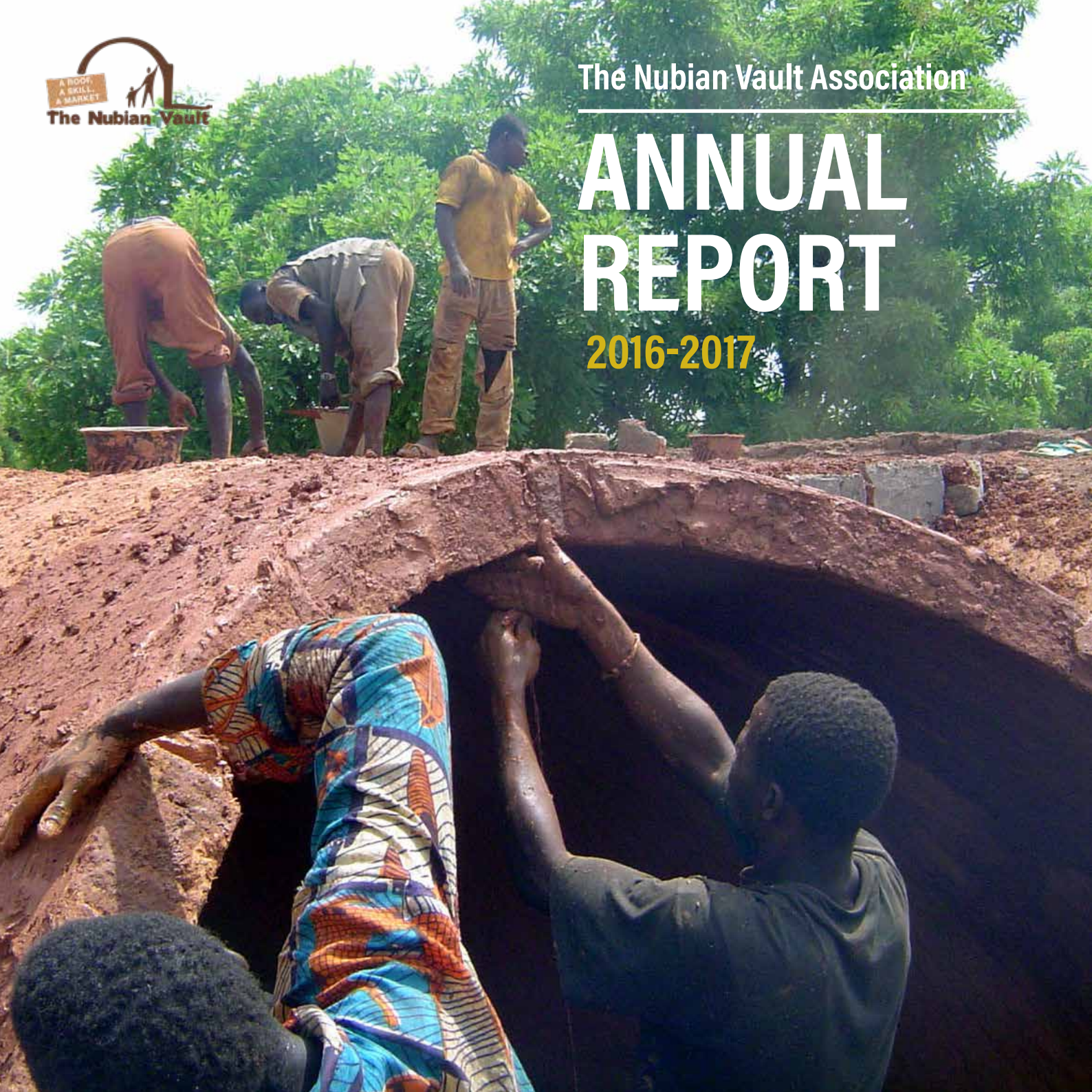




The Nubian Vault Association

ANNUAL REPORT

2016-2017



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Urban Nubian Vault in Senegal.

Editorial

For several years now, AVN has raised the fundamental question of **effective training in the construction sector**. In Africa, the current and future challenges of demographic explosion, climate change, desertification and economic fragility mean that well-adapted construction needs—and therefore vocational training needs—are a priority.

The construction sector will only be able to correctly respond to these challenges if it immediately **begins a substantial, progressive and sustainable transition that benefits as many people as possible**.

First and foremost, this means **the widespread appropriation and dissemination of an archi-cultural alternative**. This must be placed at the heart of development issues because the renewal of the housing stock, the need for which is expected to double by 2050, is central to the ability of Sahelian populations to adapt; it is up to Africans—all stakeholders together—to initiate and amplify this change.

Actors in the construction sector in general, and more specifically the artisan-masons who have come from the informal sector and rural world (farmer masons), must be at the forefront of this change.

In order to boost and coordinate their professionalization and to diversify their abilities, this season AVN has built upon and strengthened its technical expertise and training units. Technical, worksite management and entrepreneurial trainings allow for the implementation and strengthening of professional career paths, both in the informal and formal sectors.

Cooperation with civil society organizations and local development actors, demonstrated on the ground through training and construction projects, is also one of the important levers for the sector's development. Through their networks, the mobilization of their members, their need for community buildings and the good examples that flow from all this, these partners help disseminate the NV concept and, more broadly, boost the development of the construction sector.



This support has naturally been extended to State and local institutional actors through the use of strong advocacy aimed at policy-based management of housing issues and the necessary developments that they lead to. However, despite this issue being part of various national and local development plans, it is still difficult to implement appropriate actions.

Finally, France, guarantor of the Paris Agreement and leader of several initiatives (the Global Alliance for Buildings and Construction [GABC], the Sustainable Building Plan, the Climate Plan, the Alliance for the Sahel, etc.), holds a strong and legitimate position to promote international and multi-sectoral action in favour of adapted housing in Africa and of the stronger employability and economies that it would bring. **The Adapted Building Plan for Sahelian Africa (PBAAS), proposed by AVN to the new government in June 2017**, raised the need for national and international commitment to this topic, with the aim of resonating with actors and achieving a level of mobilization that meets needs.

*"When the construction sector is doing well,
everybody does well!"*

Thomas Granier, Founder and Director General of AVN
Séri Youlou, Founder and Director of AVN Burkina Faso
Benoît Lambert, President of AVN



Nubian Vault under construction in Voaga (Burkina Faso).



1 - The Programme

Since 2000, the goal of the Nubian Vault Association (AVN) has been to develop a market for adapted housing in West Africa, providing vulnerable populations access to affordable housing that is comfortable and well-adapted to climate change. AVN has also aimed to create green jobs, strengthen economies at all levels and develop an “adapted housing” sector.

At the centre of this programme lies an architectural concept that is both ancestral and innovative, based on local materials, economies and knowledge: the Nubian Vault technique.

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■ Key Figures

AVN is currently the most advanced actor in terms of developing construction practices in West Africa; this is because it has nearly twenty years of experience and has strong local representatives and high-level expertise, thus leading to measurable and growing results.

30,000 beneficiaries
living or working in a NV building

460 private and
community buildings
built in 2016–2017

2,500 construction sites
completed since the start of the
programme

92,000 m² built

720 apprentices, masons,
artisans and entrepreneurs
active in the market, including:

