

CONCEPTUAL NOTE

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Abbreviations and acronyms

AESS	Saharo-Sahelian State Authority
ASDA	Agricultural Development Strategic Axes
CDD	Departmental Development Committee
CEN-SAD	Community of Sahelo-Saharan States
CILSS	Interstate Committee for Fight against Drought in the Sahel
CLC	Local Coordination Unit
CLD	Local Development Committee
CRD	Regional Development Committee
DPR	Regional Project Document
DPPR	Regional Project Provisional Document
FEM	Global Environment Facility (GEF)
GGW	Green Great Wall
GMV (Grande Muraille Verte)	Green Great Wall
GPS	Global Positioning System
IGAAD	Intergovernmental Agency against Drought and Desertification
OSS	Sahara and Sahel Observatory
PNUD	United Nations Development Program (UNDP)
PRODOC	Draft Document
PRONASEF	National Forestry Seeds Project
S C	Conceptual Chart
UCSR	Sub-regional Coordination Unit
WWF	World Wild Fund

I- CONTEXT

For the past many decades, with the exception of a few years of standard rainfall, the Sahelo-Saharan countries have been facing continuing rainfall shortages which is generally indicative of a southwardly shift of isohyets.

The drought phenomenon coupled with anthropogenic factors (such as one-crop farming, bush fires, lack or shortage of manure, overgrazing etc.) has seriously disrupted the great ecological balances, resulting in the degradation of natural resources, soils and a fall in agricultural productions all of which are indicative of an almost inexorable process of desertification.

Faced with sharply declining agricultural production mainly due to lower soil productivity, the populations have often reacted with migratory movements and new forest land clearing. Forests are disappearing from the Sahelian zones at a disquieting pace, as shown in the following Table:

Countries involved with GGW	Forest disappearance rate
1. Burkina Faso	- 15 000 ha/annually
2. Mali	- 99 000 ha/ annually
3. Mauritania	- 10 000 ha/ annually
4. Niger	- 62 000 ha/ annually
5. Nigeria	- 398 000 ha/ annually
6. Senegal	- 45 000 ha/ annually
7. Chad	- 82 000 ha/ annually
8. Sudan	- 956 000 ha/ annually
9. Ethiopia	- 40 000 ha/ annually
10. Eritrea	- 5 000 ha/ annually
11. Djibouti	--
Total	-1712 000 ha/ annual

Table n°1: Annual rate of forest cover disappearance
Source: Situation des forêts du monde (FAO, 2005)

At the socio-economic level, the sagging agricultural productions, which have sharply reduced population income, coupled with the lack of sustainable alternative income sources, basic economic and social infrastructures, has resulted in poverty persisting in the rural area.

As it appears, development problematic in the Sahel countries and especially in those with no oil resources is complex, and resolving it requires coordinated actions in the ecological, economic and infrastructural domains. The real challenge is to create the conditions for the

restoration of the bases for food and energy security and maintenance of biological diversity, with the active participation of all those concerned.

Unfortunately, given the degree of poverty in some locations, the so-called local development projects and/or programs rather favored infrastructure (PNIR, AFDS) or other solutions of an economic nature (income-generating activities) to the neglect of the ecological aspects which is key to sustainable natural resource conservation.

Yet, for the Sahel countries where over 60% of the population are rural, sustainable development means first and foremost the **“conservation of renewable natural resources and ecosystems”** and **“consolidation of production systems”**. It is only through this perception that it can be possible to meet the sharp and ever increasing demand for food.

Despite the many programs initiated since the early 1980s, the conservation of natural resources and ecosystems still remains a major challenge in the Sahel countries. Indeed, adding to the negative consequences of cultivation techniques and the overexploitation of forest stands are other more degrading factors such as soil salinization and acidification. Thus, with the southward expansion of arid and semi-arid zones and the emergence of salted and/or acid terrains, the populations appear to be concentrated in reduced spaces, living on limited natural resources which are difficult to manage because of high tapping pressure.

It is in this context marked by the fact that the populations are confined to towns located along streams and coastlines that His Excellency Mr. Olusegun OBASANJO, former President of the Federal Republic of Nigeria, suggested the construction of a green barrier to protect against the advancement of the Sahara, named the **Great Green Wall**.

II- THE GREAT GREEN WALL (GGW)

The new vision of the development of the Sahara rests on mining and energy, agriculture, water, infrastructures, Environment and biodiversity management including the socio-cultural aspects.

