

FARMER SEEDS FOR A BETTER RESILIENCE TO CLIMATE CHANGE

COLLECTION OF BEST PRACTICES



FARMER SEEDS FOR A BETTER RESILIENCE TO CLIMATE CHANGE

COLLECTION OF BEST PRACTICES



Writing:

Benoît THÉAU, with the collaboration of Brice SOHOU, and:
Selom AGBAVITO (Togo), Chaldia AGOSSOU (Benin),
Blanche APOVO (Benin), Souhad AZZENOU (Morocco),
Adamou CHAIBOU MADOUGOU (Niger), Véronique DANSOU (Togo),
Boubacar DJIBO ALMOUSTAPHA (Niger), Tanguy GNIKOBBOU (Benin),
Meriem HOUZIR (Morocco), Thérèse KONDOMBO (Burkina Faso),
Ouallou LAMA (Chad), Alphonse K. NEKA (Benin), Bebel Parfait
NGUEPI NANFAH (Cameroon), Vincent NIKIEMA (Burkina Faso),
Martine SAVADOGO BONKOUNGOU (Burkina Faso),
Ramadan SYLLA (Mali), Anne THÉAU (France),
Ousmane TOURE (Senegal), Nanfack TSAFOUET (Cameroon).

Reading committee:

Hind NACIRI
Chifae MRKIM
Khadija AIMARA

Graphic design and printing:

Napalm

This publication was made possible thanks to the contribution of the
Global Environment Fund's Small Grants Programme– GEF/SGP –
Morocco Office.

To know more about the activities of Initiatives Climat:

www.initiativesclimat.org
www.jeunes-entrepreneurs-verts.org
www.facebook.com/InitiativesClimat/

To find out more about our partners:

www.4c.ma
www.ma.undp.org

NOTICE

In many African countries, agriculture still accounts for more than two-thirds of the labour force. Most family farms are less than two hectares. It is still often a subsistence agriculture, sometimes supplemented by a few cash crops. However, monetary income from agricultural activity is often modest; they do not allow farmers to invest in their farms. This results in low yields and insecurity in the event of climate change.

The development of farming agriculture is based on three conditions: access to land, access to loans and access to the markets. Added to this is the evolution of cultivation practices. The adoption of the principles of agroecology offers real prospects for the development of agriculture while respecting the natural resources and health of the inhabitants. The training of future agroecological farmers is therefore of great importance.

The transition to agroecology is, particularly, through access to quality farmer seeds.

Currently, worldwide, seeds supplied by multinational companies are the ones mostly used by farmers. In Africa, this is not the case: most African farmers still use the so-called farmer seeds. The aim of this publication is to present the farmer seeds, their features and the issues related to their use in Africa.

In the first part, after specifying what is meant by «farmer seeds», the various assets that these seeds represent will be presented. Then, the role of African farmers will be highlighted, in research in this field for centuries, to select resistant varieties adapted to each environment. However, all this work, done by generations of farmers in the various African countries, could be called into question if it is not protected. To this end, several African institutions, NGOs and research organisations are trying to respond to the pressure from large seed companies. This is a legal battle that must be fought relentlessly.

In the second part of this document, sixteen «good practices» are presented: these are experiments carried out in nine African countries to improve the production of farmer seeds, their selection, their conservation and their dissemination. These practices, carried out by associations or young green entrepreneurs, are valuable because they are the result of reflections and experiments with farmers. Of course, the goal is not to implement them as they are in any environment; they must be considered in order to be adapted to a specific environment, depending on soil, climate, crops, current practices and climate change.



PRESENTATION OF THE ASSOCIATION « INITIATIVES CLIMAT »

The *Initiatives Climat* association aims to “contribute to the awareness of environmental issues, sustainable development and the effects of climate change and to build the capacity of project leaders in developing countries” (particularly French-speaking African countries).

The association has initiated and runs a South-South cooperation programme “Climate Initiatives Francophone Africa / ICAF”. The aim of the programme is to identify and enhance projects to adapt to and mitigate climate change, which are now inspiring, replicable and transferable solutions, thus enabling any African actor to contribute to the regionalisation of the commitments of African states and in particular to the national commitment to contribute in the realization of Nationally Determined Contributions (NDCs).

Its activities are of various natures: carrying out databases on good practices and project owners (www.initiativesclimat.org); conducting collaborative training; animation of a network of development actors in French-speaking Africa; organising side events at international conferences and forums; production of capitalization documents or feasibility studies and popularization of good practices and reporting.

The association wants to develop an “agroecology” chain. It was behind the creation of the “African Agroecology Cluster”.

— PUBLISHING PARTNERS —



THE UNITED NATIONS DEVELOPMENT PROGRAMME UNDP MOROCCO

In accordance with Morocco’s national development priorities and UNDP’s strategic plan at the global level, the adoption of sustainable development methods, the strengthening of democratic governance systems, and the reinforcement of resilience constitute the three priority axes of UNDP’s intervention in Morocco.

In the area of climate change, UNDP helps countries reduce their greenhouse gas emissions and set a long-term goal of zero carbon emissions. Alongside with that, UNDP works with partners to improve the potential of adaptation to the impacts of climate change expand access to clean energy, minimize disaster risks and, where necessary, build capacity for post-disaster recovery.

Through the 4C Morocco Operational Strengthening Project, UNDP Morocco provides technical assistance and supports the country’s efforts to adapt to new international challenges through three key areas of support:

- Morocco’s programmatic framework for the implementation of the NDC;
- Morocco’s transparency framework for monitoring the implementation of the NDC;
- Support framework for South-South cooperation through the Congo Basin Blue Fund.



THE CLIMATE CHANGE COMPETENCE CENTRE 4C MOROCCO

The Climate Change Competence Center of Morocco is a platform for capacity building of relevant actors from different sectors (public, economic, research & training, civil society, local authorities, ..) and a hub for the development and dissemination of skills in the field of climate change (CC) open to its national and African environment.

The main contributions 4C Morocco are as follows:

1. Contributing to the capacity building of national actors on climate change
2. Capitalizing on information/knowledge/know-hows on climate change vulnerability, adaptation, mitigation and finance
3. Developing tools to assist decision-making on climate change issues
4. Contributing to the global effort by sharing experience, monitoring and networking in relation to climate change at the international level

These four missions are deployed according to specific programmes responding to the different needs of the beneficiaries in terms of capacity building in GHG mitigation and building resilience, to the adverse the impacts of climate change.

The 4C Morocco benefits from the support of the Department of the Environment and all its members who make up its 4 platforms, namely:

1. Ministries, Public Administrations and Territorial Collectivities
2. Private Sector
3. Research, Expertise and Training
4. Civil Society



THE SMALL GRANTS PROGRAMME OF THE GLOBAL ENVIRONMENT FACILITY SGF/GEF

Established in 1992, the year of the Rio Earth Summit, the GEF Small Grants Programme embodies the very essence of sustainable development by "thinking globally acting locally". By providing financial and technical support to projects that conserve and restore the environment while enhancing people's well-being and livelihoods, SGP demonstrates that community action can maintain the fine balance between human needs and environmental imperatives.

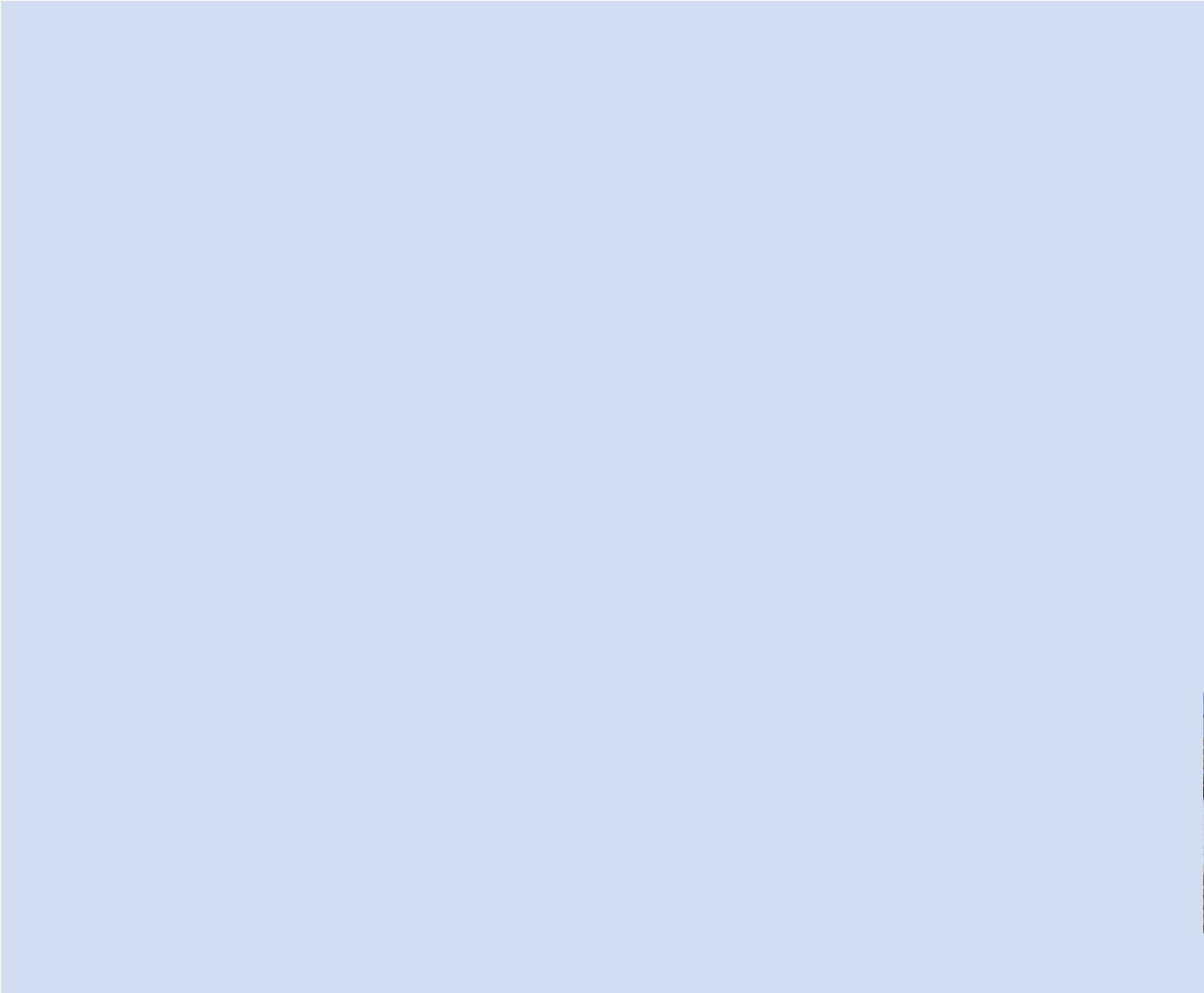
SGP recognizes that environmental degradation such as the destruction of ecosystems and the species that depend upon them, increasing levels of carbon dioxide and other greenhouse gases in our atmosphere, pollution of international waters, land degradation and the spread of persistent organic pollutants are life-threatening challenges that endanger us all. However, poor and vulnerable communities -SGP's primary stakeholders- are most at risk because they depend on access to natural resources for their livelihoods and often live in fragile ecosystems.

