The Nubian Vault Association
ANNUAL REPORT
Season 2022-2023







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Editorial

by Thomas Granier, co-founder and CEO of AVN

We are witnessing, slowly but steadily, the emergence of a sustainable, adapted "eco-construction" sector in West Africa. This is both a remarkable achievement and an essential challenge.

It's a remarkable achievement for all stakeholders, developers, and builders. Over a quarter of a century, they have offered families and communities, municipalities, regions, and states, as well as partners and thousands of clients and project owners, an alternative "archiCulture." By validating the relevance of the Nubian Vault concept and the coherence of the programmatic approach leading to its widespread dissemination, they have demonstrated that a positive evolution of construction practices and housing conditions is possible.

However, it's also a challenge because nothing is guaranteed in these difficult contexts, as regional geopolitical upheavals starkly demonstrate. Thus, it is just as necessary and urgent to sustain these achievements as it is to continue the territorial duplication of the NV market, to complete and

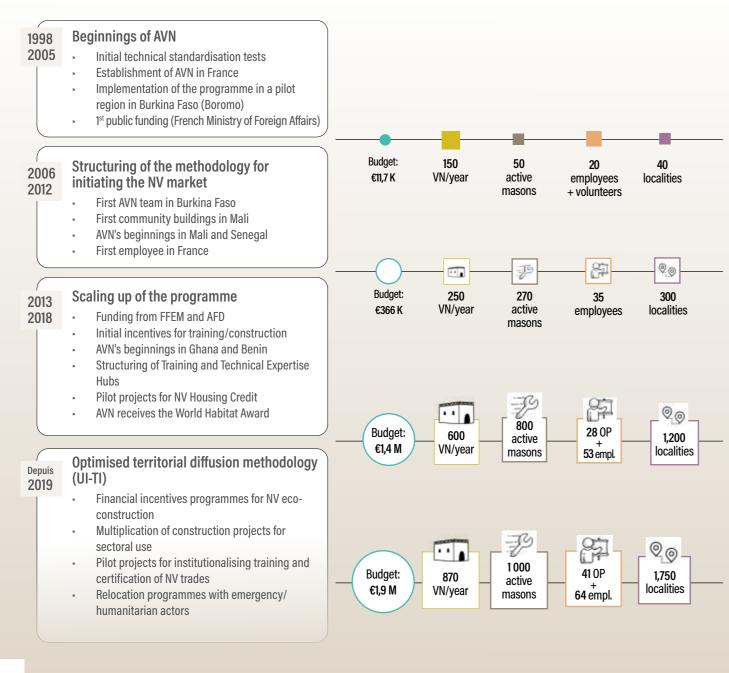


extend this new eco-construction sector, and to strengthen the systemic approach that underpins the sustainability of this innovative sector.

This emerging green economy sector, as sensitive as it is significant, is, in many respects, a reflection of the countries in which it unfolds. Over time, it will need to become selfreliant by no longer depending on the actors and methods that have enabled its advent, strengthen itself by surpassing the obstacles that constrain it, and gain maturity by sustaining the endogenous dynamics that support it.

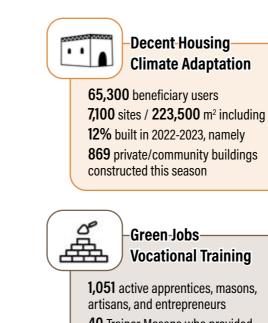
It is up to each and every one of us, both in the Global South and the Global North, from civil society, institutional and political decision-makers, producers and users, and more broadly to all those who face the realities of Africa and the world, to engage our responsibilities and interests. We must accompany the housing and construction sectors in their necessary transformation and demonstrate by example the potential of judicious and far-sighted developments in Africa.

History and Evolution of the Programme



Key Figures and Impacts

Through its systemic approach, AVN's programme offers a sustainable solution not only to address the housing issue in the Sahel but also to tackle crucial challenges such as economic empowerment, youth employability, vocational training, environmental preservation, and climate challenges (adaptation/mitigation).



40 Trainer Masons who provided 326 training modules



-Climate Mitigation-Environment

0 trees cut for construction 183,200 tonnes eq. CO, and 5,600 MWh potentially saved since the beginning of the programme



Territorial Deployment

6 countries of operation 12 regional branches et 50 employees 1.753 localities



15% average annual growth of the NV market (over the past 10 years)





Sustainable and resilient housing in Sahelian Africa: A major challenge

Sustainable and resilient housing remains a major imperative in Sahelian Africa. Whether rural or urban, individual or collective, buildings play a fundamental role in daily life. Well-being, resilience, education, health, and even life expectancy are closely linked to housing conditions. Moreover, housing serves as an essential foundation for all economies, whether informal or formal.

However, at present, more than half of the Sahelian population, approximately 100 million people, live in precarious housing conditions. This situation of inadequate housing contributes significantly to the fragility of socio-economic contexts and the instability of communities and families, particularly for women and children who often bear the primary responsibility for household management. Despite its crucial importance, the issue of housing in the Sahel is still too often neglected by policymakers, even though they bear responsibility for it.



The concept of the Nubian Vault (NV), inspired by ancestral architecture originating from the Upper Nile, relies on the use of vaulted roofs constructed without formwork, using bricks and mud mortar. This approach provides a simple and sustainable solution for various construction needs. Streamlined and standardised, this technique allows for a frugal and resilient alternative. NV construction sites primarily require locally available materials in abundance, such as earth, water, and rocks, thus excluding the use of wood or concrete for major works. This method relies on abundant labour and seamlessly integrates with traditional craftsmanship. It represents an affordable solution tailored to the challenges posed by climate change and local socio-economic realities.

A Systemic Approach

To promote widespread diffusion of NV eco-construction, the Nubian Vault Association (AVN) has opted for a market-based deployment strategy for over 20 years. This cross-cutting approach is based on three complementary axes:

Supply: development of an ecoconstruction industry

Demand: responding to the needs of different types of clients,





An Appropriate Response: Promoting African Architecture - the Nubian Vault

Business Environment:

creating a favourable environment supported by various stakeholders





Supply Development: Training and Strengthening of NV Eco-Construction Actors

The new NV eco-construction industry primarily comprises young individuals from rural backgrounds, who play pivotal roles in the development and stabilisation efforts in the Sahel. For them, this sector provides training and employment opportunities outside the agricultural season, thus bolstering the socio-economic landscape of the region.

To train these often undereducated youth, AVN has engaged various stakeholders, including artisan masons and local trainers. Tailored tools and inclusive educational pathways have been developed to address their needs, while also

striving for their integration into the official programmes of relevant ministries.

NV construction site

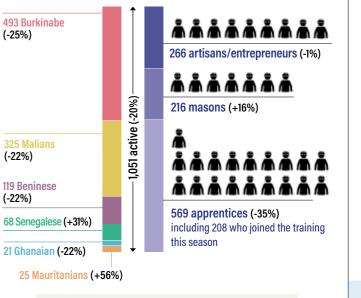
This industry also extends into formal, public, and urban markets, necessitating the incorporation of other construction sector professions such as technicians, engineers, and architects, alongside companies and consultancy firms. This approach is further supported by the development and refinement of a technical framework accessible to all involved stakeholders.

Key Figures of the season

1,051 active apprentices, masons, artisans, and entrepreneurs (-21%) including 208 new apprentices (-55%) 68% of sites found autonomously

40 active Trainer Masons 244 on-site training modules 82 academic training modules 469 validated qualifications (-36%)





Distribution of active offer by level and country



Focus on...

Towards Institutionalising the NV Eco-Construction Sector in Burkina Faso

AVN organised a workshop in December 2022 in Burkina Faso in partnership with the Directorate General of Vocational Training (DGFP) on the key issues of vocational training and sustainable green employment in the Sahel.

This workshop aimed to raise awareness among participants about the challenges of dual and inclusive vocational training and



employment insertion in the low-carbon green eco-construction Nubian Vault sector. It also aimed to validate the main lines of the strategic policy note for the growth of the sector developed by AVN in collaboration with the DGFP, and to explore avenues for collaboration and involvement of the stakeholders present, including institutional, technical, and financial partners.