330 apprentices
who began their training this season

0 tree cut down
for building purposes

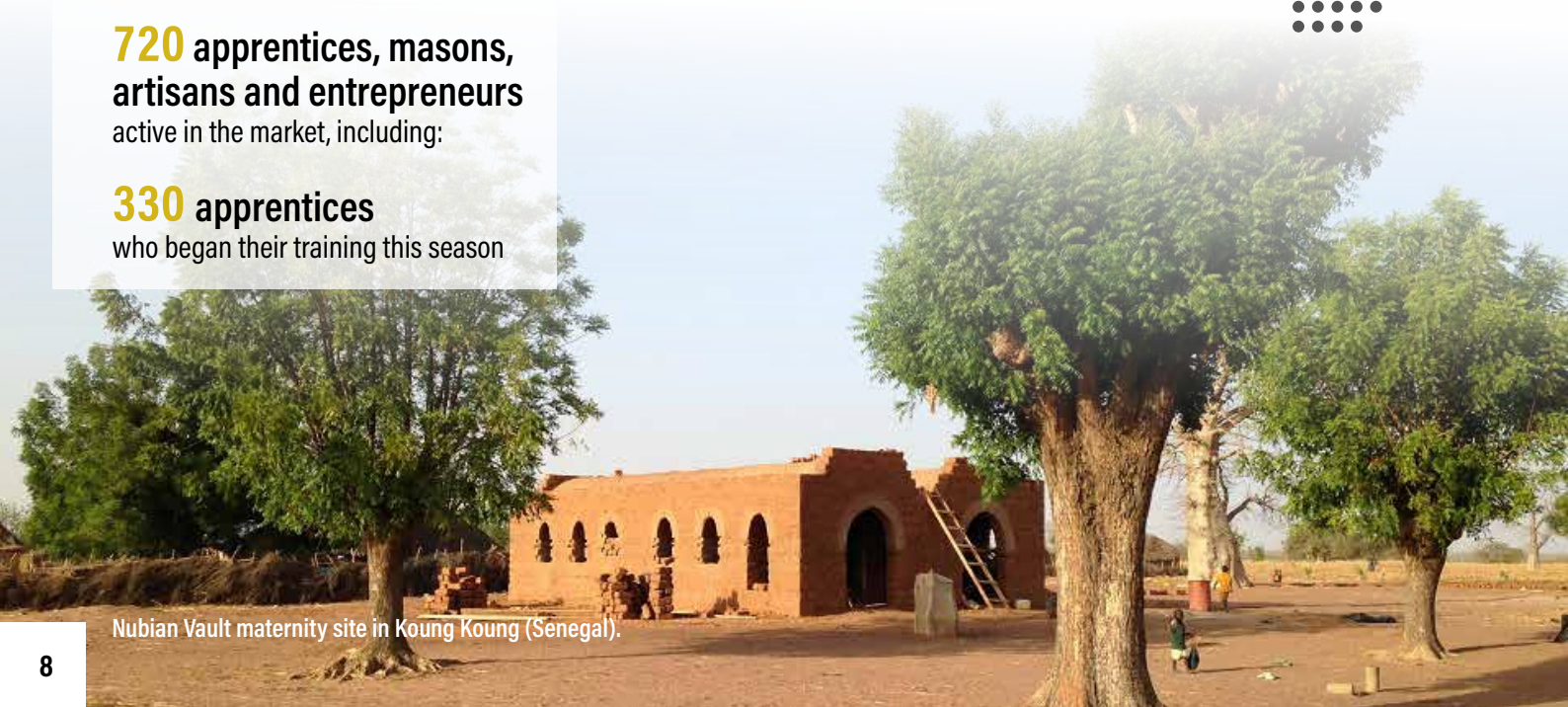
3 million euros
generated in the local markets

75,000 tons CO₂ eq.
potentially saved

26% average annual
market growth
(compared to the last 10 years)



5 countries of
deployment
15 regions
970 towns



Nubian Vault maternity site in Koung Koung (Senegal).

■ Highlights

October



Habitat III Conference in Quito

This remarkable event, organized every 20 years by UN-Habitat, gave AVN the opportunity to introduce various institutional advances, including the signature of a convention with the Ghanaian Ministry for Local Governance and Rural Development.

November



COP22 in Marrakech

AVN participated in the 22nd Conference of the Parties (COP22) of the United Nations Framework Convention on Climate Change (UNFCCC) to promote the inclusion of the Nubian Vault concept in the public policy of the countries AVN works in.

December



Inauguration of the *Maison des Yvelines* in Senegal

This building, located in the Department of Yvelines and constructed by a local company in Ourosogui with support from AVN and NGO *Le Partenariat*, has become a model for community buildings in Senegal.

March



Visit of a Sudanese delegation to Burkina Faso

A delegation from Sudan's Ministry of Agriculture and Forests came to meet with AVN as part of an exploratory mission for a project to replicate the Nubian Vault programme (p. 73).

May



AVN receives the World Habitat Award

AVN won the most prestigious international distinction in the field of housing, awarded by the Building and Social Housing Foundation (BSHF/World Habitat) in conjunction with UN-Habitat (p. 91).

July



Farmers' groups commit to adapted housing in Burkina Faso

AVN, the National Federation of Naam Groups (FNGN) and 13 Naam Unions signed a model partnership convention aimed at having the Naam Unions manage the AVN programme in Burkina Faso (p. 31).

Intervention Strategy

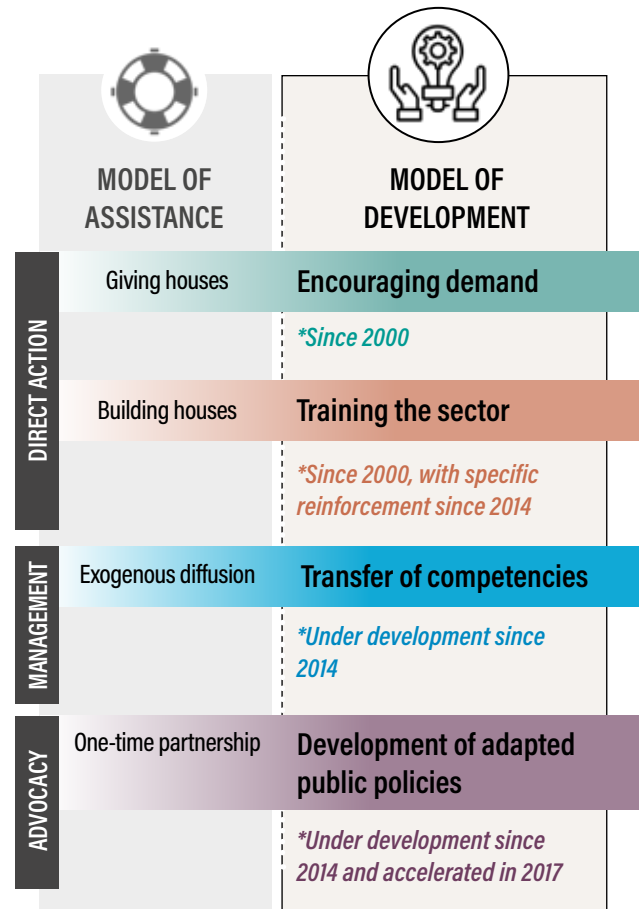
AVN's programme is based on three complementary poles of action:

- **A Roof** - Help boost demand for adapted buildings at local level;
- **A Skill** - Train independent artisan-masons for the Nubian Vault sector;
- **A Market** - Generate political and economic support to help the NV market grow.

These actions are part of an innovative model for development that is based on the principle of “teaching others to fish rather than giving them a fish”, extending this to the entire structure of the housing market and construction sector. It is better to learn to build a house rather than to just give someone a house; it is even more profitable to share the necessary skills with all stakeholders in order to galvanize the home-grown market, leading to real change.

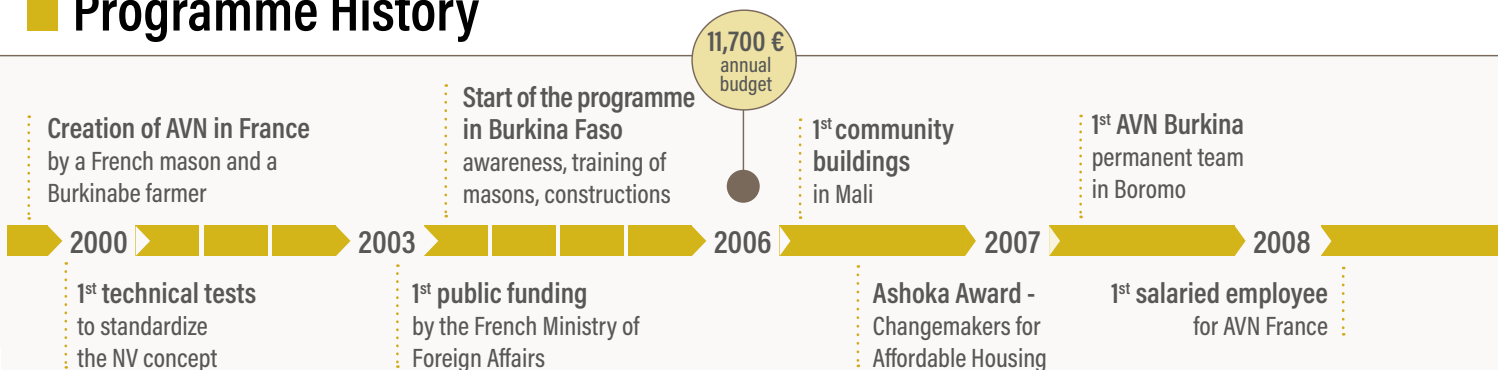
Three levels of intervention therefore overlap in all of AVN's activities, at every geographical and institutional level:

- **Direct awareness-raising and training activities on-the-ground;**
- **A transfer of project management to legitimate operators;**
- **Advocacy that encourages structured change.**



** Implemented by AVN*

Programme History



Direct Action

At the heart of AVN since its very beginnings, its on-the-ground action consists of two main components:

Awareness raising: Local AVN teams raise awareness with the rural Sahelian populations about housing and environmental issues and tell them about existing solutions. These activities encourage demand for Nubian Vaults on the local housing market. Specific activities focusing on community and public demand have been undertaken this season in order to encourage the construction of model production and services buildings.

Training: The Nubian Vault buildings are constructed using local labour, independent from AVN, thus producing buildings for and boosting the economic growth of local communities. These masons, artisans and entrepreneurs come from the beneficiary communities through awareness-raising activities; they are trained on the job, using an apprenticeship system that is adapted to the socio-economic reality of the trainees. AVN follows up this training and galvanizes it through complementary technical and entrepreneurial modules, both on the construction sites and in the classroom. These training activities were restructured during the 2016–2017 season.