The programme provides grants of up to \$50,000 directly to local communities including indigenous people, community-based organizations and other non-governmental groups for projects in Biodiversity, Climate Change Mitigation and Adaptation, Land Degradation and Sustainable Forest Management, International Waters and Chemicals.

TABLE OF CONTENT

Notice	5
Table of content	9
1 Farmer seeds to promote food self-sufficiency	11
1.1. Conceptual clarification	12
1.2. Interests of farmer seeds	15
1.3. Recognition of farmers' research	17
1.4. Difficulties and threats encountered by farmer seeds	18
1.5. Biodiversity and seeds: legal framework	20
2 Best practices	23
2.1. BENIN	24
2.1.1. Preservation and sustainable management of seeds	24
2.1.2. Production of seeds and seedlings of neglected horticultural species	26
2.1.3. Farmer seed production for the farmer's autonomy	28
2.1.4. Promoting permaculture and farmer seeds	30
2.2. BURKINA FASO	32
2.2.1. Energizing women for seed production	32
2.2.2. Farmer seed house and producers' network	34

2.3. CAMEROON	36
2.3.1. Development of organic value chains	36
2.3.2. Seed production and advice to producers.....	38
2.4. MALI	40
2.4.1. Let’s multiply our farmer seeds	40
2.5. MOROCCO	42
2.5.1. Safeguarding local seeds	42
2.6. NIGER	44
2.6.1. Seed and farmers’ proximity	44
2.6.2. Transition to peasant agroecology.....	46
2.7. SENEGAL	48
2.7.1. Improved traditional granary	48
2.8. TCHAD	50
2.8.1. Farmer seeds and healthy eating.....	50
2.9. TOGO	52
2.9.1. For sustainable and healthy agriculture.....	52
2.9.2. Promotion of woody farmer seeds	54



1

FARMER SEEDS TO PROMOTE FOOD SELF-SUFFICIENCY





1.1. Conceptual clarification

In the Anthropocene¹, or geological era dedicated to man and his intelligence, farmer seeds are threatened to disappear. This is what scientists call an erosion of the biodiversity of farmer seeds.

The word “seed” originates from the Latin “sementia” and the Greek “sperma”, which means “germ.” Seeds are grains or other reproductive organs that can be cultured. ECOWAS² regulation C/REG.4/05/2008 defines a seed as “any plant material or organ or plant part such as grains, cutting, bulb, graft, rhizome, tuber, embryo, capable of reproducing an individual.”

“Farmer seeds, still known as country or old, are those that a farmer collects from his crop for later planting, but which are not previously from certified seeds purchased from a seed company. The farmer seeds are therefore directly derived from those that the farmers selected and multiplied in their fields before the development in the 19th century of varietal selection in pure modern lineage.”³

The “farmer seed” is therefore the one that the farmer selects from a specific variety to cultivate, while adapting it, if necessary, to agronomic and climatic conditions. Throughout the world, for many centuries, farmers have cultivated their fields with their seeds; they reproduced them. They also exchanged these seeds, which enriched the diversity of the genetic heritage. Even today, and particularly in the field of food agriculture, it is estimated that 1.4 billion farmers around the world continue to select their seeds in the traditional way. This practice provides some food security. More and more farmers’ organizations are recognizing the benefits of using farmer seeds, particularly in terms of the price and ability to adapt these seeds to new situations, and to climate change.

¹ The Anthropocene would be a new geological era in which man plays an essential role: human activities have broken natural balances.

² Economic Community of West African States.

³ Source: Wikipedia.



In West Africa, 80% of the seeds used by producers are farmer seeds. The remaining 20% are improved, hybrid or GMO seeds. The introduction of improved seeds is done through a system of various aid grants, loans, technical support. This ultimately creates a dependence on the inputs (fertilisers, plant protection products), often chemical, necessary for production with this type of seed. The use of chemical fertilizers and treatment products, as well as products used for seed conservation, can have serious adverse health effects, such as cancer and lung disease. To buy these fertilizers and plant protection products, farmers often must go into excessive debt at the beginning of the cultivating season.

The use of industrial seeds has other consequences: erosion of biodiversity, loss of traditional knowledge and know-how related to the use of farmer seeds, economic dependence.

The Farmer Seed Network⁴ defines farmer seeds in this way: *“These are seeds from a population or a dynamic group of populations, reproducible by the farmer, selected and multiplied with non-transgressive methods of the plant cell and within the reach of the final farmer, in fields, gardens, orchards conducted in peasant, organic or biodynamic agriculture. These seeds are renewed by successive multiplications in free pollination and/or mass selection, without forced self-fertilization over several generations. They are freely exchangeable in respect of the rights of use defined by the collectives that support them.”*

⁴ www.semencespaysannes.org

Farmer seeds are managed by farmers who must select them. In order to do this, they consider the “success” achieved during the harvest. The selected seeds have similar traits, but different genetic heritages, making them suitable for evolution. Farmers sort to keep best quality seeds. They must then keep them until the next seedlings. This can be done in a simple and economical way, for example in granary built with local materials, using ash, finely ground clay or neem leaf powder, which act as insect repellents.

It should be noted that farmer seeds are not always “local seeds”; they may have been obtained during exchanges between farmers. Farmer seeds must also be distinguished from “farm seeds”, which come from seeds of commercial varieties, whose seeds were harvested by farmers for use for seeding the following year.



1.2. Interests of farmer seeds

Farmer seeds have essential qualities for both farmers and countries that use them. They play several important economic, environmental and social roles. First, they are based on the knowledge of the farmers who use them. Thus, they provide independence because farmers know how to use them and know their benefits and limitations; they make farmers self-sufficient in their supply. Biodiversity is respected and food systems are varied, adapted to the customs of each region.

The agronomic interest of farmer seeds is increasingly recognized, both in the North and in the South, with the support of many associations or non-governmental organizations. Indeed, these seeds make it possible to adapt to the soil and the climate, which is more noteworthy due to climate change. Farmers can select seed varieties that best adapt to climate change. The main interest of the selections made is that they are carried out on the very sites of their use, namely the fields in which they will be cultivated. This capacity for adaptation of farmer seeds is crucial given the climate modifications already being experienced by many countries in the South, particularly African countries. As a matter of fact, the African continent is particularly vulnerable to changes in climate, some of which are already being felt strongly: irregular rain patterns, depletion of water resources, soil erosion, scarcity of vegetation cover, advancement of desertification. The resilience of agricultural systems will depend on the ability to achieve a certain level of agricultural production to provide enough food, in quantity and quality, to a population that is growing at a high rate. FAO defines resilience as *“the ability to prevent disasters and crises and to anticipate, absorb shocks and adapt or restore the situation in a timely, effective and sustainable manner. This includes protecting, restoring and improving livelihood systems in the face of threats that impact agriculture, nutritional and food security.”*⁵

Farmer seeds enable the poorest populations to contribute to food self-sufficiency: farmers do not need to buy seeds from multinational companies, which is very important because buying seeds is a significant expense. In addition, the so-called “selected” seeds are mostly more fragile and, as a result, demanding inputs such as fertilizers, pesticides and insecticides, further increasing the costs involved. This is the case for hybrid F1 seeds or GMO varieties. As far as these seeds are concerned, they cannot be used to re-seed for two reasons: a technical reason -these seeds are not reproducible, they degenerate-, a legal reason -patents are filed by their creators and therefore they cannot be used a second time-.

⁵ <http://www.fao.org/emergencies/comment-nous-travaillons/resilience/fr/>

Seed autonomy is essential for several reasons. Farmer seeds are an element of local cultures. They maintain diverse systems, consistent with traditional farming methods and food patterns. In addition, local cereal varieties are more nutritious than so-called improved varieties.

Finally, the wide variety -some of which cultivation has been abandoned over time- allows adaptation to climate change to be scaled up. For example, in recent years, the benefits of certain millet varieties have been short crop cycle or drought resistance.



A POLICY IN FAVOUR OF THE USE OF FARMER SEEDS HAS SEVERAL COMPONENTS:

- The conservation of local varieties and the restoration of varieties that are no longer widely used by farmer communities. These local varieties must meet the needs of producers and adapt to agronomic and climatic conditions.
- Easy access to seeds, which means distributing seeds, free of charge or at an affordable price. This requires quality seed production, satisfactory storage and the establishment of a local seed distribution system.
- Training in seeding technology and regular support for seed users.
- The creation of farmers' groups and the provision of meeting spaces to these groups to exchange knowledge and practices.
- The dissemination of information to farmers on the challenges of maintaining farmer seeds and on the risks incurred given the power of seed companies on the international level.
- The collaboration of farmers with experts in agronomy and law and regional, national and international NGOs.
- A plea for the use of farmer seeds.
- Exchanges of seeds and farming practices related to the use of these seeds between producers from different regions and countries.

1.3. Recognition of farmers' research

All too often, seed companies and associated researchers are those who do most of the research on the selection, crossbreeding and creation of new varieties. In Africa, it is often the farmers themselves who select the seeds, ensure their conservation and use them wisely, considering multiple factors (agronomic, climatic, cultural, etc.). Some farmers' groups carry out safeguarding programmes of many varieties to identify and select strains, multiply them, conserve them and disseminate them. The work is sometimes precise; this is the case, for example, when it comes to avoiding the uncontrolled pollination by varieties cultivated on nearby land. In order to have quality farmer seeds, it is recommended to carry out a rigorous selection among the harvested seeds and to carry out germination tests.

Over the years, farmers have selected the varieties that have produced the best quality and quantity. They crossed these varieties with each other in each farmers' community and between communities. Farmers' communities are the guarantors of the preservation of biodiversity. Professor Jean-Didier Zongo states that *"farmer seeds are seeds that are the result of centuries of selection by the farmers themselves and which have the distinction of being very heterogeneous and therefore constituting a genetic heritage very important by its variability"*.⁶

In addition, farmers' communities are carrying out awareness-raising activities for all farmers and challenging local authorities on issues related to farmer seeds.



SEED HOUSES

Many organizations in several African countries have set up "seed houses", "seed boxes" or "seed granaries". In these places, multiple activities develop. The seed houses list the local varieties. Identification cards are completed for each of them; they specify the name of the variety, its characteristics, producers, places and periods of production, the type of soil suitable, the conditions of cultivation, their resistance. Before being stored for future campaigns, the seeds are selected, making sure to preserve all varieties, especially those that are endangered. Seeds are stored optimally in granaries or in a collective room. Farmers have access to it according to their needs. The managers of the houses make sure to maintain security stocks.

The seed houses are also placing for exchange of practices and training. Grain libraries, in addition to the provision of seeds, allow farmers to have access to documentary resources related to sustainable agriculture.

⁶ FENOP Info, Burkina Faso's rural magazine, July-August-September 2017.

