

## Private Sector Mechanism Position Paper

April 2016

### LIVESTOCK

#### Key recommendations for livestock and sustainable food systems

Five broad objectives guide the sector:

- Increase efficiency
- Enhance livelihoods and human well-being
- Protect resources
- Increase resilience
- Improve governance

The Private Sector Mechanism proposes to consider the below policy recommendations for supporting the livestock sector in achieving its sustainability objectives in the context of the negotiations on Sustainable Agricultural Development for Food Security and Nutrition, Including the Role of Livestock.

#### 1. Investing in livestock research and knowledge

Innovation and technology can help farmers increase their production, improve their livelihoods and steward better their production resources. It can also help reduce emissions like methane. Whilst research is required to identify further suites of mitigation and adaptation practices adapted to specific production systems and environments, its real value will only emerge when this knowledge is combined with ideas and practices that come from farming, entrepreneurial and social activities.

Specific areas needing further research:

- Maintenance of animal genetic diversity
- Provision of improved breeding stock
- Increase access to veterinary services
- Develop new management and feed solutions that can increase efficiency and decrease the environmental (including carbon) footprint of the livestock industry

#### 2. Increasing productivity and efficiency

There are clearly areas of competition between direct food and feed uses for many crops; as well as competition for land and water resources. Efficiency improvements in many systems have greatly reduced the amount of feed required per kg animal product. However, a large number of the world's producers rely on practices that are inefficient in their use of natural resources. This is particularly true for grasslands that show a high incidence of poverty and low land productivity and important environmental degradation. Appropriately managed grazing land can provide large benefits in the form of carbon sequestration, protection of water services and biodiversity, but also enhance productivity and livelihoods.

- Recovering nutrients and energy contained in animal manure
- Support extension for farmers on livestock production techniques
- Share knowledge and capacity building will be crucial to facilitate the adoption and transfer of practices/technologies that enhance efficiency at all levels
- Foster stewardship programs, including voluntary industry initiatives

### 3. Caring for animals

Human and animal health and welfare need to be addressed throughout all production systems. Confined systems have generally better biosecurity, but are also more exposed because of large numbers, close proximity, and animal uniformity. The use of antimicrobial drugs for preventive measures or as growth promoters may contribute to growing microbe resistance. Traditional livestock production systems - which involve animals roaming freely over large areas, but still in relatively high densities can also facilitate disease spread and has the potential of not being identified at an early stage. 70% of all human diseases have their origins in animals, and most of these come from wildlife.

- Strong biosecurity and health protection regimes (proactive health planning) may prevent infectious disease problems - prevention is better than cure!
- Animal care and treatment are essential
- Spread good practice for prudently using antibiotics, in line with the WTO/FAO/OIE One health principles to combat antibiotic resistance
- Develop a range of animal health options
- Safeguard the sanitation of national herds; prevent the introduction of pests and diseases

### 4. Minimizing waste

Meat and dairy are two of the food categories with least waste along the supply chain but they can still improve. A global total of 1.3 billion of food is estimated to be wasted or lost annually<sup>1</sup>. Meat and milk account for approximately 11% of total. Animal production and products have strong cultural and religious elements in many settings. The perishability of most animal source food also puts special demands on their marketing and preparation to prevent contamination and other food safety risks. For the most vulnerable food-borne disease is frequent and generally under-reported.

- Improved infrastructure and cold chain programs to reduce food losses and improve access to markets
- Reduce waste through recycling and recovering nutrients and energy
- Improve efficiency of production through best practices, science and technology

### 5. Healthy diets and adding value

For many smallholders and pastoralists, livestock are essential for income and nutrition. The contribution of livestock to food security and health can be strengthened through investments and targeted policies that sustainably increase the productivity of smallholder and pastoral production systems and access to, or development of markets. Appropriate intake of animal source food is beneficial for human health and development, but overconsumption should be avoided.

- Increase availability of meat, dairy and eggs in emerging countries and target neighborhoods
- Increase the programs geared to the first 1000 days and include protein-dense foods
- Incorporate meat, dairy and eggs into school feeding programs as appropriate
- Further nutritional education programs and diverse healthy diets which includes meat, dairy and eggs

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<sup>1</sup> <http://www.fao.org/food-loss-and-food-waste/en/>

## Introduction

Livestock is vital for ensuring food and nutrition security and to achieving the Sustainable Development Goals. It performs critical development functions through its contribution to nutritious diets, economic growth, poverty alleviation, and improved rural livelihoods. No other economic sector is more important to the lives and livelihoods of the poor. In addition to nutritious food, livestock also provides asset savings, fiber, leather, traction, manure for fuel and fertilizers.

Demand for animal-source products is expected to grow approximately twofold globally, particularly in low-income and emerging economies. To be sustainable in its growth, the livestock sector needs to support livelihoods, contribute to enhancing economic and social well-being, protect public and animal health through the reduction of health threats to and from livestock, sustain natural resources and contribute to climate change mitigation.