Apprentices in technical training on specific post.

366,000 €
annual
budget

1st AVN Mali team
in Ségou

2009

1st International Volunteers
to support AVN Burkina and
launch of AVN Mali

2010

Formalization of the
kickstart method
in Burkina Faso and Mali

2011

Regional
duplication
in Koubri (BF)

2012

1st collaborative
region
in Senegal (Podor)

Regional
duplication in Yako
and Dédougou (BF)

Regional duplication
in Bama (BF), Dioïla and
Koutiala (Mali)

2013

Thomas Granier, co-founder,
elected as Social Entrepreneur of
the year by the Schwab Foundation

■ Intervention Strategy (continued)

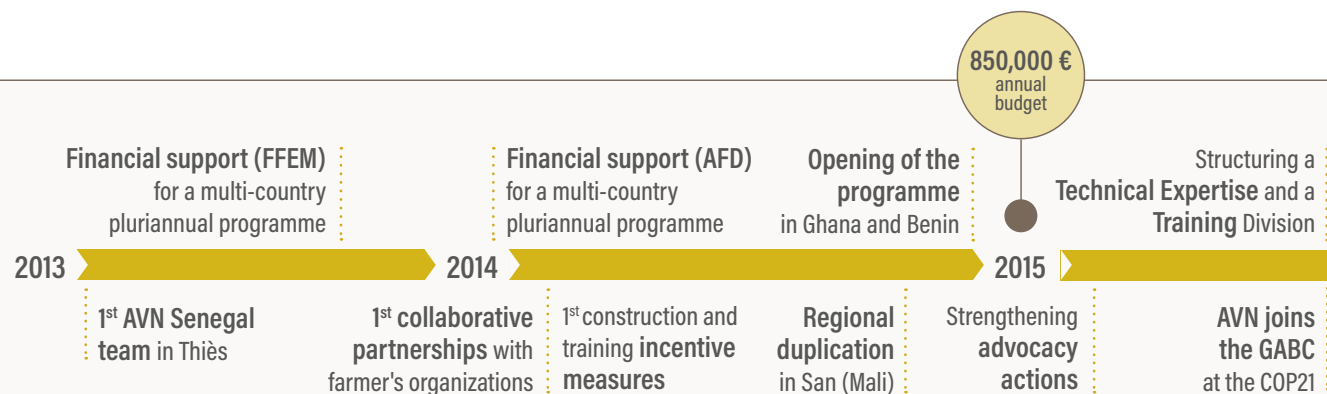
Management

For several years now, having achieved positive results from kick-starting and market reinforcement, AVN has also worked to disseminate its methods of development so that local actors can make them their own and replicate them, since they are the most legitimate actors to manage the Nubian Vault programme.

Just as AVN does not sell or build houses but rather boosts local supply and demand that in turn initiates the market, AVN wants to limit the use of an exogenous dissemination model, instead transferring skills to local actors so that they can make Nubian Vaults a tool for development that will help them carry out their own missions. These actors are responsible for dissemination and wide-scale replication, beyond the regions in which AVN is active.

This can involve all types of actors:

- Farmers' associations, local cooperatives, etc.:** NVs are a solution for farmers both as users (food storage, livestock farming, private housing) and as builders (mason-farmers). Agricultural cooperatives are the first points of dissemination in rural areas that wish to integrate Nubian Vaults into their rural development activities, with support from AVN (*see, FNGN, p. 31*);
- Civil society organizations, local NGOs:** Housing is a vector of economic and social development at local level, by improving living and working conditions and by providing access to basic services. Adapted housing is a new field for these organizations and AVN provides them with support to replicate its model of development intended for their beneficiaries (*see, Peal Deng, p. 57*);
- Local authorities and public institutions:** Local authorities and specialized public agencies are those that are mainly responsible for sustainable local development. AVN supports them in drawing up action plans that integrate adapted housing and the Nubian Vault solution, as well as in setting up action groups by type of actors (mayors, regional councils) who strongly increase their capacity to take action and their sphere of influence (*see, Mayor's Office of Kemekafo, p.39*).



Institutionalization

With the growth of the programme and international recognition, more and more often AVN is becoming a spokesperson to national public institutions and to international and multilateral organizations. In past seasons, AVN set up partnerships with some of these institutions in order to develop specific Nubian Vault projects. The 2016–2017 season was an occasion not only to strengthen and further develop these partnerships but also to transform the level of ambition of this institutionalization: **using structured advocacy, the goal is to move from one-off partnerships to institutional appropriation of Nubian Vaults in public housing, employment, climate and development policies.**

AVN now acts as an operator for public and international institutions that adopt adapted housing and building policies. This is an evolution that will inevitably take a long time and that requires prior advocacy and support for development of these policies, which still either don't exist or are mere ambitions.

AVN is also seeking to support actors of international development (institutions of cooperation and solidarity, international NGOs, multilateral organizations): incorporating issues of adapted housing and construction into their work helps increase the impact of development initiatives. During the 2016–2017 season, AVN carried out specific advocacy activities for these actors, in particular as part of group and partner activities (*see, section on international advocacy, p. 70*).



Diakré (Mauritania), first village entirely built in Nubian Vault.

1,3 million €
annual
budget

AVN receives the
**UNFCCC Momentum
for change Award**

Pilot projects for the
**NV Housing micro-
credit** in Burkina Faso

Regional duplication
in Banamba (Mali)
and Garu (Ghana)

AVN receives the
**World Habitat
Award**

**Starting the NV
Fouta project**
in Senegal

2016

2017

2018

1st partnerships with national african entities
(FEM/GEF project with the MEDD in Senegal,
PGRNCC project with AEDD in Mali)

**1st village built with
the NV technique**
in Diakré (Mauritania)

AVN launches a **programme
of advocacy** in France
with cooperation actors

■ Training at the Heart of AVN's Programme

For many years, the core of AVN's programme has been its activities to boost demand, aimed at helping NV clients emerge in order to kickstart the NV market; this has led to the way in which supply is structured. For several seasons, AVN has seen new trends emerge, thanks to the gradual growth and transformation of this market:

- **Demand is increasing:** the first generation of buildings and clients have served as an example, strengthening promotion of the concept, and the emergence of public and/or community markets means there are greater needs for complex knowledge;
- **Supply is becoming more professional but needs to intensify and diversify:** the NV market now has experienced masons who are potential trainers in passing on NV skills to future generations, but there is still not enough labour available, nor is it self-sufficient enough to ensure the balance and growth of the market.

Since 2014, AVN has in fact invested in activities and resources dedicated to strengthening training, in order to accelerate and improve the development of direct supply (actors in the construction sector) and more broadly, of the sector's technical actors.



Entrepreneurial Training module in Dioïla (Mali).

New support measures

This season, the new methods to strengthen technical and business training that began in 2015 have been supplemented and improved upon by:

- **Creating a Training Unit**, made up of an international coordinator and of Training Project Managers (TPMs) within the national teams, responsible for brainstorming about, implementing and monitoring training activities;
- **Redefining the role of existing Training Project Managers (TPMs)** in the regions, whose fields of competence have expanded, and selecting new recruits;
- **Creating a training catalogue** indexing the various types of training offered by AVN (on-site training and learning in the classroom, etc.);
- **Developing new pedagogical and monitoring tools**, such as the Student Guidebook, which is a training and evaluation guide for both trainer masons and for the students;

- **Increasing promotional activities** aimed at facilitating access to training for as many as possible as well as cooperation between groups of masons;
- **Developing Entrepreneurial Training modules** and implementing them in Burkina Faso and Mali.

Developing training for the entire sector

The new structure should therefore **accelerate training of actors** in the NV construction sector (an apprentice will become an artisan/entrepreneur faster and his or her career path will be sounder) and **improve their technical skills**, to meet the needs of rural, urban and community markets.

As part of this, the role of trainer masons, custodians of NV knowledge and guarantors of its transmission, is essential: training cycles are being planned for next season in order to help establish them in this new job.

Reinforced marketing by masons aimed at them developing their own market dynamic (including the promotion of the NV concept to find new clients) will allow AVN to gradually decrease its awareness-raising activities, thus allowing it to increase its focus on training (this is the principle of the virtuous cycle).

AVN is also working to **expand its training activities to technical actors in the sector** (project owners, project managers, architects, construction technicians, etc.) in order to favour the construction of NV buildings being managed by the project owner and monitored by the project managers. The Expertise Unit is responsible for this training, producing technical and methodological materials as well as resources used to raise awareness about community buildings.



The trainer mason guides his learner on a construction site in Burkina Faso.



Awareness raising campaign in a village in Ghana.



2 - Our Countries

AVN's mission is to quickly and widely disseminate the technical NV concept in African countries with a Sudano-Sahelian climate.