1.4. Difficulties and threats encountered by farmer seeds

According to the Farmer Seed Network, *“the industry’s radical monopoly on seeds has led to the loss of 75% of the biodiversity cultivated in 50 years. Yet the world’s farmers have always selected and produced their seeds and, beyond that, maintained this cultivated biodiversity, essential to our food.”*

Farmer seeds are free of property rights, but they are threatened in different ways. More and more often, “improved” seeds, known as “high yield” seeds, have become more established; they are mostly imported. They frequently enjoy the quasi-exclusive support of the states. However, they do not allow traceability or an indication of the biotechnology that is inserted in them. In addition, there is a risk of genetic contamination by seeds of varieties of genetically modified organisms (GMOs). Farmers and many organizations denounce the *“dematerialization of life”* that allows the sequence of all the plant genomes at low cost.



CONSEQUENCES OF THE USE OF INDUSTRIAL SEEDS

- Loss of traditional varieties and knowledge held by farmers.
- Risk of dependence on multinational seed companies because most commercial seeds are imported.
- Environmental risks associated with the requirement of many of these varieties for fertilizers and pesticides.
- The lack of traceability due to a lack of information on the biotechnology used to create these seeds.
- Risks associated with the spread of GMO varieties and associated inputs.
- Reducing farmers’ rights for the use of their own seeds due to changes in intellectual property rights legislation.

To sequence plant genomes, seed industries need information, especially information about their traits (such as their resistance to disease). For varieties that are not considered by the Patent Office, they must use the knowledge of farmers; and therefore, have databases that collect this information.

Faced with the ambitions of multinational seed companies, farmers and civil society organizations are calling on states to protect farmer seeds through legislative measures. It is an indispensable means for farmers to be able to manage seeds and carry out related activities (selection, preservation, exchange, marketing, etc.) independently.

In Africa, several regional laws support the development of commercial seeds. This is the case, for example, with the ECOWAS regulation of 2008, which *“focuses on harmonizing the rules governing quality control, certification and marketing of plant seeds and plants in the ECOWAS area. To be certified and marketed in the sub-region, a variety must be listed in the Catalogue and therefore meet the requirements of the DHS⁷ criteria”*⁸. Farmer seeds, which are neither homogeneous nor stable, cannot meet these criteria.

⁷ Distinction, Homogeneity, Stability

⁸ BEDE, Farmers’ collective rights on their seeds, 2019.



WOMEN'S CONTRIBUTION TO FARMER SEEDS

Access to quality seeds is an essential element in achieving food security. Farmer seeds are undoubtedly the seeds most suitable for African farmers, the majority of whom have only a few hectares of arable land. These seeds, well adapted to soil, changes in agronomic practices and climate change, are available locally and, most of the time, free of charge. They produce foods that preserve eating habits and nutritional qualities. In this area, women's contribution is decisive. In addition, most African farmers play an important role in seed conservation and, beyond that, in preserving a genetic heritage that guarantees biodiversity.





1.5. Biodiversity and seeds: legal framework

The African Charter on Human and Peoples' Rights, in its provisions related to the right to the development of peoples, states that "*all peoples have the right to their economic, social and cultural development, in strict respect for their freedom and identity, and the equal enjoyment of the common heritage of mankind*". The true owners of the right to participate in the access to genetic resources remain indigenous and local communities. The participation of indigenous and local communities is established by "*prior informed consent or the agreement and participation of indigenous and local communities*" in the Nagoya Protocol. Article 26, paragraph 2 of the United Nations Declaration on the Right of Indigenous Peoples states that "*Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.*".

Paragraph 3 specifies that States grant legal recognition and protection to these lands, territories and resources. This recognition is done in accordance with the customs, traditions and land regimes of the indigenous peoples concerned. The combined reading of these paragraphs implies that indigenous peoples have the right to regulate and control access to the use of their resources. The Bonn⁹ guidelines state that benefits must be shared "*with all those who have been identified as having contributed to the resource management, scientific and/or commercial process.*" (paragraph 48). Reading Article 5 of the Nagoya Protocol¹⁰, it appears that the potential beneficiaries of the benefits are: the user, the Party that provides the resources, the Party that acquired the resources and the indigenous and local communities.

With respect to the fair and equitable sharing of benefits, Article 5 of the Nagoya Protocol provides that the benefits originating from the use of genetic resources are shared fairly and equitably with the Party providing the resources and which is the country of origin of those resources or with a Party that has acquired the resources in accordance with the Convention and that this sharing is subject to agreed terms. To enforce this principle, the Parties have a duty to take "*the necessary measures, whether political, administrative or legislative*" to do so.

⁹ The Bonn Guidelines were adopted by the Conference of parties to the Convention on Biological Diversity (CBD) in 2002.

¹⁰ Protocol on access to genetic resources and fair and equitable sharing resulting from their use in the Convention on Biological Diversity, 2010.

When analysing the main UN texts (Charter, Pacts, Declarations and Resolutions of the General Assembly), the enjoyment of peoples' right to self-determination depends on the following elements:

- The free choice of political status and economic, social and cultural development;
- The sovereignty of peoples over their natural resources; equal rights of peoples;
- Non-discrimination;
- Sovereign equality of states;
- The peaceful settlement of disputes;
- Good faith in the fulfilment of obligations and in international relations;
- Non-use of force;
- International cooperation and respect on the part of states for their international commitments, particularly on human rights.

Thus defined, the principle of sovereignty over natural resources encompasses the right of states and peoples to freely dispose of their natural resources. The Convention on Biological Diversity aims to be the legally binding international legal instrument which, while defining a comprehensive framework to gradually put an end to the depletion of biological diversity, recognises the sovereignty of states over their natural resources.

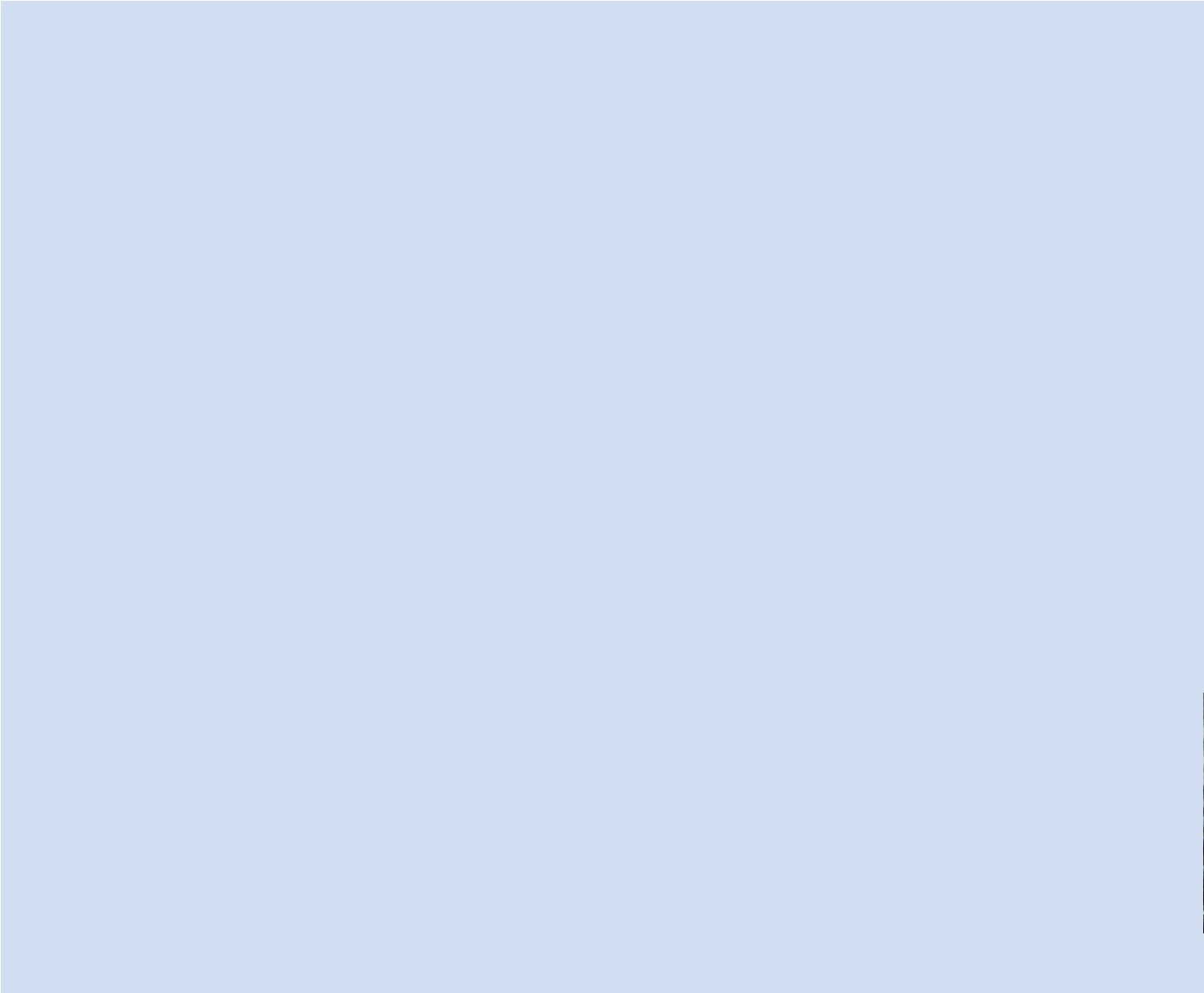


By freely joining the Convention, stakeholders are committed to contributing to the achievement of three objectives:

- The conservation of biodiversity;
- The sustainable use of biodiversity;
- The fair and equitable sharing of the benefits of using genetic resources, including:
 - Satisfactory access to genetic resources and appropriate transfer of relevant techniques,
 - Considering all rights to these resources and techniques,
 - Adequate funding.

Smallholder farmers, both men and women, around the world have always been the original plant breeders since the very beginning of agriculture, more than 10,000 years ago. For most developing countries, where most plant genetic resources come from, smallholder farmers continue to consciously or unconsciously select new plant varieties with two reasons: to achieve food security for all and to increase agricultural biodiversity. Because of the colossal contribution of these farmers, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA¹¹) requires its 128 members to put in place and maintain appropriate policy and legal measures that promote the sustainable use of plant genetic resources for food and agriculture. Article 9 of ITPGRFA acknowledges that farmers have contributed over the centuries to improving plant varieties and creating vast agricultural biodiversity in the absence of any intellectual property protection.

¹¹ An international agreement aimed at ensuring food security through biodiversity conservation, exchange and sustainable use of plant genetic resources, while ensuring the sharing of benefits. We are talking about the Seed Treaty adopted in 2001 by FAO.



2

BEST PRACTICES



2.1. BENIN

2.1.1. Preservation and sustainable management of seeds

HOLDER OF THE INITIATIVE

Holder's name: **AMOClimWEC**

Locality: **Cotonou**

Country: **Benin**

mail: blanchapovo@gmail.com

The NGO AMOClimWEC aims to help monitor climate, water, land and crops to increase agricultural productivity and promote a sustainable agropastoral policy to ensure food security. AMOClimWEC is notably the initiator of the digital campaign "Benin without UPOV".

