left with no livelihood. A Brooke India initiative connected equine cart owners with farmers who owned small landholdings in nearby villages and were struggling to sell their produce. This has supported the food security of a number of stakeholders in surrounding areas, the farms who are now able to send their goods to market for sale, the equine cart owners who can earn a steady income during lockdown by transporting goods to market, and the local populations who faced rising vegetable prices before this initiative due to shortage of supply.

Another example of how working livestock have become more essential than ever to keep communities going amid the global pandemic[27] is in delivering resources and information to isolated regions. For example, Dutch Committee for Afghanistan (DCA) have been able to access hard-to-reach villages in rural areas to deliver vital guidance on social distancing and hygiene as well as a number of PPE kits using their equids[28]. DCA is a member of the Zoonotic Diseases Committee which means it has been able to continue working despite lockdown regulations, supporting communities in Kabul, Bamyan, Balkh, Samangan and Nangarhar that own working donkeys and mules. These animals are heavily relied upon for transport and agricultural work across the hilly terrain. It's important to ensure they are kept in positive health and welfare states to continue to provide critical resources during lockdown, as well as to weather the economic issues expected to arise post-pandemic[29].

In the Mediterranean region[30] and in paddy-farming regions[31], 'swamp type' water buffalo are used for draught power. As weather patterns are increasingly impacted by climate change, these animals will become even more crucial. With changes in the timing and intensity of seasonal rains and floods, and the frequency of cyclones impeding access to more remote areas, these animals help their owners obtain resources and plough the fields[23]. In addition, they transport water and firewood for crops and for cooking. In the rural villages of Afghanistan's Central Highlands, healthy working animals are crucial to the fragile livelihoods, well-being and resilience of families. In this region, animals are the only way to collect water from a nearby spring and firewood from the mountains. Foodborne disease is caused by parasites, protozoa, bacteria and viruses in fresh animal source food and vegetables and is particularly notable in South East Asia, urban South Asia and Africa[32]. By collecting firewood, working livestock enable communities to cook their food, reducing the risk from some of these threats.

An assessment carried out in North East Punjab, Pakistan, in 2013, revealed that through indirect income generation using their draught power, working equids support 100% of the annual income of households who rely on milk sales[21]. Getting milk to market is a frequent and critical obstacle for smallholder dairy farm development. This assessment found that working donkeys and horses were used to deliver the milk either to central hubs or transport it across the distance between small scale dairy facilities and the nearest road from which the milk is collected; this is often referred to as the "missing mile". Brooke has also observed this in Nepal and Kenya.

Donkeys enable transport over rough terrains in the Central Highlands of Afghanistan, providing access and helping break cycles of generational poverty.
Photo: © AfghanAid

CASE STUDY:

Afghanaid in Afghanistan

Zarwaa is a widow living in the Central Highlands of Afghanistan. The land is steep, harsh and completely rain-fed. Consequently there is often a lack of food available in the region and families struggle to feed themselves. Since her husband passed away Zarwaa has struggled to provide for her children. Her donkey enables her to go to the nearest market to get food, but this is still three hours away. Due to the lack of local knowledge around proper care, these animals frequently fall sick or worst, die. Afghanaid, a Brooke partner, worked with local livestock owning women's groups to share information on proper care, hygiene and handling. This has resulted in better care for working animals in this region, who can lead longer and healthier lives and enable women to feed their families and even save money. Zarwaa is confident she will be able to save enough to send her youngest daughter to school after this intervention, the first of her children who she can afford this for. Enabling families to afford an education for their children is another indirect way that working animals support food security, breaking cycles of generational poverty.

Healthy animals support healthy food and value chains

The ability of animals to work efficiently is contingent on their positive health and welfare as defined by the OIE Terrestrial Code[34] and assessed by the five domains[33]. Keeping animals in positive health and welfare is crucial to ensuring they are able to lead longer, healthier lives and to continue performing their roles in ensuring food security[35].

Research has indicated multiple beneficial effects of human-animal interactions in farmed animals[32]. Sick animals are unable to work, whilst those in positive states of health and welfare demonstrate improved productivity[37,38] and are also easier for owners to handle, harness and work with[35]. This makes using working livestock to transport goods to and from markets and for traction easier and more efficient.

There are many threats to the health and welfare of working livestock in many low and middle income countries, including poor treatment by their owners. One example of this is the use of nose rope to control bullocks which causes immense pain to the animal and causes injuries which often go untreated[39]. In Kenya, a study into working camels observed the direct correlation between increasing heavy loads and the animals refusing to work of walk, exhibiting loud vocalisations[40].

