

The strategic solutions for the border crossing pastoralism and pastures in Sudan



Source: climate change project.

Introduction:

The pasture resource is characterized by its availability as a natural resource even in the most fragile environments which means its ability to adapt to the hardest natural conditions and also the natural pasture's plants have a role being played to ease the problems caused by climate change and meet the United Nations Millennium goals that target in particular reducing the poverty rates. Especially when we know that a large segment of society depends in their livelihoods on this resource.

Moreover, make a demographically change encourages the survival of rural man and encourages reverse migration and also facing the negative impacts of the dependence on petroleum commodity can all be solved if we have enough attention to the first profession of man, animal husbandry. The development and modernization of animal production pattern requires attention to the primary resource upon which this activity is built.

Pastures in the Sudan:

Climate variation in Sudan and the presence of the Red Sea and many mountains accompanied by variation in the amount of rain fall and temperature, creating a climatic diversity varies across the desert in the north to semi-desert with summer rains in the middle to the savannah trees in the center and south, the soil type and topography determine the type and distribution of vegetation.

Sudan vegetation environments vary in the number of plant species and where they prevail, among other pasture plants, the grasses and herbs represent 72% while trees representing 16.7 and shrubs 11.3%

Despite the strategic importance of the pasture resource, its vegetation has been subjected to large effects led to the deterioration and changes in the environment and reduce the area (of degraded land area tentatively estimated at about 19.6% of the diameter) and also decrease in productivity as (where production fell from 0.33 to 0.08, tons / acre of dry matter) and the disappearance of many species of some important pasture plants and some are at risk of extinction, such as Seha and Albgal and Abo-rakhis, also the appearance of unwanted species such as hirab-housa. All this because of drought and unbalanced activities and development programs such as the expansion of the agricultural area to other land uses, lack of forage crops, animal husbandry in agricultural development projects, the scarcity of permanent water resources and the

lack of security and stability, which has increased pressure on pastoral (sometimes overgrazing) as a result of the concentration of large numbers of animals in limited locations. All this reflected negatively on this resource and losing a lot of characteristics and advantages and therefore the impact on the sector of rangelands exploiters of pastoralists and rural residents.

Table (1) below indicates that there is a continuous decrease in the territory of the pasture area with an increase in traditional rain-agriculture and agriculture mechanism arid lands (wasteland):

Uses	Year 2000	Year 2005	Year 2010
Forest land/more than 20% tree cover	3,069	2,939	2,810
Forest land/10%-20% tree cover	4,486	4,283	1,079.4\$)
The Territory of tree grassland (separate trees and shrubs)	42,751	40,810	38,870
The Territory of the grassland pastures.	20,110	20,110	20,110
Biosphere Reserves Wild Animals	11,780	11,780	11,780
Arid Lands, wastelands	Kd 15.880	15,065	16,249
Irrigated cultivation	1,860	1,860	1,860
The cultivation of the mechanism of rainstorms	7.6	8.85	1030
The cultivation of traditional rainstorms	8.56	31.9	9.95

***Source: climate change project.**

The nature of the exploitation of the current pattern is trying to adapt to the pastoral components of the environment to avoid the negative effects of the rainfall in the coastal areas and lack of pasture and water in the autumn's area in the summer period. Also, the size of the herd and owning large numbers of animals seen as insurance to mitigate the resulting impacts of natural disasters. This concept is wrong because the presence of large numbers of animals over the pasture capacity is intensifying the problems caused by natural disasters as drought, a natural phenomenon in this pastoral environments and the impact is limited to the animal as a natural pattern of exploitation while we find that the accumulation of animals is one of the factors that led to desertification.. In spite of this type of notably pros of the preservation of these numbers of livestock and transferred from one generation to another, but there are some disadvantages such as:

-Unclear vision regarding the ownership of the land where it is customary distributed for each tribe but this does not prevent them from acting for other purposes by the State.

- The pressure to the autumns' area is severe on areas exposed to graze during the active period of growth accounting for the majority of yearbooks.

Summer resorts regions with majority of the perennial plants are grazing at a time when the upper parts have dried up and that means not to take advantage of good production period, forcing herders to frequent burning, which affects by time on the survival of plants.