"I come from Boromo, I started my training as an NV mason in 2012, and in 2017, I obtained the C4 level (artisan mason), and I also became a Trainer Mason (TM).

What interests me as a TM is sharing knowledge. I enhance my skills and those of my apprentices by teaching, and I earn a better living.

In August 2021, I received my Basic Qualification Certificate (CQB) in Dédougou. This certificate guarantees my expertise in the field of eco-construction and can help me find new markets.

In 10 years, I hope to be an NV entrepreneur and continue to train many people while earning a living through my business.

I believe in the Nubian Vault because this concept is smarter than existing construction methods in my country, since the materials are readily available. It's cooler/warmer inside, and during the rainy season, there's no disturbance compared to other buildings."

Adama Sougué, NV artisan mason, and Trainer Mason in Burkina Faso

Institutionalisation of the Sector in Senegal

As part of the NV DEFI project (see page 36 Senegal), and through a partnership with the PF2E (School-Enterprise Training programme) and the DFPT (Directorate of Vocational and Technical Training), an initiative to formalise the training sector through the creation of a CAP (Professional Aptitude Certificate) in Nubian Vault Eco-Construction has been undertaken at the Vocational Training Centers (CFP) in Fouta, with a pilot deployment phase involving the CFPs of Podor, Sinthiou Bamambe, and Ourossogui.

To define the targeted skills and content of this training, the Ministry, which has adopted the Competency-Based Approach, and professionals and methodologists of the NV (including Trainer Masons) participated in a series of inclusive workshops.



Over the season, the workshops on Analysis of the Work Situation and the Competency Framework were developed, describing the technical and general skills required to practise the profession by specifying the conditions of implementation and performance criteria. Each of the skills described succinctly in the competency framework was then operationalized in the training framework.

In order to obtain approval for the professional standards of NV eco-construction, a protocol agreement was signed with the Senegalese Standardization Agency (ASN), and work is underway to update the technical documentation necessary for this approval in partnership with the ASTEL company, with the collaboration of Al Mizan.

2 - Demand Development

Family in front of their VN house in Burkina, carried out as part of the ENABEL project.

Key Figures of the season

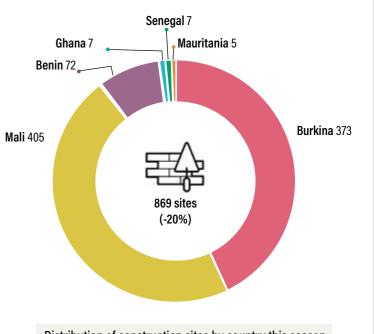
869 completed construction projects (-20%), of which
93% were for residential purposes
695 were completed through incentives for eco-construction for rural private clients, accounting for 86% of private constructions completed
25,205 m² built (-15%)
65 community buildings including
23 Public Facilities (schools, healthcare buildings, cultural venues, offices)
42 production / livestock buildings
6,537 new beneficiary users

Village awareness in Ghana.

Demand Development: Developing demand that takes into account various types of clientele

Demand for NV buildings primarily comes from rural families, who have the ability to provide a significant portion of the materials, transportation, and unskilled labour needed for their construction projects.

This demand also includes urban private clients, as well as a growing number of project owners and sponsors of community or public projects, such as in the healthcare, education, agriculture, or institutional sectors. They are increasingly recognizing the need to reassess and adapt their construction practices in terms of environmental and thermal performance, reducing greenhouse gas emissions, and improving employability.



Distribution of construction sites by country this season



2 - Demand Development

Focus on...

Can donations of latrines contribute to the development of the Nubian Vault market?

A recent preliminary study confirms the effectiveness of NV houses in hot climates, and their impacts on the health of vulnerable populations (*Source: A.M. Diallo, V. Ridde, CEPED (IRD/Université Paris-Cité), IRD Magazine)*. Additionally, **AVN and its partners are exploring the possibility of addressing health issues by testing the impact of latrine donations** to support families choosing Nubian Vault construction, in response to the lack of sanitary infrastructure and its social and health repercussions.

This season, AVN launched a pilot "Latrine" project in Mali, Benin, and Ghana, accompanied by an opportunity survey to assess the following aspects:

- Attractiveness: evaluate whether latrine donations sufficiently incentivize communities to choose Nubian Vault construction, with or without standard financial assistance.
- Feasibility: assess the capacity and interest of NV masons to include latrine construction in their business model.
- Viability: analyse the financial viability of integrating latrine donations into the incentive model, compared to the traditional approach focused solely on construction.
- Adaptation of management tools: implement monitoring and control tools to effectively manage this new component.
- Feedback for future interventions: gather insights to guide future design and implementation, ensuring a holistic and sustainable approach to community development.







Key Findings:

- The latrine deficit in rural areas of the Sahel remains a persistent major challenge for improving living conditions in villages.
- Families surveyed consider access to quality private latrines crucial. Latrine donations are seen as a credible and significant incentive to encourage access to Nubian Vault houses.
- The proposed latrine model is of a high quality, with a cement slab and finishes essential for ensuring installation durability and ease of maintenance, thus ensuring high hygiene standards.
- Overall, masons have limited experience in constructing septic tanks, but their training has helped them succeed in these projects; master masons often delegate this task to members of their team.
- Masons see the construction of septic tanks as an interesting additional source of income.
- In different countries, latrine donation can be used as an alternative or complementary incentive to traditional aid for Nubian Vault construction.
- This alternative incentive approach has the potential to mobilise new donors specialised in WASH (Water, Sanitation, Hygiene) activities.



Success Story

Families benefiting from the latrines testified to their positive impact, contributing to creating a cleaner environment free from diseases. Latrines play a crucial role in preserving the quality of water sources, improving domestic hygiene, and reducing the practice of open defecation. Their impact has proven to be a resounding success, significantly improving living conditions within communities, making them healthier, cleaner, and more sustainable.

The survey conducted among beneficiaries reveals a much higher number of people using the latrines built as part of the project compared to our initial estimates:

Estimated number of beneficiaries: 750

Actual number of beneficiaries according to the survey: 3,300

Maimouna Coulibaly, beneficiary of the pilot project Latrines in Mali

"Since the construction of this vaulted house, I have found great satisfaction in it. We can talk about physical well-being; the warmth does not tire you, and you feel better: it's beneficial for health.

As for the gift of latrines, we cannot describe all the advantages! Good hygiene comes from having decent toilets. This has brought us cleanliness, and cleanliness means health."

2 - Demand Development

Launch of the Climate Solidarity Co2ntribution

As highlighted by the IPCC, the Sahel, although contributing little to greenhouse gas emissions, remains one of the regions most vulnerable to the impacts of climate change. This vulnerability is particularly concerning given the socio-economic and environmental challenges already faced by



Sahelian populations. Therefore, housing plays a crucial role in adapting these populations to climate change.

In October 2022, AVN officially launched its Climate Solidarity CO₂ntribution, offering organisations wishing to contribute to carbon neutrality the opportunity to invest in the development of the low-carbon Nubian Vault eco-construction sector in the Sahel: co2ntributionclimatsolidaire.lavoutenubienne.org

During COP22, AVN launched its first social media communication campaign.



In 2023, the company Meridiam joined forces with AVN by choosing its carbon credits. The NGOs Search for Common Ground and World Habitat also decided to opt for AVN's Climate Solidarity CO_2 ntribution to offset their CO_2 emissions.





Thanks to financial support from the Climate Innovation Accelerator of the Adaptation Fund, managed by the United Nations Development

programme (AFCIA), as well as Alwaleed Philanthropies, and in collaboration with the French Global Environment Facility (FFEM), AVN embarked on a feasibility study on the certification of its carbon credits and the labelling of their cobenefits. Although the road to certification is long, the results of the study were positive.

In July 2023, AVN entered into a 5-year agreement with the FFEM, thus financing a crucial step for the expansion of the Nubian Vault market. The objective is to establish a functional carbon credit mechanism, generating recurring and sustainable income to support an increasing number of incentives for Nubian Vault eco-construction for rural families in the Sahel.

In pictures : NV houses built through financial incentives























Mobilise and Unify all Stakeholders and Generate a Favourable Business Environment

AVN unites and mobilises an extensive network of decision-makers, funders, and operational stakeholders. Together, they deploy a diverse range of approaches and actions to strengthen the recognition of the issue's importance, as well as the relevance of the NV concept and dissemination methodology. They also play a crucial role in supporting the emergence and expansion of the NV market at all levels, from local to international.

