Convention on the Conservation of Migratory Species of Wild Animals
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Workshop on Sustainable Land Use in West Africa: National and International Policy Responses that Deliver for Migratory Birds and People (LUMB)

Abuja, Nigeria, 24 – 26 November 2016

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LAND USE IN WEST AFRICA

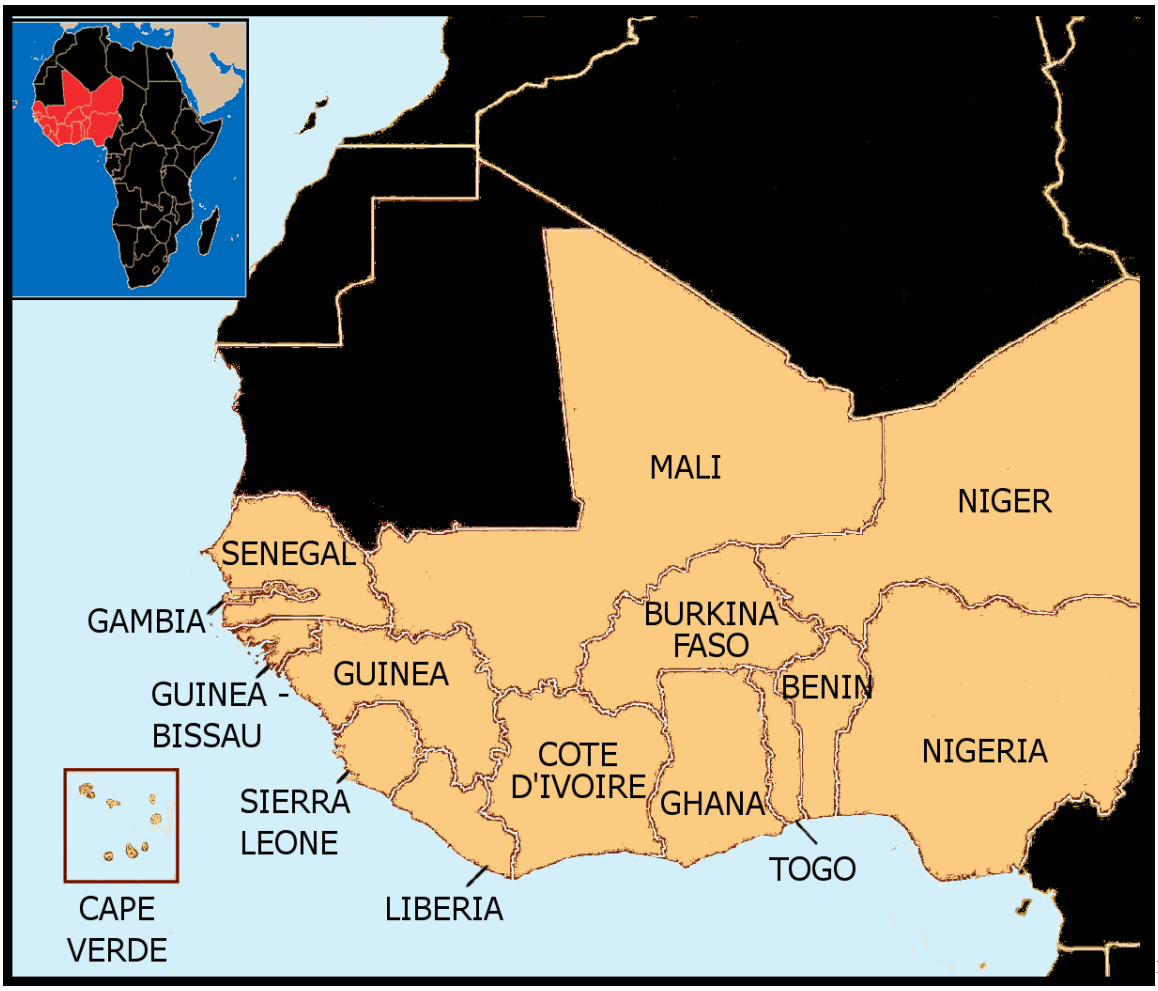
(Prepared by the CMS Secretariat)

Structure and function of this paper:

This paper has been prepared as a background document for the Workshop on Sustainable Land Use in West Africa: National and International Policy Responses that deliver for Migratory Birds and People (Abuja, Nigeria, 24-26 November 2016).