Predominance of agriculture on the pasture areas, routes and water points to the lack of a permanent presence of the animal and the lack of laws regulating this kind of exploitation.

Cross-border grazing:

Sudan is characterized by number of the neighboring countries and many of the tribes overlapping between these countries and some of these tribes practiced mobile grazing and cross the borders with their animals, especially the cattle herders as the case with the countries of Ethiopia and Eritrea, Chad and Central Africa.

Animal Crossing-border entry and exit is one of the old practices that have been practiced for hundreds of years away from conflicts and inter-state politics restrictions. The process of transition and travel between the border of particular interest to these tribes and animal husbandry is to take advantage of the normal distribution of pastoral resources of water and grass along the geographic regions away from the political boundaries.

Bani-Amer, Fallata, and Om-Bararo tribes are models to the cross-border pastorals to Ethiopia and Eritrea as well as the Darfur tribes that cross to Chad and Central Africa.

The problems of pasture in Sudan:

There are a lot of problems impeding the optimal use of the development and exploitation of pastures. One is linked to the resource, and other is linked to the exploiter, where include:

- The existence of the most of grasslands in fragile environments have been in recently subjected to recurrent drought.
- The desertification led to a decrease in the pastoral area.
- Seasonal fires.
- The change in the qualitative composition of plants and deterioration in pasture quality and quantity.
- Improper distribution of water points.
- The expansion of the agricultural area at the expense of pasture and the nomadic routes.
- Failure to involve the beneficiaries in the planning, identification and implementation of improvement and maintenance of pastures and decision-making programs.
- possess the land.
- State policies towards pastoral resources.

Legislation:

The absence of a law that regulates the work of pastures and protects it from encroachment, despite serious attempts and ongoing since 1984, the pastures still control by the domestic orders that issued by each state local government councils according to their competence on the maintenance and organization of pastures which, in addition to the conflict of traditional dependency of land in pastoral areas, also requires Review of tenure and rights.

The laws, legislations and regulations that support the management of pasture and forage and NGOs working in the field of management and development of natural pastures have no substantive legislative unity based on a clear approach, we find the controls for the acquisition and ownership of the land and the protection of pasture land rights laws and some of the relevant provisions Investment in the protection of pasture and forest laws.

Weakness of service:

There is a lack of social services provided to pastoralists such as water, education, human health, animal health, marketing, lending, and guidance and also as we find there is a clear disparity in the scope and efficiency of these services.

- The scarcity of statistical data:

The development of strategies and proper planning requires a database at the country level but In many cases in connection with the pastoral sector and resources upon which we find scarce of evident in natural resource data, climate, plant composition ,population of pastoralists and production systems, and areas of pasture and green forage etc., as well as in terms of the number of livestock they still vary in the degree of reliable (true estimates of the numbers, the herd increase rates and decrease combination etc.).

The social factors:

The problems associated with awareness of tribal conflicts and overlap between agriculture and grazing areas caused the lack of security, stability and limited the exploitation of pasture which led to the list of civil wars as well as the negative impact to resolve the civil administration and effective institutions which were organized the management of pastoral resources.

Threats:

Petroleum:

Pasture sector is affected by the oil industry and that deduct large tracts of natural pastures and lock some nomadic routes as a result of roads embankments and the occurrence of some of the wells on the tracks, all this leads to the accumulation of livestock in cramped areas, leading to the deterioration of pastures due to overgrazing and changing the qualitative composition of the plants. Shrinking patch pastoral leads to tribal frictions and destabilize the security situation in the region due to competition for pastoral resources dwindling.

Despite the presence of many negative effects of oil industry on the pastures and routes, drinking water, production and health of the herd, the land and forest wealth and the pastoral society, there are no rigorous studies to determine the size of these effects at various levels, which requires surveys to learn more about it.

Water-saving campaigns:

Water supply in pasture lands double-edged sword and should think twice before and Reserve embarking on the establishment of such facilities. You must be preceded by the establishment of any water source for the study of the state of the pasture and the payload and the type and number of animals that exploit pasture. This does not become and the disappearance of coordination between the agencies entrusted with the rural water supply and pasture management and feed since the start of the fight against thirst campaign in the seventies of the last century. Back when he was in the past must be conducted so as not to lead such a practice is studied to security problems is calculated the consequences.

