
Animal Health Extension and Pastoralism
Course No: Vetm-5251



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1. Dynamics and Contributions of pastoral systems in East Africa
2. Past policies and Policy challenges with regard to pastoralism
3. Pastoralism within the context of national poverty reduction strategies



1. Dynamics and Contributions of pastoral systems in East Africa



OBJECTIVES

At the end of this session the students will be able to:

- ✚ Familiarize with the dynamics of pastoralist in East Africa
- ✚ Understand the types of pastoralism
- ✚ Know the economic contribution of pastoralist
- ✚ Familiarize with the socio economic dynamics of pastoralist



BRAINSTORMING

- What is meant by **pastoralist** and **pastoralism**?
- What is the **advantage of pastoralism**?
- Describe the **location of pastoralist area** in Ethiopia?
- Describe the **total GDP contribution of pastoralism** in Ethiopia?
- Mention the **type of pastoralist**?



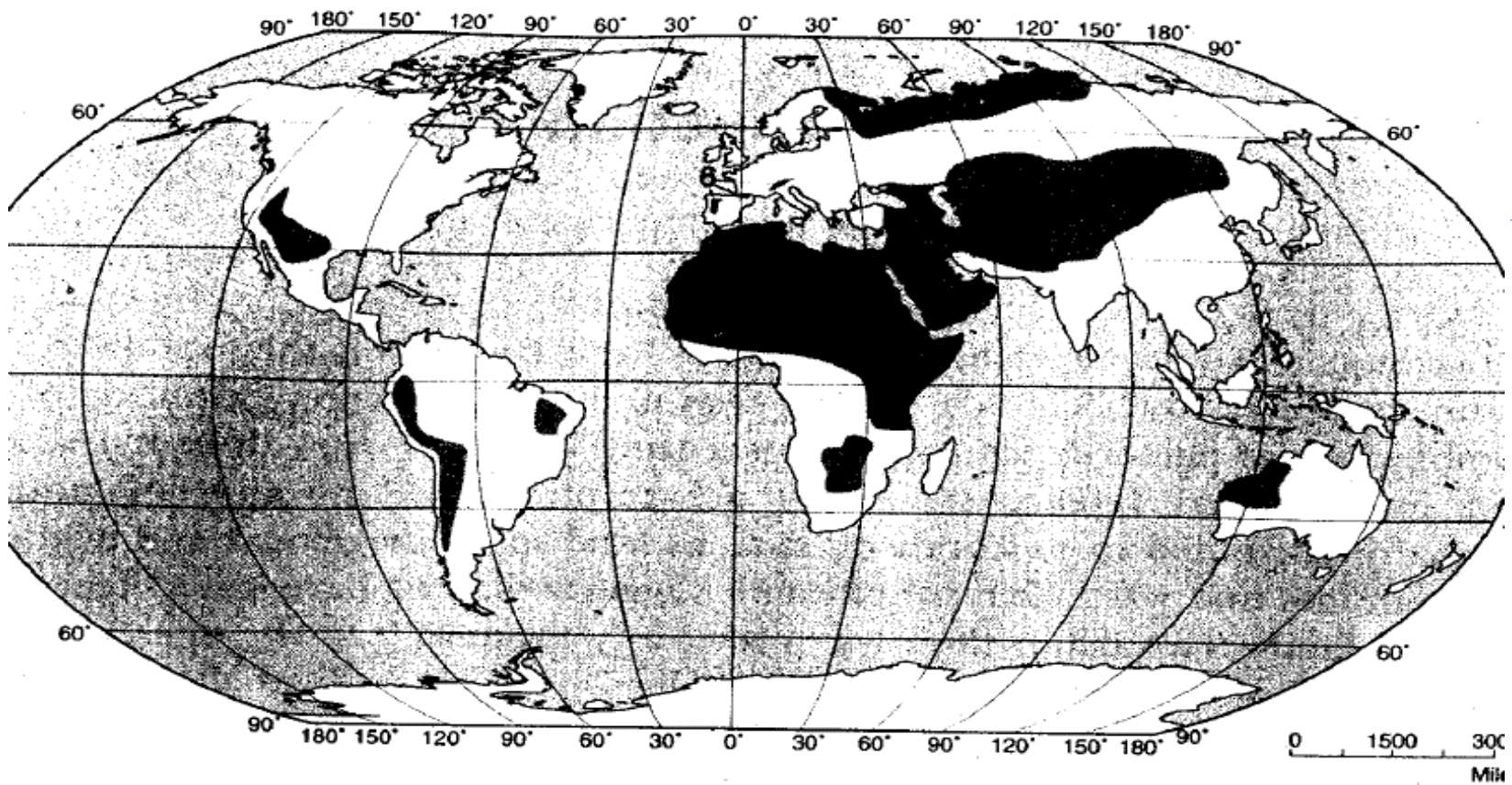
1. Dynamics of pastoral system in east africa