Focus on...

Monitoring and evaluation undergoes a revolution with Yêboa!

As part of the Tutator Forward call for projects, AVN has benefited from the pro bono support of the Tutator Foundation to develop a custom software called Yêboa, designed for the collection and centralisation of monitoring data for AVN's activities, projects, and partners. Yêboa, which means "granaries" in the Ditammari language (a dialect of Northern Benin), evokes places where one stores provisions, wealth, and secrets. The software directly addresses the needs identified as priorities by AVN due to the growth of the NV market, the diversification of activities, and the increasing number of actors involved in data collection and processing:

- Grouping together in a single tool the collection of data related to the NV market (supply and demand), activities carried out by all operators, and the monitoring of the actors themselves,
- Increasing the capacity for data collection and cross-analysis through a relational database structure,
- Facilitating the data collection/input process to be mastered by a large number of users through a smartphone application, which is more accessible than inputting data on a computer,
- Optimising the overall ergonomics to facilitate manipulation by a wide range of users (from field agents to the General Directorate),
- Improving accountability through better documentation of construction sites, activities, and stakeholder involvement,
- Accessing near-real-time monitoring and evaluation data of the programme, up-to-date and reliable, in one central location to meet internal and external needs (primarily accountability to donors),

Gaining efficiency and agility overall in data management processes (input, processing, aggregation, visualisation, analysis, and exploitation) by avoiding errors and duplication,

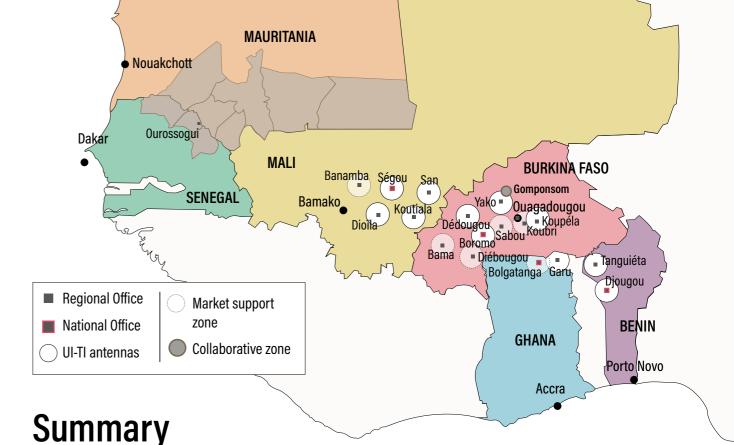
Promoting AVN's repositioning as an observer and guarantor of the quality of a market driven by its main actors, such as masons, master masons, operator partners, and development partners,

Improving AVN's capacity to measure the results and impacts of its activities, thereby enhancing its approach, methodological proposals, and the mobilisation of all stakeholders.

Visuals extracted from the Yêboa software.



S el 1 6



DEPLOYMENT

6 countries **17** Implementation Territories 45 Implementation Units 8 market support zones 2 collaborative zones (Senegal and Mauritania)

HUMAN RESOURCES 50 local employees 41 Mobilised Operators Partners

The dissemination of the Nubian Vault (NV) is currently active in six countries within the Sahelian belt, deployed through two distinct approaches:

In the four countries concerned, the territorial market dissemination methodology of the Nubian Vault concept has been implemented in 17 Implementation Territories (ITs) and 45 Implementation Units (IUs). Among these, half are directly managed by Operator Partners (OPs) in collaboration with AVN teams. In eight other territories, the growth of the NV market has been stimulated through the distribution of financial incentives or the implementation of community or public construction projects.

In 4 countries, namely Burkina Faso, Mali, northern Benin, and northern Ghana, the territorial dissemination methodology is being implemented. This approach, central to the strategy, mobilises Operator Partners (OPs) and mainly targets clients and stakeholders in the rural sector :

In the other 2 countries, Senegal and Mauritania, NV dissemination targets primarily the more formalised segments of the construction sector, particularly the public market. This approach is part of a more institutional strategy.



Burkina Faso

POPULATION (IN 2023)

22,7 million inhabitants (68% rural)

GDP/CAPITA

\$832 - 35th african rank (World Bank 2022)

CLIMATE

Sudano-sahelian

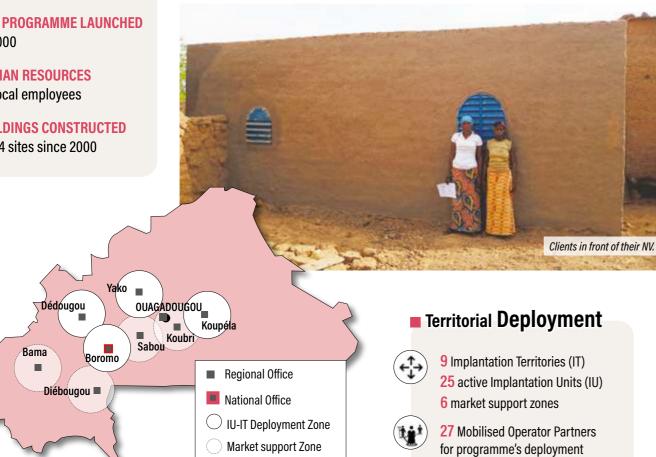
AVN PROGRAMME LAUNCHED in 2000

HUMAN RESOURCES 29 local employees

BUILDINGS CONSTRUCTED 3,484 sites since 2000

As AVN's first intervention country, Burkina Faso has been the scene of numerous methodological deployments. It is in this country that the programme has experienced its most significant expansion, now boasting the largest number of trained masons and Nubian Vaults constructed. These pioneers, from the early generations of apprentices and artisan masons, have played a key role in spreading the model to other countries. Burkina Faso presents a diversity of potential beneficiaries, ranging from rural agricultural populations to national public institutions. Thus, it is the breeding ground for the implementation of a multitude of activities by AVN, tailored to each targeted segment of society.

6 Implemented Projects



Evolution of the built park and the offer-



Season Highlights

- Co-organisation with the General Directorate of Vocational Training (DGFP) of a workshop on vocational training (see p. 10);
- Signing of partnership protocols with 3 operator partners: 1 OP-IT in the Southwest region and 2 OP-IU in the Centre-West region;
- Organisation of a workshop on cooperative systems between AVN and grassroots community organisations;
- Meeting with the Minister of Environment, Water, and Sanitation to integrate the NV programme into the Ministry's strategic plan;
- Meeting of Operational Partners in the East Centre with Enabel to negotiate a phase II of the project;
- Organisation of a workshop on capitalisation and advocacy on the results of the SHIFT project implementation;
- Development of the reference framework for the training of master masons in Nubian Vault construction:
- 28 new admissions to the Basic Qualification Certificate as part of the Enabel project;
- Organisation of three masons' congresses to create a privileged and balanced dialogue space between masons, AVN, and Trainer Masons.