Agriculture:

Horizontal expansion of agriculture and the traditional ones planned determinants of natural resources is also where he has been on the pasture account without asking any alternative reimburse originally based on natural grazing of livestock production requirements. If there is one that the territory of natural grassland can be considered for future reserves upon which the agricultural projects to meet the need of grain and other crops, we must also not lose sight of the animal and the human side adopted it. If there is a socket on the traditional pattern is followed in the animal husbandry, it is still practiced in many countries note that this is not justification for the lack of proper planning and try to update. The animal production yield economic and social unmistakable and would, therefore has to be members into livestock production in the planning and financing).

Increasing numbers of the population and livestock:

Increasing numbers of the population means more food requirements and to meet it always resort to easy solutions to expand horizontal, which means shrinking the space available for the animal and thus increasing the density of animal on the remaining area, leading to the resource degradation, as well as the case for increasing numbers of livestock offset by a decrease in the space of a no-brainer to increase the undrawn and therefore the deterioration of pastoral resources and the outbreak of frictions and conflicts.

Competition over the natural resources:

Associated with natural resources from human activities have become priorities in terms of economic, social and environmental effects of a major role in it.

The increase in population requires increasing the agricultural area to meet the growing human needs while we find that the negative impact of climate reduced the capabilities of the ingredients and a lot of natural resources, making crawling on the pastoral areas is the only fate. If we add to this the steady increase in the numbers of the animal, the situation becomes more critical calls find a solution meets all requirements.

The competition for resources and the illegal exploitation of the guide may lead to losing supplier college if we do not take into account the integration of the use of these resources so that no component on the expense of the other, but we make the capabilities of the supplier and the need for this product is the indicator for the type of appropriate exploitation and we can get there if we to seek the map oriented land uses and a companion to that resolution of the problem of land ownership.

Traditional mining for gold:

Many of the ruined pastures because of the National Mining, in addition to the transformation of many of the sponsors of the traditional mining work, threatening traditional grazing system, which has become repulsive profession for many of them.

Grazing cross-border problems:

The most important cross-border grazing problems is that there are not any guarantees to the shepherds when they cross to the other countries, they've been subjected sometimes to all the crimes of killing oneself and looting of property to the high taxes.

The relationship with the State of South Sudan:

The relationship with the State of South Sudan owner mal conjecture and lack of commitment to the agreements, the recent agreement in March 2013 seems to do a bit of credibility because in need in southern Sudan state for the passage of its oil via pipelines and ports of the Republic of Sudan, any improvement in the relationship with the South Sudan state is in favor of pastoralists and that to allow them to move toward the pastures of the State of South Sudan for those who wanted them to do so should be encouraged and the official and public relations with the State of South

Sudan.

These agreements allow for more time to provide the right environment and improve pasture conditions within the borders of the Republic of Sudan until the phenomenon of cross-border grazing stop completely.

The relationship with other neighboring countries:

Also should improve relations with Ethiopia and Eritrea, Chad and the Central African contract with the popular and official agreements that allow patrons to cross-mentioned States with full protection for them.

Patterns of production for livestock in Sudan

Traditional breeding pattern:

Represented by nomadic community which is the traditional way of animal husbandry in the Sudan, where they are grazing pastures without any natural feed additives and livestock census which represents about 80%.

Intensive breeding pattern: the education system which is based on concentrates and feed additives, and animal moves but remains reserved inside the barns and cattle census which represents about 5%.

Education semi-intensive pattern: a pattern that takes the system from the traditional pastoral livestock that graze in open pastures, especially in the autumn depends on feed concentrates and in other chapters representing cattle census in which 15%.

The traditional livestock sector development:

Traditional sector contributes to all exports of livestock, Sudan's exports in 2012 3.77024 million head of cattle, of which 3,415,739 head of adverse, the export return is \$ 451 million, where the products of this sector is a completely organic and does not have any chemical additives and other, nutrition adoption Ali pastures natural, making the value of high-value products in terms of price, flavor and quality.

Therefore it has to be ambitious plans to upgrade the sponsor first, then the animal Secondly wealth, as well as the style production and development, with upgrading to the environment and to overcome all the problems facing this productive pattern, of the

advantages of this type cost few productivity while delivering the means of livelihood for a number estimator of communities. (Progressive development)

Interest in intensive and semi-intensive production:

Intensive and semi-intensive production of livestock carries with it the economics of the market and provides a productive ongoing overall length, focus on them gives a productive ongoing works on price-fixing, and that will be an incentive for the product traditional livestock to follow him. (Development to enter all the modern means).