While agriculture, food security, and nutrition are well recognized in the context of the Sustainable Development Goals and other international policy documents, contributions from the livestock sector are only implicitly referenced. The Private Sector Mechanism recommends that programming now includes explicitly the role of the livestock sector in food and nutrition security. To tackle an ever-evolving set of production, pests and disease threats, often in rapidly declining environmental conditions, there is an urgent need to consult the livestock sector, increasing awareness of policy-relevant investment needs and opportunities relating to the sector, and orienting policies, partnerships and investment in appropriate ways.

## Livestock products for sustainable and healthy diets

Driven by a global population projected to reach 9.6 billion in 2050, in combination with increasing incomes and urbanization, the livestock sector's role in providing high value food will continue to increase, probably by 70%. Livestock products are a fundamental component of healthy diets and the benefits of animal based foods on human growth, cognitive performance, micronutrient status, physical activity and other outcomes has been demonstrated. In addition to providing energy, they provide high quality proteins, calcium, and are rich in micronutrients such as vitamin A, potassium, magnesium, zinc, phosphorus, riboflavin, and vitamin B12, all essential to diet quality and which are critical to the growth and development of children. Animal source protein also contributes an estimated 26% of total global protein consumption and 13% of calorie intakes. The prevailing obesity epidemic and issues of hunger and malnutrition across the globe make it critical that future agriculture and food systems not only deliver more food, but also more foods of sufficient nutritional quality to sustain a healthy population globally.

Proteins of animal origin - such as milk, eggs and meat - are of high quality and easily digestible. Animal protein is key for cognitive development in children and also enhances nutrition for the elderly, sick, pregnant and lactating women, and vulnerable populations in food secure households. Animal source products can provide a critical supplement and diversity to staple plant-based diets, and are particularly appropriate for combatting undernutrition and a range of nutritional deficiencies. Their consumption is very low in undernourished populations; so even moderate increases can provide critical nutritional benefits.

There is good evidence that livestock products are necessary for preventing micronutrient deficiency in vulnerable population groups, particularly in the first 1000 days. Animal source foods (ASF), including meats (including poultry), fish, eggs, milk and dairy products are rich sources of micronutrients. Low intakes of ASF are associated with deficiencies of iron, zinc, calcium, riboflavin, vitamin A and vitamin B12 as well as with less stunting, particularly in infants, children, pregnant and lactating women This is because absorption of iron and zinc are higher from ASF, in particular meats,

than from plant foods. In addition, vitamins B12, D and preformed vitamin A are only found in ASF. Dairy foods are a major contributor to calcium in the diet worldwide and its bioavailability is high compared with the bioavailability of calcium from other foods in the diet.

Prioritization of nutrient-rich foods in the right amounts and balance required for meeting nutrient requirements and preventing obesity and associated non-communicable diseases (NCDs) will ensure that tackling one form of malnutrition, will not result in unintended effects. The development of animal source products with new formulations to increase their nutritional value will bring better products to global markets, in particular addressing the needs of consumers at the bottom of the pyramid (e.g.: fortified yogurts, super protein milk).

As access to a diversity of nutrient-rich foods increases, the livestock industry recognises that nutrition education around consumption of livestock products in the right proportion relative to other foods, the right portion size and the right combinations of nutrient-rich foods is required to prevent unbalanced eating patterns driving obesity and associated NCDs. There is no question that in some developed countries meat consumption could be adjusted, in particular to address the health implications of too high levels of consumption. The Rome Declaration on Nutrition calls to promote the appropriate production of animal-source products as needed. Therefore, suggesting that the emerging global middle-class should keep meat consumption low means denying some people what for others has been the driver for development. Nutrition education is important to teach consumers to reach a proper balance.

### **A vibrant livestock sector for prospering rural economies**

The livestock sector is an important part of the global economy and comprises an estimated 40% of total agricultural GDP. The sector provides employment to 1.3 billion people and livelihoods to 1 billion poor, 70% of whom are women. Projected increases in animal protein demand and consumption are likely to maintain livestock's position as one of the fastest growing sub-sectors in agriculture for the foreseeable future, particularly in low-income and emerging economies. The livestock sector can play an important role for poverty eradication providing a wide range of benefits such as: employment and cash generation, savings and insurance, draft power and environmental services.

An important part of the livestock sector's contribution to growth requires supportive policies, incentives and institutions, including fostering market participation by smallholders. Value chain development can also remove barriers for some smallholder producers to access more lucrative markets and contribute to more equitable growth. The 'middle class' in low and lower middle income countries will increasingly demand higher-value agricultural products, including meat, milk and eggs, potentially presenting a growing market for smallholders.

