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## LIVESTOCK: THE STRONG SPINE OF THE SUSTAINABLE DEVELOPMENT

If you talk development, better prefix it with sustainable as the term development on its own is an anathema to the entire body of policy makers to activists to academia et. . Getting carried away by the jargon and influenced by the fear of being judged as irresponsible, we lose sight of the fact that the key issue is development; the adjective sustainable exhorts and guides us how and what this development should entail. The universally accepted definition of Sustainable Development as propounded by the learned leaders terms it as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. There is no cause to dispute this erudite explanation except that it borders on being mumbo-jumbo; like a holy scripture the concept is couched in language and expressions, quite impressive no doubt, which would be comprehensible to only a few. Let us dissect the term by simplifying it.

Development is a process that creates growth, progress, positive change or the



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*Built pondage on the river  
To benefice farming and husbandry;  
Fruitful sources of food for the villagers.  
Right-minded under the Nature.  
Any pondage has strengths and weaknesses.  
The builder must prepare for its  
consequence  
Pondage can retain the water  
From rain or streams of the upper forest.  
Pondage can delay the water,  
But drainage must be built.  
If not, the pondage will evoke problems:  
The water will overflow, collapse the dam,  
Flood houses and, farms and destroy  
livestock.  
Build a pondage on the mass  
Is to retain the people's thinking,  
Must also build suitable drainage.  
Otherwise, the people's needs will overflow.  
Limiting men's minds is breaking their  
hearts:  
The dictatorial way!*



addition of physical, economic, environmental, social and demographic components. Sustainable means lasting and able to be maintained and continued. Development that is continuing and lasts is, simply put, sustainable development; the mystique attached to it draws attention for sure but obscures the concept.

The most common words associated with sustainability in the context of development are environment, social, economic etc. Sustainability, therefore, is a holistic concept that considers ecological, social, and economic dimensions of a system or programme or intervention for long-lasting growth for prosperity. Economic development at the cost of social fabric or/and environment or/and cultural values does not last; therefore, it is important to harmonise development with these dimensions. Sustainable Development is beautifully explained by the poem "A Pondage" by Xaysouvanh Phengphong.

This would, of course, apply to livestock systems, which besides being economically viable for farmers should also be environmentally friendly or at least neutral, and socially acceptable; what we would call sustainable livestock.

The 2030 Agenda for Sustainable Development is a vision of a healthier, more just and equal world, a world without

poverty, hunger and malnutrition. While these goals may seem out of reach, efforts should not wane as achieving food security and nutrition goals should be a real concern for one and all. A healthier, more just and equal world would surely be a better world for all.

Chronic and acute hunger are on the rise, admit both the Food and Agriculture Organisation (FAO) and the World Bank. Though this trend is attributed to various factors such as political conflicts in certain regions, socio-economic conditions, natural hazards, climate change etc., it is also a pointer towards the failure of the all powerful stakeholders, including global inter-governmental institutions to address this most basic of human issues. Covid-19, though not singularly responsible, had further exacerbated the problem across all economies through reduced incomes and disrupted supply chains. The Covid and its post period has been the severest of all years in recent times increasing food insecurity and impacting vulnerable households. Feeding nearly 10 billion people by the year 2050 is a formidable challenge, more so in the light of the developments where agriculture driven growth is at risk thus contributing to food insecurity, particularly so in the developing economies. Climate change compounds the risk in food insecure regions by adversely af-

fecting crop yields. It indeed is a tragic irony against this background that one third of the food is wasted or lost. So it is a moot question how will we feed, and feed well, the burgeoning populations amidst the aftermath of the pandemic and regional conflicts of recent times, and the continuing challenge and threats posed by climate change.

Global food prices registered an increase of approximately 20% during the year 2022. Despite a comfortable supply outlook for major commodities, prices have been volatile due to a combination of factors including downward revisions in maize and soybean supply outlook, export restrictions, and rising demand for feed grains for livestock production in Asia. Given that the global food supplies are comfortably poised, export restrictions are unfathomable and could hurt food security in importing countries. Livestock sector could play a much wider and more significant role in such a scenario.

Human progress has been dependent on the products and services of livestock since the advent of agriculture, and even the most modern post-industrial societies remain critically reliant on animals for food and nutrition security. As our understanding of economic development advances, so must our recognition of the

enduring importance of livestock. Livestock are especially vital to the economies of developing countries, where food insecurity is an endemic concern.