Pastoralist are the **communities living on arid lands through mobile livestock keeping**

- 1) **LIVESTOCK** as the main livelihood source; the **vital 'technology'** that allows translating land resources into **valuable products** for people.
- 2) **MOBILITY** as the way to make the best **use of marginal natural resources**, while enabling their recovery through time.
- 3) **FLEXIBLE** arrangements regulating **access to resources**; common property rights, negotiations

Pastoralism is **an entire way of life**, involving ecological, political, economic, technological, cultural and social dimensions.





PASTORALISM

Directly supports some 150 million people

Covers 25 percent of the world's land area

Provides valuable products (protein of milk & meat, fibres) from marginal lands

Dynamics of pastoral system....

- ❑ Pastoralism is a natural resource-based subsistence pattern in which people make their living by keeping herds of animals in a communal or free-range land system.
- ❑ It involves mobility to track seasonally available natural pastures.
- ❑ Pastoralists can be broadly classified as agro-pastoralists and pure pastoralists (transhumance).
- ❑ Agro-pastoralists are largely sedentary, combining livestock and crop production .
- ❑ The transhumance are those who maintain a home base and a satellite herd in search for water and pasture depending on the harshness of the environment and as need arises.

Dynamics of pastoral system....

- ❑ Both types of pastoral systems exist in the dry lands, and the pastoralists often engage similar opportunistic strategies to address constraints imposed by the risky environment that they share.
- ❑ The herds of agro-pastoralists are often smaller than those in pure pastoral systems, possibly because their owners no longer solely rely on livestock and depend on a finite grazing area around their village which can be reached within a day.
- ❑ Land is an important factor of production because it provides the foundation for all activities such as agriculture, water, settlement, tourism, wildlife, forestry and infrastructure.
- ❑ Land issues are important to the social, economic and political development of a nation.

Dynamics of pastoral system....

- ❑ The term rangeland is used in a broad sense to cover natural grassland, bush land and wood land.
- ❑ Pastoralism entirely depends on the productivity of these rangelands.
- ❑ In East Africa, rangelands form what has been called the 'cattle corridor'.
- ❑ Rangelands are normally used for grazing by domestic animals and wildlife.
- ❑ Wildlife mainly supports the tourism industry and is found in the game reserves and national parks.
- ❑ Therefore, the improvement of rangeland management is fundamental for improved livestock and game production.

Dynamics of pastoral system....

- ❑ However, the naturally harsh climatic conditions (i.e. high temperatures, low and highly variable rainfall regimes, low density vegetation cover, and fragile soil), the ever increasing human need for survival compounded by climate change, have significantly contributed to rangeland degradation.
- ❑ The management of rangelands for sustainable development remains one of the major challenges facing researchers, policy makers and development agencies in Africa.
- ❑ Ethiopia, Kenya and Uganda are not exceptional to these challenges.



Dynamics of pastoral system....

- ❑ Much of the problem stems from the ecological and climatic characteristics of rangelands, coupled with inadequate policy and institutional supports and biased development policies towards crop farming.
- ❑ In Ethiopia, Kenya, and Uganda, there has been a cumulative effect of socio-economic dynamics and a series of policies introduced that largely assume settlement and crop production as the best strategies to improve the quality of life for pastoralists.



Dynamics of pastoral system....

Crucial aspects of pastoralists are

~ Pastoralism is the interaction of people, animals and the environment. Because of variable and harsh conditions, strategic mobility of livestock and selective feeding are critical for survival, and for the enhancement of ecosystems resilience.

~ Communal access to resources is governed by customary laws and institutions. They have developed flexible resource management systems, to be implemented by the communal land management institutions. Interestingly, the system establishes non-exclusive entitlements to water resources (i.e. everybody has a right to access water in the particular community).