Key Figures of the season

Building constructed



373 construction sites completed (-23%) 357 residential buildings (-24%) including 301 completed with CIC (+85%) 10,366 m² constructed (-21%)



16 community buildings including 4 production/livestock buildings



2,682 new beneficiary users



8,500 tonnes of CO2 eq. and 263 MWh potentially saved

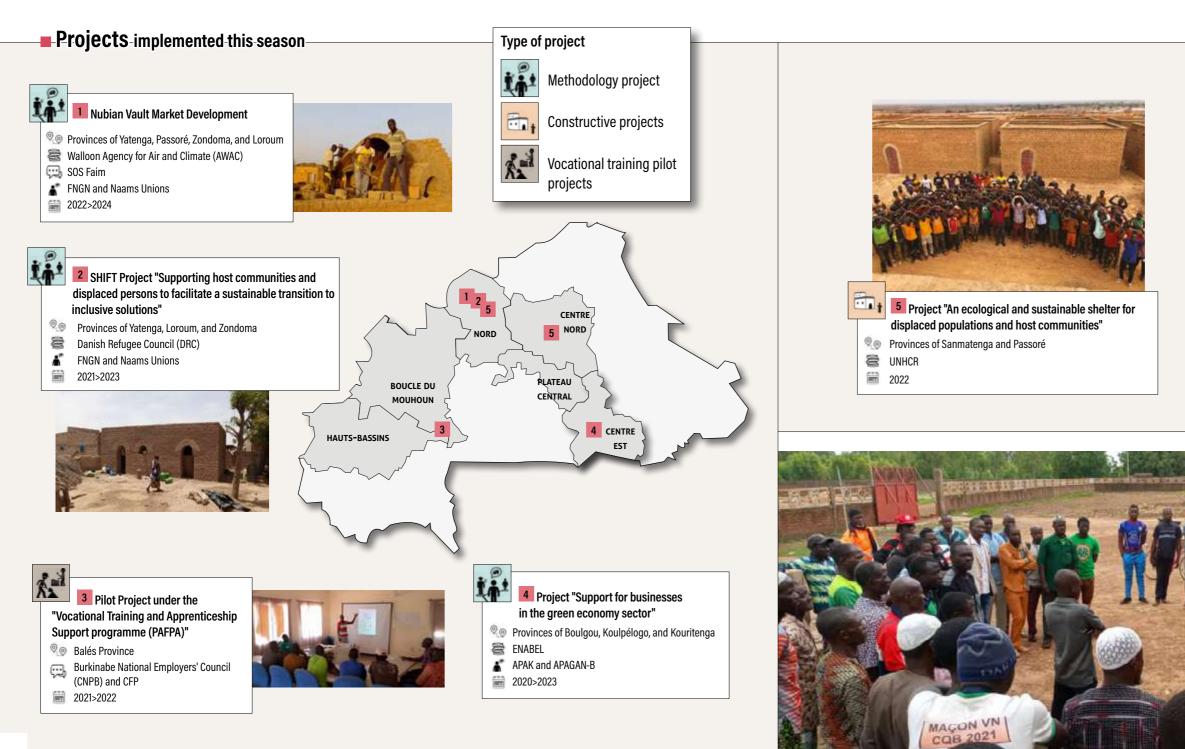
Supply Training





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25 active Trainer Masons 155 on-site training modules 56 academic training modules 282 validated gualifications (-28%) 1 Vocational Training Centre mobilised



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Į	f ¹	Green Jobs to Reduce Poverty in Sub-Saharan Africa
	00	All Country
		Alwaleed Philanthropies
		2020>2023



2 All Country

afd AFD

2022>2025





POPULATION (IN 2023) 22,6 million inhabitants (54% rural)

GDP/CAPITA

\$833 - 34th african rank (World Bank 2022)

CLIMATE

Sudano-sahelian

AVN PROGRAMME LAUNCHED in 2009

HUMAN RESOURCES 13 local employees

BUILDING CONSTRUCTED 3,009 sites since 2007





The AVN programme was inaugurated in Mali in 2007, through partnerships with NGOs aiming to construct community buildings. After starting in the Ségou region, the programme expanded to three



other regions from the 2012-2013 season onwards. The concept of the Nubian Vault found great success there, especially among rural populations, the main target of the programme. Indeed, the Nubian Vault meets the construction needs of these regions perfectly , both in terms of cost and vocational training provision. Furthermore, the country's cultural homogeneity, particularly in terms of language, religion, and culture, facilitated the dissemination of the Nubian Vault concept.

Since 2019, the Nubian Vault market in Mali has evolved to include new types of clients, including public and community clients. These larger-scale projects require increased expertise in project management, leading to the emergence of new actors in the NV ecoconstruction sector, such as technicians, architects, and engineering firms.



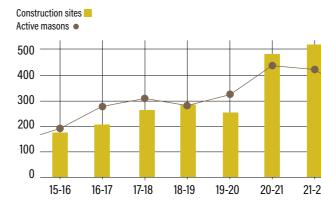
Territorial Deployment <[↑]→



5 Implantation Territories (IT) 11 active Implantation Units (IU)

5 Mobilised Operator Partners for programme's deployment 5 Implemented Projects

Evolution of the built park and the offer

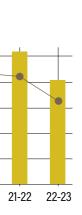


Season Highlights

The pilot project of "CIC Latrines":

- A resounding success evidenced by the achievement of ambitious goals (150 latrines built in Mali in 2023);
- Conducting an internal survey and filming testimonials from beneficiaries, masons, and mayors, all of whom endorse this initiative and call for its sustainability;
- Animation of the network of partner CSOs:
- Sustainability of support from the NGO Life to strengthen access of rural Malian populations to appropriate housing and other basic infrastructure (latrines).





Key Figures of the season

Building constructed



405 construction sites completed (-20%) 402 residential buildings (-18%) including 321 completed with CIC (-26%) 10,453 m² constructed (-21%)



3 production/livestock community buildings

2,312 new beneficiary users



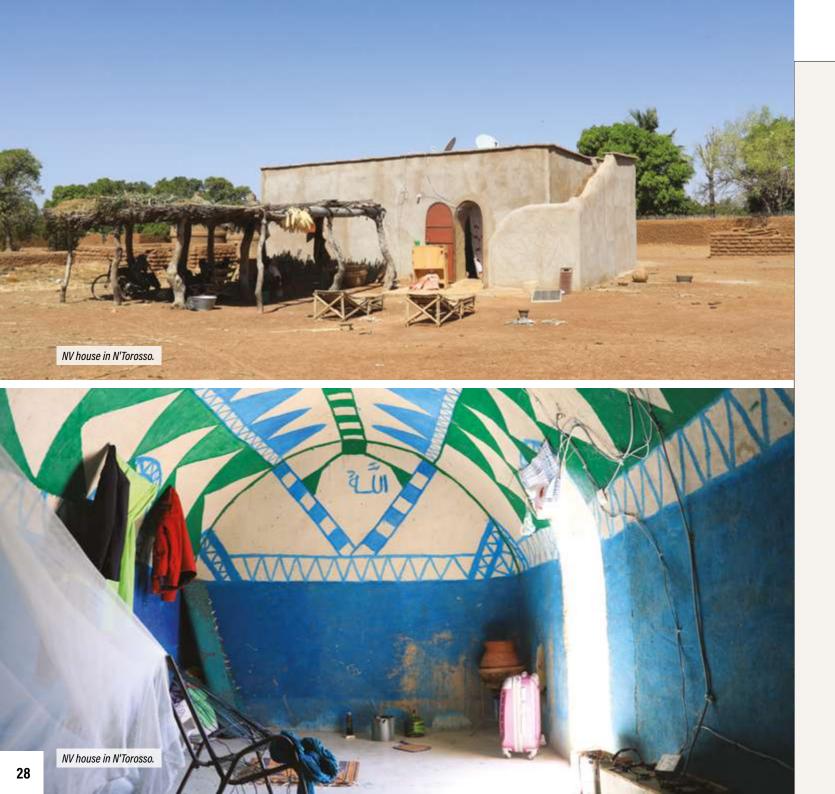
Supply Training

8,572 tonnes of CO2 eq. and 266 MWh potentially saved



325 active apprentices, masons, artisans, and entrepreneurs (-22%) including 25 new apprentices (-73%) 94% of projects found through direct client<>NV mason contact

2 active Trainer Masons 14 on-site training modules 3 academic training modules 97 validated gualifications (-27%)



Projects implemented this season-



1 Support for the VN eco-construction sector and stimulation of private and community demand 🧐 Yélékébougou Commune

Africabougou 2022>2023



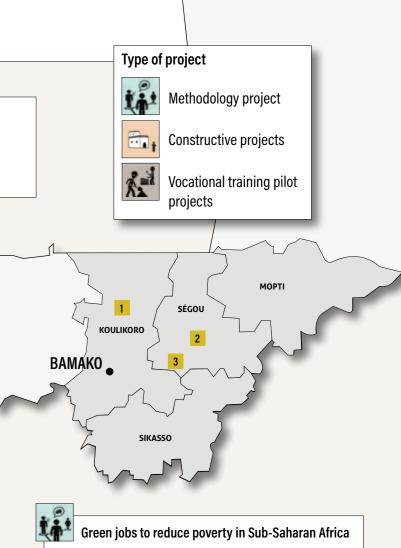
Ľ, ² Monitoring, control, and construction of bioclimatic buildings for 5 Electrified Activity Zones (ZAE) in the regions of Ségou and Sikasso 🕘 Ségou Circle GERES 2019>2022