To do so, the programme carried out on the ground allows for the establishment of teams in country after country; their main mission is to generate and boost the market for the NV concept and to ensure its widespread promotion.

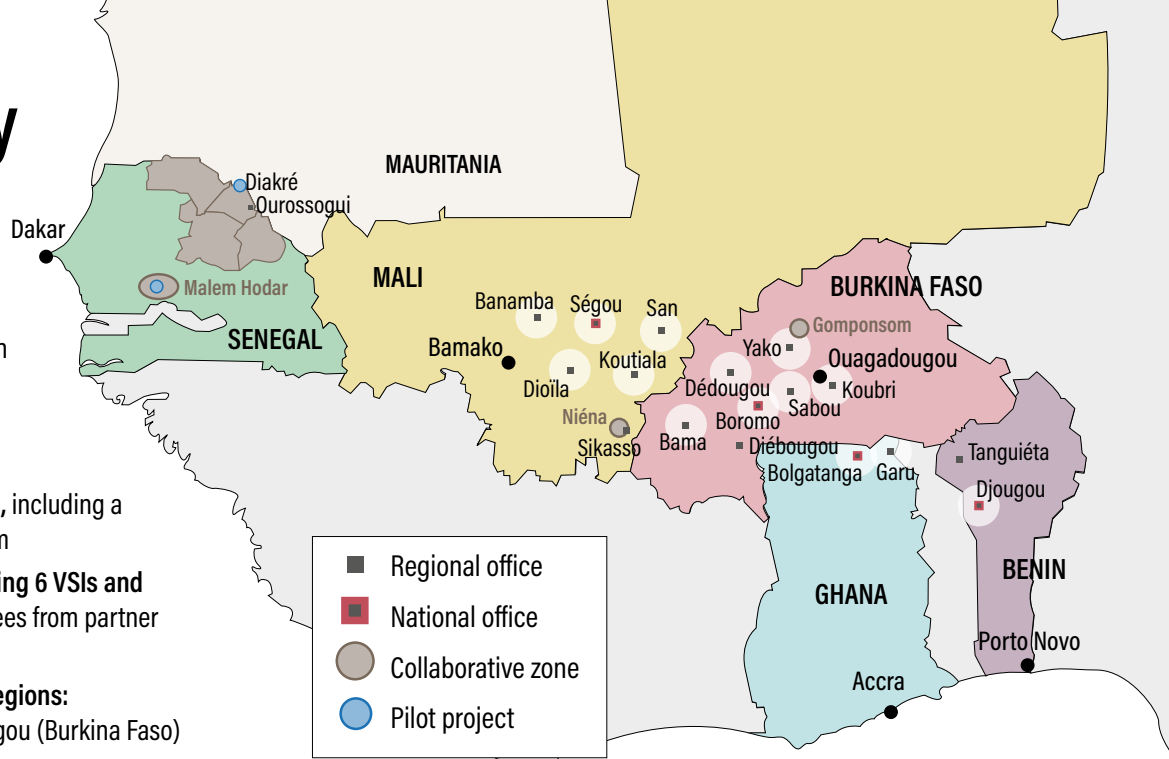
AVN is currently active in five West African countries: Burkina Faso, Mali, Senegal, Ghana and Benin.

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Burkina Faso	▶ p. 24
Mali	▶ p. 36
Senegal	▶ p. 46
Ghana	▶ p. 54
Benin	▶ p. 62
France & International	▶ p. 70

Summary

2016–2017 Season

- ▶ Opening of the Garu region in Ghana
- ▶ Closing of the Thiès region in Senegal
- ▶ 4 collaborative zones (including 2 in Senegal)
- ▶ 14 regional teams deployed, including a mixed AVN/*Le Partenariat* team
- ▶ 62 local employees (including 6 VSIs and expats) and about 30 employees from partner organizations
- ▶ Preparations to open in 2 regions: Tanguiéta (Benin) and Diébougou (Burkina Faso)



Territorial rollout of the programme - September 2017

Buildings constructed

Key figures (2016–2017 season):

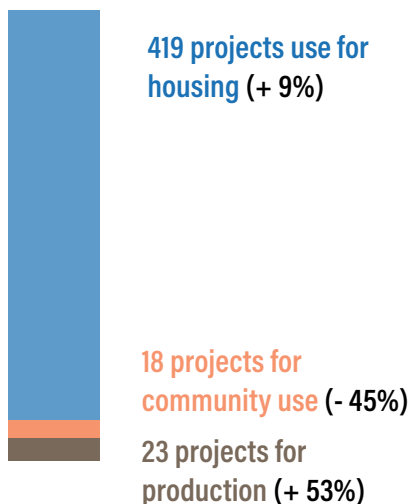
- 460 buildings constructed (+6%)
- 3,323 user-beneficiaries
- 91% used for housing
- 84% of buildings constructed in rural areas
- 92% built for the core target clientele (farmers, shopkeepers and civil servants)
- 9% of buildings involved a partner organization
- 134 new sites, bringing the total number of sites with at least one NV building up to 970

48% of worksites have benefitted from financial incentives:

- 25% of worksites received building incentives that represented about 10% of the cost, in order to stimulate decision-making by clients without disrupting the market;
- 33% of worksites received support for cement masons who want access to NV housing while receiving group training about the NV concept.

This season, the growth of the NV market (6%) was lower than expected; nevertheless, the annual volume of about 500 buildings constructed and the 1,000 towns that now have at least one NV ensure that NVs are a reference for adapted housing and also demonstrate a commitment to the dissemination of the concept.

Breakdown of projects by use



Most of the buildings constructed in 2016–2017 are used for housing.

Although few community buildings were constructed this season, several large-scale projects are under development, with assembly set for next season. This market share is important because it directly benefits as many as possible by:

- **Serving as a reference** and therefore favouring the replicability of adapted building practices by development and civil society actors;
- **Favouring the training** of masons in different architectural techniques and more complex types of finishings;
- **Favouring the involvement** of other actors in the NV sector (companies, architects, technicians).

This season, the work that began in 2014 to raise awareness about the benefits of using NVs for barns led to development and institutional actors committing to constructing pilot buildings (*see, FAO, p. 26 and Enda Pronat, p. 50*). Hydrothermal measures will be implemented and tests of ventilation methods carried out in 2018.



Rural Nubian Vault in Burkina Faso.



Nubian Vault classroom in Senegal.

■ Summary (continued)

Market dynamics specific to the countries

Burkina Faso: the level of production has consolidated at the post-political crisis level (+ 2%), although there is actually growth of higher than 30% in the regions in which partners such as farmers' groups (FGs) or microfinance institutions (MFIs) have bases (*see p. 27*).

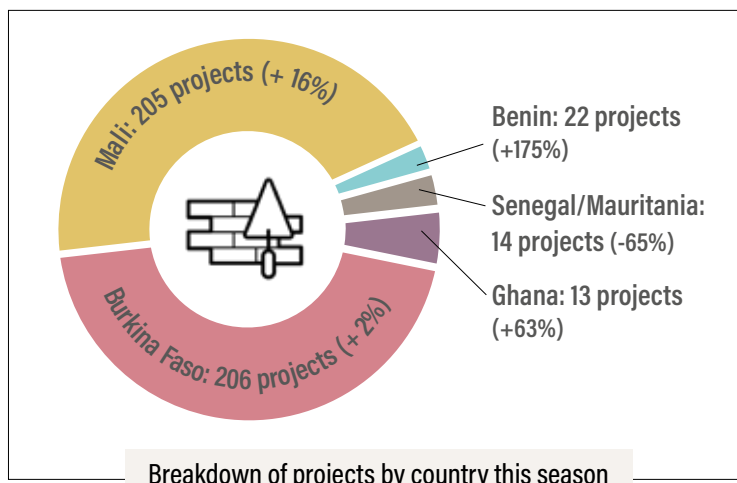
Mali: after two years of exceptional growth (72% and 48%), the level of production has continued to grow at 16%, mainly on the private market in rural areas (*see p. 37*).

Senegal: few NV buildings were constructed this season because the programme was strategically redirected at public and community clients, in particular in northern Senegal, thus favouring the institutionalization of the NV market and the launch of projects carried out in partnership with local NGOs in the regions of Kaffrine and Thiès (*see p. 47*).

Ghana: the first NV market in an English-speaking country, the programme in Ghana is gradually being built (+ 63%) around a middle-class clientele and growing community demand; there is also increased awareness-raising vis-à-vis clients who are farmers in the new region of Garu (*see p. 56*).

Benin: in the third year of deployment, the level of production tripled, mainly thanks to the commitment of many cement masons under a mechanism combining construction and training (*cf. p. 66*).

Although the domain of and obstacles to the NV market are specific to each country, **workers in the various AVN units focused this season on the activities essential to the widespread dissemination of the NV solution**, in particular the development and consolidation of training methodologies for jobs in the NV sector and of advocacy activities (*see country summaries*).



Mill of the women's group of Kissi (Burkina Faso).