Dynamics of pastoral system....

~ Livestock, wildlife, forests, pasture, minerals, and medicinal plants are all critical resources upon which the people of the pastoral areas depend. Access to, and control over, these resources is differentiated by gender and age, with women and youth playing key roles in natural resource management, but with control over most resources primarily in the hands of older men.

~ Land degradation is increasingly becoming a critical policy and development challenge. Complex factors such as ever growing human population, climate change, as well as land insecurity and haphazard planning and development interventions, have contributed significantly to land degradation in pastoral areas. The traditional customary institutions are gradually weakened due to over-emphasis and imposition of government systems on the one hand, and lack of considerations or negligence of the customary system on the other.



Dynamics of pastoral system....

~ While there are still plenty of varied resources as mentioned in (iii) above, and even though they share significant contribution to the national economy, today, the highest level of human poverty is recorded in pastoral areas. That means, poverty in the pastoral community has paradoxically co-existed with a wealth of natural resources and biodiversity. This reality should draw the attention of policy makers and development practitioners.



Pastoralist in the Horn of Africa



Dynamics of pastoral system....

Opportunities and Comparative Advantage of Pastoralism

~ **Indigenous Knowledge and Customary Rules:** Existing indigenous knowledge of rangeland management is a capital and pastoralists have successfully managed climate variability for centuries. They have developed coping mechanisms to adapt to the harsh ecology such as mobility, possessing large herds of livestock, herd diversification and splitting, and focused mutual assistance systems.

~ **Efficient Resource Use:** Pastoralists are producing meat and milk cheaply on land that is otherwise hard to exploit. Pastoralism is most often an adaptation to semi-arid climatic conditions, in which farming cannot easily be sustained. Thus, it is argued that pastoralism is perhaps the most efficient way of using resources in dry lands and marginal areas.



Dynamics of pastoral system....

~ **Strategic Position for Livestock Trade:** The region's geographical location makes it well positioned to benefit from surplus capital in the Gulf, one of the fastest growing parts of the world. Pastoralism has more comparative advantage in arid and semi-arid areas than any other livelihood.

~ **Domestic Trade:** The economies of the lowlands and highlands are complementary and increasingly integrated. There is already significant movement of capital between highland and lowland pastoralists, which is set to grow.

~ **Social Cohesion:** Social networks in the pastoral areas are comparatively strong, and provide important safety nets in highly vulnerable environments.



Dynamics of pastoral system....

~ **Tourism:** Most protected areas such as game reserves and national parks are found in the arid and semi-arid lands (ASALs). This gives the region a comparative advantage in tourism. Tourism is Kenya's highest foreign exchange earner and contributes approximately 12 percent to Kenya's GDP.

~ **Natural Wealth:** Most rangelands in the three countries considered under the study have commercial deposits of oil and natural gas (like in the north and east of Kenya). Other natural resources include sand and gravel for construction, a wide range of precious minerals, soda ash, gum, resins, and medicinal plants. Dry lands' soils and vegetation store carbon, suggesting that the pastoral rangelands have the potential to generate payments for environmental services such as carbon sequestration



Contribution of Pastoralism to Livelihoods and National Economies in East Africa

Ethiopia: Contribution of Pastoralism

- ❑ Ethiopia's pastoralist community consists of about 10 million people and occupies 61 percent of the total land mass of the nation (1.1 million km²).
- ❑ Ethiopian pastoralists live in seven (7) National Regional States.
- ❑ Somali, Afar and Oromo pastoralists are the majority in their States and constitute 87 percent of the total pastoralist population, and those in SNNPR, Benishangul-Gumuz, Dire Dewa and Gambella make up the remainder.



Contribution of Pastoralism.....

- ❑ They raise a large proportion of the national herd, estimated at 42 percent of the cattle, 7 percent of the goats, 25 percent of the sheep, 20 percent of the equines and all of the camels.
- ❑ All live animals and meat exports are exclusively from pastoral sources. In addition, over 70 percent of the wildlife parks and sanctuaries are found in pastoralist areas. These areas contribute significantly to the national economy estimated at 12 percent of the GDP.