Nubian Vaults for Malian families to adapt to the effects of climate change

All Circles 🚔 NGO Life 2022>2023



- 2 All country
- Alwaleed Philanthropies
- 2020>2023



Latrines Pilot Project

All country Alwaleed Philanthropies 2022>2023





POPULATION (IN 2023) 33,5 million inhabitants (41% rural)

GDP/CAPITA \$2,175 - 16th african rank (*Worl Bank 2022*)

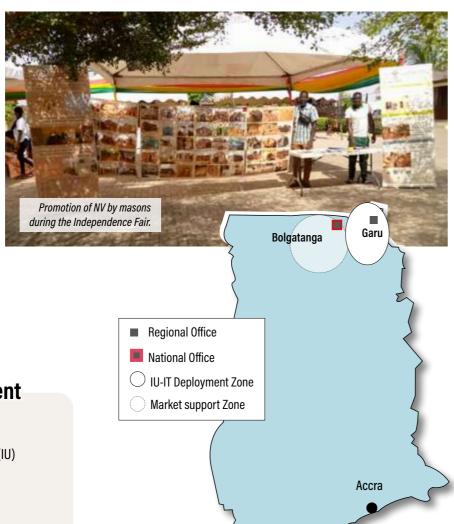
CLIMATE Sudano-sahelian

AVN PROGRAMME LAUNCHED in 2014

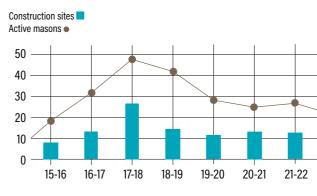
HUMAN RESOURCES 1 local employee

BUILDING CONSTRUCTED 112 sites since 2014 Ghana differs from other countries where AVN operates as being the only Anglophone country and the one with the highest GDP. In 2014, the Northeast region of Ghana was chosen as a deployment zone due to social, economic, climatic, and strategic considerations. This region has a favourable climate, a well-established tradition of earth architecture, and geographical proximity to Burkina Faso. Additionally, the linguistic similarity between Frafra, the traditional language of the Northeast, and Mooré, spoken by most Burkinabé NV masons, facilitates exchanges.

While the interest in the Nubian Vault is evident, dissemination strategies still need to adapt to local socio-economic realities.



Evolution-of the built park and the offer

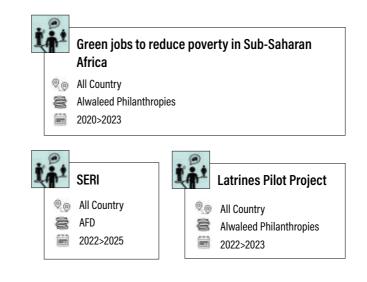


Season Highlights

Creation of the Green Housing Artisans Association, led by four NV mason artisans, whose statutory objectives are to:

- create opportunities to strengthen and develop the NV ecoconstruction sector,
- ensure the quality of NV eco-construction practices in Ghana (technical fundamentals),
- promote the NV concept to public and private stakeholders (to enhance the concept's value).

Projects implemented this season



Territorial Deployment

1 Implantation Territory (IT) 2 active Implantation Units

2 active Implantation Units (IU)
 1 market support zone



Key Figures of the season

Building constructed



7 construction sites completed (-46%)
5 residential buildings completed with CIC
161 m² constructed (-48%)



88 new beneficiary users

132 tonnes of CO2 eq. and 4 MWh potentially saved

Supply Training



21 active apprentices, masons, artisans, and entrepreneurs (-22%) including
6 new apprentices (-45%)
86% of projects found through direct client<>NV mason contact



2 active Trainer Masons

- 8 on-site training modules
- **5** academic training modules
- 15 validated qualifications (+25%)

Nubian Vault built as part of the Nongre project.

-1-10



POPULATION (IN 2023) 13,3 million inhabitants (50% rural)

GDP/CAPITA

\$1,303 - 23rd african rank (*World Bank 2022*)

CLIMATE

Sudano-sahelian

AVN PROGRAMME LAUNCHED in 2014

HUMAN RESOURCES 7 local employees

BUILDING CONSTRUCTED 309 sites since 2014

Regional Office

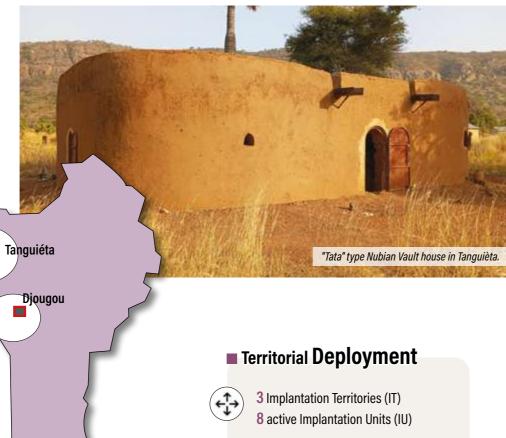
National Office

UIU-IT Deployment Zone

Market support Zone

The AVN programme took root in Benin in 2014, focusing primarily on the Atacora-Donga region and Djougou for social, economic, climatic, and strategic reasons. This area has a favourable climate, a population that constitutes the core target of the programme, and a tradition of earth architecture. Additionally, local communities have shown a strong interest in the Nubian Vault.

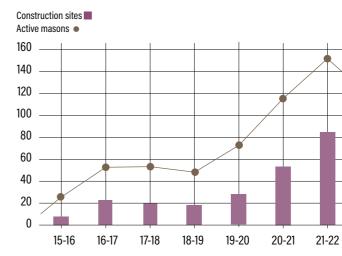
Local ownership of the NV is gradually progressing and taking root in the territories through the active engagement of local organisations and the emergence of a nascent NV eco-construction sector.



Porto Novo

8 Mobilised Operator Partners for programme's deployment4 projects implemented

Evolution of the built park and the offer



Season Highlights



Visit of the French Ambassador to the AVN premises in Djougou in April 2023 and to a construction site in the presence of the AFD director, the Mayor of Djougou, and the Prefect of the Donga department.



Key Figures of the season

Building constructed



72 construction sites completed (-15%)
38 residential buildings (-42%)
68 CIC distributed (+6%)
1,480 m² built (-17%)



285 new user beneficiaries



1,213 tonnes of CO2 eq. and

38 MWh potentially saved

Supply Training



國

119 active apprentices, masons, artisans, and entrepreneurs (-22%) including
22 new apprentices (-70%)
44% of projects found through direct client<> NV mason contact

11 active Trainer Masons
67 on-site training modules
18 academic training modules
50 validated qualifications (-62%)

Season Highlights

Workshop presenting the results achieved and the prospects of the AVN project - June 2, 2023, Cotonou

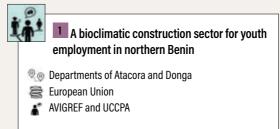
The objective of the workshop was to share the results obtained within the framework of the project and to explore the prospects for the evolution and development of this innovative sector in Benin. All participants expressed their interest in continuing this project and proposed funding to ensure its sustainability.







Projects implemented this season-





İ,	Green jobs to reduce poverty in Sub- Saharan Africa	
®_@	All country Alwaleed Philanthropies 2020>2023	



Type of project



Methodology project



Z.

Constructive projects

Vocational training pilot projects





POPULATION (IN 2023) 17,3 million inhabitants (51% rural)

GDP/CAPITA \$1,598 - 18th african rank (World Bank 2022)

CLIMATE

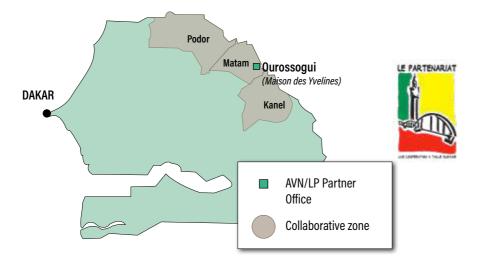
Sahelian

AVN PROGRAMME LAUNCHED in 2010

HUMAN RESOURCES

1 local employee 1 LP/AVN office

BUILDING CONSTRUCTED 122 sites since 2010

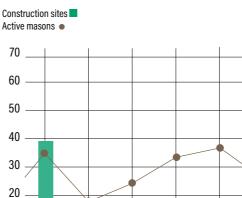


Since 2016, AVN's intervention strategy in Senegal has focused on supporting the public and community markets. This strategy is implemented through the NV Fouta (2016-2021) and DEFI-NV (2022-2025) projects in northern Senegal in partnership with the NGO Le Partenariat. The latter, a partner of AVN since 2014, also plays a crucial role in collecting and monitoring data on the private NV market, facilitating, wherever possible, connections between clients and masons.