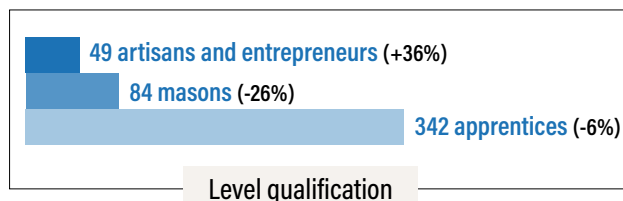
■ Summary (continued)

Establishment of supply

737 apprentices, masons and artisans worked on NV sites, an increase of 17%, in particular in Benin, where the local workforce doubled, and in Mali, where the number of workers grew by 44%.

48% of worksites benefited from reinforced training; the main activity this season was the promotion of cement masons/C3 masons. This incentive for training has had verified effects on:

- Cooperation between groups of masons who are training themselves and building their own houses together;
- The efficiency of the training when all of the group's projects are worked on in short succession;
- The marketing of beneficiary masons, who use their own houses to convince their clients.

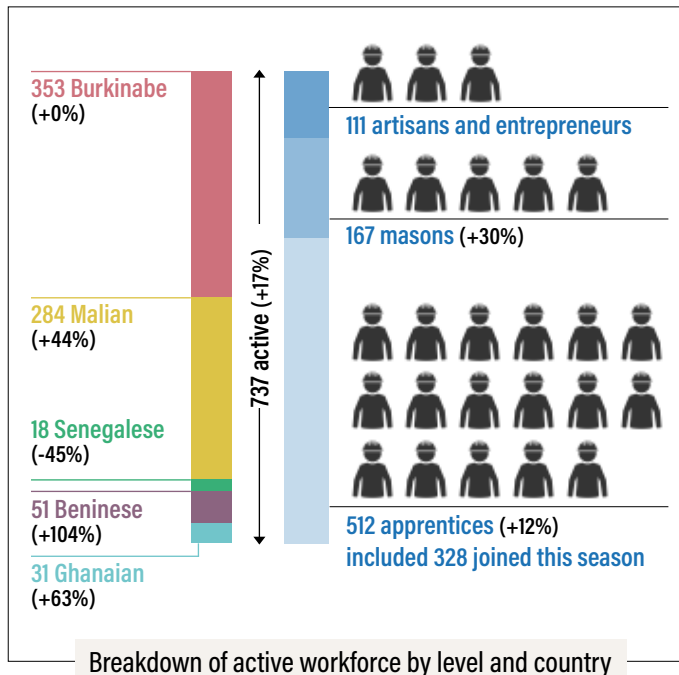


68 trainer masons directed the on-site training and were involved in the general reflection on how to improve training and to provide personalized supervision for students. Support for these advisor masons, who are custodians of NV knowledge and key actors to providing high-quality training, will be a priority for the 2017-2018 season.

54 NV artisans received business training in Mali and Burkina Faso, some of whom continued to build up the entrepreneurial project they had launched last season. This activity is essential to the development of local markets and to their self-sufficiency and has two objectives: for producers to have the tools they need to develop their own NV markets, and for them to then spearhead the accelerated dissemination of the NV concept.

The number of qualifications awarded at the end of the season ensures that the NV market has the ability to grow in the coming seasons:

- The pool of artisans and entrepreneurs, the productive and training force of the NV market, has increased by 50%, thanks to about 50 new worksite foremen; they will receive support from the very start of their work as artisans in the form of management and marketing training;
- The class of masons, made up of 84 people, will be the other priority for technical and entrepreneurial training activities carried out by AVN next season, in order to increase and improve their productive capacity and to prepare them to integrate into the construction market.



Breakdown of active workforce by level and country



Start of the vault on a construction site in Burkina Faso.



Burkina Faso

POPULATION

19,6 million inhabitants
(66% rural)

GDP PER CAPITA

\$ 649 - 29th African Rank
(World Bank 2016)

CLIMATE

Sudano-Sahelian

OPENING OF AVN PROGRAMME
in 2000

HUMAN RESOURCES

28 local employees and
3 expatriate employees
(including VSI)

DEPLOYMENT

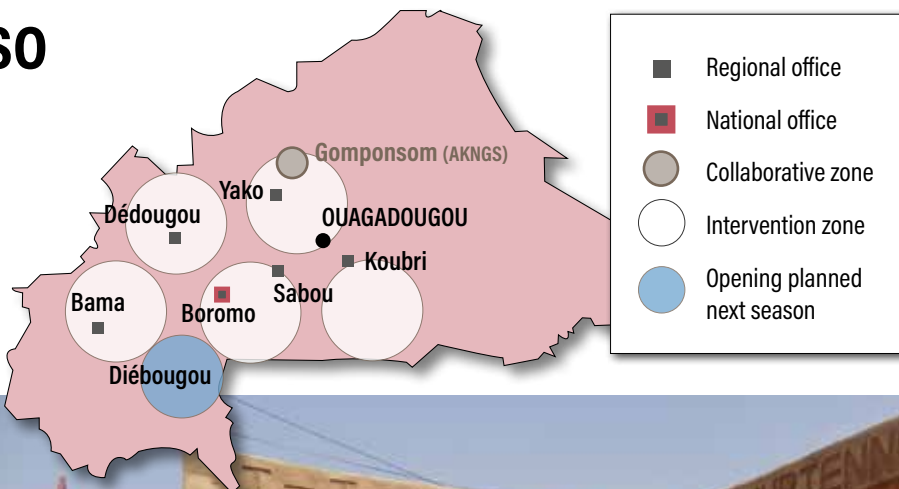
1 national office and
5 regional offices

BUILDINGS CONSTRUCTED

1,413 projects since 2000

LOCAL PARTNERS

AKNGS, FNGN, Unions Naam,
UBTEC, APFI-B, TNB, Morija



Yako Regional Team and FNGN Partners.

Key data

2000

1st technical tests
to standardize
the NV concept

2007

Start of the programme
awareness, training of
masons, constructions

2011

1st AVN
local team in
Boromo

Regional duplication
in Koubri, Dédougou,
Yako et Bama

2013

Pilot projects of NV
housing microcredit
with 2 MFIs

2017

1st collaborative
partnerships with
farmers' organization

Summary

In Burkina Faso, which is where nearly all of AVN's actions have been designed and developed since the start of the programme, this season's activities focused on **advocacy, developing partnerships and methods of strengthening training.**

With **200 worksites completed** for a total of **5,454 m²**, the volume on the Burkinabe market was equivalent to last year's (2% growth).

However, there was a **30% growth in the number of projects** begun in areas where housing microcredit products are offered or where on-the-ground partners are active (the Yako and Dédougou intervention zones).

91% of clients are farmers who opt for rural housing.

18% of the market is found directly by the masons, without help from the AVN teams. This is seen mainly in Boromo, a region where the NV concept began to spread in 2000.

64% of worksites benefitted from financial incentives aimed at starting building earlier (before the end of the vegetable growing season), strengthening training on the rural market for apprentices and convincing traditional masons (who use metal roofing sheets or cement) to receive NV training.

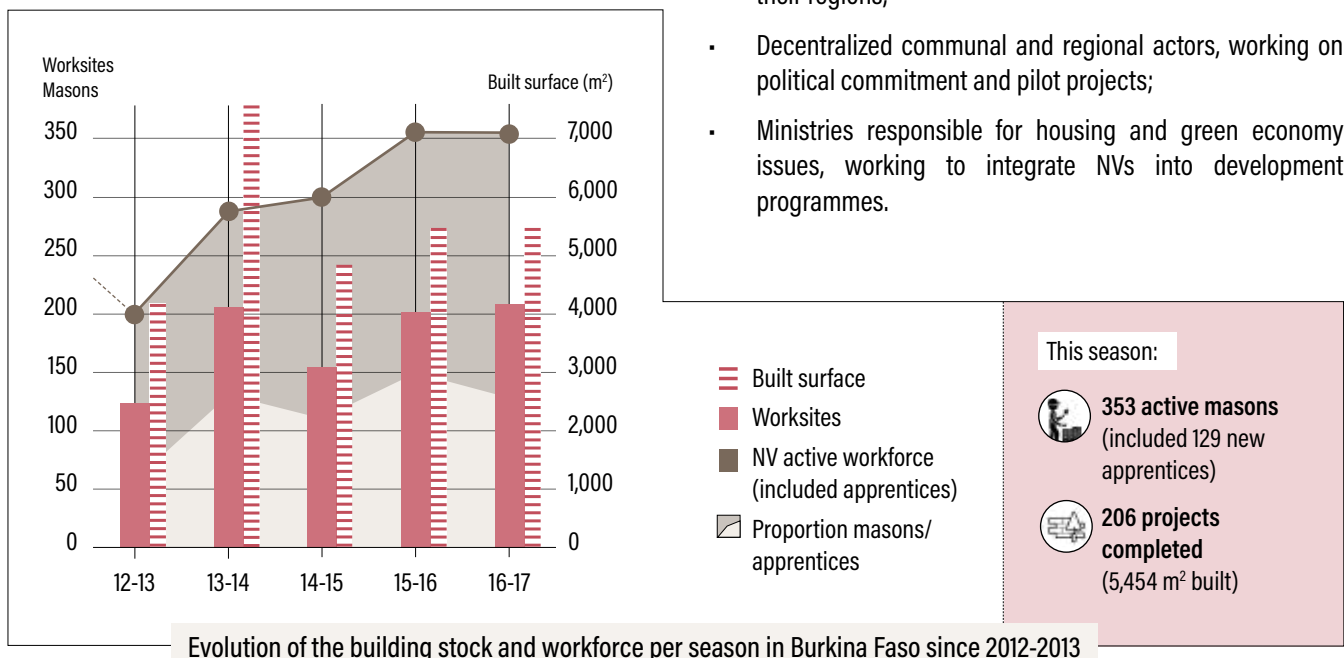
353 apprentices, masons and artisans, including 51 new cement masons, worked on building sites.