Pastoralism in Ethiopia

- ❑ The pastoralists are situated in peripheral areas bordering neighboring countries.
- ❑ Thus, they are in the vicinity of neighboring countries' markets for livestock.
- ❑ Livestock are traditionally flown out of the country from Afar & Somali regions, Borena zone of Oromia and Omo lowlands bordering Kenya.
- ❑ The neighboring countries bordering these areas either consume locally or re-export to the Middle East countries.
- ❑ The total annual economic value of pastoralism in Ethiopia at 90 billion ETB (around 10.6 billion USD).

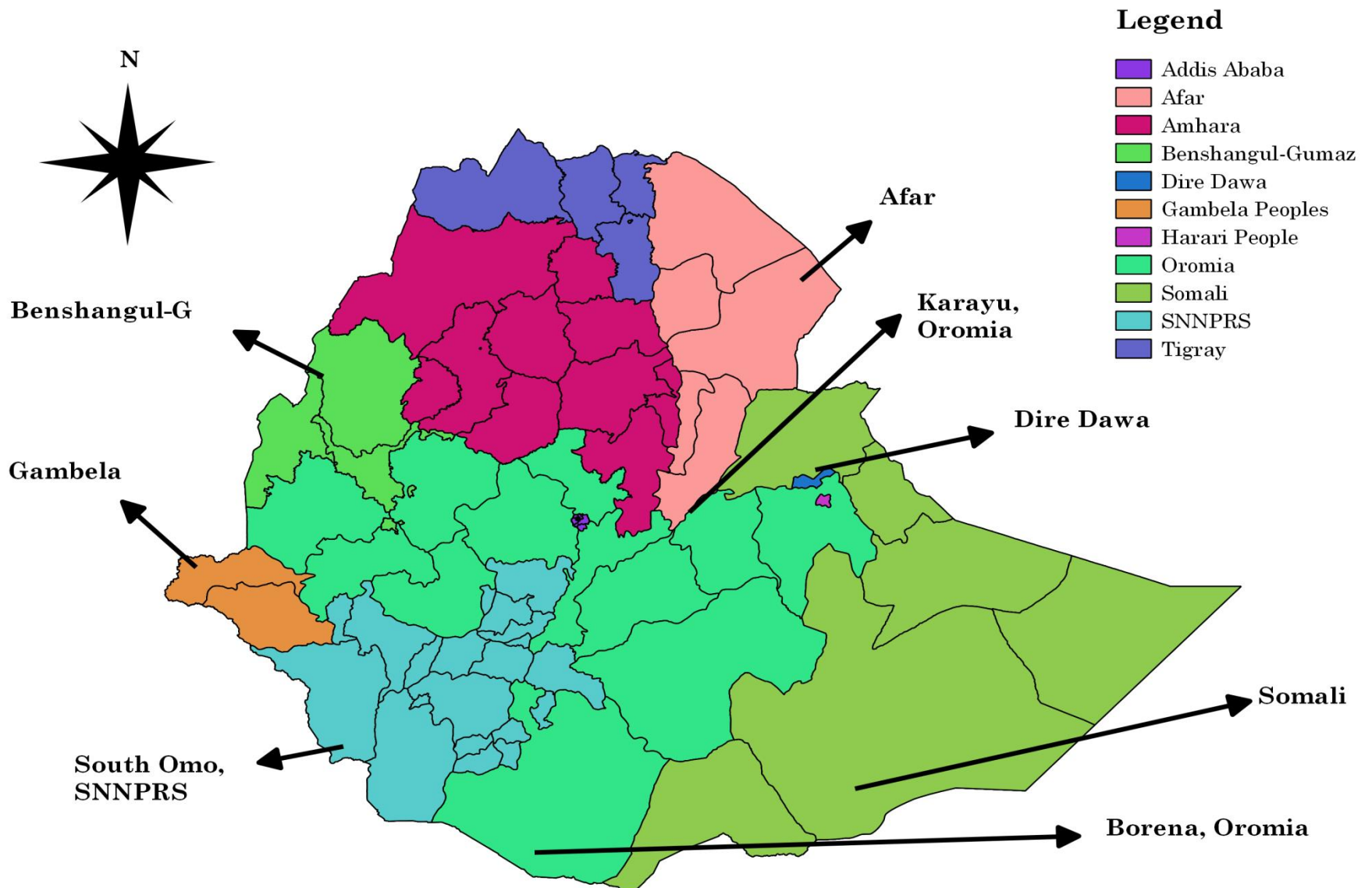


Pastoralism in Ethiopia.....