The NV "Maison des Yvelines", Ourossogui.

Evolution-of the built park and the offer



Season Highlights

16-17

10.

15-16

In the framework of the implementation of the DEFI NV project, aimed at promoting and disseminating NV eco-construction and including the training of sector actors in the Fouta region of Senegal, efforts have been made to formalise eco-construction training at the Vocational Training Centres (CFPs). Under the direction of the Professional and Technical Training Directorate (DFPT), the first eco-construction Nubian Vault training frameworks, at the CAP level, have been developed.

17-18

18-19

19-20

These frameworks will serve as a basis for the establishment of updated apprenticeship training paths, both in training centres and on-site, in collaboration with apprenticeship masters and VN Trainer Masons. These activities will take place in partnership with the pilot CFPs in the three departments concerned by the project, namely Podor, Kanel, and Matam.



Key Figures of the season

Building constructed



7 construction sites completed 2,573 m² built



5 community buildings



- 1,146 new beneficiary users
- 2,110 tonnes of CO2 eq. and
- 65 MWh potentially saved

Supply Training



68 active apprentices, masons, artisans, and entrepreneurs4 active Trainer Masons





POPULATION (IN 2023)

4,7 million inhabitants (43% rural)

GDP/CAPITA

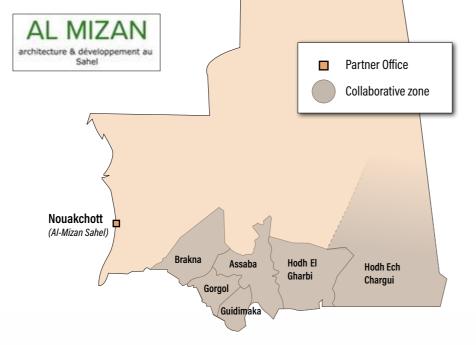
\$2,190 - 14th african rank (World Bank 2022)

CLIMATE

Sahelian

HUMAN RESOURCES 1 partner consultancy firm

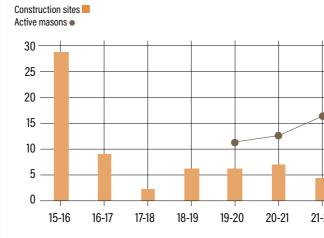
BUILDING CONSTRUCTED 87 sites since 2014



The dissemination of the NV eco-construction market in Mauritania was initiated by the consultancy firm Al-Mizan Sahel, founded by Mathieu Hardy, an architect and partner of AVN. These exemplary operations enable the founding of a local NV sector and the sensitisation/mobilisation of a wide range of stakeholders in the country.



Evolution of the built park and the offer



Season Highlights

Continuation of the "NV Popular Housing" project

Led by the International Labour Organization, in collaboration with Al-Mizan Sahel, the project consists of a sustainable, modular, and scalable NV popular housing model, based on a 20 m2 module, offering various layout options and possible combinations according to needs.

Deployed over a period of three years in the Hodh El Chargui region, this second season has enabled:

- the use of technical documentation and the "opensource" catalogue developed as part of the project,
- · the construction of four pilot buildings,
- the continuation of training for local apprentices.

For more details: almizan-sahel.com/logement-populaire-vn-mrt



Key Figures of the season

Building constructed



5 sites completed for community/private buildings 175 m² built



24 new beneficiary users



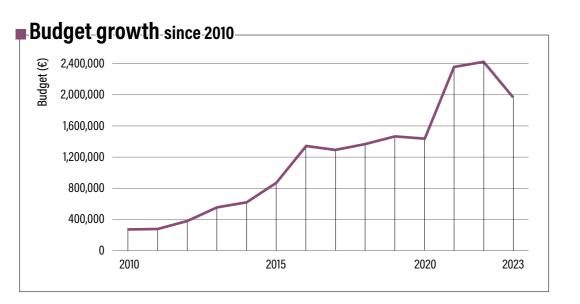
- 141 tonnes of CO2 eq. and
- 4 MWh potentially saved

Supply Training



25 active apprentices, masons, artisans, and entrepreneurs7 qualifications validated

Masons working on a NV construction site.



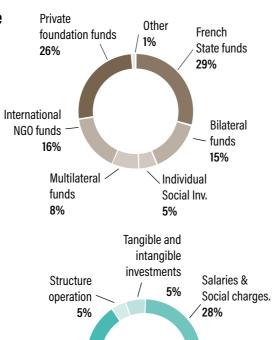
Field Activities

48%

Statement of resources/expense

RESOURCES in EUROS	2022-2023	2021-2022
French State funds	560,688	473,465
Bilateral funds	290,425	251,665
Individual Social Inv.	99,287	112,305
Multilateral funds	147,675	892,000
International NGO funds	312,013	431,013
Private foundation funds	501,819	269,685
Other Resources	22,302	21,495
Total Resources	1,934,209	2,451,628

EXPENSE in EUROS	2022-2023	2021-2022	
Salaries & Social charges	540,561	421,003	
Fees	255,622	228,931	
Field Activities	909,918	1,539,268	
Structure operation	94,014	99,213	
Tangible and intangible investments	104,258	137,498	
Total Expenses	1,904,373	2,425,913	
In-kind voluntary contributions	128,876	6,400	



Fees

13%

Active/passive balance sheet

BALANCE SHEET in EUROS	31/08/23	31/08/22
Fixed Assets	46,467	27,746
Other Receivables	19,247	20,734
Prepaid Expenses		
Accrued Income	167,955	162,081
Investments	50,000	
Cash and Cash Equivalents	553,739	334,999
Total Assets	837,409	545,560

PASSIVE BALANCE SHEET in EUROS	31/08/23	31/08/22
Stocks	182,255	156,541
The result of the exercise	29,836	25,714
Provisions for risks and charges	10,463	8,356
Payables	62,575	71,875
Other debts	87,171	70,842
Deferred revenue	465,109	212,233
Total liabilities	837,409	545,561



Funders and areas

	*				*
FUNDERS	Burkina	Mali	Benin	Ghana	Senegal
French State funds					
AFD - DPO					
Bilateral resources					
ENABEL (Grant agreements)					
PAFPA					
Multilateral resources					
UNHCR					
UNDP					
EuropAid					
Private foundations Resources					
Alwaleed Philantropies					
LIFE					
International NGO Resources					
GERES, SOS FAIM, DRC, Helvetas, ABG, Nitidae, LP					
Other					
Social Investors					
	1				1

Financial Partners who co-financed the season



Social Investors

We express our heartfelt gratitude to all the generous donors who have supported our initiatives throughout this season, whether it be:

- through their regular and occasional contributions,

- by responding to our call during the campaign "A green job for Sahelian rural youth",

- by choosing the Livret A (savings account) as part of the *Agir/Crédit Coopératif* initiative,

- by spreading awareness of our actions among their peers and on social media.

Your invaluable support fuels our determination and strengthens our commitment to continue our mission with passion and dedication. Thank you from the bottom of our hearts.

Awards and Recognitions

Rencontres pour la planète

Following the preselection of the project led by AVN last season, Thomas Granier, CEO, and Anne-Cécile Ragot, Partnership Manager, attended the Rencontres pour la Planète in October 2022. This annual event, organised by the 1% for the Planet collective, provided an excellent opportunity to raise funds from philanthropic businesses in attendance.

MIT Solve Challenge

EV_103 TIM

FOR THE PLANET

During this season, AVN was named a finalist in the MIT Solve Challenge 2023 among hundreds of applications in the "Climate Adaptation and Low-Carbon Housing" category. Although the prize was ultimately awarded to another competitor, AVN won the Community Prize, endowed with \$2000, thanks to the numerous public votes.