Description of the initiative

Given the importance of ensuring food security in Benin and achieving the Sustainable Development Goals (SDGs), SDG 2 Target 5 (Eliminating Hunger, Ensuring Food Security, Improving Nutrition and Promoting Sustainable Agriculture), it is essential to think about responsible and environmentally friendly agricultural production. The initiative aims to raise awareness of the importance of preserving farmer seeds through the establishment of a network of exchange and supply of farmer seeds. Several beneficiaries are targeted: farmers, consumers, agricultural entrepreneurs, women's associations and public institutions.

The first phase was to carry out a campaign against the Union for the Protection of New Varieties of Plants (l'Union pour la Protection des Obtentions Végétales (UPOV) in French) and for the preservation of farmer seeds. This first took the form of a fight against Benin's accession to the "UPOV 91" convention, which threatens food sovereignty and the right for communities to free access to regenerated farmer seeds over centuries. It is a convention that favors seeds patented by multinationals, prohibits free access to farmer seeds, privatizes them, and leads to an erosion of cultural biodiversity in the countries of the South. The government has initiated the process of applying for authorization to ratify UPOV 91; Benin is the only French-speaking country in Africa to commit to it. More than 100,000 actors who are the final beneficiaries of Benin's farmer seeds have joined a campaign called "Benin without UPOV". Physical advocacy meetings were held with the Beninese authorities in parliament, in the presence of Benin's Minister of Agriculture. A petition was launched through the "change.org" platform. It has received more than a thousand signatures and testimonials from five continents.

On February 13th, 2019, an appeal of unconstitutionality of UPOV was filed against the Benin government in the Benin Constitutional Court, with the aim of preserving farmer seeds regenerated for centuries and defending the right for communities to free access to farmer seeds.

In a second phase, in order to contribute to seed conservation, a systemic inventory of cultural biodiversity has been carried out in 7 development centers, with a view to a state of play and the preservation of the diversity of farmer seeds. Then a database of seed service recipients was developed to facilitate decision-making and sustainable management of the resources available in each geographic area. Finally, natural seeds and commercial GMO seeds are identified to provide decision makers with relevant information on seed intrusions and the extent of threats to local seeds.



The third phase was to regenerate and disseminate seeds adapted to climate change. The NGO contributed to the development of the new agricultural calendar in the 7 agricultural development centers in the Republic of Benin. The crop calendars from 5 species of farmer seeds (corn, rice, cassava, cotton, cowpea) have been simulated in the horizon 2050, in the face of rainfall disturbance. Regular visits to the farmer environment are carried out in order to enrich the database and information on farmer seeds.

Strengths / Key Results

- A network of 500 local seed observers has been set up. The fundamental mission of this network is to establish a natural genetic bank for local seeds for preservation.
- A new cropping calendar has been developed in the face of rainfall disturbance.
- 20 journalists are prepared for communication in crisis situations.
- 20 experts are trained on predicting agricultural performance with the Aqua-Crop model.
- 99 actors in the agricultural sector are trained on satellite-assisted monitoring of agricultural landscapes.
- UPOV's unconstitutional state report will be set up in favor of safeguarding farmer seeds in Benin.

2.1.2. Production of seeds and seedlings of neglected horticultural species

HOLDER OF THE INITIATIVE

Holder's name: **SEED SERVICES**

Locality: **Abomey-Calavi**

Country: **Benin**

mail: services.seed@gmail.com

Seed Services is a startup specializing in the production and marketing of ecological seeds and plants. It focuses on valuing neglected species that have high nutritional potential. Initiated in 2017, Seed Services' activities revolve around the production of large morelle, African basilica, vernonia, white caya (leaf vegetable), amaranth seeds, and seedlings of some wild fruit trees, including the "miracle fruit".

Description of the initiative

Seed production activities help to improve the productivity of local resources. Thus, it is possible to overcome the problem of low productivity in the horticultural sector by making quality seeds and seedlings available to producers for species with high nutritional value. Seed Services, with a purpose to better valuing neglected species, has set itself the task of making ecological inputs available for any form of production (conventional or organic).

Seed production contributes to improved agricultural yields. Thus, the problem of low productivity in the horticultural sector can be alleviated by providing good quality seeds and seedling to farmers.

Seed Services mainly collects seeds and conserves them, in partnership with GBioS (Laboratory of Horticulture Genetics and Seed Science), from the Faculty of Agricultural Sciences of the University of Abomey Calavi. For example, ecological seeds are available to producers in urban and peri-urban areas of Benin. Seed conservation is mainly provided by GBioS, a research partner.

At the beginning of its activity, Seed Services provided farmer seeds. Subsequently, the proponents of the initiative wanted to be part of a dynamic of improvement of seeds so that they are adapted to climatic variations, while retaining their nutritional values. The improvement techniques used are based on massal selections; any manipulation that would go in the direction of obtaining genetically modified organisms (GMOs) is excluded.

Seed Services' clients are organic and conventional market gardeners from urban and peri-urban areas of Benin.

The Seed Services team includes the founding members, two other members, two technicians, two full-time employees and casual employees recruited for specific tasks.

The difficulties in seed production are diverse. First, it is difficult to find the suitable sites for multiplication, because of the distance requirements: the crops for seeding must be carried out on isolated sites. Second, some post-harvest work is particularly delicate and painful because the seeds of leafy vegetables, such as amaranth or basil, are very small.

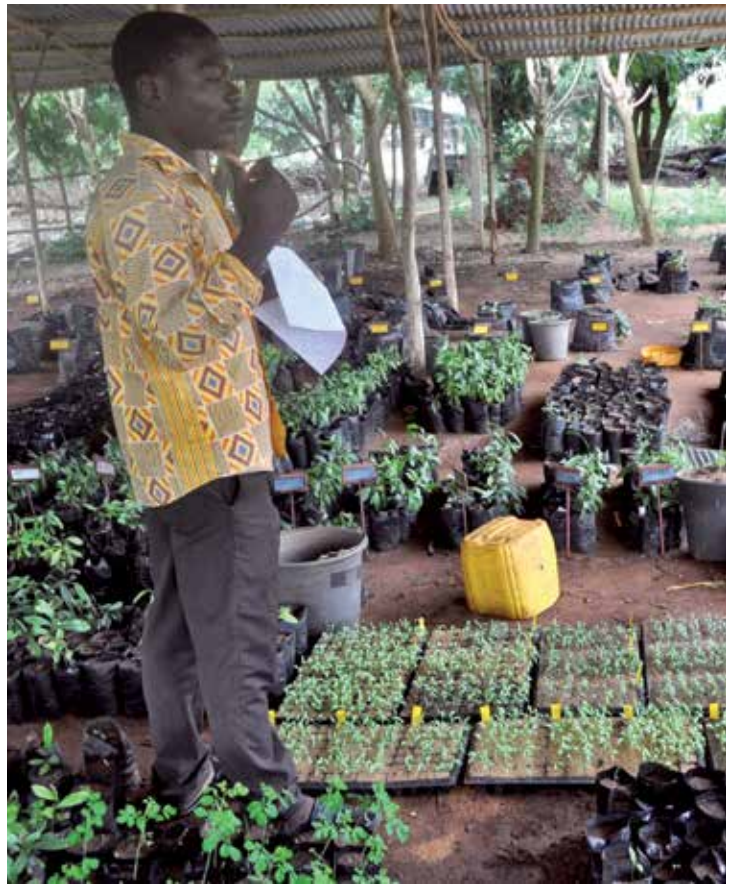
A first challenge is therefore to develop simple tools, facilitating the extraction of seeds from the inflorescences of certain species. A second, even more important, is to ensure a continuous supply of seeds of quality local species to producers.

Strengths / Key Results

For the past three years, Seed Services has been working to conserve seeds from local species, involving their collection, multiplication and conservation in order to make them available for future use.

Seed Services has also been able to develop improved seeds of some species that have been put on the market.

In addition to marketing, Seed Services seeks to develop expertise in post-purchase support for products, particularly for species with difficult germination and storage, such as vernonia.



2.1.3. Farmer seed production for the farmer's autonomy

HOLDER OF THE INITIATIVE

Holder's Name: **Les Jardins de l'Espoir**

Locality: **Abomey-Calavi**

Country: **Benin**

mail: espoir.jardins@gmail.com

Website: www.lesjardinsdelespoir.org

The Gardens of Hope "Les Jardins de l'Espoir" is an organization of young people, from different disciplines, all converted to agroecology. Their goal is to contribute to Africa's food sovereignty.

In the five farms available to the association, plant production, livestock farming, fish farming, myciculture and waste recycling are practiced. The Gardens of Hope carry out several training and awareness activities, aimed at toddlers as well as young people, through several projects such as agrocolonie, Agrobootcamp, etc.

Description of the initiative

Seed is the foundation of any sustainable agricultural system. Farmers in the South, especially those in Benin, have always been able to keep their seeds, exchange them, give them away or sell them among themselves. This freedom of choice and seed autonomy have allowed farmer communities to adapt to the diversity of nature, its climates, its topographies and its special conditions. It is this right and independence that is now being challenged by the revision of seed laws, in order to guarantee the investments of large seed companies, which see them as new business opportunities. By "locking in" seeds technologically, the seed industry ensures a sustainable profit and establishes a lasting dependence of farmers.

It is therefore to alleviate this problem that The Gardens of Hope works for the seed autonomy of the country. It involves self-production, seed conservation and distribution within its network.

To achieve this goal, it was necessary to identify seed requirements: this consisted of compiling a list of productions from the past three years and assessing seed dependency. The seeds were then classified as "farmer seeds" and "conventional seeds." Farmer seeds are natural, non-hybrid; they, therefore, have a reproductive capacity; they were collected from farmers in Benin and other countries. They were then produced and adapted.

At the beginning of 2017, The Gardens of Hope decided to replace conventional seeds with farmer seeds for all the practiced crops. To do this, training and collaborative research were carried out in a farm laboratory; the goal was to produce quality seeds.

At the end of 2017, a meeting was held with the association BEDE (Biodiversity Exchanges and Diffusion of Experiences); this has enabled the West African Farmer Seeds Committee (COASP) to be incorporated in 2018. Since then, the Gardens of Hope has participated in training and fairs, which are an opportunity to exchange farmer seeds with other organizations that have similar goals for inputs such as seeds.



The integration into producer networks has been a great contribution for the association. However, difficulties have been encountered in the production of biennial plant seeds. The main reason for this was the poor weather conditions in southern Benin. To overcome this difficulty, the association relies on farmer seed exchanges with Sahel countries, whose climatic conditions are better for the reproduction of biennial seeds.

Strengths / Key Results

- More than 100 producers have been trained in farmer seed production techniques.
- More than 50 varieties of farmer seeds are produced and distributed each year.
- The different farms of “The Gardens of Hope” have about thirty varieties of farmer seeds received during exchanges between producers and which are adapting on the different farms.
- A seed stock management tool has been created with the help of the BEDE association.