- ❑ Moreover, it is accounting for 12–16 percent of national Gross Domestic Product (GDP) and 30–35 percent of national agricultural GDP (REGLAP, 2012).
- ❑ Pastoralists are found distributed over 122 districts of the country.
- ❑ Ethiopia's pastoralist areas cover 62 percent of its land mass and support 12–15 million people (Shitarek, 2012).
- ❑ By tribe, Somali pastoralists constitute 53 percent of the pastoralist population, followed by the Afar (29 percent) and the Borana (10 percent).
- ❑ The remaining 8 percent are found in Gambella, Benishangul, and Tigray Regions (Desta, 2006).

Contribution of Pastoralism.....

Geographical location of pastoralist in Ethiopia





Halidage Village-Afar Pastoral Region (Photo: Gezabegne M)



Contribution of Pastoralism.....

Uganda: Contribution of Pastoralism

- ❑ Uganda's rangelands cover about 84,000 km² (43 percent) of the country's total land area, and are concentrated in the 'Cattle Corridor' stretching from the Tanzanian border districts to the north east borders with Kenya and South Sudan, with additional patches scattered elsewhere outside the corridor.
- ❑ Uganda's rangelands contain a population of 6.6 million people.
- ❑ As noted in the Draft Policy of Rangeland Management (January 2014), for centuries, Uganda's rangelands are mainly utilized and managed by pastoralists under a common property system.



Contribution of Pastoralism.....

- ❑ The Cattle Corridor holds 80 percent of the national herd, 90 percent of cattle, and 85 percent of milk, while 95 percent of beef consumed comes from animals in the rangelands.
- ❑ Besides livestock pastures, water resources and crops, the rangelands have other valuable assets such as wildlife, woodlands, medicinal plants, minerals, honey, bush meat, scenic landscapes and water shades.
- ❑ Uganda's pastoralists keep large herds of cattle on rangelands accounting for 55 percent of the national livestock population.
- ❑ These large cattle herds are, however, more important for social and cultural reasons than for commercial purposes.
- ❑ The traditional breeds kept by pastoralists are low milk producers, but are economically important for beef production. Pastoralists also keep herds of goats and sheep, which have an untapped export potential to the Middle East.

Contribution of Pastoralism.....

Kenya: Contribution of Pastoralism

- ❑ Kenya has a landmass of 582,650 km². The savannah and grassland eco-systems collectively referred to as arid and semi-arid lands (pastoral rangeland) constitute about 80 percent of the land mass.
- ❑ This area supports more than 10 million people (over 25 percent of the human population), 60 percent of the country's livestock, and is home to 85 percent of the total wildlife population.
- ❑ The rangelands are home to most wildlife species. In 2014, the number of wildlife was estimated at 9,812,000. This is the main tourist product that supports Kenya's tourism industry, in addition to enhancing the ecological system.
- ❑ The net contribution of the rangeland to the national GDP is estimated at 13 percent.

Contribution of Pastoralism.....

Comparative Contribution of Pastoralism to the Economy

Indicators	Uganda	Ethiopia	Kenya
Human population (mln)	6.6	10	10
Land mass (%)	44	61	80
National herd (%)	55	42	60
Beef (%)	95	Na	80
Milk (%)	85	Na	Na
GDP (%)	8	12	13

Socio-economic Dynamics in Pastoralism


Social dynamics and ecological changes across the rangelands of Ethiopia, Kenya and Uganda are generally similar, and have implications in rangeland management. Most important issues are as follows:

- ❑ **New land uses have been developed and existing ones transformed such as:**
 - The conversion of grazing land into cropland using irrigation, particularly in the semi-arid to sub-humid areas of Uganda, and along river banks in Ethiopia
 - Gradual transformation of communal land into private and individual ownership through crop farming, private investment and government protected areas; and
 - A significant reduction in size of many unprotected woodlands and forests.



Socio-economic Dynamics....

