



SAHEL AND WEST AFRICA PROGRAM IN SUPPORT OF THE GREAT GREEN WALL INITIATIVE

Building Resilience through Innovation, Communication and Knowledge Services Project

SAWAP

BRICKS

ASSISTED NATURAL REGENERATION

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Baobab agroforestry park, Gourcy / Burkina Faso
Photo Credit: Ph. Zoungrana

THEMATIC WEEKS ON GOOD PRACTICES



SAHARA AND SAHEL OBSERVATORY

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Introduction

After the major droughts of the 1970's and 1980's, Sahelian countries have been involved in the rehabilitation of their environment. The various actions carried out relate to the reclamation of degraded lands (WSC/DRS), soil fertility improvement (construction of manure or compost pits), development of agroforestry systems, assisted natural regeneration (ANR), etc.

Regarding Assisted Natural Regeneration (ANR), it was promoted by the States and supported by technical and financial partners as well as NGOs. In the past two decades, this practice has been the subject of several studies (2006, Larwanou et al, 2006, Botoni-Larwanou-Reij_2010) aimed at assessing its potential and its socioeconomic and environmental impacts. These studies have established that the practice of ANR has produced dramatic results. Several experiences are known in the North and Central North of Burkina Faso, the Dogon Country in Mali, Northern Ghana, (Nabdam District Talensi Farmer Managed Natural Regeneration Project) and in Maradi, Zinder and Tahoua) in Niger.

In Niger for example, the scale of this greening is estimated to be at least 5 million hectares. These trees have not been planted but are the result of the protection and management of spontaneous regeneration by farmers. The practice of ANR is very well-known in the Sahel, in West Africa and even beyond (Ethiopia, Kenya, Malawi, Madagascar, Sudan, etc.). The technology has been proven to be efficient. It is often associated with other sustainable land management technologies such as Water and Soil Conservation (WSC), fertilization, farming techniques, all of which promote rapid growth of trees.

The environmental and socioeconomic benefits of ANR are significant in terms of poverty reduction, food production, and reduction of vulnerability to climate change. Building on this potential, the scaling up of this technique which is affordable for many farmers (7,500 CFA F/ha) must be intensified and supported for the restoration of degraded lands.

This note which is primarily dedicated to natural regeneration, is part of the thematic weeks initiated by the Building Resilience through Innovation, Communication and Knowledge Services Project (BRICKS) in support of the Sahel and West Africa Program (SAWAP) supporting the Great Green Wall (GGW) Initiative. The project aims to facilitate the scaling up of good practices in sustainable land management through the sharing of technical, institutional, and constraint-related information for the scaling up.



*Field arranged in stone bonding
Gourcy, Burkina Faso*



*Training session on ANR
Tikaré, Burkina Faso*

Photo Credit: PH. Zougrana

What is Assisted Natural Regeneration (ANR)?

Assisted Natural Regeneration is an agroforestry technique that involves protecting and caring for natural regrowth (shoots) of stumps and shrubs in various environments. Assisted regeneration promotes local species and is used in agriculture, stock breeding, forestry and in erosion control techniques. Direct seeding of local species can also be done to meet specific enrichment or expansion needs. Easy to implement, it is affordable and contributes to the improvement of the environment and to rural people's living conditions.

Technique :

Its implementation is simple and goes through identified actions (CILSS/IREMLCD, recueil de fiches techniques, 2009):

- The inventory of existing tree species (sorting of tree species, observation of the stump), finding and identifying young shoots;
- The selection of species and subjects to be protected: 25 adult plants per hectare and 60 to 80 young shoots or sprouts per hectare;
- Marking/identification (staking, stakes, etc.) of selected subjects;
- Protecting and caring for (dead hedge, trimming/pruning, digging of half-moons) the seedlings.

Box 1: Species selection

The selection of species varies with the countries' agro-ecological zone and depends on several factors, particularly:

- Naturally growing tree species;
- The regeneration capacity of species after pruning;
- Environmental goods and services expected;
- Local beliefs and values attributed to each species, their uses and characteristics such as the presence of thorns, competition with food crops.

Conditions of implementation:

- Properly target the areas to be developed (land tenure, capacity to monitor the areas);
- Clearly define with the (beneficiary) population the species to be regenerated and the products and services expected (fodder, fuel wood, fertility);
- Training in ANR methods and the management of community forests is necessary;
- Producers must control the process;
- Provision of small appropriate equipment (machete, pruning shears, pick, shovel, rope, etc.).

The benefits:

Several studies (Larwanou M., Abdoulaye M., and C. Reij, 2006, LARWANOU M. et al. 2012) have shown the numerous environmental and socioeconomic benefits of the practice of ANR. These benefits include:

- Soil restoration and fertility improvement;
- The preservation of biodiversity, improved infiltration, rehabilitation of the grass cover, wind protection;
- Increased availability of fuel wood or timber/lumber;
- The availability of very nutritious fodder;
- The use of wood by-products which helps the population to meet certain needs (incomes, food supplement);
- Climate change mitigation through carbon sequestration.