Suggested solutions:

The establishment of a national body concerned with the affairs of pasture and forage.

- Create a strategic stockpile to feed the animal.

The routes, Processors and dependency: -

Sponsors depends on the migratory paths cross recognizable across generations between Almharif sites north savannah areas of poor territorial sandy areas and summer in the south regions rich savannah land mud.

These routes known in all parts of the country, especially in the areas of animal density. There is variation in the width tracks between the states of the country, as identified eastern state, track width 1 km, taken by the central state width 4 km, and left without a selection in each of the states of Kordofan and Darfur, but appointed tracks and agreed to open this year.

Many reports recommended Showing 4-6 km along the path of the most suitable dimensions that are held down (trays) an area of 30 × 30 km to the dimensions of 50 km, and provide paths to water resources around "20-25km" arise nurseries the host seed multiplication area of 8 km as well to integrated health and veterinary services eugenics.

The heading tracks from west to east, especially in the states of mechanized agriculture Kassala- Gadarif- Nile blue- Sennar being predominance of agricultural activity and the need to address so that takes into account the pasture line and access to water sources.

The problems and obstacles that hinder the implementation of open tracks:

1. Lack of funding for the implementation of open tracks projects.
2. Tribal conflicts and wars in some areas impede the open tracks.
3. Some tracks need to open cross paths can even access to water sources.
4. Possession of floor space by certain categories of infringement of the tracks and the encroachments of mechanized agriculture on the tracks.

The constitutional amendments needed:

Sudan Republic of Transitional Constitution of 2005

1. Article 1 (1), Article 11 - (2), 11 - (3) - environment, biodiversity and natural resources.

Article 23 - (2) preserving the natural environment.

Article 186 - (1) and Article 186 (2) Regions land tenure and shall exercise the rights on them.

Article 187 specially for National Commission for lands 1 - A, 1-B, 1 - C, 1 - D,1 and (to advise on the various levels of government coordinate their policies towards our national projects that impact on the ground, or rights therein.

1. Studies conducted and recorded aspects of land use in areas where the investment of natural resources.

Petroleum

Table: A, National specialties: Article 15: The National Land and Natural Resources National.

Table C, specialties States, and Article 21: natural resources and forest resources development and conservation and management, Article 23, the laws relating to agriculture within the state.

Table: d, common terms of reference, Article 23: pastures and veterinary services and livestock disease control and animal diseases.

Pasture and forage Act of 2012:

The explanatory note to the law:

Proceeding from the fact that the diversity of the natural environments of the pastures in the Sudan and the subsequent diversity of structures and the quality of vegetable tribes influenced by the type and nature of human use of the resources available rangeland Recognizing the importance of the livestock sector as an important in supporting the national economy constituents to contribute to its support of domestic consumption It is known that this sector depends mainly on rangeland resources that provide more than 78% of the food needs and provides other feed resources as forage and crop residues and outputs of agro-industries and feed on the remaining part of its needs, the thing that requires the protection and rational use of those resources.

In line with the state policies worthwhile pastoral resources and the development of plans and programs that enable the localization of pastures in Sudan, according to an environmental strategy ensures the maintenance of ecological balance and to achieve balanced development.

Confirmation of the importance of a legal and institutional framework to address the current situation in the area of pastures through which the advancement of this important facility of natural resources, facilities and addressing the threats which affect negatively on production quantity and quality, such as malpractice within the pasture like setting fire and the removal of vegetation, overgrazing and expansion of agriculture outside planning , as well as the weakness of adequate coordination between interested in natural resources devices and the absence of an integrated plan for land use and to avoid the devastating environmental impacts resulting from soil erosion and desert encroachment on pasture Fertile areas, agricultural land that of social upheavals such as mass exodus of big cities or gathering around the water resources in large numbers outweigh the load of cattle pasture, which is exacerbated by the continued erosion and desertification circle crisis.