□ Socio-economic transformation includes:

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- Increased move from pure pastoralism to agro-pastoralism and to sedenterisation (those who do not have large livestock herds are the first to settle) due to changing lifestyles and land tenure, and adoption of crop production in marginal areas.
 - Increased development of infrastructure (road and water supply points) and basic service facilities (school, human and animal health clinics).
 - Increased participation of pastoral communities in alternative income generating activities (such as petty trade, sales of firewood, charcoal, hand crafts, etc.); and
 - Growing market participation of pastoralists (that is, tendency for commercializing their livestock)
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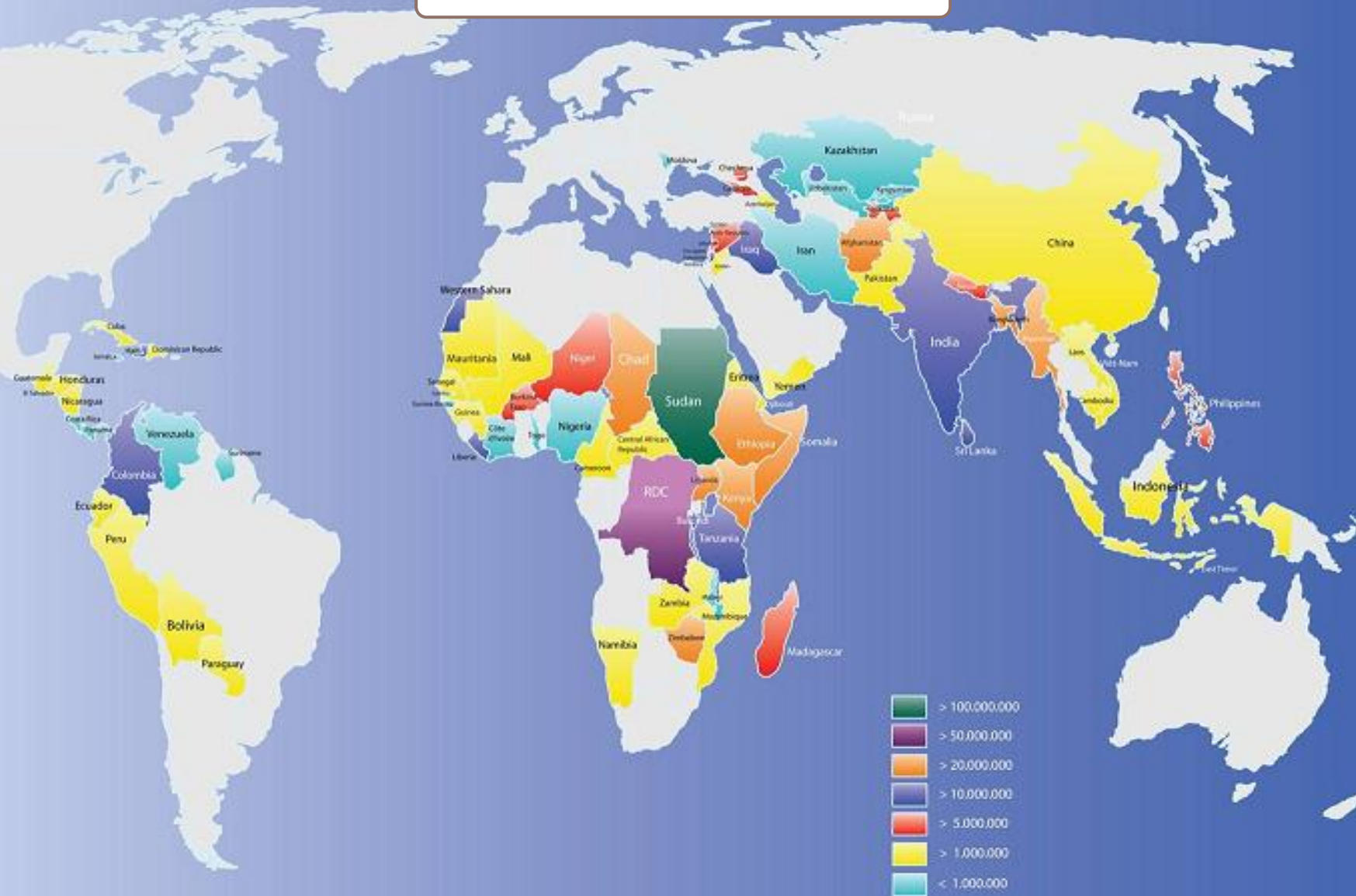
Universal Challenges with Pastoralism

Rangeland management in particular poses more challenges than classical, specialized or conventional mixed farming systems. This is attributed to high vulnerability of the pastoral system due to the fragile agro-ecology of the rangelands. The system is also heavily embedded in strong cultural and historic values. These are briefly described as follows:

- ❖ **Poverty and Food Insecurity:** The pastoralists have the lowest development indicators and the highest incidence of poverty in all the three countries due to lack of government attention.
- ❖ **Climatic Change and Drought:** Climate change is both a cause and a direct consequence of rangeland degradation. Nearly all pastoralist areas suffer from inadequate, erratic and unevenly distributed rainfall.