International Events

AVN took part in several events:

■ the 40th anniversary of the Coordination Humanitaire et Développement (CHD) in September 2022 in Paris, where member associations, including AVN, were showcased;

■ the *Rencontres pour la planète* organised by the 1% pour la planète collective, where AVN presented its project in October 2022 to raise funds,

a conference on "Innovation in locally led adaptation: solutions for resilient women, youth, refugees and indigenous communities" as part of the Gobeshona Conference 2023 organised by the UNDP in March 2023;

■ a conference, "Building differently", as part of an international conference series 2023 "Carbon Neutrality Strategy in Real Estate and Building Worldwide by 2050" organised by the *École des Ponts ParisTech* in April 2023;

Media Coverage

And what if... you told me the whole truth?

In June 2023, Thomas Granier, co-founder of AVN, was a guest on Denise Epoté's show on TV5monde.

To watch the recording of the interview: https://bit.ly/3NHd0K3





a conference on "A path towards ecological international aid
 inspirations from experiences in Burkina Faso, Lebanon and
 France" organised by the URD group as part of the Humanitarian
 Networks & Partnerships Weeks (HNPW) in April 2023;

■ a workshop on "Africa: what can local materials and energy efficiency do in the face of climate change?" organised by Afrik21 and Climate Chance in July 2023 (*photo*).

Field partners mobilised this season

Burkina Faso

- National Federation of Naam Groups (FNGN), Viim Baoré **Cooperative and Naam Unions**
 - Umbrella of 90 farmers groups
 - Dissemination of the AVN programme by around twenty Naam Unions and the Viim Baoré Cooperative in the North region and the Boucle du Mouhoun region.
- Provincial Association of Nong-Taaba Artisans and Guilds from the Boulgou Province (APAGAN-B) and local unions Artisans association
 - Dissemination of the AVN programme in the province of Boulgou (Centre-East region) with the support of local municipal relays.
- Association Tind Yalgre (ATY) and Local Unions
 - Farmer organisation for socio-economic and cultural development
 - Dissemination of the AVN programme in the *Plateau Central* region by mobilising village groups.
- Regional Union of Dolo Producers in the Boucle du Mouhoun (URPD-BM) and local unions

Basic Community Organisation

• Dissemination of the AVN programme in the *Boucle du Mouhoun* region.

Provincial Association of Artisans of Koulpelogo (APAK) Group of artisans

Dissemination of the AVN programme in the province of Koulpelogo (Centre-East region).

Training Center for Mines and Quarries Buildings and Public Works (CEMCA-BTP) of Boromo

Vocational Training Centre

Implementation of a pilot training course in NV eco-construction leading to certification by CQB type authorisation.

Mali

- Coordination of Women's Associations (CAFO) Umbrella of 200 women's groups Mobilised for the dissemination of the NV in the Circle of Tominian.
- COnvergence of Rural Women for Food Sovereignty (COFERSA)

Umbrella of 40 rural women's cooperatives Mobilised for the dissemination of the NV in the Circle of Sikasso,

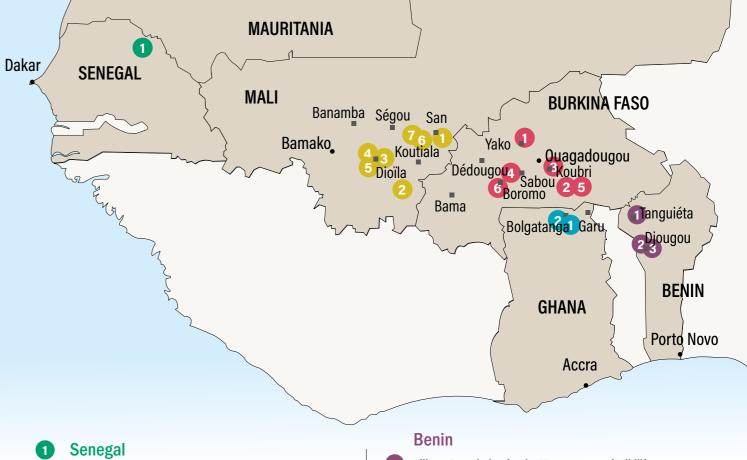
- Union of Cooperative Societies of Cereal Producers of Diédougou (USCPCD) Umbrella of 7 farmer cooperatives
- Dissemination of the NV in the circle of Dioila.
- Union of Cooperative Societies of Cereal Producers of the Circle of Barouéli (USCPCCB) "Yèrènvèton" Umbrella of 6 cooperative societies Dissemination of the NV in the circle of Barouéli.

Union NIETA

5 Umbrella of 9 cooperatives Dissemination of the NV in the circle of Dioila.

Cooperative Union of Cotton and Cereal Producers

- 6 (UCPCC)
 - Dissemination of the NV in the municipality of Diaramana.
- Simplified Cooperative Society of Producers and Processors of Agricultural Products (SCSPTPA) Dissemination of the NV in the municipality of Douaouolo.



Le Partenariat (LP)

NGO

Co-operator of the NV Fouta project for the promotion and distribution of the NV market, in partnership with institutional players, in the departments of Matam, Podor and Kanel.

Ghana

- **Department of Construction Technique and Civil** Engineering of the Polytechnic of Bolgatanga Vocational Training Actor
- Implementation of a pilot dual educational course (technical and academic) for the training of building technicians.
- **Future for Africa**

2

1 Village Association for the Management of Wildlife Reserves (AVIGREF)

Umbrella of 32 village associations

Dissemination of the AVN programme in three districts of the Department of Atacora within the framework of the project financed by the European Union.

2 Municipal Union of Cooperatives of Cashew Producers of Ouaké (UCCPA)

Umbrella of cooperatives

Dissemination of the AVN programme in the commune of Ouaké (Department of Donga) as part of the project financed by the European Union.

3 Integrated Rural Development Association for Self-Promotion (ADRIA)

NGO

Dissemination of the AVN programme in the municipality of Bassila (Donga Department).



<u>5 - Community Life</u>



Some of the members of the board and the headquarters team of AVN during a board meeting.

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The Board of Directors

Founded in 2000, AVN is an Association constituted under the French law of 1901. It has around thirty active members. As of July 2022, its Board of Directors consists of eight people:

- Benoît Lambert, President, retired
- Cécilia Rinaudo, Vice-President, Communication Manager
- Laurent Fofana, Secretary, retired
- Jean-Marie Crombez, Treasurer, retired
- Anthony Kaye, Director, retired
- Jean-François Naud, Director, filmmaker
- Mand Ryaira Ngarara, Director, civil service executive
- Pierre Beaudoin, Director, retired

AVN'S Teams

Burkina Faso

Séri Youlou

National Director

















Dayé Banao National Coordinator **Regional Production** Manager







Daniel Sankara Antenna Coordinator

Ousseni Zida Yembi Bazongo **Regional Training** Partnerships Manager Manager

Steeve Sanon Project Manager







Mafarma Sanou Finance and Admin. Assistant

Tiquiani Sanogo Chargé de formation régional

Ismael Soumaila Neya Raphael Sawadogo Project Manager

Bénin







Narcisse S Ali National Coordinator

Fernando Kouagou Dramane Moudachirou National Production Finance and Admin. Manager Manager

Jean-Marcel Biao





Yomboé Bado



N'Taa Fatim Traoré Finance and Admin. Manager



Finance and Admin. Assistant



Denise Gnoumou Maimouna Sawadogo Finance and Admin. Assistant



Bakary Traoré Finance and Admin. Assistant



Houdou Bagayogo Antenna Coordinator



Issouf Yogo Regional Training Officer



Field Agent



Francis Tiéné **Regional Production** Manager



Joseph Sedgo **Regional Training** Manager



Aimé Nana Project Manager



National Training Manager



Apollinaire Nambigou National Production Officer



Bariétou M Soumanou Finance and Admin. Assistant



Julien Doffa **Regional Training** Officer



Mali



National Coordinator







Finance and Admin. Manager

Technician



Mamadou B Diarra National Production Manager

Adama Diarra Antenna Coordinator



Souleymane Koné Antenna Coordinator



Salifou Bagayogo Antenna Coordinator



Adama M Diallo **Regional Production** Officer



Emmanuel Atubiga Ghana focal point

France







Céline Robert Julie Gomez Monitoring and Eval. Finance and Admin.