"In all countries I have been to donkeys are the most underfed, beaten, overcharged animals I have ever seen. It would be good to see regulations enforced to sanction those owner mistreating these incredibly useful animals."

Antonio Rota, Lead Technical Specialist in Livestock Development at IFAD

In addition to protecting these animals through policy, comprehensive education of owners is needed to impress upon them the lifelong value of their animal and equip them with the adequate knowledge and resources to care for them. Welfare friendly alternatives to inhumane practices, such as the use of properly fitting tack and yokes as opposed to nasal ropes[39], and educating owners to adopt welfare friendly practices, such as giving their animals adequate shade and access to water whilst working, not overloading them and affording them plenty of opportunity for rest, are imperative to ensuring happy and healthy working livestock are able to continue supporting healthy food systems in the ways described in this report.

Another threat that can undermine the crucial contribution of working livestock to food security is endemic and emerging diseases, many of which threaten the lives of animals and humans around the world. Studies into zoonotic diseases such as brucellosis and highly pathogenic avian influenza (HPAI) have indicated that mitigation strategies to tackle outbreaks keep animals healthy and able to continue to support families. In 2019, cross-border trade in donkeys for the trade in their skins was linked to equine influenza in West Africa, which killed 62,000 animals in Niger alone. The World Organisation for Animal Health (OIE) suggested that the outbreak was a direct consequence of the unregulated movement and trading of donkeys[41].

A woman gives water to her donkey and its foal in India.
Photo: © Brooke

When working livestock are lost, through the trade in animal parts and products[17], injury in exploitative industries such as in the brick kilns[42] and coals mines[43] of South Asia or disease, this leaves their owners vulnerable, often without a means to earn a living. The 2019 KALRO study found that whilst the initial cash injection from selling a donkey enabled owners to meet immediate financial needs like school fees, the lifetime value of working donkeys, which enable their owners to earn KES 11,390.00 per month, far exceeds the price they get for the sale[17]. The loss of these animals made families vulnerable to shocks and food insecurity.

"My three donkeys were stolen in 2018...we found them slaughtered in a bush. Since then, I have been struggling to feed my family as my three children and my ailing sister who is also paralysed and depends on me. I used to sell water to Syi Muu Primary and Kavaini Secondary Schools in my location and pay school fees for my children."[44]

Woman in Migwani, Kitui County, Kenya

Measures must be taken to protect these crucial livestock assets, such as the 2020 Kenyan government ban on the slaughter of donkeys for the trade in their skin which was decimating donkey populations and destroying thousands of livelihoods that relied on the work of these animals[45].

In addition to protecting the food security of people who rely on working livestock to put food on the table, there are other economic benefits to keeping animals in positive health and welfare states[46]. Brucellosis control interventions across Africa and in New Zealand have offered positive evidence of the returns on investment, particularly in vaccination of livestock, measured in both livestock productivity and gains in human health[47].

There is an imperative to tackle zoonotic disease both for the impact that such diseases have on animal health and welfare and the subsequent impact on agricultural production, but also for the impact on both domestic and international food supply chains. The global COVID-19 pandemic, for example, is evidence of the impact zoonotic spillovers can have on food security, with disruptions in food supply, shocks affecting food production, and loss of incomes[48]. Evidence such as the brucellosis studies are vital to quantifying the link between working livestock and food security, and understanding the role animal health and welfare play in this equation.

CASE STUDY:

Partnership to improve animal welfare and food security

Niaza Bibi is a female donkey owner in Bahawalnagar, Punjab. She and her husband bought a donkey to earn money through transporting goods to market by cart. Nazia's husband was paid by other community members to transport their goods from the fields into the city, earning on average of 300 rupees per trip. After a few weeks, their first donkey became sick and died of colic. They bought a second donkey, but it quickly became tired due to overloading. At times the donkey was unable to complete a single journey, meaning Naiza's family sometimes went without money to buy food.

Eventually they sold the donkey for 10,000 rupees and took out a loan to buy a healthier donkey for 60,000 rupees. In time, the new donkey began showing the same symptoms as the old one. After working with Brooke and National Rural Support Programme, Naiza realised that she had been neglecting her donkey's health and welfare needs, only offering it water in the mornings and evenings, for example, when it needs to be offered water six or seven times per day. The benefits to their donkey's health was immediately noticeable and Naiza's husband can now complete two or three trips every day. This intervention doubled the amount of food the family had access to (in terms of meals).