17 new, qualified artisans (+55%) are capable of setting up a team and taking charge of worksites.

18% of Burkinabe masons and artisans went abroad to train the Ghanaian and Beninese apprentices; this number decreased as the labour force in the new areas gained autonomy.

As a result of advocacy work carried out locally and internationally over the past several years, **this season there were also some new partnership opportunities with:**

- The National Federation of Naam groups and 12 of its Naam unions, working toward management of the programme in their regions;
- Decentralized communal and regional actors, working on political commitment and pilot projects;
- Ministries responsible for housing and green economy issues, working to integrate NVs into development programmes.





Burkina Faso

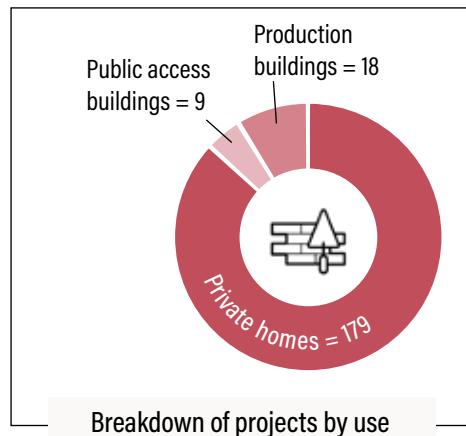
A Roof

Awareness raising was carried out in 84 villages/communes (+3%), including 7 that involved the farmers' group AKNGS, which worked on raising awareness vis-à-vis communities and on promoting the housing microfinance product with the UBTEC credit union (*see opposite*).

Although most buildings constructed are still being used for housing in rural areas (87%), the model buildings constructed for community and agricultural purposes demonstrate that the NV concept is gradually being adopted: four barns financed by the FAO (*see below*) and the 280 m² medical-surgery centre in Kaya (*see p. 34*).

Partners were involved in the construction of 12% of worksites:

- The two microfinance institutions in Yako and Dédougou offer subsidized microfinance products (*see opposite*);
- The farmers' group AKNGS, working on raising awareness and market follow-up/support in the Gomponsom zone of the North region, raised funds from the French embassy to train 66 young people on the NV concept (*see p. 28*). AKNGS was also very active in raising awareness with and mobilising the National Federation of Naam Groups (of which it is a member) and 12 other Naam unions in order to encourage them to manage and disseminate the programme in their regions (*see p. 31*).



■ The NV technique recognized by the Food and Agriculture Organization of the United Nations (FAO)

The FAO financed the building of four onion barns using the Nubian Vault technique in the North and Sahel regions as part of the project to improve availability and access to food and funding ("*Amélioration des disponibilités et de l'accessibilité alimentaire et monétaire*"), which is part 1 of the Food and Nutrition Security Programme for Burkina Faso, financed by the European Union and run by the FAO.

These pilot buildings were constructed by the local NV company, Confort Habitat, with support from AVN's Technical Expertise Unit for the design and administrative aspects. These worksites were used to raise awareness with about 200 people from the beneficiary populations, in particular from farmer groups (Naams). A desire for replicating the concept has been expressed, as has an interest in training the beneficiary communities on the NV technique in order to develop self-build practices and to boost the local NV market. The end of the 2017 vegetable growing season should provide local proof of the effectiveness of NVs in preserving food and should favour new construction projects and training activities. ■



■ Microfinance: Two pilot projects to facilitate access to adapted housing

Following a preparatory season working alongside partner MFIs—APFI-B (Association for the Promotion of Inclusive Finance in Burkina) and UBTEC (Credit and Savings Baoré Tradition Union/NAAM)—the implementation of year 1 of the NV Housing Loan (CHVN) pilot project in Burkina Faso has thus far been quite satisfactory:

- **15 loans granted for an average amount of 188,000 CFA francs** (about €287);
- **15 completed worksites** (13 houses and 2 community buildings) **by 6 artisan-masons;**
- **27 agents, managers and administrators** trained on promoting the NV housing loan at **32 APFI-B booths and BTEC offices;**
- **60 awareness-raising missions** carried out jointly by AVN and credit officers, with support from AKNGS;
- **100 posters, 2,000 pamphlets and 500 liaison files** given to MFIs to promote and manage the CHVN.

This season the Dédougou region, covered by APFI-B, presented very good projections. The more mitigated results from UBTEC in the Yako region mainly seem to be due to potential clients lacking manpower (young people have been busy trying to make up for the poor harvest season during the construction period). It was decided that three new BTEC offices offering the CHVN would be added in order to boost awareness.

For the 2017-2018 season, year 2 of the pilot projects will allow us to see the dynamic of 15 loans being repaid, as well as of further loans being granted. ■



The APFI-Burkina team.



Burkina Faso

A Skill

The first place where activities to boost NV training were tested, it was also in Burkina Faso that brainstorming on how to improve training methodologies took place this season, with all staff members working on the topic.

176 qualifications for trainees were approved by worksite foremen, including 120 apprentices, 41 masons and 17 artisans.

130 cement masons received training at 68 worksites under the "Cement Mason Promotion", a financial incentive for training that was a priority for the season in terms of recruitment and accelerated training of new recruits.

Technical modules for about 50 students were organized at four community building sites to teach complex techniques (coatings for permanent protection, large arches, upper wall protection and laying of laterite cladding bricks).

More than 30 trainer masons led on-site activities and were involved in developing new methodologies and focuses for training.

14 artisans took an introductory course in Entrepreneurial Training (organization and planning, management, marketing, financial management, etc.) (*see opposite*).

Two major projects incorporating a whole range of training activities (technical and entrepreneurial) carried out in partnership with development actors were in their initial phases of implementation: the professional development and integration project for 66 young beneficiaries in Passoré province (the PISCCA project), with the farmers' group AKNGS (*see beside*), and the construction/training project for the health care centre in Kaya, for 28 students (*see p. 34*).



Training as part of the PISCCA project.

Future NV artisans for Passoré

The French embassy provided funding to AKNGS through the Innovative Projects from Civil Societies and Coalitions of Actors programme (PISCCA), for an ambitious 18-month training programme in Passoré province, supported by AVN.

This involves the training of 66 young people:

- in a group working on their own NV houses, to be used as future demonstration buildings to develop their markets;
- in modules at community worksites, where they learn more complex finishing techniques;
- in the classroom, where they supplement their technical skills and take a course on business and marketing.

It also involves **the training of six trainer masons** in worksite management, pedagogy and assessing students.

Finally, it involves **capacity building for AKNGS** in terms of managing the NV training project and of raising awareness with their members.

The project began in January, and this season it concerned:

- setting the general framework;
- hiring for two positions in AKNGS;
- selecting the beneficiaries and the trainer masons;
- building the first five houses. ■

■ Abdoul Dramane Bayoulé, future NV entrepreneur, model for the programme

- NV artisan
- Trainer mason
- Zonal mason (on-site quality control)
- Mason from the NV Housing Microcredit programme (one of six artisans approved by AVN/MFIs)

During the 2016–2017 season, Abdoul Dramane completed 16 buildings (compared to 6 in 2015–2016). He now has a logbook of all of his worksites, pays his employees via Orange Money and has succeeded in establishing a cash flow that he invests in an MFI; all of this progress reassures AVN as to the effectiveness of its methods. ■



Abdoul Dramane Bayoulé in Entrepreneurial Training session.



" Before starting my career as a NV mason, I was just an apprentice to a conventional cement mason, without any experience. Learning the NV concept opened many doors for me, brought me many new contacts, a lot of valuable experience and new responsibilities. I now work as a NV senior and trainer mason, with several teams that I manage simultaneously.

As well as training us in the NV technique, AVN accompanies us in our Entrepreneurial Training (ET) programme, which has since become my guiding light, as it has helped me to organize my schedules and work full time throughout this season, with 16 completed construction sites, 8 of which were financed through the NV Housing Credit scheme. With help from the staff of the ET programme, I have started to make progress in literacy: this has been of great help for me in organizing my contacts lists and schedules, for drafting estimates and quotes, and generally in managing my teams of NV masons.