The United Nations' Food and Agriculture Organisation (FAO) in its publication "Transforming the Livestock Sector through the Sustainable Development Goals" has discussed threadbare its importance in achieving the sustainable development goals; as the short following extract would indicate. For decades, the livestock debate has focused on how to produce more from less to feed 10 billion people by 2050. However, the United Nations 2030 Agenda for Sustainable Development has now added a new and broader dimension to the discussion, it has shifted the focus from fostering sustainable livestock production to enhancing the sector's contribution to the achievement of the SDGs. Along with daunting challenges, the future holds immense opportunities for the livestock sector. It can play a key role in improving the lives of millions by a) providing the world with sufficient and reliable supply meat, milk, eggs and dairy products; b) increasing the direct consumption of animal-source foods; c) helping to generate income and create employment; and d) strengthening the assets that rural households use to achieve their livelihood objectives. It can also help improve children's cognitive and physical development as well as school attendance and performance; empower rural women; improve natural resource-use efficiency; broaden access to clean and renewable energy; and support sustainable economic growth. Finally, it can generate fiscal revenue and foreign exchange; create opportunities for value addition and industrialization; stimulate smallholder entrepreneurship, close inequality gaps; promote sustainable consumption and production patterns; increase the resilience of households to climate shocks; and bring together multiple stakeholders to achieve all these goals.

Indisputably, the livestock contribute substantially to global food systems, providing valuable nutritional benefits, supporting livelihoods, and strengthening the resilience of families and communities to economic, environmental and other shocks. Animal products provide more than 60 percent of dietary protein in developed countries, compared to only about 23 percent in developing countries. There is, therefore, substantial room for expansion of livestock production in the emerging economies. Animal products offer several advantages over crops. For example: meat, eggs and milk can be produced year-round, being less seasonal than cereals, fruit and vegetables; animals, particularly small ones, can be slaughtered as the need arises, for food or income; and both milk and meat can be preserved - milk as powder, clarified butter, curd, cheese etc., and meat by drying, curing, smoking, salting and an endless array of value added products. So it is worth an effort to evaluate the developments in the livestock sector, especially its increased contribution to the food basket.

Unfortunately, the livestock sector has become the whipping boy of climate change activists as it is routinely vilified as a major contributor to environmental damage and climate change. Powerful voices in the developed world, that matter in establishing global agenda, have

begun to question the how, and how much of the animal protein we should produce. Perhaps they have missed out that all this while, in other parts of the world, many are experiencing, to the extreme, hunger, malnutrition and poverty; and access to sufficient livestock foods is a far cry for them. At the same time, national governments through the United Nations, have agreed to work towards achieving the Sustainable Development Goals (SDGs); a collaborative effort to tackle the severest of global problems such as hunger, poverty, pollution and climate change. Despite the irony of the situation, what is appreciable is that along with the commitment to the SDGs is the declaration to move forward to economic prosperity for all.

As discussed earlier, there is an important role for livestock in the emerging picture of the future as it has been universally recognised that the sector can make a substantial contribution to delivering the Sustainable Development Goals (SDGs). We have understood what sustainable development is; now let us move on to what are the SDGs?

Sustainable development calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and the planet. For sustainable development to be achieved, it is crucial to harmonise three core elements: eco-





economic growth, social inclusion and environmental protection. These elements are interconnected and all are crucial for the well-being of individuals and societies. Eradicating poverty in all its forms and dimensions is an indispensable requirement for sustainable development. To this end, there must be promotion of sustainable, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living, fostering equitable social development and inclusion, and promoting integrated and sustainable management of natural resources and ecosystems.

Put simply, the SDGs are a set of 17 broad goals for People and for the planet as proudly and loudly proclaimed by the UN, “a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere”. These 17 Goals were adopted by all UN Member States in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the Goals. The goals, which include ambitions to achieve “Zero hunger”, “No poverty” and “Good health and well-being” for all, have become a global rallying point across all sectors, from governments to business to civil

society, and cover key themes that are relevant to the livestock sector too.