GROWING FOOD INSECURITY



The current large number of reiterated emergency interventions in pastoral areas stands as the best indicator of the failure of past development approaches (Humanitarian Food Assistance meeting on 16/6/2016)

Universal Challenges.....

- ❖ **Escalation of desertification and land degradation:** These include natural hazards (such as drought, floods) and human activities (deforestation, overgrazing, poor farming practices on marginal and fragile lands) and worsening soil erosion. Increase in both human and livestock populations is placing pressure on the rangelands resulting in intensive degradation especially at watering points, along livestock paths and on hilltops.

 - ❖ **Shrinking rangelands (grazing communal land):** - Grazing area is shrinking at an increasing rate (mainly due to large-scale State and commercial farming, wildlife parks and ranches), while the remaining part supports increasing livestock population without improved pasture productivity.
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Universal Challenges.....

- ❖ **Encroachment by alien invasive species:** These changes in soil and vegetation cover facilitate invasion by foreign species and bush. Increased bush encroachment has been observed throughout pastoral areas.
- ❖ **Poor livestock productivity:** This is due to low feed and water supply, the prevalence of trans-boundary animal and zoonotic diseases, erratic and unpredictable weather conditions.
- ❖ **Conflict:** Resource and land related conflicts ranging from simple misunderstandings to livestock rustling and kidnapping - are now common. Small disputes escalate quickly and result in deaths and displacement of whole communities. They also create conflict between the wider community and owners of individual enclosures. Conflicts confine pastoralists to specific areas, leading to the overuse of nearby resources, which in turn causes rangeland degradation.



2. Past policies and Policy challenges with regard to pastoralism



OBJECTIVES

At the end of this session the students will be able to:

- + Know what is meant by disease
- + Familiarize with the dynamics of pastoral system in east Africa



BRAINSTORMING



Pastoral Land Management Policies and Proclamations in Ethiopia

- ❑ Both the Federal Democratic Republic of Ethiopia (FDRE) and the Regional Governments have issued policies and legislations concerning pastoralists and agro-pastoralists.

I. Laws and Policies of the Federal Government

- ❑ In Ethiopia, there are series of policies and proclamations formulated by the Federal Government and adapted by the Regional States over the last twenty (20) years.

A. The FDRE Constitution (1995, Article 40)

- ❖ It establishes a non-flexible land policy in Ethiopia.
 - ❖ It states that the “right of ownership of rural land and urban land as well as of all natural resources is exclusively vested in the State and the peoples of Ethiopia.”
-

Laws and Policies

- ❑ Land is a common property of the nations, nationalities and peoples of Ethiopia and shall not be subject to sale or to other means of transfer”.
- ❑ Pastoralists have the right to free land for grazing and cultivation and the right not to be displaced from their own land.
- ❑ In sub-article (6), it states that the Government shall ensure the right of private investors to the use of land on the basis of payment arrangements established by law.
- ❑ In the case of expropriation of private property for public purposes, it is stipulated under Article (8) that payment in advance of compensation commensurate to the value of the property shall be made.

Laws and Policies

B. Federal Government Policies (RDPS Paper 2001, SDRP (2003) and PASDEP (2005))

- ❑ In addition to this Proclamation, the Federal Government also passed policies in relation to pastoralists at different times.
 - ❑ The Rural Development Policies and Strategies (RDPS), though focused on crop cultivation, contains policies on pastoralist development.
 - ❑ The short and medium term strategies also focus on reducing pastoralist mobility.
 - ❑ In the long-term, the strategy aims to sedentarise pastoralists by developing irrigation, implementing settlement programmes, and changing their way of life.
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Laws and Policies

- ❑ The RDPS recommends that rangeland management and conservation be based on traditional management systems as a way of improving water availability.
- ❑ Mobile pastoralists should be sedentarised on a voluntary basis, reliable river courses should be selected for sedentarisation based on capacity to support irrigation, and they should be linked through roads and other communication lines.
- ❑ Settled or semi-settled pastoralists should be encouraged to stay settled through improved water supply, pasture and social services.
- ❑ Mobile social services, including health and education should be provided as a united package for those that continue to be mobile.