In five years, God willing, I see myself as running a flourishing NV business, with several teams of masons able to work on major construction projects. And I think I'm on the right path to get there."



Burkina Faso

A Market

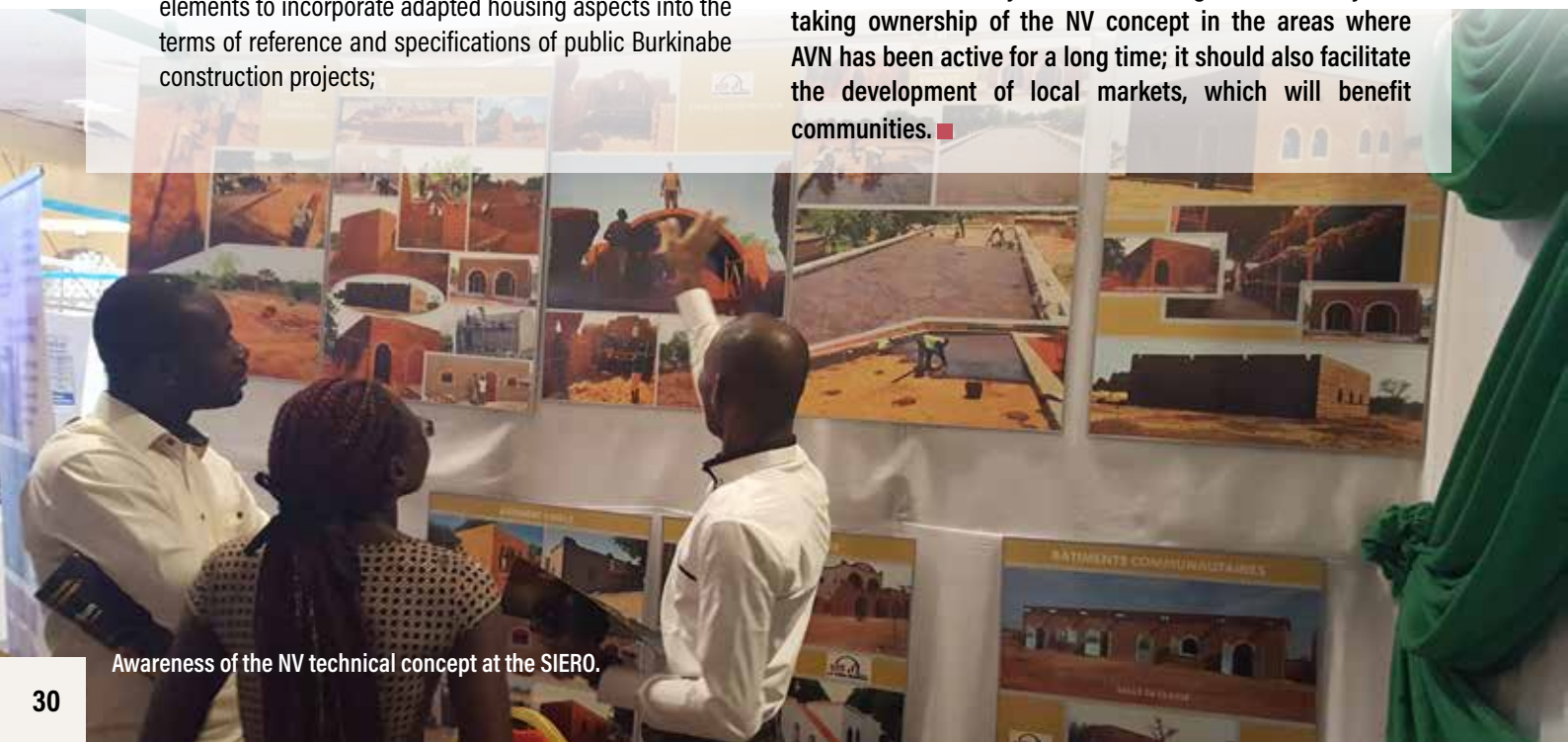
The success of the advocacy carried out by AVN for several years now, and recent policy changes, means that there are new and strategic opportunities this season as regards partnerships and the management of the programme by Burkinabe actors. A large share of AVN's activities have been dedicated to encouraging commitment from political and regional bodies as well as those from civil society..

■ Decentralized actors: NVs as a driver of territorial development

Following the systematic awareness-raising activities carried out vis-à-vis political actors in the areas of intervention, this season AVN was invited to present its adapted housing work:

- **To the general assembly of the Association of Mayors of Burkina Faso (AMBF).** Following particular interest expressed by several mayors in incorporating this topic into their own policies, AVN proposed that a collective of mayors committed to adapted housing in Burkina Faso be set up. AVN also submitted a document on editorial elements to incorporate adapted housing aspects into the terms of reference and specifications of public Burkinabe construction projects;
- **To the general assembly of the Association of the Regions of Burkina Faso (ARBF).** The regional councils of the *Boucle du Mouhoun* and North regions committed to including adapted housing in their Regional Development Plan, to be finalized in 2018.

This commitment by local actors signals that they are taking ownership of the NV concept in the areas where AVN has been active for a long time; it should also facilitate the development of local markets, which will benefit communities. ■



Awareness of the NV technical concept at the SIERO.



Representatives of the FNGN, the 13 Naams Unions and AVN for the signature of the partnership.

■ Burkinabe farmers' groups committed to adapted housing

On 12 July 2017, AVN, the National Federation of NAAM Groups (FNGN) and 13 NAAM unions, including AKNGS, signed a model partnership agreement on the management of the AVN programme in Burkina Faso.

The involvement of 12 new unions marks the coherent continuation of the cooperation begun in 2014 with AKNGS and will broadly contribute to speeding up the improvement of living conditions for rural populations. The stakeholders must now raise the necessary funds to carry out the activities: setting up an Adapted Housing Commission and

hiring an employee, raising awareness with communities about NVs as a building solution and as a profitable job that is complementary to agricultural activities, implementing training methodologies on NVs, carrying out advocacy work, etc.

The motivation for farmers' groups to work alongside AVN could mean, in the mid-term, the gradual involvement of the 72 other unions, thus replicating the programme on a broad scale. ■



Burkina Faso

A Market (continued)

■ State actors committed to adapted housing and vocational training

Thanks to the on-the-ground work done over the past 15 years and to networking activities and the various strengthened advocacy activities carried out since 2014, **several ministries and institutional actors (or those close to the institutions) are now receptive to AVN's proposals**, because they are fully consistent with the projects developed as part of their own policies.

Although none of the proposals put forward by AVN (*see below*) were implemented in 2017, **an inter-ministerial workshop is expected to be held next season to define a cross-cutting national policy on adapted housing and green jobs**, which will be in alignment with the expectations of the National Economic and Social Development Plan (PNDES) for 2016–2020, established by the Government that took office in 2016.



The Minister of Youth, Integration and Vocational Training and his delegation during the visit of a NV building in Ouagadougou.

Ministry of Housing and Urban Planning: the Ministry's interest in the adapted housing concept and the cross-cutting dimension of green economy principles has encouraged AVN to draft a proposal integrating NVs into the "40,000 homes" programme and to propose an NV housing pilot project for Gaoua.

Ministry of Environment, Green Economy and Climate Change (MEEVCC): the proposal to incorporate NVs as an adapted solution into the 2,000 eco-villages project, to be carried out by 2020 under the PNDES, has received an agreement-in-principle from the Minister, with implementation starting in 2019.

Ministry for Youth, Integration and Vocational Training (MJFIP): the need to promote an adapted construction sector (appreciation of the skills of those working informally, dual training that is adapted to the market, recognizing the need for trainers, etc.) is a point of view shared by the various intermediaries. Two important pre-projects have incorporated this idea while also mentioning Nubian Vaults: the Operational Action Plan under the National Policy on Education and on Technical and Vocational Training (PAO and PN/EFTP), and the Support Programme for Vocational Training and Apprenticeships (PAFPA). ■

Highlights of the season

● The National Green Economy and Climate Change Academy - *Décember 2016*

AVN advocacy for the institutional incorporation of NVs into the implementation of the National Sustainable Development Policy (PNDD) for 2013–2018

● Visit by Sudan's Ministry of Agriculture and Forests - *March 2017*

Exploratory mission for a project to replicate AVN's programme in Sudan (*see p. 73*)

● International Exhibition of Renewable Energies in Ouagadougou (SIERO) - *May 2017*

AVN wins the contest's special eco-housing prize "SIERO for Sustainable Development"

● Visit by the French ambassador to Boromo - *May 2017*

Observation of programme implementation on the ground and support for teams (*photo*)

● World Forum to Combat Desertification and Drought in Ouagadougou - *June 2017*

Organized as part of the World Day to Combat Desertification and Drought, launched by the UNCCD



Visit of Xavier Lapeyre de Cabanes, Ambassador of France to Burkina Faso.