At the agricultural level, the new approach is built on five strategic axes one of which is the construction of the Great Green Wall.

2.1- Approach and Methodology

The Great Green Wall will be a multi-species vegetal belt 15 km wide that will link Dakar and Djibouti and stretch over a distance of about 7000 km. At the operational level, the individual countries involved with the Wall must delineate a forest band 15 km wide, in accordance with the conceptual chart of GGW alignment. This band must necessarily go through the Sahelian zone between isohyets 100 to 400 mm.

The Great Wall will form, as much as possible, a continuous band but may be rerouted if necessary to avoid obstacles (streams, rocky terrains, mountains and rock hills) or go through inhabited areas. It will provide for several land use systems such as::

- **natural vegetal formations:** reserved forests, community forests, private forests;
- **artificial plantations** old (project outcomes) or new;
- **agro-sylviculture units:** annual orchard cultivation, hydro-agricultural perimeters planted with trees, country parks;
- **pastoral units:** village or intercommunity ones;
- **safari parks:** similar to the Bandia one in Senegal ;
- **community wildlife reserves;**
- **national parks:** full or in part;
- **wild-flower sanctuary:** for conservation of vegetal biodiversity;
- **deferred grazing:** in more or less degraded forest areas in order to restore soils;
- **orchards and market gardening units:** fruit plantations.

These green units will be managed by the local populations either individually or in groups, private producers, research/training structures, local communities or forestry services.

The construction of the Great Green Wall (GGW) will be carried out in several phases on a participatory-approach basis, involving the populations in the design, implementation, evaluation and conservation of project achievements.

2.2- GGW Objectives

2.2.1- Overall Objective

Contributing to the prevention of desert advancement and to the development of the Saharo-Sahelian zones in order to ensure sustainable natural resource management and poverty reduction.

2.2.2- Specific Targets

- 1- biodiversity conservation/development;
- 2- soil restoration/conservation;
- 3- operating system diversification;
- 4- meeting household needs (in terms of ligneous and/or non ligneous products and water) and promoting income-generating activities;
- 5- enhancing carbon sequestration in vegetal covers and soils.

2.3. expected effects and impacts and beneficiaries

The expected effects and impacts include:

1. **slowing soil erosion:** the presence of vegetal cover slows winds speed and favors rain water infiltration;
2. **degraded soil restructuring:** an increase in organic matter of vegetal and animal origin entails soil restructuring;
3. **higher reforestation rate in countries crossed by GGW:** in order, among others, to restore eco-climatic balances and biodiversity;
4. **revival, development and diversification of agriculture and stockbreeding,** both in terms of vegetal and animal production volumes and size of the active population employed in these sub-sectors;
5. **vegetal and animal biodiversity restoration, conservation and development,** the deferred grazing and other privately-owned wooded areas contribute to natural vegetation regeneration and return of wildlife: birds, small game, snakes, etc.
6. **increasing coverage of local needs in forest products,** especially firewood, lumber and also ligneous and non-ligneous products: gum, resins, roots, leaves, barks, fruits, pharmacopeia etc.
7. **improved living standard and health** due to noticeable improvement in nutrition, living environment and more easily available household needs (water, energy, social infrastructures etc);
8. **reversal of rural migration phenomenon,** gradually, “ecological migrants” and the bones and sinews looking for employment will repopulate these zones that have been rehabilitated by GGW proximity.
9. **control of water resources,** through water retention pond, artificial lakes and hydraulic schemes that will contribute to enhanced production system

GGW effects and impacts will benefit various categories of actors including:

1. **international community,** as indeed, GGW perfectly intersects international concerns for Clean Development Mechanism: reduction of greenhouse gas, carbon sequestration, reducing ecological and economic migrations;
2. **States:** find in it an opportunity to revitalize their reforestation program and to reduce the rhythm of degradation of their forests,

3. **local communities:** regions, municipalities and rural communities find in GGW a tool to boost local development ;
4. **primary producers:** farmers; herdsman; coalmen; gum, honey and resin harvesters; healers; hunters; wood carvers;.
5. **private businessmen:** who are initiators of safari parks, modern farming, ecotourist sites find in it some economic opportunities etc ;
6. **educational, training and research structures:** GGW will be a privileged site for regional multidisciplinary research allowing great mobility of African scientists and increased synergy in program implementation;
7. **populations living in GGW coverage area:** gathering, fodder and water access, they find important opportunities to reduce under-employment, migration and poverty.