The livestock sector contributes, directly or indirectly to each of the 17 SDGs. The sector’s contribution is pronounced and of particular value to the following. SDG 1: no poverty, SDG 2: zero hunger, SDG 3: good health and wellbeing, SDG 5: gender equality, SDG 8: decent work and economic growth, SDG 10: reduced inequalities, SDG 13: climate action and SDG 15: life on land. However, for a holistic perspective of the spirit behind the call for action through the SDGs, it may be useful to evaluate the contribution of the livestock sector to the SDGs in the following core areas: (i) food security and nutrition; (ii) inclusive economic growth and improved livelihoods; (iii) animal health and welfare; and (iv) natural resources and climate change.

More than 800 million people in the world suffer from chronic hunger; and nearly two billion are vulnerable to malnutrition. Hunger and malnutrition are synonyms of poverty, impede cognitive development in children and reduce labour productivity. For the populations pushed to these extremes, it is subsistence rather than growth; prosperity remains a distant dream. As a global community, we

are way off the mark in achieving Zero Hunger.

Livestock food products are energy and protein rich as also sources of many of the essential nutrients. Livestock species and breeds are adapted to a wide range of environments, so they are ubiquitous. Obviously the sector has great potential to contribute significantly to the eradication of hunger and malnutrition all across the world, even in areas that are unsuitable for crop production. Globally, on an average, livestock products contribute 34 percent of protein and 17 percent of calorie intake of human diets, but this contribution is not equitably distributed among regions. The food systems worldwide, especially in the developing countries, motivated by the critical need to ensure food security, focus on providing low-cost calories for the majority of the populace. This often leads to inadequate attention to nutrition and healthy diets resulting in malnutrition which resultantly place a heavy burden on human health and well-being. Improved governance of, and more importantly increased role to, the livestock sector is part of the solution to attaining food and nutrition security to the vast multitudes of the poor and hungry.

An estimated 10 percent of the world’s people live in extreme poverty. The number had been consistently decreasing in recent years but the unprecedented economic slowdown brought on by the COVID-19 pandemic has, quite unfortunately, reversed the trend. Livestock production and supply chains constitute a very important source of income. Globally more than a billion people depend on livestock value chains for their livelihoods. Small-scale livestock keepers and pastoralists represent a large part of the livestock producers. About 600 million of the world’s poor keep livestock and are vulnerable to the vagaries of climate. Livestock for them are an asset for economic resilience and income which, even if small, flows on a regular basis. The global demand for livestock prod-

ucts is expected to increase by up to 50 percent by 2050, creating further economic opportunities. However, the ability to take advantage of these opportunities is not equal. Small-scale producers have little bargaining power in either input or output markets and limited access to social protection schemes. Many small-holders are women, who often have less access to production resources, credit, knowledge and information and markets. The involvement of youth in farming is also decreasing. Pastoralists are often marginalised and not considered by national policies and programmes.

Increasing the productivity of livestock farming and its better integration with agriculture could be effective means to increase sustainability. Productivity gains and the resultant financial benefits should be equitable without compromising upon human and animal health or environmental sustainability. The approach along the value chain should be holistic and inclusive, thus empowering the small livestock holder.

An estimated 2.7 million human deaths a year are attributed to zoonotic diseases. Many other animal diseases cause heavy economic losses, averaging 25 percent globally. Diseases also disrupt international trade, jeopardising food security and livelihoods. Intensification

of production to increase the short-term profitability may compromise animal welfare, affecting the immunity and productivity of animals, rendering them more susceptible to diseases. In most of the countries, animal welfare policies, standards and practices are poorly implemented.

Coherent and inclusive policy development and implementation at national level to improve primary animal health care, application of good husbandry and welfare standards as part of an integrated One Health approach is the desirable intervention. This would strongly support sustainable food systems.

Livestock are the biggest user of agricultural land. A large proportion of grasslands cannot be put to cultivation and are used for grazing which may, if poorly managed, cause land degradation and biodiversity loss. Livestock consume approximately one-third of global cereal production, besides roughages such as grass and crop residues and other agro-industrial by-products. Livestock contribute to greenhouse gas (GHG) emissions, 14.5 percent of total anthropogenic GHG emissions and also use significant amounts of freshwater.

Livestock are both the victim and the key to climate solutions in agriculture.