1) Map of West Africa as study area

Five pilot countries: Burkina Faso, Côte d'Ivoire, Ghana, Nigeria, and Senegal.



[1]

2) Official definitions

2.1) Land

"Land is a delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface including those of the near-surface climate the soil and terrain forms, the surface hydrology (including shallow lakes, rivers, marshes, and swamps), the near-surface sedimentary layers and associated groundwater reserve, the plant

[1] https://commons.wikimedia.org/wiki/File:Map_of_West_AFrica.gif

and animal populations, the human settlement pattern and physical results of past and present human activity (terracing, water storage or drainage structures, roads, buildings, etc.)."[2]

2.2) Land use

"Land use is characterized by the arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it."[3] Land use information provides answers to one or more of the following questions concerning the current use of the land:[4]

- What: the purpose of activities undertaken - e.g. the specific products and services, that are sought;
- Where: the geographic location and extent of the spatial unit under consideration;
- When: the temporal aspects of various activities undertaken - e.g. the sequence of carried out operations like planting, weeding, etc.;
- How: the technologies employed - e.g. technological inputs/ materials such as fertilizer, irrigation, labour, etc.;
- How much: quantitative measures - e.g. areas, products;
- Why: the reasons underlying the current land use – e.g. land tenure, labour costs, market conditions, etc.

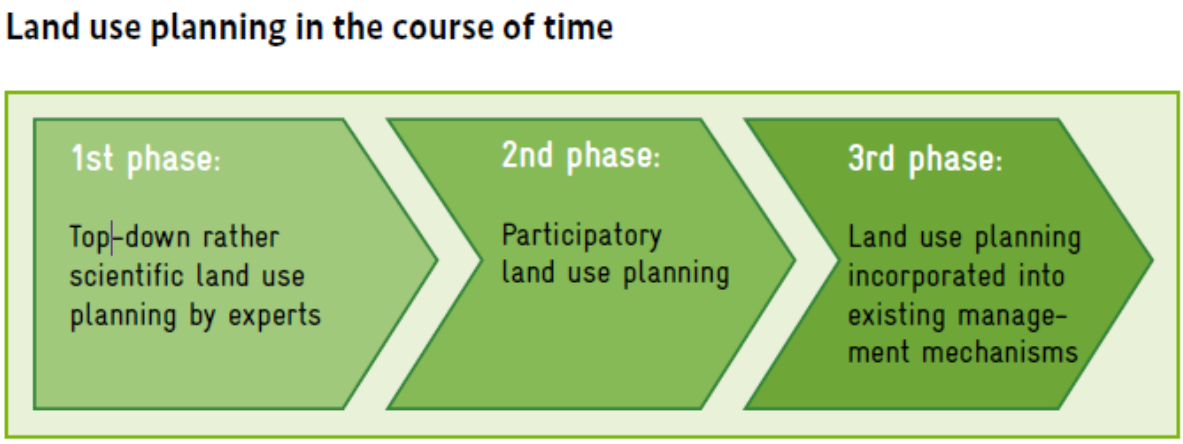
2.3) Land use (or land resources) planning

Land use (or land resource) planning should be a decision-making process that "facilitates the allocation of land to the uses that provide the greatest sustainable benefits."[5]

It is a systematic and iterative procedure carried out in order to create an enabling environment for sustainable development of land resources which meets people's needs and demands. It assesses the physical, socio-economic, institutional and legal potentials and constraints with respect to an optimal and sustainable use of land resources, and empowers people to make decisions about how to allocate those resources.[6]

Thereby land use planning creates the preconditions required to achieve a type of land use that is environmentally sustainable, socially just and desirable and economically sound. It thereby activates social processes of decision making and consensus building concerning the utilization and protection of private, communal or public areas.[7]

[2] As stated in the in the documentation for the Convention to Combat Desertification (UN, 1994)
[3] http://www.fao.org/nr/land/use/en/ : FAO/UNEP, 1999, Adopted during the course of development of the Land Cover Classification System, LCCS
[4] http://www.fao.org/nr/land/use/en/
[5] Agenda 21, UNCED, 1992, Chapter 10, paragraph 10.5
[6] http://www.fao.org/nr/land/land-policy-and-planning/en/
[7] https://www.giz.de/fachexpertise/downloads/Fachexpertise/giz2012-en-land-use-planning-manual.pdf, p.14: GTZ 1995: 7