2.1.4. Promoting permaculture and farmer seeds

HOLDER OF THE INITIATIVE

Holder's Name: **Ecology - Community Development in Benin (ECODEC BENIN)**

Locality: **Tanguiéta**

Country: **Benin**

Mail: ecodec.benin@gmail.com

Website: <https://web.facebook.com/Ecodecbeninong16/>

ECODEC BENIN is a non-governmental organization created in 2016. Active in the environment, sustainable agriculture and community actions, the NGO ECODEC BENIN is the only NGO working to promote farmer seeds in the department of Atacora, specifically in the «Pendjari», a region formed by all three highly rural municipalities, namely Matéri, Cobly and Tanguiéta.

Description of the initiative

In 2019, ECODEC BENIN has committed to the promotion of farmer seeds based on the following observation: the gradual abandonment of local seeds in favor of the so-called “improved” seeds, which are not resistant to climatic hazards. To this end, two members of the NGO participated, for two weeks, in an incubation training organized by an organization specializing in permaculture and farmer seeds.

During the 2019 crop year, several farmer seeds were produced on the NGO's farm-school. As a result, ECODEC BENIN joined the West African Committee of Farmers Seeds (COASP) and participated in various meetings.

In the same year, the organization developed activities to raise awareness, train and support farmers. To this end, the NGO received financial support from one of its partners. This was followed by training in the principles of permaculture and vegetable seed production.

In view of the convincing results, obtained both on the farm-school and on the sites of the beneficiaries of the training, the farmers were enthusiastic to work on the issue of farmer seeds. Also, ECODEC BENIN plans to set up an inter-communal network of farmer seed producers, as well as an inter-communal house of farmer seeds. Outreach activities will continue to encourage the creation of Communal Farmer Seed Committees (CPSCs)



with the aim of creating an Inter-Communal Farmer Seed Committee (PSTC). The communal farmer seed house will be managed by the CISP, under the control of ECODEC BENIN; it will support seed production, collection and storage.

Farmer seeds will be available to growers, who will have to popularize them in their surroundings.

ECODEC BENIN has trained 75 farmers in permaculture, at a rate of five beneficiaries per district out of the 15 districts in the three pilot municipalities involved in the project. Farmers, trained in the principles of permaculture and conservative environmental techniques, produce seeds. They are part of the provisional communal committees in their respective municipalities. The final establishment of these committees will take place as soon as many farmers adhere to the approach. The first trained farmers will become local trainers and relay their knowledge to people in the field.

Finally, a first farmer seed fair was organized. It is considered to hold one every year, in a rotating way in the various municipalities involved in the project.

In addition, the difficulties in implementing this initiative are financial. The current partner funds the training and equipment of ten farmers a year. This is not enough to plan a rapid implementation of the initiative.



Strengths / Key Results

After two years of activities, several results are achieved:

- More than 75 farmers are trained in permaculture and produce farmer seeds;
- The Communal Farmer Seed Committees are set up and are functional in each of the three municipalities;
- The Inter-Communal Farmer Seed Committee is set up and is functional;
- The Inter-Communal house of farmer seeds is created and fulfills its role;
- A first local farmer seed fair was organized.



2.2. BURKINA FASO

2.2.1. Energizing women for seed production

HOLDER OF THE INITIATIVE

Holder's name: **BIOPROTECT**

Locality: **Ouagadougou**

Country: **Burkina Faso**

Mail: panierbioprotect@gmail.com

Website: www.bioprotect-b.com

BioProtect helps to develop people's resilience to climate change through agroecological practices.

It aims to reduce the use of synthetic chemical fertilizers and pesticides in vegetable production and generates income for rural women through the production of vegetable seeds.

Description of the initiative

Burkina Faso is a predominantly an agricultural country. With climate change, desertification and population growth, there has been a change in the seasons, the gradual degradation of arable land and a decline in agricultural yields. Moreover, the acceleration of soil degradation as a result of desertification is significant: the amount of arable land is constantly decreasing.

To reverse this trend, new agricultural practices are needed, which allow for the restoration of degraded land. Moreover, even in areas where land is fertile, it is necessary to improve yields in order to meet food needs and to enable economic development. In order to contribute to the improvement of women's socio-economic conditions, an agroecological site has been set up in Soala.

Soala is a village in the province of Boulikèmdé (Central-West region) with a population of 567,680. The population density is 64 hab./km², and more than 65% of the province's population is under the age of 25. Poverty is fundamentally rural; 10 people living below the poverty line, 9 live in rural areas. In addition, more than 20% of the population is food insecure.

The creation of the Soala agroecological centre has created a learning environment for the local population, especially for women's groups that do market gardening. The implementation of this project helps to develop people's resilience to climate change through agroecological practices.

The aim of the project is to reduce the use of synthetic chemical fertilizers and pesticides in vegetable production in this area and to provide income to rural women through the production of market garden seeds. This includes contributing to a 50% reduction in spending on the use of synthetic chemical fertilizers and pesticides, developing income-generating activities for women and strengthening women's capacity for agroecological production and seed production.

The direct beneficiaries of the project are women, who are most affected by the consequences of climate change. Women have limited access to land for cultural reasons. At first, they are granted land that they manage to enrich; and once these lands are good for growing crops, they are removed from them.

The centre of Soala has 1.5 hectares of land. The first step was to recover these poor-quality lands by using compost as an amendment and by adopting certain farming practices such as zaï.

Thanks to the project, each woman has a plot of land to grow vegetables. An area of around 1,000 m² is dedicated to the production of seeds (sesame and vegetable seeds). The aim is to meet the seed needs of women farmers. They receive free of charge seeds and in return they produce seeds for other beneficiaries.

Strengths / Key Results

The results of the project are:

- Building the capacity of 300 women on agroecological practices, on the production of gardening seeds and on the processing and marketing of vegetable products.
- Further training for 115 of the most dynamic women. Each of them must train three women, and then the process is multiplied in order to reach the maximum number of female producers.
- Setting up a composting unit for women.
- A 50% reduction in spending on fertilizers and pesticides; this is achieved through public awareness of the dangers of synthetic chemicals and training on practices that are resilient to climate change.



2.2.2. Farmer seed house and producers' network

HOLDER OF THE INITIATIVE

Holder's name: **Action for the Promotion of Local Initiatives (Action pour la Promotion des Initiatives Locales (APIL) in French)**

Locality: **Ouagadougou**

Country: **Burkina Faso**

Mail: **apil_action@yahoo.fr**

Website: **www.apilaction.net**

The APIL, established in 1998, conducts projects in the areas of food security, environmental protection and community resilience to climate change. It affects more than 180 villages, thus 72,000 households. APIL has three agroecology promotion centres, where farmers are familiar with soil restoration techniques and other agroecological practices. In addition, APIL participates in the promotion and safeguarding of farmer seeds.

Description of the initiative

Agriculture in Burkina Faso, particularly in the North Central and Central Plateau regions, is characterized by a great genetic diversity. More than 80% of the population depends on farmer seeds, which are now threatened with extinction by the privatization of the living (certificates on plant varieties, patents), the market and climate change. Farmers have had knowledge and know-how on seeds for centuries, assets that have allowed them to adapt to many changes, including climate variations.

Aware of the essential role of farmer seeds in sustaining family farms, APIL has chosen to support farmers in safeguarding these seeds. It was a question of supporting them by setting up a farmer seed house and networking the producers of these seeds.

The project has several objectives. First, it is a question of bringing together all the seed producers from the North-Central and the Central Plateau to help them create a development network in their sector. Secondly, to promote farmer seeds and strengthen the know-how of farmers on seed production in order to constitute a force for proposal and inspiration of agricultural production in both regions. Finally, to promote food autonomy and the non-dependence of populations on certified seeds, while safeguarding biodiversity and local genetic resources.

The project's target groups are producers supported by the NGO APIL: men, women and young people who take initiatives in seed production.

The main activities carried out in this project include the census of seed producers in the villages of the two regions, the completion of the inventory and characterization of local varieties, the establishment of the farmer seed house, the periodic collection of farmer seeds in the Farmer Seeds' House in Bissiga, the training of seed producers and the selection of local varieties adapted to climate change, visits to seed fields and seed certification by agriculture services, the multiplication of rare or endangered farmer seed varieties by farmers, advocacy for the development of farmer seeds and training of seed producers on agroecological practices and monitoring of implementation in their fields.

Strengths / Key Results

The project allowed the installation of a farmer seed house in the Centre for the Promotion of Agroecology in Bissiga. Each year, the seeds stored there are renewed.

A network of about 100 seed producers has been created. Its members work for the preservation and sustainability of the farmer seeds they produce. They manage the farmer seeds' house and ensures its supply.

Producers have begun to select climate-adapted farmer seeds for their needs instead of abandoning everything in favour of improved seeds.

To ensure the visibility of existing seeds, APIL has also developed a catalogue on farmer seeds.



2.3. CAMEROON

2.3.1. Development of organic value chains

HOLDER OF THE INITIATIVE

Holder's name: **The Sustainable Development Support Group**

Locality: **Dschang**

Country: **Cameroon**

Mail: onggadd2004@gmail.com

Website: www.ong-gadd.org

The Sustainable Development Support Group (GADD) aims to promote sustainable management of natural resources, socio-economic strengthening of targets, women's empowerment, professional integration of young people and peace between communities. It implements many projects in partnership with other organizations.

Description of the initiative

The department of Menoua, in western Cameroon is one of the smallest and most populated departments of the country. Pressure on natural resources (water, soil, air and biodiversity) is increasing. At the agricultural level, the degradations are mainly related to conventional practices (pesticides, industrial seeds, various disturbances) and the poor organisation of the stakeholders in the sector. The consequence is the deterioration of the living conditions of the population.

The aim of the initiative is to contribute to improving the living conditions of people and farmers, through two specific objectives. On the one hand, producers in the Menoua department are increasingly turning to organic farming practices. They aim to promote old seeds, and by the end of the project, they will seek to rehabilitate ten old crop varieties and use them in seed systems. On the other hand, organic products from the Menoua department are sold profitably. The market for old seeds is a priority.

The project targets input producers (including seeds), farmers, researchers, authorities, agricultural advisors and consumers. The goal is to directly reach 2515 people by May 2021.

The methodology and activities are diverse. The stakeholders are aware of the challenges of the seed industry and the key place of farmer seeds for sustainable agriculture. Advocacy with public institutions is being developed to ensure that farmer seeds play a prominent role in local seed policies.

A search for participatory action is being carried on to ensure the rehabilitation, reproduction, characterization, dissemination and use of farming varieties and associated knowledge in local seed systems and exchange systems. It is about supporting farmers at different stages. Two ancient seed fairs will be organized to raise awareness of farmer seeds and how to access them.