Climate change can devastate animal productivity, health and welfare. It can also affect disease patterns, making outbreaks harder to control, but the livestock have the potential to contribute to the conservation of biodiversity and genetic resources for food and agriculture. The declining diversity of livestock needs to be reversed aggressively.

The resilience of small-scale producers must be strengthened through the diversification of sources of incomes. Indigenous genetic resources, and husbandry practices should be blended with modern science. Improving productivity is key to reducing the negative environmental impact of the sector, in particular livestock characterised by low carbon emission and higher resource use efficiency.

Governments have refocused their policies and allocation of resources on the SDGs; businesses too are building these goals into their strategies. The International Poultry Council (IPC) affirmed its commitment as a leader in transforming the world through environmental and sustainable practices, in partnership with the FAO. Focusing on five of the SDGs, the IPC committed to the sustainable development of the sector, delivering benefits for both the planet





and people globally. These included: i) Zero hunger (SDG 2): sharing good practices and promoting sustainable production; ii) Good health and well-being (SDG 3): promoting poultry as a healthy choice and sharing good management and manufacturing practices; iii) Quality education (SDG 4): building capacity to ensure high quality and sustainable production; iv) Industry, innovation and infrastructure (SDG 9): Supporting innovative and sustainable industrialisation; v) Climate action (SDG 13): reducing greenhouse gas and other emissions. The World Egg Organisation (WEO) too has identified six key objectives where it claims to be making a significant impact through a range of dedicated sustainability initiatives in line with the UN's targets. These objectives specifically address the following goals: i) Zero Hunger; ii) Good Health and Well Being – Eggs fulfil numerous nutritional requirements; iii) Quality Education - Egg consumption supports brain development and concentration; iv) Responsible Consumption and Production – Building trust and transparency in food supply chains; v) Climate Action– industry share best commercial practices across the industry's member organisations; vi) Partnership for the Goals– WEO develop constructive relationships with stakeholders. But then there are inherent contradictions on account of the flawed approach of 'one size fits all'. The Director General of the International Livestock Research Institute articulates this dilemma, "The [livestock] sector is challenged by its

environmental footprint and concern that consuming animal source foods leads to poor health. In many parts of the world we consume too much, but in many parts of the developing world we ought to consume more, given the importance of animal-source foods in nutrition."

It is no coincidence that "No Poverty" and "Zero Hunger", the SDGs one and two are followed by the most appropriately titled SDG three "Good Health and Well-Being". Food security has graduated to nutrition security, calories to proteins and micronutrients, the absolute quantity and volume to the quality of food. The most primary feature of this quality would be the safety, uncompromising, of the food products. A system encouraging organic inputs and practices in agriculture and livestock management would surely be a pillar of support to realisation of the goal of Good Health and Well-Being. Organic agriculture is a system that accords primacy to a consideration for potential environmental and social impacts of agriculture and thus seeks elimination of the use of synthetic inputs, such as chemical fertilisers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation. Management practices, generally indigenous, that maintain and increase long-term soil fertility and prevent pest infestation and other diseases replace these synthetic inputs. "Organic agriculture is a holistic production management system which promotes and enhances agro-

ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system." This is how the FAO/WHO Codex Alimentarius Commission, 1999 defines it. In the context of livestock management in India, management of fodder crops and pasture land would be of critical importance, keeping them free, as far as practicable from synthetic fertilisers and pesticides. When it comes to health management of animals it means reducing, if not eliminating, the use of antibiotics and other drugs. Not only the production system, but the entire value chain should be organically integrated.

Most importantly, besides the concerns for public health and nutrition, the policy, management and practice of organic agriculture should centre around the interests of the farmer and the consumer who are the primary stakeholders. However, in the dominant politics of the subject, they have been rendered voiceless and pushed to the margins in this debate, which is often governed by strong beliefs and ideology fuelled by misinformation, if not ignorance. The commercial misinformation as it abounds may turn out to be a great disservice to the promotion of organic livestock food products. A robust and reliable certification regime, high on trustworthiness and integrity, is the key to this challenge.

The moot question today is whether we have progressed enough to rise above the bamboozling jargon to reach a stage where outcomes are tangible, or do we continue to grope from one set of jingoistic slogans to another, a la Millennium Development Goals (MDGs) to the SDGs; the goal remaining elusive though.