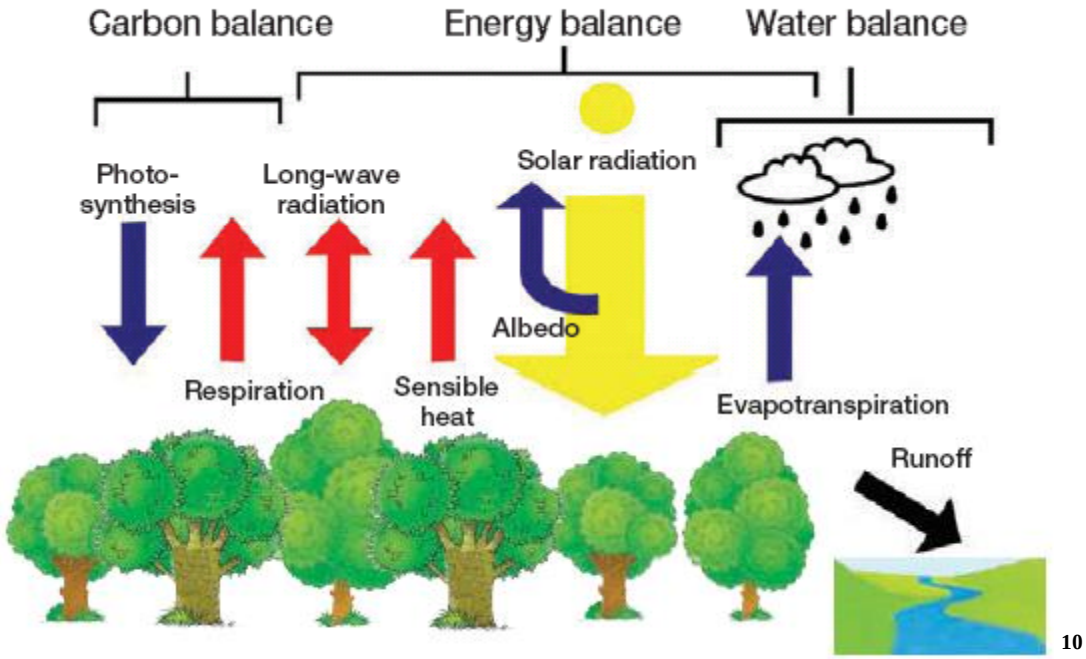


2.4) (Indirect) Land use change

Land use change is a variation or change of land use, for example, forest clearances, growth of cities, and also renaturation of former industrial sites.[8]

When biofuels are produced on existing agricultural land, the demand for food and feed crops remains, and may lead to someone producing more food and feed somewhere else. This can imply land use change (by changing e.g. forest into agricultural land), which implies that a substantial amount of CO2 emissions is released into the atmosphere.[9]

[8] http://www.seos-project.eu/modules/landuse/landuse-c00-p01.html
[9] http://europa.eu/rapid/press-release_MEMO-12-787_en.htm



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Therefore, land use and management practices do not only have impacts on the land unit itself and the direct land users but also on close or distant neighbors and ecosystems. Impacts include effects on land productivity, on runoff, soil erosion and sedimentation, movements of nutrients and chemicals, contamination by wastes, atmospheric deposits through burning and wind blow, as well as wider effects of floods, drought, landslides and climate change.

To tackle these complex interactions and the necessary consideration of land use practices at a wider scale to address landscape, ecosystem and global dimensions, an ***integrated approach to the planning and management of land resources*** was developed by the Food and Agriculture Organization of the United Nations FAO and its specific needs are identified in Chapter 10 of Agenda 21.[11]

3) An integrated approach to the planning and management of land resources (taken from Agenda 21)

Integration, or "the act of combining or adding parts to make a unified whole" (Collins English dictionary) refers to all parts that make up a land unit as defined before. In combination with the word "approach", it should also refer to participatory and comprehensive cooperation between all institutions and groups at national, provincial and local levels - all "parts", partners or stakeholders - that relate to and deal with land resources planning and the management of such planning.