Accommodating of good agricultural policy, which calls for the integration of the animal in the agricultural cycle and attention fodder irrigated and the trend towards farming pastures and the establishment of pastoral farms to keep pace with the growing need for livestock products and filling the resulting decline in natural pastures cover the gap by increasing reliance on agricultural wastes and residues of agricultural industrialization as resources forage availability of approximately 20 per % of the animal's needs, and what required for this policy of a comprehensive legal framework

for teaching them effectively, and in view of the free area of pasture to organize legislative at the federal level provides the legal basis for the policy to maintain the pasture and development of fodder resources and upgraded as part of the legal framework of the policy of the environment and natural resources protection.

In order to entrench the foregoing, the proposed bill comes the following general features:

1. Significance of the proposed federal law, which does not address the detailed aspects because intended to put the general framework of the legislative and the parachute that can be guided by the US legislation to detail depending on the circumstances of each state.
2. State authorities the right to issue legislation to protect and regulate the exploitation of pastures as in line with the provisions of federal law.
3. This law is intended to general guidance and state agencies to exercise its powers by delegating authorities and coordination and through joint committees to consider the overlap is to remove any petition or dispute.
4. The one who has knowledge of the nature of the seeds pastoral plants and feed must be aware of the privacy of those seeds and characteristics of environmental and agricultural needs that distinguish them from seeds and other agricultural crops, seeds of pastoral plants generally characterized by periods of silence may be up to several years and the need for methods of producing mechanical or chemical treatment techniques test of vitality and quite different from what purity required by the seeds of agricultural crops, moreover, the seed law did not draw much needed attention to regulate and protect the production and trade of seeds and treatment plants as the pastoral rangeland management which is the competent authority does not currently represented in the House of seeds.
5. There is an effort to prepare a map of land uses in Sudan specify different locations based on the use of the elements and the properties of the ground and socio-economic aspects.

The following general features: -

- A) law is in four chapters, singled out the first of which the preliminary provisions of which include the name of law and entered into force and the scope of its application to all grasslands in accordance with the maps assessed as well as the interpretation of words and phrases contained therein in addition to general

guideline principles that must be considered in determining the pastures, management and use and is the focus that the property of the land is to be related to the country, freehold or benefit and sustainability of the use and coordination between the agricultural and pastoral sectors.

- B) Chapter II contract for the four types of grazing in the meadow Federal General, General fever, your fever farmed and regulations shall specify the characteristics and how to create different kinds of fever and management of fever and singled Article 10 of the terms of reference of the ministry with regard to pasture.
- C) The third chapter devoted to the protection of grazing land and the development of public policies and plans, the powers that set of orders and regulations.
- D) The fourth chapter devoted to seeds, pasture farms authority to adjust the seeds of genocide and violations of Article 20 held pastoral farms required by the stakeholders according to specific controls.
- E) Chapter V Straighten the various provisions that dealt with the importance of maps, models, and coordination and the duty of citizens to report.
- F) The sixth chapter is devoted to the authority to issue regulations and orders
- G) Chapter VII devoted to the offenses and penalties.

Summary strategic solutions to the problem of pasture and cross-border grazing:

1. Establishment of the National Authority for pasture and forage.
2. Transfer tracks subordination of the national body of rangelands and fodder.
3. Create a strategic stockpile to feed the animal follow the National Authority for pasture and forage in collaboration with the Ministry of Finance.
4. Approve the constitutional amendments required (to include the issues of animal wealth sector).
5. Approve pasture and forage Act (the National Authority for pastures and feed) law.
6. Develop a strategy for the development of the traditional sector and to avoid cross-border grazing plan.

The follows plan include:

- (A) The development of herdsmen communities by all means available through veterinary extension and all the means of education.
- (B) The provision of education, health and water services and other services necessary.

(C) Contract agreements with neighboring countries regarding cross-border grazing and encourage grass-roots initiatives.

(D) The plan accurately determine the required projects and locations.

(E) The plan must be preceded by field studies with the involvement of herding communities in all consultations.

7. Reconsider the financing policy of the pastures and feed by encouraging the financing in the field of pasture, feed, and economic development that big of return.

8. Expedite the conduct animal census to know the real number of the country's need of animal and forage.

9. Strengthen the means of conflict resolution and the extension of peace and sustainable development of pastoralist communities

References:

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- 5 - Interim constitution Sudan 2005.
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