2.4- GGW Implementation Strategies

2.4.1- Sub-regional Approach

GGW is has been designed to go from Dakar to Djibouti over a distance of about 7000 km, crossing 11 countries. Without questioning the uniqueness of the project, carried out under the aegis of the African Union while allowing for the difficulties in coordinating all activities, the option proposed is to have GGW managed through two sub-regional units, with the one covering the western zone extending from Senegal to Nigeria and the other, the Eastern zone going from Chad to Djibouti.

2.4.2- A Preparatory Phase

Given GGW project importance and scale, it is essential to consider prior studies: on indicative Wall alignment, reference ecological, socio-economic and infrastructural situation in the zones crossed by the Wall. The information and data that will be collected will be used in drafting a project document based on the objectives indicated earlier herein.

During this phase, most activities will focus on basic data collection in relation to:

- Wall alignment, identifying the best possible routing in relation to project objectives;
- achievement of reference situation within the Wall band for:
 - forest and vegetation,
 - agriculture,
 - water resources,
 - stockbreeding,
 - wildlife,

- soils, land use and real estate,
 - cultural and socio-economic context,
- opportunities and constraints for the Wall set up and sustainable management; particularly, through pilot actions at the national level;
 - administrative and institutional context in countries crossed by the Wall;
 - design of an institutional framework for cooperation,
 - collected data analysis, processing and editing;
 - drafting of a provisional GGW project document;
 - steps to validate and adopt GGW project document.

During all these actions, the approach will be participatory-management based and will imply actors and beneficiaries, particularly, the populations and their communities. Communication and information dissemination strategies will be developed so as to enable the populations of the countries crossed by the Wall to well appropriate the project.

2.5- Process Stages

Project implementation is based on a large consensus reached by the countries concerned on the conceptual chart (**part 2**) of GGW project design document. In this regard, three stages must be distinguished in project implementation, as defined in Table 2:

Stage	Objectives	Activities	Operators	Deadline
1	Validate a conceptual chart (regional project design document)	Identify project plan and structuring	Scientific Committee (Senegal)	Nov. 2005
		Validate project plan, approach, methodology and structuring	Meeting of country Experts and partners	March 2006
		define indicative alignment and indicative list of vegetal species	Ministerial Conference	March 2006
2	Operational GGW project implementation procedures	Identify alignment and determine GGW project implementation and coordination procedures	Experts Meeting Conference of Environment Ministers	February 2008
		Draft and validate TORs for production of GGW project document		
		Acquire basic data. Draft GGW project document	Consultants and National Experts	December 2008
		Validate GGW project document	Ministerial Conference, Donor Round Table	1 st quarter of 2009
		Mobilize funding for GGW project implementation		
3	Construction of Great Green Wall	Construct national components Ensure coordination and follow-up	Countries crossed Coordination Units	2 nd quarter of 2009

Table 2: Stages of GGW project document drafting

5.5. Criteria used to choose indicative GGW alignment and vegetal species

The main input used to propose an alignment is the land use map.

The routing of the Great Green Wall (GGW) does not encroach on the Sahara. It goes through the Sahel between 100 to 400 mm isohyets. It is about 15 km wide, linear and as much continuous as possible. However, confronted with certain factors, the routing may be discontinued and the Wall rerouted north or further south. These factors are notably:

- streams: river, lakes,
- mountain or rock hill,
- flat but stony terrain impossible to revitalize,
- marshy areas,
- urban center,
- would-be sacred or haunted zone according to the local populations.

One decisive ecological factor is rainfall. Indeed, while a significant section of GGW will go through inhabited areas an equally long section will cross uninhabited zones where it will then depend only on rains for its maintenance. This is why GGW must always be found in latitudes where annual average rainfall is between 400 to 100 mm..

The routing was done using a data base containing the WWF phytogeographic limits which was used to well locate the climatic zoning and a land use map, which made it possible to identify the limits of major vegetal formations and country boundaries in the sub-region.

GGW vegetal formations are dominated by the species that all have drought-adaptation mechanisms. Although they are characterized by a long dry season, in terms of land use by humans, the selected zone corresponds to a low density area, dominated by pastoral activity, with extensive stockbreeding and agricultural activity.

GGW should therefore run through both inhabited (village land zones) where its maintenance could be assured by the rural populations and uninhabited areas (reserved forests, national parks, safari parks, wild-flower sanctuary, community reserves), where it could be “manned” by government services, local communities or private concerns.