Access to finance is a major constraint to food security in many developing countries. Livestock may offer options for savings and accumulated capital, and may evade inflation. Additionally, livestock provide an instrument of liquidity and conversion into cash to support food security of households and communities, providing assets that can be sold in times of crisis. Infrastructure is key for developing countries – local and federal governments play an important role in ensuring education to be available for all, and roads, (water ways) and harbours to be functional, of good quality and enabling farm products to be marketed.

### **Livestock as part of the social fabric of rural livelihoods**

Livestock serves as an indicator of social importance within many communities, and higher social status may translate into access to or authority over a broader base of resources in the community. Ten times more women own livestock rather than land. A growing body of evidence suggests that

increasing women's control over assets, including livestock, has positive effects on food security, child nutrition, and education, as well as women's wellbeing.

Livestock are an asset and income for people that may lack other assets. These producers require investments and policies that reduce vulnerability, increase resilience, and respect the rights of indigenous people. Optimising the sector's contribution to equity and growth requires incentives (financial and none), institutions, and services that develop value chains and remove barriers for smallholder producers to access more lucrative markets.

### **Improving the environmental footprint of the livestock sector**

26% of all land on earth is potentially used for grazing, and up to 33% of cropland is used for cultivation for livestock feed. Globally, livestock is currently estimated to use 3.73 billion hectares: 3.38 billion hectares for grazing and 0.35 billion hectares for feed production. In addition, 15% of global agricultural water use is linked to livestock production

The sector contributes an estimated 14.5% of global greenhouse gas (GHG) emissions, but large potential to reduce the emission intensity of the sector through resource use efficiency gains exists, in addition to the carbon sequestration potential the sector may provide. Wider adoption of existing best practices and technologies in feeding, health and husbandry, and manure management – as well as greater use of currently underutilized technologies such as biogas generators and energy-saving devices – could help the global livestock sector cut its outputs of global warming gases as much as 30% by becoming more efficient and reducing energy waste.

Crop and pasture expansion into natural ecosystems has contributed to livestock production growth and will continue in the future. Most expansion arises through the clearing of forests, resulting in losses of environmental goods and services. Although livestock can be instrumental in landscape management and enhance biodiversity in numerous settings, it has also been indicated to pose a threat to biodiversity in 306 of the 825 ecoregions. The biodiversity of domestic animals, for which there is little economic use, may be decreasing - FAO and international rare breed initiatives are undertaken to find specialist and niche uses for them. In general pig and poultry farmed animal diversity is not indicated to be under threat (Neeteson et al, 2013; Hill, 2016). Responsible breeding organizations adhere to the FAO inbreeding guidelines.

Government or retail policies and subsidies may restrict the choice of breeds. The loss of genetic diversity has taken place when animals were domesticated – modern breeding programs are broadening and balancing their breeding goals including tens of traits, and enabling to improve health, welfare and robustness traits simultaneously with performance traits (e.g. FAWC, 2012; Kapell et al, 2012). Although in the past breeding focused on production traits, the large breeding programs ensure both within and between breed diversity to ensure there is ample diversity to provide animals for any foreseeable future. This genetic uniformity has been an important factor in advances made in resource use efficiency, the maintenance of genetic diversity will be potentially key to address production efficiency, disease control and climate threats.

Livestock manure is often an important input to maintaining soil fertility, and so contributes to greater crop production for food and income. In some areas, dung is also used as a fuel. Dung for fertilizer, fuel, and building material is often a marketable commodity. It is estimated that globally livestock manure supplies up to 12% of gross nitrogen input for cropping and up to 23% in mixed crop–livestock systems in developing countries. In these systems, cattle, and other animals, also often provide traction power for transportation and crop production, for domestic use and for hire.

It is often argued that producing meat diverts cereals that could be used to feed mankind. Yet, one should not forget the nutrients brought back into the system by animal sourced food and that animals consume waste and by-products of human food and fuel production. On a dry matter basis, more

than 80% of all feed is not edible by humans so livestock convert large amounts of resources (grass, biomass, crop residues) into high value animal source food. Grasslands are important carbon sinks.

All food production has an environmental cost. However, it is important to consider this cost in the context of the nutritional value provided by the food. Available research, although still relatively new and complex, shows that changing the structure of human diets by reducing the consumption of animal-based products is not a sufficient approach to significantly reducing emissions. In discussions on how to tackle climate change by adapting dietary patterns, it should be borne in mind that it is not merely an issue of greenhouse gas emissions and other indicators of climate impact but also of the nutritional density of food products.

## Conclusion

Livestock is an integral part of the path to achieving the Sustainable Development Goals. By examining the steps needed to support production, it can help eradicate poverty. Ongoing stewardship will help protect natural resources and increase efficiency to protect the environment. Finally it is an effective way to deliver the nutritional needs of the world and advance health. Livestock helps deliver every target in Goal 2 of Food security, nutrition and sustainable agriculture, as well as furthering Goal 1 in the fight against poverty and virtually every other goal.

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