2. Policies and Legislations of Regional Governments

- ❑ Based on the Federal Proclamation No. 456/2005, the Regional States issued policies and legislations concerning pastoralists and agro-pastoralists.

- ❑ It emphasize the need to strengthen the right of pastoralists, agro-pastoralists and farmers;
 - create a sense of ownership;
 - ensure equal rights of women and the disabled;
 - create a conducive atmosphere for investment;
 - establish a system of rural land administration that promotes the conservation and management of natural resources in which the present use does not compromise the development endeavors of future generations; and
 - establish a database system for different types of land holdings.



3. Land Tenure in Ethiopia

- ❑ **Land tenure** refers to the extent of the land use right only, as the ownership of all land in the country is vested in the government.
- ❑ There are three types of land tenure systems in pastoralist areas of Ethiopia: State, private, and communal.
- ❑ **Private land holding** refers to land held by small-scale farmers (agro-pastoralists) and investors.
- ❑ It involves the right to exclude others but it does not involve the right to sell land as this right is prohibited by the FDRE Constitution.



Land Tenure in Ethiopia

- ❑ **The State holding** includes national parks and reserves, forests, lakes, rivers or land used for the provision of basic services such as education, health, etc.
- ❑ Finally, communal land holding portrays the dominant kind of holding in pastoralist community where land is communally used for grazing, woodlots, and other purposes.



Pastoralists and the environment

- ❑ Pastoralists have not historically been perceived to have a good relation with the environment.
- ❑ Accused of overgrazing and desertification, more recently, they have been seen to be responsible for methane emissions and low feed-conversion rates.
- ❑ The widespread presence of tsetse would have constituted a major constraint to livestock in many regions, at least until trypanotolerant breeds were developed.
- ❑ Destroying tsetse habitat in woody vegetation and gallery forest would have provided an additional incentive for pastoralists to burn off forest cover.



Pastoralists and the environment

- ❑ The growth of a large and often problematic literature on range degradation and overgrazing.
- ❑ The range degradation and vegetation change due to overgrazing or to climatic variability
- ❑ Nonetheless, heavy grazing does change the composition of the vegetation.
- ❑ Apart from the semi-arid and sub-humid savannas, Africa has a smaller number of high-altitude grasslands.



Pastoralists and the environment

- ❑ The Ethiopian Plateau constitutes the most extended area, but the highlands of Uganda and Rwanda represent a similar ecology.
- ❑ In West Africa, the Fouta Djallon in Guinea and the Adamawa grasslands in Cameroun and Nigeria are comparable grasslands.
- ❑ Unlike the Sahel, the West African grasslands have historically had relatively low grazing pressure from wild herbivores and none from domestic animals because the foothills around these plateaux are humid forest that acted until recently to exclude cattle.
- ❑ The colonization of these grasslands by pastoralists took place in the mid-to-late nineteenth century when the expansion of population cleared sufficient areas of tsetse to make it possible to reach them without unacceptable levels of mortality from trypanosomoses.

Pastoralists and the environment

- ❑ As a result, cattle herds came in increasing numbers, gradually changing the pattern of vegetation until they became almost unusable as a habitat for livestock.
- ❑ The Mambila Plateau in SE Nigeria represents a good case history of this type of cycle.
- ❑ In silvo-pastoral systems, notably the reindeer-based systems of Siberia, the potential for overgrazing of mosses and lichens is both very real and long recognised by herders.
- ❑ As a consequence, herders such as the Chukchi have developed culturally-sanctioned systems of destocking.



Pastoralists and the environment

- ❑ Pastoralists do not usually manage pastures and generally do not plant them.
- ❑ Attempts to encourage the planting of pastures, such as through 'fodder banks' have not met with significant success.
- ❑ Artificial water sources are now widespread in many arid and semi-arid rangelands.
- ❑ For example, in pastoral areas of Australia today there is at least one artificial water point every 10km.