It should be noted that the low control of certain aspects related to production (conservation, exchange and valuing of farmer seeds) and advocacy for farmer seeds limits the scope of the actions undertaken. Moreover, the contradiction of the discourse given to farmers about seeds is real: agricultural input distributors and some advisors promote so-called "improved" seeds, fixed and patented, while organizations supporting farmers encourage the use of suitable, scalable and free seeds.

Finally, the project allows certification for farmer seeds for sale through the Participatory Guarantee Systems (PGS) approach.

A notable challenge must be noted, that of satisfying the high demand of farmers for awareness, training and support on the multiplication of farmer seeds..

Strengths / Key Results

The first results of the project are noticeable:

- A training session on the selection, production and conservation of organic farmer seeds was organised for the benefit of 36 farmers.
- A seed field and a seed store have been set-up.
- Fifteen varieties of old seeds have been collected and five of them are already used by farmers.
- More than 120 producers have benefited from these ancient seeds.
- A presentation was made at the 5th West African Conference on Organic Agriculture in Accra, Ghana, on the theme of *“Promoting Farmer Seeds as a Lever for the Development of Organic Agriculture in the Western Highlands of Cameroon: The Case of Old Cabbage”*.



2.3.2. Seed production and advice to producers

HOLDER OF THE INITIATIVE

Holder's name: **Seed for Agriculture**

Locality: **Douala**

Country: **Cameroon**

Mail: seed4ag@gmail.com

Website: www.seed4agriculture.com

Seed for Agriculture is a seed and seedling production and distribution company that provides horticultural services. It aims to provide producers with theoretical and practical knowledge for the handling of seeds and seedlings.

Description of the initiative

"The seed is the beginning of the food chain. Whoever controls the seed controls the food chain, hence controls the people." This quote by Dominique Guillet underlines the central place of seed in the agricultural value chain, in food security, and in turn the preservation of human life. However, Africa accounts for just 2% of the global seed market controlled by multinationals.

The overall objective of the initiative is to provide, in large amounts, farmers in Cameroon and Central Africa with quality seeds and seedlings. Seed for Agriculture aims to capitalize on local know-how through the capacity and professionalisation of producers, while improving the living conditions of nursery workers.

More specifically, it is a question of educating potential agropastoral producers and entrepreneurs about the importance of using good quality seeds; producing and distributing good quality seeds; ensuring the availability of selected and improved seeds through the establishment of a digital platform and a professional network; and training young people in seed multiplication techniques and nursery work.

Seed for Agriculture is expanding through the creation of nurseries in the central, coastal and western regions of the country. The main activities are the organisation of training sessions on the grafting of fruit trees (avocado, mango, citrus etc.), the identification of serious nurseries in order to collaborate, raising awareness of the impact of good quality seed on performance, and assistance in managing farms through a website and social networks.

Seed for Agriculture produces farmer seeds by selecting local varieties popular with producers. The breeding technique can change depending on the species. For example, the corossolier (a small tree that produces an edible fruit, the corossol) is multiplied by seeding, while the avocado tree gives better results by grafting.

In addition, the company is in contact with research organizations that also offer varieties adapted to local conditions, which it multiplies according to customer requests. Improved varieties come from the Institute for Agricultural Research for Development (IRAD), where researchers create or improve varieties.

The main challenges are the planning of seed production (the majority of producers do not order their seeds in advance and rush at the beginning of the campaign to obtain the seeds), the identification of real serious applicants (many do not measure the level of professionalism necessary to succeed in an agricultural project), unfair competition (aware of the need, some charlatans sell poor quality seeds at low prices).

Strengths / Key Results

- Awareness leads agricultural entrepreneurs to be more rigorous in the choice of their seeds.
- Increasingly, producers are seeking advice despite the reluctance to pay for this service.
- Young people show a real commitment to the exercise of seed activity.
- Young people are showing a growing interest in agricultural trades.



2.4. MALI

2.4.1. Let's multiply our farmer seeds

HOLDER OF THE INITIATIVE

Holder's name: **National Coordination of Farmers' Organizations of Mali (CNOP-Mali)**

Locality: **Bamako**

Country: **Mali**

Mail: cnopmali@yahoo.fr

Website: www.cnop-mali.org

CNOP-Mali is a non-profit socio-professional organization. It has two main functions: a political representation function and a function of defending farmers. It is in fact the interlocutor of the agricultural profession in front of the State and other development actors. It defends and promotes the values of family farming open to progress and modernity. Since 2009, the CNOP has been committed to promoting peasant agroecology (PAE) in Mali as an effective means of adapting to climate change.

Description of the initiative

The CNOP-Mali, with financial support from Oxfam-Solidarity Belgium, organised an exhibition, demonstration and training workshop on the multiplication of farmer seeds for its relays in peasant agroecology (PAE) on the theme of : "Let us multiply our farmer seeds" from July 12th to 14th 2016, followed by the return of the experiment. All PAE relays understood the issues and took ownership of the farmer seed module. The fields of demonstration and experimentation of farmer seeds have been set up by the regional agro-ecological commissions in Kayes, Koulikoro, Sikasso, Ségou and Mopti.

The Institute for Research and Promotion of Alternatives in Development "IRPAD", in partnership with the association Biodiversity Exchanges and Diffusion of Experiences "BEDE", has come to support this initiative at the request of farmers' organizations, including the National Coordination of Farmers' Organizations (CNOP), the Association of Professional Farmers Organizations (AOPP), and the West African Committee of Farmer Seeds (COASP). A process of reflection on farmer seeds and farmers' rights to their genetic resources, called Seeds Standards and Farmers (SNP) has been initiated. This process led to the creation of a multi-actor consultation framework, chaired by the National Directorate of Agriculture in September 2017, whose mandate is the recognition of farmer seed systems in the legal framework in Mali.

The process was implemented in four phases: the analysis of the legal and institutional framework for plant seeds in Mali, consultations with the various actors on the place of farmer seeds in the Malian seed system, the multi-actor workshop on the recognition of farmer seeds and farmers' rights in Mali, the establishment of a framework for consultation and its permanent animation for the recognition of farmer seeds and farmers' rights in Mali.

The framework should remain alert to the current process of reviewing Mali's seed policy and be a real force for the protection and the recognition of farmer seed systems and farmers' rights. The review of national seed policy is under way.

The CNOP anticipated the revision of Mali's seed policy, which did not consider farmer seeds. It mobilized the framework, conducted several meetings of information and awareness of actors through its network of relay-farmers and its member federations on issues related to the place of farmer seeds in seed politics. In 2018, an international consultant was made available to the Malian state by FAO, accompanied by a Malian consultant to update Mali's seed policy.

Strengths / Key Results

- The first significant result is the establishment of a dialogue between the State, agricultural civil society organisations, agricultural research, universities, all members of the multi-actor consultation framework.
- The second result was the fact that the international consultant was able to integrate the farmer seed system into his study report, which allowed agricultural civil society organisations to get a close-up on the Malian authorities on farmer seeds.
- At the request of the SNP framework, the National Directorate of Agriculture has agreed that these organisations should make proposals to improve the policy document.
- Finally, the creation of living houses of farmer seeds in the soils for conservation.



2.5. MOROCCO

2.5.1. Safeguarding local seeds

HOLDER OF THE INITIATIVE

Holder's name: **Agricultural Cooperative Bni Ouriaguel**

Locality: **Kissane, Taounate Province**

Country: **Morocco**

Mail: bniouriaguel@gmail.com

Website: www.facebook.com/grainotheque

The Bni Ouriaguel cooperative is working on increasing the number of local seeds for their sustainability in the Prerif region. It unites three cooperatives, farmers in the rural commune Kissane, to the multiplication of farmer seeds. It acts with the aim that agroecology will become the basis of agricultural conduct.

Description of the initiative

In the Rifaine Mountains, agriculture is the pivot of the economy. Several characteristics distinguish it from Moroccan agriculture in general. The physical environment is unfavourable and socio-economic specificities are binding fragmentation of land ownership, legal status of property, lack of infrastructure. The population of the region is traditionally sedentary peasants.

Until recent decades, agriculture in the Prerif was an ecosystem where cultivated environments, natural environments and semi-natural environments (hedges, paths, drains and ditches) coexisted and were closely interlocked. Habitat is fragmented and strongly influenced by human activities related to agriculture. The whole is an agroecosystem that supports biodiversity.

The Prerif still has some local seeds and very interesting endemic species with aromatic and medicinal plants, such as *Origanum Compactum*, local lavender, myrtle, lentisque; cereals, such as small spelt and Prerif rye; legumes, such as local beans; fruit trees, such as more than 30 varieties of fig trees in the province, and arbousier, forage plants, such as orobe and vesce.

The objectives are the development of seeds and the creation of income-generating activities by promoting products, raising awareness and training for the maintenance of local seeds of the territory. The beneficiaries of the action are the farmers of the rural commune Kissane who are convinced of agroecological conduct.

Kissane Farm raises awareness of the preservation of local seeds. Its site has become an experimental farm, where farmers can observe seed multiplication experiments.

The Bni Ouriaguel cooperative has helped train and raise awareness among farmers; it has created or encouraged the creation of agricultural cooperatives and/or environmental associations. For example, a cooperative of young beekeepers is safeguarding local bee forage plants.

An 18-month project trained about 20 women in seed multiplication, which gave a real boost to work and allowed the installation of a seed house.

The activities are varied. The cultivation of small spelt by the farmers of the Prerif has been revived.

Two forage plants were maintained: the orobe and the vesce. The *Origanum Compactum* has been safeguarded with the support of beekeepers. The same was true of spontaneous plant seeds scattered over wasteland. Subsistence gardens were maintained.

Farmers have been made aware of the importance of farmer seeds. Only these farmer seeds can facilitate adaptation to climate change. Industrial seeds have contaminated virtually all local seeds for market gardening.

The hardest part was convincing people to go back to the local seeds. Seed companies promote the merits of hybrid seeds and weekly souks are flooded with agro-industrial seeds.

Strengths / Key Results

- At least thirty farmers now maintain the cultivation of small spelt in the commune.
- At least a dozen young beekeepers are multiplying the *Origanum Compactum*, an endemic plant in the region, which was endangered.
- Local forage plants are maintained among farmers in cooperatives in the rural community of Kissane.
- Income-generating activities are created through the sale of valued products to the Ariaf Kissane agricultural cooperative, which is certified organic. The cooperative sells products in shops specializing in organic and local products.



2.6. NIGER

2.6.1. Seed and farmers' proximity

HOLDER OF THE INITIATIVE

Holder's name: **FASAM Alfarey Ma Zaada (Adapted Seed and Materials Supply Farm)**

Locality: **Niamey & Tillabéry**

Country: **Niger**

Mail: fasam.niger@gmail.com

Website: www.fasamniger.com

FASAM is a social enterprise created in 2016. It is made up of a team of agronomists and trainers who work closely with farmers' organizations. It brings its expertise for the production and enhancement of agricultural products, the structuring of these organizations and the development of green trades. In addition, it provides agricultural inputs (seeds, ecological fertilizers and natural pesticides) to farmers.