[10] http://www.geo.arizona.edu/geo4xx/geos478/GC10_Land.Use.pdf : Chapin et al., (2008)
[11] Agenda 21, UNCED, 1992, Chapter 10

Chapter 10 of Agenda 21 calls for mechanisms aiming to promote a constructive and productive dialogue between the full range of stakeholders. These include ministries, provincial and municipal government departments and their policy development entities, research and resources data base development institutes such as a topographic service or statistics institutes, parastatal organizations in the executive sphere such as national irrigation boards or town water supply companies, and public-interest organizations (NGOs) at both national and local level, such as nature conservation societies, farmers' associations and community groups.

This implies the need to create an enabling environment in the legislative and administrative sphere, leading to *negotiation platforms for decision making* at all relevant levels, to solve conflicting demands on the use of the land, or components of it, such as freshwater resources. These platforms should both be horizontal between ministries, provincial or municipal governing bodies, and vertical between governing bodies and local, actual or potential users of the land resources, all together linking in both top-down and bottom-up directions.

FAO follows the recommendations for an ***integrated approach to the planning and management of land resources*** and the specific needs identified by Chapter 10 of Agenda 21. In collaboration with the United Nations Environment Programme (UNEP) and other national and international institutions, FAO has developed an improved framework for land resources development and management that addresses the evolving nature of integrated land management.

- As outlined on the FAO land webpage an improved approach must ensure[12]:
- development of policies which will result in the best use and sustainable management of land
- improvement and strengthening of planning, management, monitoring and evaluation systems
- strengthening of institutions and coordinating mechanisms
- creation of mechanisms to facilitate the active involvement and participation of communities and people at local level.
- The integrated planning and management of land resources approach recognizes that different degrees of participation are dependent on context; however, participation should be interactive to be successful.

4) Integrated Land Use Management or Sustainable Land Management (SLM) (taken from FAO)[13]

Sustainable Land Management SLM can be defined as "the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions" (UN Earth Summit, 1992).

TerrAfrica (2005) has further defined sustainable land management as "the adoption of land use systems that, through appropriate management practices, enables land users to maximize the

[12] http://www.fao.org/nr/land/sustainable-land-management/integrated-approach-to-slm/en/
[13] http://www.fao.org/nr/land/sustainable-land-management/en/

economic and social benefits from the land while maintaining or enhancing the ecological support functions of the land resources".

Sustainable Land Management (SLM) is crucial to minimizing land degradation, rehabilitating degraded areas and ensuring the optimal use of land resources for the benefit of present and future generations.

- SLM is based on four common principles:
- land-user-driven and participatory approaches;
- integrated use of natural resources at ecosystem and farming systems levels;
- multilevel and multi-stakeholder involvement; and
- targeted policy and institutional support, including development of incentive mechanisms for SLM adoption and income generation at the local level.

Its application requires collaboration and partnership at all levels – land users, technical experts and policy-makers – to ensure that the causes of the degradation and corrective measures are properly identified, and that the policy and regulatory environment enables the adoption of the most appropriate management measures.

SLM is considered an imperative for sustainable development and plays a key role in harmonizing the complementary, yet historically conflicting goals of production and environment. Thus one of the most important aspects of SLM is this critical merger of agriculture and environment through twin objectives: i) maintaining long term productivity of the ecosystem functions (land, water, biodiversity) and ii) increasing productivity (quality, quantity and diversity) of goods and services, and particularly safe and healthy food.

To operationalize the sustained combination of these twin SLM objectives, it is essential to understand drivers and causes of land degradation and to take into account issues of current and emerging risks.

SLM encompasses other established approaches such as soil and water conservation, natural resources management, integrated ecosystem management and involves a holistic approach to achieving productive and healthy ecosystems by integrating social, economic, physical and biological needs and values.

It contributes to sustainable and rural development and requires great attention in national, subnational and community level programmes and investments.

Thus it needs an understanding of:

- the natural resource characteristics of individual ecosystems and ecosystem processes (climate, soils, water, plants and animals);
- the socio-economic and cultural characteristics of those who live in, and/or depend on the natural resources of, individual ecosystems (population, household composition, cultural beliefs, livelihood strategies, income, education levels etc.);

- the environmental functions and services provided by healthy ecosystems (watershed protection, maintenance of soil fertility, carbon sequestration, micro-climate amelioration, bio-diversity preservation etc.); and
- the myriad of constraints to, and opportunities for, the sustainable utilisation of an ecosystem's natural resources to meet peoples' welfare and economic needs (e.g. for food, water, fuel, shelter, medicine, income, recreation).