Assistant

Coraline Le Borgne Finance and Admin. Director



General Director



Manager

Internal Control

Manager

Marie-Laure Canal Zaccharie Dhennin

Anne-Cécile Ragot Partnerships Project Design and Monitoring Officer Manager

International

Communications

Manager









Ilboudo Adama Africa Technician

Augustin Tonavo Africa Training Coordinator

"Alone we go faster, together we go further." African proverb

An immense thank you to all our collaborators for their unwavering commitment and passion in nurturing and developing our programme. Your dedication is the key to our collective success. Together, let's continue to write a remarkable story!















Sylvia Maeght Development Manager



Annette Huraux Chargée de plaidoyer et suivi de projet



Valérie Sandres Coordinatrice Pôle Formation







Ulrich Houngbedji Africa Training Coordinator



Auguste Iboudo Africa Internal **Control Coordinator**



Djeneba Konaté Technician



Meeting with...

Aimé Nana, Deputy Coordinator of AVN in Burkina Faso

Tell us about your beginnings with AVN?

I got to know about AVN by responding to a job advert. It's a programme that really appealed to me because it's completely different from what I'm used to seeing in terms of implementation by local and international NGOs. It's comprehensive, as it takes into account different aspects, from vocational training to rural youth employment to the environment, and this approach excited me.

I was hired for the position of project manager and regional coordinator for the Centre-East region, and I started my duties in September 2020.

Can you explain what your work entails?

My role over the past 3 years has been to support the emergence of an ecoconstruction sector in the Centre-East region. As a project manager and regional coordinator, my work mainly involved mobilising about ten local partner organisations (POs) and ensuring operational planning, implementation, and monitoring in line with the programme's vision.

Can you share with us a rewarding experience?

The implementation of the project was an interesting experience because, despite the difficulties encountered (withdrawal of apprentice masons in

favour of gold mining sites, reluctance of populations, etc.), we achieved good results, especially in the third year of implementation. We went from 24 to 42 construction sites and finally reached 125 sites, a fivefold increase between the first and third year. This demonstrates that the populations have embraced this construction technique.

What can you tell us about the difficulties encountered?

The biggest difficulty I encountered was related to the lack of knowledge about this construction technique and the lack of mastery of the methodology by local organisations.

We intervened in a new area with a new product, and considering what a building represents for a family in terms of investment, it required a lot of patience and awareness-raising for the populations to embrace this construction technique.

How do you envision AVN and your position in 10 years?

For me, AVN has worked a lot on deploying the programme over the past twenty years, and in terms of achievements, we can note nearly a thousand trained masons and NV buildings completed.

Even though the NV market doesn't seem entirely self-sufficient, AVN will need to work in the coming years on better



structuring the offer by supporting actors in the currently less developed formal market, as this technique will continue to thrive. I think that to date, in some regions, the informal market is strong enough to evolve without AVN intervention.

I want to continue to be part of the AVN adventure, perhaps as a provider to support local organisations that will carry the programme in their localities.



Meeting with...

Ulrich Houngbedji, Africa Training Coordinator

Tell us about your beginnings with AVN?

I first encountered AVN in 2014 during my research on potential companies or providers capable of building houses with raw earth. This was specifically in the context of a project to construct an orphanage for disadvantaged youth in Benin, by an Association of which I was a member. I joined AVN in 2023 through a job application for the position of Africa Training Centre Coordinator.

Explain what your job involves?

My role involves supporting the informal/formal NV markets and training procedures: steering and strengthening the actors of the Centre and its training activities, reporting, creating tools for activity monitoring, capitalising on practices, co-producing modules, preparing frameworks, supporting fundraising, networking, and advocacy, etc.

Can you share an enriching experience with us?

The multilingual mix between actors from the rural world, often illiterate or informal (farmers or agriculturists, rural youth, masons/artisan masons, etc.) on one hand, and those educated or formal (companies, technicians, AVN executives, institutional actors, etc.) on the other hand, is a unique and enlightening experience. An example is the development of the training framework for the role of Master Apprentice in Nubian Vault Masonry which brought together last season in Burkina Faso, NV mason artisans (often illiterate), AVN executives in charge of professional training, and executives from the General Directorate of Vocational Training. This was a co-production activity carried out over several weeks with great success thanks to the involvement of all these actors, despite differences in languages, social levels, professional domains, and cultural levels, etc.

What can you tell us about the difficulties encountered?

The programme's strategy is constantly evolving, it requires adapting to the changing contexts/frameworks. Moreover, supervising multiple countries involves remote work which is not always easy, especially in terms of communication.

How do you envision AVN and your position in 10 years?

In the next ten years, I envision AVN becoming an Association whose economic model and marketing strategy strengthen the network of technical and financial partners, while also having a subsidiary role supporting the enterprises and businesses of NV artisans. The association would be even



more focused on Africa with specialised poles and optimised processes promoting excellence, responsibility, and autonomy of local executives. As for myself, I envision being a partner of AVN on strategic and operational issues in professional training.

Acronyms

AFCIA: Adaptation Fund - Climate Innovation **GERES:** Renewable Energies, Environment and Accelerator **AFD:** French Development Agency APAGAN-B: Provincial Association of Artisans and Group of Artisans Nong-taaba of Boulgou APAK: Provincial Association of Artisans of Koulpelogo ATY: Tind Yalgré Association AVIGREF: Village Association for the Management of Wildlife Reserves AVN: Nubian Vault Association AWAC: Walloon Agency for Climate BF: Burkina Faso **BIT:** International Labor Office **BTP:** Buildings and public works C1/C2/C3/C4/C5: Beginner Apprentice/ Experienced Apprentice/Mason/Artisan Mason/ Entrepreneur CAFO: Coordination of Women's Associations and NGOs in Mali CCNUCC/UNFCCC: United Nations Framework **Convention on Climate Change** CD: Departmental Council **CIC:** Client Incentive Coupon CO2 eq: Equivalent CO2 **COFERSA:** Convergence of Rural Women for Food Sovereignty CQB/CQP: Basic/Professional Qualification Certificate DANIDA: Denmark's Development Cooperation DRC: Danish Refugee Council **DGFP:** General Directorate of Vocational Training **ECODEC:** Ecology & Community Development **ECRF:** El-Ehsan Charitable Relief Foundation **ENABEL:** Belgian Development Agency ERP: Establishments open to the public EU: European Union FCC: Full Site Training FCG-AH: Group Site Training - Access to Housing FEM/GEF: Global Environment Facility FFEM: French Fund for the Global Environment FICOL: French Local Authorities Financing Facility FNGN: National Federation of Naam Groups GABC: Global Alliance for Buildings and Construction

Solidarity Group GES: Greenhouse gas GDP: Gross Domestic Product IU-IT: Implantation Unit - Territorial Unit LP: Le Partenariat MAE: Ministry of Foreign Affairs M€: Million euros NGO: Non-Governmental Organization NV: Nubian Vault **OCB:** Basic Community Organization **ONU:** Organisation des Nations Unies **OP:** Peasant Organization **OSC:** Civil Society Organization PAFPA: Vocational Training and Apprenticeship Support Program PET: Technical Expertise Pole **PDI:** Internally Displaced Populations PNUD/UNDP: United Nations Development Program PO: Operational Partner HR: Human Resources **RHF:** Francophonie Habitat Network **SDG:** Sustainable Development Goals SPONG: Permanent Secretariat of Non-Governmental Organisations TdR: Terms of reference TM: Trainer Mason TMSP: Technical Module on Specific Position UCCPA: Municipal Union of Cashew Producers' Cooperatives UCPCC: Cooperative Union of Cotton and Cereal Producers UN-HCR: United Nations High Commissioner for Refugees **URPD-BM:** Regional Unions of Producers from Dolo to the Boucle du Mouhoun USCPCCB: Union of Cooperative Societies of Cereal Producers of the Circle of Baraouli USCPCD: Union of Cooperative Societies of Cereal Producers of Dièbouaou VAE: Validation of Acquired Experience VTC: Vocational Training Centre YCID: Yvelines International Cooperation and Development YHF: Youth Harvest Foundation





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