Description of the initiative

Agriculture is the most important sector of activity in Niger; it occupies more than 85% of the population. It will certainly continue to play that role for several years to come. Access to seeds and other agricultural inputs is therefore of great importance. The challenges are multiple: high seed prices, remoteness from outlets, uncertainty about the adaptability of varieties, insufficient awareness and promotion by extension services and inefficiency of distribution channels. All this limits access to inputs. Thus, the lack of outlets for farmers and the lack of information of rural populations limit the possibilities of sale.

FASAM works to integrate producer organisations into the supply and distribution of agricultural inputs. The SFP (Seeds and Farmers Proximity) project was designed to strengthen a process of development of the seed sector that began in 2018. It aims to bring agricultural inputs closer to producers and their support structures. This is achieved through, on the one hand, technical reinforcement and improved conditions of access to inputs, notably through the proliferation of outlets (FASAM input stores), and on the other hand, the improvement of the structuring of the sector, both from the point of view of demand and supply.

FASAM has set up small outlets with producer groups. These groups become trading partners. The concept of "FASAM Input Store" is about offering suitable and varied products, which help to improve the supply of inputs to the poorest producers. As a result, small local seed producers have been able to meet changing demand through the construction of a remunerative input distribution channel for farmers.

This network of seed producers ensures a regular supply for FASAM of vegetable seeds, after the provision of various seeds to multiply and participation in training. This mechanism is the result of a reorganization of market gardeners and seed farmers in the supply chain, through the creation of the association "Group of Seed Producers Alfarey Ma Zaada (farmer's rise)".

Today, seeds produced by farmers using traditional methods are available at any time in FASAM stores. In order to better reach distant producers, interventions are carried out in the weekly markets on the outskirts of Niamey and the rural markets of the Tillabéry region, where the company runs awareness and input commercial booths.

Strengths / Key Results

FASAM supports farmers to regain their autonomy through training on production techniques and the use of productive local agricultural inputs and to organize themselves into cooperatives; this is in the context of climate change.

FASAM has helped strengthen a network of 15 agricultural cooperatives in two regions of Niger through technical and commercial partnership agreements that make it easier for market gardeners to access seed production, technical services and inputs, and easier access to seeds. This initiative allows, in the medium term, greater and more equitable access for rural producers to agricultural inputs, while reducing the weight of vegetable seeds imported by Niger.



2.6.2. Transition to peasant agroecology

HOLDER OF THE INITIATIVE

Holder's name: **Federation of Niger's Market Gardening Cooperatives (FCMN-Niya)**
Locality: **Niamey**
Country: **Niger**
Mail: fcmnniya96@gmail.com
Website: www.fcmn-niya.org
FCMN Niya contributes to improving the economic, social, educational and cultural conditions of its members. It promotes the development of market gardening by conducting various activities: supply of agricultural inputs and equipment, training, development of production (transformation and marketing), market research and support for the organization of market gardeners.

Description of the initiative

Farmer seed is the main input for market gardeners. In the era of modernization of agricultural practices, conventional seeds enjoy broad support for their diffusion and are being prioritized at the expense of productive farmer seeds (adapted to the land) and free of property rights.

Therefore, the FCMN (Federation of Niger's Market Gardening Cooperatives) supports producers, especially market gardeners who practice family farming. Its strategy is to promote farmer seeds to these producers. To this end, it carries out training, advocacy and reorganization of farmers so that they become self-sufficient in seed matters.

FCMN's interventions benefit from strategic support and technical support from various partners, including the Raya Karkara agroecological platform (meaning "Revitalising the Bush") and the BEDE-Mali (Biodiversity Exchanges and Experiment Broadcast) association. The latter accompanies the FCMN in the dissemination of the concept of seed houses by sharing experiences on the establishment of these agroecological infrastructures, experimented by its partner in Mali.

The creation of community seed banks allows farmers to acquire varieties adapted to local conditions. These varieties may not be accessible through formal seed systems, be expensive or suffer from irregular supplies.

This community-based management model of local seeds, reproducible and property-free, consists of regulating the seed flows produced for FCMN Niya. These agroecological infrastructures, installed in the market garden areas of landlocked cooperatives, help to improve the autonomy of producers and make market gardening possible at any time.

The TAPSA project (Transition to a Peasant Agroecology in the service of Food Sovereignty), for four years, will strengthen the organization and structuring of producers around agroecological initiatives.

In the commune of Gotheye, in the Tillabéri region, the Alhamdulillah's Union of the Terroir of Babagadé Koira was chosen in November 2019 to carry out the first peasant initiative of "House of farmer Seeds". During a working session, participants were introduced to the concept of the Seed House. Then a building was rehabilitated to become this Farmer Seed House, to which was given the name "IR SABOU" of Gotheye.

The main medium-term objective is to contribute to the supply of seeds adapted to the soil and growing conditions, and then to enable the surrounding market gardeners to acquire these seeds at low cost.

In order to ensure sustainable seed production, nine seed experts have been identified to multiply seeds. The following seeds are produced as a priority: onion, tomato, eggplant, lettuce, chilli, squash and moringa. Pilot producers are accompanied for the provision of seeds and seed production materials.

Strengths / Key Results

Two farmers' seed banks have been established: one in Gotheye department and one in FCMN headquarters.

The seed experts who have been trained follow the seed multiplication operations and the management of seed banks.

Farmers, especially smallholders with low resources, now have access to varieties adapted to the local environment. They are assured of seed for their next growing season and an emergency supply of seeds in times of crisis. This makes them less dependent on formal seed supply systems.

Actions around seeds contribute to the strengthening of civil societies engaged in the transition to peasant agroecology and to the attainment of food sovereignty at the territorial level.



2.7. SENEGAL

2.7.1. Improved traditional granary

HOLDER OF THE INITIATIVE

Holder's name: **Am Be Koun - Solidarity**

Locality: **Tambacounda**

Country: **Senegal**

Mail: sangareambekoun@gmail.com

The Am Be Koun-Solidarity Association (ABK-S) aims to promote sustainable local development by contributing to the emergence and strengthening of individual and collective initiatives.

ABK-S implements projects that generate economic activities and jobs and runs development programmes for the benefit of the rural population.

Description of the initiative

In West Africa, in response to the introduction of improved seeds, hybrids and even genetically modified varieties, more and more farmers are becoming aware of the value of conserving and selecting their traditional local and peasant varieties.

The seed houses each have their own specificities and history; they must be adapted to each terroir (local materials, shape specific to each region...).

It is in this context that the initiative to propose a seed conservation granary model was launched, as part of the PADAV (Village Agroforestry Development Support Project). This approach is based on studies that have shown the loss of large quantities of crops and the difficulties of preserving farmer seeds due to the lack of adequate means and effective conservation techniques. Farmers have expressed a desire to enhance traditional seed conservation and preservation techniques.

A study was conducted by ABK-S on family farms to identify current conservation techniques. Subsequently, it was proposed to improve these or to propose models of granaries based on abandoned ancestral practices. The proposed models must be adapted to existing environmental conditions and take into account the recommendations of residents and experts.

The approach was formative. The sessions sparked heated debates with the people, who acknowledged that the abandonment of old good practices was detrimental to their food security. Also, there was an enthusiasm for the proposals from the work.

The proposed granary model favours materials available in the intervention area (up to 80%). The granary must be able to accommodate several types of seeds (mil, corn and peanuts), arranged in layers.

These seeds must be protected from tampering factors (harmful, humidity, winds, livestock) with, in addition, the use of local plants as a repellent. The granary must be built to fire-fighting standards.

The adopted model was already used traditionally (Bo, Krou-Krou). Technical improvements have been made, notably through the involvement of the Departmental Rural Development Service (SDDR) think tank. ABK-S will then raise awareness about the use of these granaries and the behaviours to adopt (maintenance, security...).

These granaries will contribute to improve the health of the inhabitants and the quality of the soil. They could limit the use of chemical inputs by allowing people to recapture ancestral techniques, just as much, if not more effective, for the control of alteration factors.

The construction of the Bô-style conservation granary is based on ancestral know-how, with a modern twist. Their shelf-life capacity is more than 500 kg of seeds. The construction of the granary required 80% of materials from the villages, with a largely village workforce.

Strengths / Key Results

For the construction of the granary, a company was recruited. At the end of the activity, four improved traditional granaries were built in four test villages.

A batch of seeds was selected and stored in the new granaries for a conservation test between the harvest period and the planting period of the following year. At the end of the test, no seed loss was found.

The participatory action initiated from the beginning of the activity allowed a complete appropriation of the granaries by the beneficiaries. Surrounding villages now want to acquire this granary model.

In addition, prototypes of this granary model will be reproduced in seven French-speaking African countries. A research and development workshop was held for this purpose in Togo, during which a granary was built with the participation of all the African actors involved.



2.8. TCHAD

2.8.1. Farmer seeds and healthy eating

HOLDER OF THE INITIATIVE

Holder's name: **Grainothèque CHAD**

Locality: **Houmai/Torrock**

Country: **Chad**

Mail: lamaouallou22@gmail.com

Website: www.facebook.com/grainotheque

Grainothèque Chad is a social start-up company supporting peasant agriculture. It has several objectives: to maintain biodiversity and protect the environment, to strengthen social ties by creating meetings of opportunity, sharing and exchange of knowledge and know-how among farmers, and to encourage farmers to produce and reproduce their own seeds in order to facilitate access to healthy food.

Description of the initiative

Grainothèque Chad is a bank of agricultural farmer seeds adapted to climate change, which are resistant to pests. It works to preserve biodiversity and the environment, increase the productivity of peasant agriculture, build capacity and social links between farmers, exchange and share seeds and knowledge and know-how.

Grainothèque Chad is in a village 30 km from the Torrock sub-prefecture. It holds a variety of farmer seeds, booklets on peasant agriculture and runs an educational farm, where it trains young agricultural entrepreneurs in responsible and sustainable agriculture. The Chad Grainothèque is an innovative tool for the extension of farmer seeds and the enhancement of plant and animal residues for soil amendment.

Grainothèque Chad produces, trades, lends and sells reproducible farmer seeds, both on its educational farm and online, via its Facebook page. Documentation (varieties, planting dates, harvest dates, etc.) accompanies the seeds to facilitate their use. The Grainothèque conducts awareness campaigns in support of the freedom to exchange seeds and the reproduction of seeds from farmers' fields or gardens. It organizes talk and debate, training on agricultural topics, seed collections to enrich its seed bank.

Grainothèque Chad helps to safeguard biodiversity by producing and selecting varieties adapted to climatic conditions and the preservation of the environment.

It is a space for exchange and sharing of seeds and techniques of (re)production and conservation of farmer seeds. It strengthens social ties by facilitating meetings between people of different social categories and the exchange of knowledge and know-how about farmer seeds.

Grainothèque Chad promotes access to healthy food for all by producing local non-hybrid F1 seeds, which are of a much higher quality than products from standardised industries. Several types of seeds are produced on the pedagogical farm: cereal seeds (mil, corn and rice), oilseed seeds (peanuts and cowpeas) and seeds for market gardening. The production and exchange of its own seeds promotes food and seed autonomy.