SLM recognizes that people (the human resources) and the natural resources on which they depend, directly or indirectly, are inextricably linked. Rather than treating each in isolation, all ecosystem elements are considered together, in order to obtain multiple ecological and socio-economic benefits

4.1) Ecosystem approach[14]

The concept of an ecosystem provides a valuable framework for analyzing and acting on the linkages between people and their environment. For that reason, the ecosystem approach has been endorsed by the *Convention on Biological Diversity (CBD)* and the *Millennium Ecosystem Assessment (MA)* conceptual framework is entirely consistent with this approach.

The CBD defines the ***ecosystem approach*** as follows: *The Ecosystem Approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.* Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

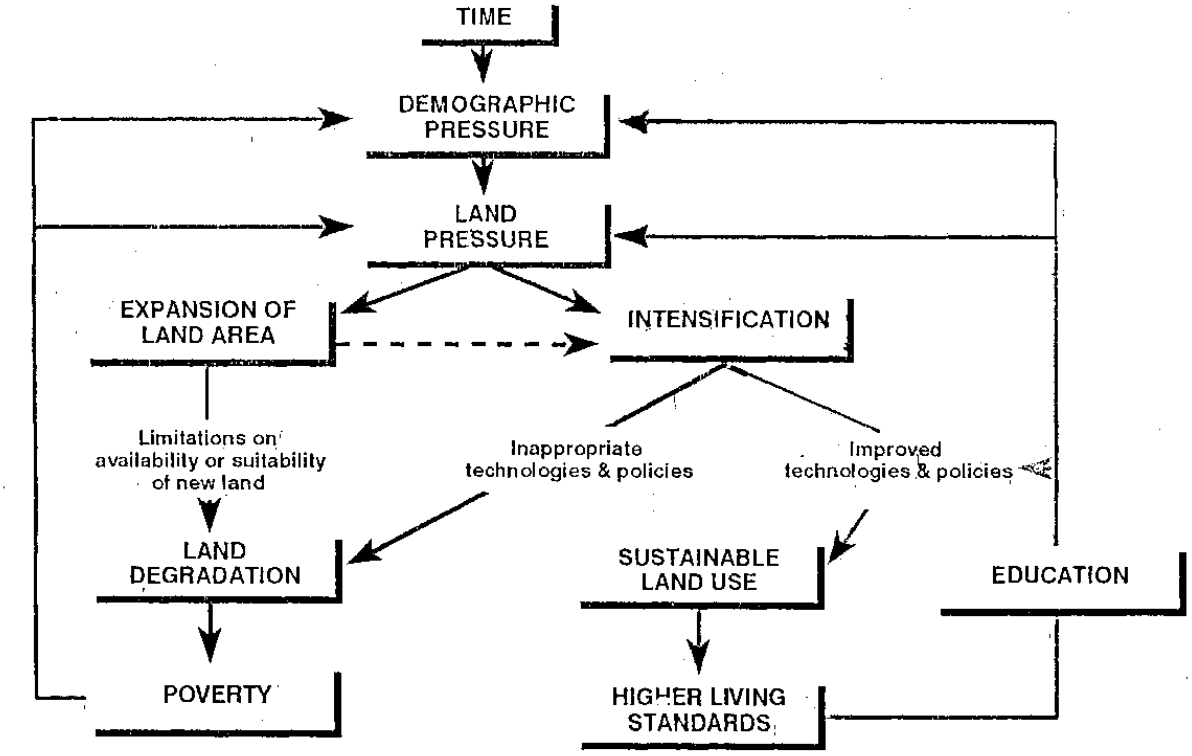
An ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems.

According to the CBD, the term ecosystem can refer to any functioning unit at any scale. It does not preclude other management and conservation approaches, such as biosphere reserves, protected areas, and single-species conservation programs, or other approaches carried out under existing national policy and legislative frameworks; rather, it could integrate all these approaches and other methodologies to deal with complex situations.