Box 2: Contribution of ANR to the national economy

Over a period of twelve years, revenues generated from the sale of wood as part of ANR in Maradi were conservatively evaluated at US\$ 600,000 (PDIM Summary Report 1994-1997). In 2008, the region's total gross income had increased from 17 to 21 million per year thanks to ANR.

Source: Tony Rinaudo, 2010 - La RNA – Note technique d'ECHO

Sustainability:

It is an entirely feasible activity and there is no specific technical difficulty either. It is simple to replicate and generally ANR is practiced on farming areas (cultivated fields) and spared species have an environmental and socioeconomic interest.

Finally the Study on the Compilation of Good Practices (CILSS, 2017) has shown that ANR is a widely disseminated and accepted technology in many countries.

Scaling up ANR

Given its simplicity in implementation (affordable), its numerous benefits and wide variety of successful cases throughout Africa and beyond, Assisted Natural Regeneration is a technique that should be promoted as part of the wide-scale revegetation of lands. The community of practitioners must work towards a very widespread adoption of ANR. For this purpose, four options are available to facilitate this scaling up.

▣ Agricultural (or agro-sylvo-pastoral) producers must be at the heart and the main actors of the scaling up of ANR

The strategy for widespread adoption must be built on producers themselves. Local-level producers and associations that have succeeded and are experienced in the practice of ANR will disseminate it to others. They should set an evidence-based example in sharing their experience. For this purpose, exchange visits among producers from the same locality, the same region, from one country to another are to be preferred to promote exchange and sharing between communities that have accumulated some experience in the area and those without experience.

□ Capacity building

The capacity building will be done horizontally and vertically.

Horizontal training is provided by farmer extension agents or model farmers. This will further encourage the other farmers to imitate and adopt more easily ANR. Exchange visits among farmers are also channels for training and learning the practice. The aim is to facilitate the establishment of innovative farmers' platforms to enable them to reflect together on their own issues and to put in place a collaborative approach to find together solutions to their problems.

As for vertical training, it will target local trainers and technicians. They are in continuous contact with farmers. Building their capacities will help them play their supporting and accompanying roles. However, we must break with past practices, which, as far as knowledge and training are concerned, ensured that the technicians' opinion prevails over that of farmers.

Box 3: Chris Reij and Robert Winterbottom propose six steps for scaling up greening

- 1) Identify and analyze greening successes;
- 2) Build a community of champions for greening;
- 3) Address policy and legal issues to enable conditions for greening;
- 4) Develop and implement a communication strategy;
- 5) Develop or strengthen agroforestry value chains;
- 6) Expand research activities

*Source: Scaling up Regreening: Six Steps to Success
A Practical Approach to Forest and Landscape Restoration, World Resources Institute, 2015*

□ Acting at policy and institutional level

One of the major constraints to the involvement of the population in the fight against environmental degradation is the land issue. Many farmers are reluctant to get involved in protection if they have no legal right to own lands or even to use trees. In fact for borrowed lands, certain investments, which are synonymous with ownership, cannot be made without the prior consent of landowners.

To remove that constraint, it is important to create an enabling legislative, regulatory and institutional framework on land in general and on tree tenure in particular. For this purpose, there is need to make a case for establishing an enabling institutional and policy framework for investments in NRM in general and in particular in ANR and to conduct lobbying activities and field visits for members of parliament and local elected officials.

This insecurity of tenure is increased by the institutional weakness. Actually, institutions in charge of sustainable management of natural resources have a number of weaknesses. Technical services are often constrained by inadequate resources and limited staff capacity. Sustainable management policies are often lacking or poorly implemented.

Conclusion

In a context that is still characterized by an increasing demand for food, domestic energy and incomes, it is essential to promote and support the scaling up of good practices in sustainable land management, climate change and desertification control. Assisted Natural Regeneration is a simple and affordable technique which has proved its worth. Scaling up must be supported, on the one hand, to bring about increased agricultural production, strengthen resilience to food insecurity, reduce poverty, and on the other hand, to mitigate the effects of climate change.

For more information :

- BRICKS - Data Sheet Assisted Natural Regeneration, Study on the collection of good practices in sustainable land management;
- Study on natural regeneration in the region of Zinder (Niger);
- Assisted Natural Regeneration: an opportunity for greening the Sahel and reducing the vulnerability of rural populations;
- Assisted Natural Regeneration: an opportunity for greening the Sahel and reducing the vulnerability of rural populations.

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USGS/EROS data center, park of Ranawa/Burkina Faso in 2001

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