Grainothèque Chad provides local farmers (young out-of-school, unemployed, associations or women's groups) with the tools to sustainably increase their production (better produce, store and consume better) in the context of climate change and community and land conflicts.

Grainothèque Chad represents a citizen's commitment. It aims to preserve the ancient, endangered or rare plant heritage.

Strengths / Key Results

- A collection of 10 varieties of cereals and 2 varieties of peanuts has been created.
- Seeds were distributed to members of two groups.
- 2 hectares of cornfield and 1 hectare of market gardening fields have been fertilized.
- 21 out-of-school young people and 5 unemployed young people were trained in agro-ecology on the pedagogical farm.
- 115 farmers were sensitized and then trained in different techniques:
 - Production, reproduction and improvement of farmer seeds,
 - Selection and conservation of farmer seeds,
 - Making compost.
- The agricultural productivity of beneficiaries has increased.



2.9. TOGO

2.9.1. For sustainable and healthy agriculture

HOLDER OF THE INITIATIVE

Holder's name: **Center for Agricultural Training and Ecological Production (CFAPE-Togo)**

Locality: **Kpalimé**

Country: **Togo**

Mail: cfapeagro@gmail.com

Website: <http://fermeagreecologie.org>

CFAPE-TOGO is a centre established since 1995. It helps to promote organic farming and agroecology. Its aim is to consolidate local development and put its skills and know-how at the service of all in the form of good practices. The production and distribution of farmer seeds and sustainable land management are its main concerns. It is also interested in the production of improved compost and biopesticides, plant and animal production and ecotourism.

Description of the initiative

Seeds are the source of all agricultural production. The performance observed during a production depends not only on the performance of the “materials” of reproduction (seeds), but also on the conditions under which the production was carried out. Thus, the exploitation of soils and the use of mineral or chemical fertilizers without the supply of organic matter lead to soil degradation and thus, in the long run, to a decrease in yield.

The same is true of seed production, which contributes to food security. In the production process of farmer seeds, different factors are considered to improve soil fertility with organic fertilizer (improved compost) made by incorporation of fertilising plants or forest species (such as *Albizia chevalieri*, *Samanea saman*, *Cajanus caja*, *Leucaena*). The use of these leguminous plants, which are fast-growing varieties, high in nitrogen and easily assimilated by the soil, can be a sustainable solution in response to climate change. It is then necessary to move towards environmentally friendly organic production, which considers an increase in yield through organic improvement in soil fertility. Farmer seeds are produced, conserved and distributed, while improving soil fertility organically. The seeds of crops (commonly practiced or endangered) and those of fertiliser species are donated, exchanged or sold during meetings between agroecological actors. The choice is made to produce farmer seeds because they offer reproductive capacity over several years. This avoids a perpetual dependence on large seed companies, which mainly produce hybrids. However, the reproduction of seeds from these hybrids is almost impossible.

Also, for more than five years, nearly 60% of the farmer seeds of local crops are produced on the CFAPE-TOGO site; the rest is produced by the other agroecological actors in the area, who have been trained. As for the seeds of fertilizing plants, all their ranges are exclusively produced locally and given or sold to any farmer. To keep good practices going, learners at the end of their training benefit from a kit of seed samples to start their crops. This allows the farmer seeds to be introduced into their environment and thus cause a multiplier effect.

Improved soil organic fertility favours the use of the same plots for two years after adding 2.5 tonnes per hectare of improved compost during seed production.

CFAPE-TOGO is a member of THE URGENCY, an international network of agroecology stakeholders. In March 2017, the centre hosted a sub-regional workshop that brought together participants from seven West African countries, during which there were numerous exchanges and donations of seeds between participants.

Strengths / Key Results

- 20 varieties of local or exotic farmer seeds are produced, preserved and distributed.
- 90 producers are trained in the production, conservation and distribution techniques of farmer seeds.
- More than 150 learners benefited from seed sample kits.
- Fifty learners trained at the centre are marketing their seeds on an organic market to people who want to have seeds coming directly from farmers for their vegetable garden.
- More than 10,000 fertilizing plants are produced each year.
- Each of the 5 producers trained at the centre produces more than 100,000 seedlings per year.



2.9.2. Promotion of woody farmer seeds

HOLDER OF THE INITIATIVE

Holder's name: **Healthy Environment Volunteers Association (AVES)**

Locality: **Kpalimé**

Country: **Togo**

Mail: **avestogo@hotmail.com**

AVES contributes to biodiversity conservation and forest restoration, which involves the establishment of community forests, that preserves the micro-climate. The NGO is also leading an agro-environmental extension project that involves training farmers on the challenges of climate-adapted agricultural practices, with a view to improving yields and resilience. It promotes agroforestry, which combines cultivation with the planting of fertilizing trees.

Description de l'initiative

AVES is a non-governmental organization based in the plateau region, a purely forested area. It is an area where agroforestry is the type of agriculture promoted by the people of this region. For example, orange trees, lemon trees, avocados, bananas, plantains and cashew trees are planted in association with coffee trees or cocoa trees. The presence of exotic wood-burning species in cultivated areas strengthens the agroforestry system, which gives an aspect of conservation of the forest ecosystem despite some poor cropping practices still developed in the area.

Over time, resilient agricultural practices give way to the destruction of exotic wood-burning species in the fields, resulting in the degradation of soil fertility (soil leaching, loss of moisture, depletion of soils due to lack of nitrogen provided to soils by leaves). Crop yields are declining, and farmers are relying on the use of chemical fertilizers such as NPK and urea.

The NGO AVES has committed to the establishment of a programme to establish nurseries of endangered tree species by promoting farmer seeds using breeding techniques.

The aim of this initiative is to promote practices that improve agricultural productivity through the multiplication of local seeds of forest woody species, especially those in extinction such as chlorophora excels; khaya, triplochiton scleroxylon, afzelia africana, bombax costatum, antiaris africana, etc.

This gives people the opportunity to source seedlings for agroforestry and community forests. As part of this programme, local people and farmers benefit from the technical advice and expertise of the NGO AVES to make the best case for planting.

The main developed activities are the production of seeds (using sieving techniques, conservation and germination), the construction of germinoirs and apatams for nurseries (through aeration, adjustment of shade and moisture of young seedling techniques), maintenance and distribution of seedlings for planting and training farmers in planting techniques and management of arable areas.

The challenges encountered during the implementation of the initiative are related to the search for certain exotic seeds and the technique of their preservation because of their very small size, imperceptible to the naked eye. In addition, the multiplication of these seeds requires monitoring the agricultural planting schedule for good development and satisfactory productivity.

Strengths / Key Results

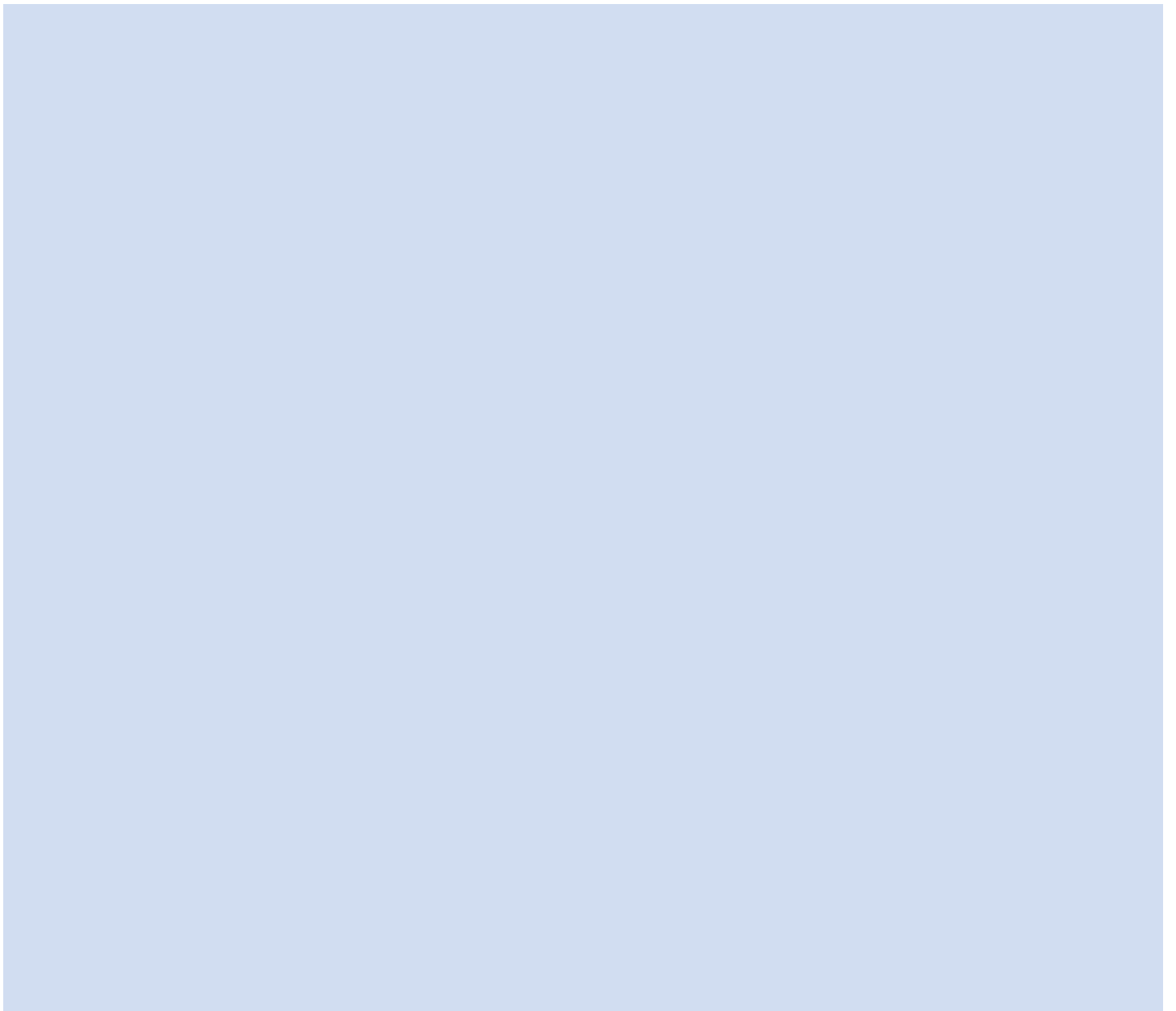
As a result of this initiative, it should be noted that each year, the NGO sets up at least one nursery, which includes more than 200 farmer seeds of woody species.

The NGO AVES makes an estimated financial capitalization of 500,000 CFA francs in the campaign to sell plants (citrus) and 200,000 CFA francs of forest species.

More than 5,000 young plants are produced and 90% are distributed to farmers who want to practice agroforestry.

More than 50 hectares of arable land are developed and reforested using seedlings produced in nurseries.





Publishers' websites:

www.initiativesclimat.org

www.4c.ma

www.ma.undp.org