A donkey and foal collect water in Kenya.
Photo: © Freya Dowson / Brooke

Conclusion

The UN projects that the 2020 COVID-19 pandemic could double the number of people suffering from hunger.[49]

The achievement of global food security is facing serious setbacks and recovery efforts must look at this issue holistically.

This report has provided various examples of the way in which working animals contribute to the achievement of food security. Their contribution to agriculture, their role in income generation, the access they facilitate to markets and clean water, and their support of other livestock are key to the achievement of SDG 2 'zero hunger'. The insufficient recognition of these contributions has implications for the importance afforded to their health and welfare and means that policies and programmes designed to strengthen food security overlook this important element.

The following recommendations highlight where and how the health and welfare of working livestock should be integrated into policy and international development agendas. They also indicate areas for increased investment, including in interventions to quantify working livestock numbers.

Recommendations

SUSTAINABLE DEVELOPMENT GOALS

As highlighted throughout this report, working livestock are not sufficiently recognised in policy on food security nor included in programmatic interventions, despite their crucial contributions. In order to continue contributing in these ways, working livestock must be kept in positive health and welfare states as outlined by the five domains of animal welfare[33] and the OIE Terrestrial Code[34]. Without explicitly referencing animal health and welfare in policy, their protection falls through the cracks. In addition, much of the evidence in this report has been qualitative, in the form of case studies. Whilst incredibly valuable, it must be acknowledge that until policy influencers quantify the role of working livestock their understanding of food security will continue to be incomplete.

1. Working livestock must be included in local and regional policy and programmes. Specifically, FAO's definition of livestock[9] must be universally adopted to ensure these animals are recognised across the world as crucial livelihood assets, and for the their contribution to food value chains.

2. Working livestock are crucial contributors to SDG 2 'zero hunger', and yet are absent from the SDGs indicators and targets. This is omission must be addressed, specifically through the inclusion of working livestock as part of data collection under Indicator 2.3.

3. Target 15.9 of SDG 15 'Life on Land' should advocate for the inclusion of working livestock in national and local planning, development processes, poverty reduction strategies as well as ecosystem and biodiversity values. Implementing stakeholders should seek technical support from civil society organisations, such as Brooke, where needed.

4. National governments must introduce legislation to regulate exploitative industries and trades which harm animal health and welfare, risking the food security of their owner. Specifically, we recommend governments in countries affected by these trades and industries ban donkey slaughter for the trade in their skins and improve conditions for people and animals in industries, such as brick kilns and coal mines[50].

5. There is a cost benefit to preventing livestock health and welfare issues, such as disease, occurring through animal health and welfare training. NGOs and civil society organisations should create partnerships to incorporate animal health and welfare provisions, that include indigenous knowledge, into food security programming.

6. National agricultural censuses and surveys need to be completed at least every five years to ensure up-to-date data which is comprehensive, covering all livestock species as defined by the FAO[9]. This data will form the basis of robust interventions to strengthen global animal health systems and future-proof against zoonotic outbreaks that devastate food security and human health.

7. The World Bank LSMS-ISA study[12] should be expanded to ensure that all working livestock species are included in the questionnaires.

8. Multilateral aid agencies and institutional funders should support existing livestock data initiatives, such as the SEBI Livestock Data for Decisions initiative, to include data on the comprehensive contribution working animals make to the livestock sector and the livelihoods of communities in low and middle income countries[51].

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Donkeys transport wood for fires in Guatemala.
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Women's Development Project, Tamil Nadu, India
Photo: © Anwar Hossain / IFAD

"The arguments made by this report for quantifying the contributions of livestock to the sustainable development agenda and the need for their recognition may not be new, but they have become increasingly urgent in the face of COVID-19. AUIBAR welcome this timely response that contains critical guidance on "building back better" holistically and sustainably."

- Hiver Boussini, Senior Animal Health Officer at African Union Inter-African Bureau for Animal Resources (AUIBAR)

"My donkey was my only source of income and its death has hit me and my family very hard. The donkey helped carry Napier grass for the cows, which in turn produced a lot of milk that was sold to neighbours and dairy co-operative societies. With the donkey no longer available to carry feed, our cows are not well fed and milk production has reduced. Thus income from milk has also been affected. Our access to food has also been affected."

- Pauline Wachira, Tharuni, Limuru, Kenya

"This report consolidates evidence on the contribution of working animals to food security and their critical role in keeping families afloat. Working livestock species - including camels, oxen, buffaloes and equids - support food value chains around the world and yet their welfare has long been overlooked. This report recommends further steps to enhance recognition and the protection they deserve."

- Chris Wainwright, Chief Executive at Brooke

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