



Opinion

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Requisite Intellect Needed in Africa's Animal Husbandry to Increase Productivity

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The world human population at 7.6 billion in 2020 is projected at 8.6b in 2030, 9.8b in 2050, increasing by 33% in least developed countries (UN Report 2017). Populations of 26 African countries will double, with Nigeria, Democratic Republic of Congo, Ethiopia, Tanzania and Uganda being forefront, thus efficiency in agriculture is essential. Food production has increased worldwide but 50% of Africans do not get adequate amounts, even essentials like milk. In 2014 world milk production was 933,976 tons (t) condensed, 3,597,015t dried and 2,601,076t evaporated, Africa contributed only 1.5% (13,826t), 1.4% (48,564t) and 0.8% (19,776t) respectively FAO [1] despite having 23.2% (346,475,266) of 2017 world's 1,491,687,240 cattle. This low milk production trend in Africa notifies that Sustainable Development Goals 1 to end poverty and 2 to end hunger will not be achieved by 2030 and most likely all the 17 goals. This paper gives opinion on pathways to increase animal productivity.

Livestock Farming Challenges in Africa

Livestock farming in Africa is affected by many factors centred on inputs; capital, land, technology, animal breeds, management, workforce, intellect, interest, feeds and feeding processor, water, pastures & fodder, fertilizers, tools, health plans, medicines, vaccines, pesticides, medicators, machinery, product processors, policies, markets and law compliance Njonge [2], Asizua [3]. Pastoralism and agro-pastoralism (APP), the dominant farming systems Ndambi [4], Guadu and Mangistie [5], FAO [6] constitutes 90% of dairy ruminant population. In Tanzania 94% of livestock population are under APP (URT, Min. Liv. & Fish. Dev. Report 2019), 6% are under smallholders and large farms. Cattle under APP yield 0.5-1 litre (L)/animal/day Kurwijira & Henricksen [7] thus the country produces 54.8 million Litres milk/annum. Dairy farms with cross-and pure

breeds produce 2-5% of milk on market, 95-98% share filled by imports. Annual per capita milk consumption is 47L, against 200L world level. Generally, in Africa genetic improvement has not been widely implemented to transform beef and dairy production Opoola [8], Ojango [9]. Livestock farming receives inadequate government support on capital, technology and markets. Animals are of low productivity genes. Genetically high producer exotic breeds, their infrastructure, housing, health, technology and management needs are unaffordable by ordinary families. Diseases of animals include parasites, fungi, protozoa, ehlichia, virus and bacteria. Qualitative and quantitative deficiencies in animal feeds are most significant Mbwambo [10]. Markets for live animals, milk, meats and products are highly unreliable, making livestock farming risky, thus left for illiterate poor communities with no other income sources, who rear animals on APP on general lands without investing anything (low input low output), unable to produce adequate milk, export meat, leather & leather goods. Therefore, APP is claimed to be economical in arid and semiarid lands Bollig [11], however, human population growth has severely constrained unrestricted grazing. Strong cultural bonds in some pastoralists force them to segregate themselves from country governance, development and modern farming, wanting to be left alone, gaining sympathies from some groups Mattee & Shem [12], Tenga [13], Mgongo [14], Galvin [15], and this complicates the transformation from APP to modern profitable farming. Sustained unrestricted pastoralism, however, is causing many fatal land conflicts between pastoralists, and crop farmers, forests & wildlife areas, urban & villages Le Meur [16], Kushoka [17], James [18], Massoi [19], Mbonde [20], Mwambashi [21], Massay [22]. Vision is lacking on scenarios of grazing in general land without investing to regenerate feeds and water. Seeking for solid practical information on modernizing livestock farming in Africa is, therefore, inevitable.

Pathways to Enhancing Livestock Productivity in Africa

Sudan, Kenya, South Africa, Egypt, Morocco, Algeria and Ethiopia are reported to have enhanced milk production Louw [23] but many countries have not. It is highly unlikely that Africa will achieve SDG1 and SDG2 within next decade, unless radical strategic livestock farming modernization plans are set and implemented. Livestock productivity in APP system is too low to adequately supply growing human populations and, the land is also shrinking because of increasing users. In order to sustainably ascend beyond APP, modernizing livestock farming is necessary, achievable by raising intelligence to generate people interested in farming. Many African countries have plenty of arable land to produce feeds and water using available efficient modern technologies. Fights over land and water are due to unwillingness of people to think, plan, invest and work their plans; instead they opt for minimal intelligence, and follow inherited living styles from ancestors, who did not have knowledge and technology.

Increasing productivity of livestock production in Africa requires strong investment, infrastructure, innovations FAO [24]. The factors steering shift from APP to modern farming are population growth (need food), climate change, decreasing free grazing land, expanding milk, meat and products markets, Africa's realization of self-development, widening university education, growing middle-income earners, increasing demands for high quality foods, raising security, safety, health, quality life, living standards, better technology, markets, good animal breeding and disease control technologies, easing management by farm automation, digital knowledge, artificial intelligence and use of drones and networking. The two binding actors in modernizing livestock farming are people and governments [25]. People must modernize themselves, move out of past cultures and venture into high-value production. Governments must identify people interested to invest in livestock production, give them loans and grants; young university graduates (Namibian model), young changing APPs and others. Governments should develop markets, create export opportunities, connect farms and markets, and utilize opportunities in digital technologies and artificial intelligence. Governments should ensure that all children born have homes, none should wander in jungles following animals.

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Conflicts of Interest

No conflicts of Interest.

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