The MA conceptual framework is designed to assess the consequences of changes in ecosystems for human well-being. It assumes that the central components of human well-being—including health, the material minimum for a good life, freedom and choice, health, good social relations, and security—can be linked to the status of the environment.

[14] http://www.fao.org/nr/land/sustainable-land-management/integrated-approach-to-slm/en/

4.2) Land degradation versus sustainable land use in developing countries[15]



For Objectives and execution of the integrated approach, see **http://www.fao.org/docrep/v8047e/v8047e07.htm**

5) Main organizations involved in land use management:

5.1) International level:

Food and Agriculture Organization of the United Nations: http://www.fao.org/nr/land/use/en/

UNEP http://www.unep.org/

UN-REDD United Nations Collaborative Programme Reducing Emissions form Deforestation and Forest Degradation http://www.un-redd.org/

Intergovernmental Panel on Climate Change IPCC: http://www.ipcc.ch/index.htm

The Economics of Land Degradation (ELD): www.eld-initiative.org

International Institute for Sustainability Analysis and Strategy IINAS: http://iinas.org/

[15] http://www.fao.org/docrep/v8047e/v8047e06.htm

GIZ Deutsche Gesellschaft fuer Internationale Zusammenarbeit GmbH https://www.giz.de/en/html/index.html

Federal Ministry for Economic Cooperation and Development (BMZ) http://www.bmz.de/de/index.html

Wood Hole Research Center (WHRC): http://whrc.org/

World Association of Soil and Water Conservation (WASWAC) http://www.waswac.org/index.asp

→ has projects like the World Overview of Conservation Approaches and Technologies (WOCAT), launched in 1992. Its aim is to promote the integration of successful soil and water conservation approaches and techniques into land use systems world-wide.

5.2) (West) African level:

African Development Bank http://www.afdb.org/en/

Economic Community of West African States ECOWAS http://www.ecowas.int/

WASCAL (West African Science Service Center on Climate Change and Adapted Land Use) http://wascal.org/

- ➔ WASCAL is working together with Benin, Burkina Faso, Côte d'Ivoire, Germany, Gambia, Ghana, Mali, Niger, Nigeria, Senegal, and Togo
- ➔ Its main aim is to assess the concurrent impacts of different land use and land management practices on major ecosystem services and disservices, such as carbon and nitrogen storage, water quality and availability, soil degradation, biodiversity losses, and greenhouse gas emission. It considers also social aspects such as poverty reduction and food security, and economic benefits such as income generation.

African Wildlife Foundation http://www.awf.org/land-protection/land-use-planning

Universities:

Climate Change and Agriculture Amoro Coulibaly, Director
Institut Polytechnique Rural de Formation et de Recherche Appliquée de Katibougou (IPR/IFRA), Mali, in collaboration with University of Cape Coast (UCC), Ghana

Climate Change and Adapted Land Use Apollonia Okhimanhe, Director
Federal University of Technology, Minna, Niger State, Nigeria
http://wascal.futminna.edu.ng/

6) Links and PDFs used:

FAO Corporate Document Repository: Planning for sustainable use of land resources: towards a new approach: http://www.fao.org/docrep/v8047e/v8047e03.htm

- ➔ The integrated approach to the planning and management of land resources has been identified as a separate programme area of UNCED's Agenda 21 (UNCED, 1993) → relevant text: Chapter 10

FAO land use: http://www.fao.org/nr/land/use/en/

European Commission: http://europa.eu/rapid/press-release_MEMO-12-787_de.htm
The University of Arizona, PPP: http://www.geo.arizona.edu/geo4xx/geos478/GC10_Land.Use.pdf

Science Education through Earth Observation for High Schools SEOS:
http://www.seos-project.eu/modules/landuse/landuse-c00-p01.html

Land Policy in Africa: West Africa Regional Assessment (ECOWAS)
http://www.uneca.org/sites/default/files/PublicationFiles/regionalassesment_westafrica.pdf

Regional Agricultural Policy for West Africa: ECOWAP
http://www.diplomatie.gouv.fr/fr/IMG/pdf/01_ANG-ComCEDEAO.pdf

LAND REFORM PROCESSES IN WEST AFRICA: A REVIEW, Sahel and West Africa Club Secretariat (OECD)
https://www.oecd.org/swac/publications/39496075.pdf