Burkina Faso

Focus project: Expansion of the Medical-Surgery Centre in Kaya

Morija is an NGO whose objective is to provide aid to vulnerable populations, mainly in sub-Saharan Africa, in various fields such as health care, education and rural development. As part of a rehabilitation project for those with physical handicaps, Morija decided to increase its capacity to take in people at its Medical-Surgery Centre in Kaya (Centre-Nord region) by constructing two additional 280 m² NV buildings, which would allow for 30 additional beds. Mikaël Amsing, the manager of the programme and of Morija's institutional partnerships, spoke to us about the project.

Why choose the NV concept?

The main idea was to construct a building that was in line with our values and with the principles of sustainable development. The idea of using non-imported, local materials, of promoting a simple building system that is adaptable and reproducible, and of on-site training and energy sustainability are all things that convinced us. In addition, for two years we had been unsuccessfully trying to find donors for this expansion. Using an innovative concept like NVs was enough to convince them.

KEY FIGURES



280 m² built



1 building with 10 NV



18 apprentices trained



Construction of the first phase of the extension of the Kaya CMC.

What feedback have you had about your project?

This project was a challenge because no NV building this large had previously been built in Burkina Faso. We therefore had to work to make it feasible while meeting the constraints imposed by a hospital setting, in particular as regards the size of the arch. The NV entrepreneur was very satisfied with how the project turned out, despite the high requirements for the finishings.

In addition, the fact that laterite bricks were used on the facade means that the building will last a long time, and it also looks nice: being able to welcome patients in very good conditions is a really important part of the healing process. Staff at the centre have told me that the most difficult thing from now on will be sending the patients home, because the conditions at the hospital are so good that they won't want to leave!

Are you happy with the partnership with AVN?

It was a project involving many actors, and I think that AVN's role in it was just right. We're very happy with the technical support and the advice given. The NV mason training aspect went pretty well, although it was only partial during this first phase, for several reasons. That training is planned to continue during construction of the second building.

After that, it's possible that the masons trained might introduce the concept to the Nobéré zone, where we could add a "sustainable housing" aspect to our activities. From a strategic point of view, however, that remains to be discussed between Morija and AVN. We're happy to have helped promote a concept that we believe in and to have helped boost recognition of it at institutional level.

For more information, see morija.org.



A model worksite

In mid-June, a guided tour of the worksite by AVN's Technical Expertise Unit, the entrepreneur, and the architect and project manager was organized at the building site, to introduce the NV concept and its advantages to many private and public actors in the construction sector. Several representatives from ministries, the mayor's office, the *Ecole Supérieure Polytechnique de Kaya* (a polytechnic institute), construction companies and NGOs attended the presentation. They expressed particular interest in the passive energy performance of NVs and in the emphasis placed on training.





Mali

POPULATION

18 million inhabitants
(59% rural)

GDP PER CAPITA

\$ 780 - 24th African Rank
(World Bank 2016)

CLIMATE

Sudano-Sahelian

OPENING OF AVN PROGRAMME

in 2009

HUMAN RESOURCES

21 local employees

DEPLOYMENT

1 national office and
5 regional offices

BUILDINGS CONSTRUCTED

817 projects since 2007

LOCAL PARTNERS

AOPP/UACT, Teriya Amitié Mali,
Mayor's office of Kemekafo,
Miniankala-Kafo, CFP of Tominian



Key data

2006

Construction of the first community buildings in partnership with local and international NGOs

2009

1st AVN local team and opening of Ségou region

2013

Regional duplication in Koutiala and Dioïla

2015

Regional duplication in San and Banamba

2017

Summary

AVN's dissemination strategy has proven itself successful in Mali since inception. Mutual aid within communities gives the NV a competitive advantage. In turn, the exponential growth of demand for these houses makes NV apprenticeship an attractive field for training. Altogether, the maturity of the programme and its results entice more and more local actors to participate in, support or integrate the activities.

205 worksites were completed, totalling 4,934 m² produced, signifying a 16% growth this year, despite the fact that a stronger downturn could have been expected to the exceptional growth rates (72% and 48%) measured over the two last years.

A 30 to 50 point growth is measured in the areas of San and Segou, where training incentives ("Cement Mason Promotion") were especially numerous.

98% of the clients are farmers, building rural homes. On the community building construction sites, enhanced training activities are systematically organized in order to train Malian masons in the techniques adapted to this specific building type.

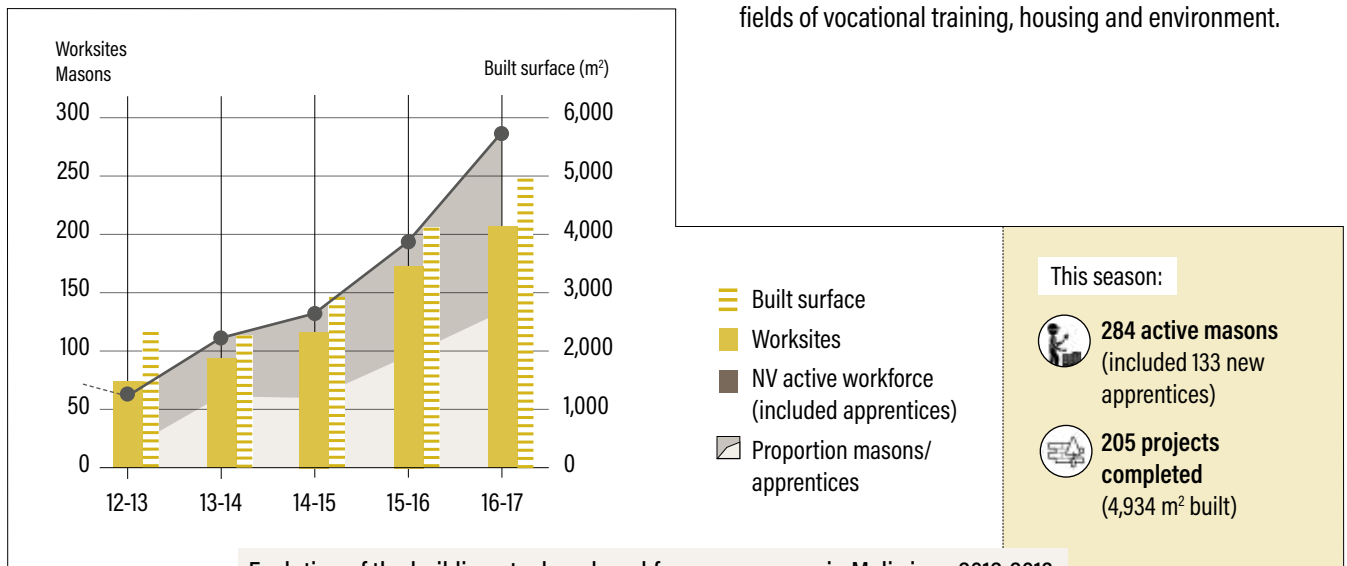
74% of constructions benefitted from financial incentives aiming to encourage earlier constructions (before the end of the crop growing season), facilitate retraining of conventional masons (who use cement or metal sheets) or consolidate the market once it's been successfully kick-started in a given area and for the core target clientele.

18% of the clients got in touch directly with their contracting mason, without AVN's teams' support. This was true in particular in the Koutiala area where the masons benefit from building incentives (see p. 39).

284 apprentices, masons and artisans worked on NV constructions, marking a 44% increase (equal growth to last year's), mainly due to large-scale involvement of conventional masons.

24 new artisans were qualified (+9%), increasing by half the production and training capacity of the Malian workforce.

The interest of Malian actors grows more marked and heralds pledges and concrete projects for the seasons to come, notably with several town councils, vocational training centres and some national institutions acting in the fields of vocational training, housing and environment.



Evolution of the building stock and workforce per season in Mali since 2012-2013



Mali

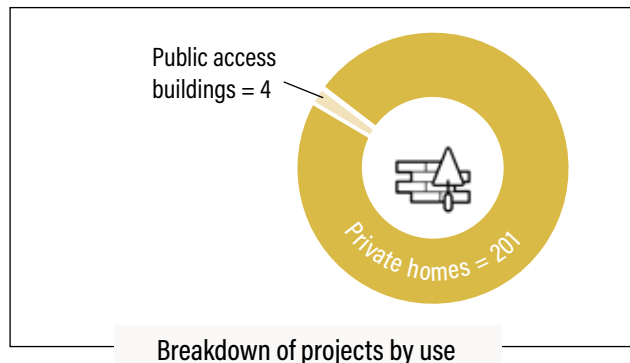
A Roof

The AVN-Mali team extended its direct action zones to 71 villages/towns (+26%) and into two areas involving partnership arrangements:

- Around Niéna (near Sikasso), as part of the market development initiative financed by the NGO Teriya Amitié Mali (see p. 44);
- In the areas of Nara, Nioro and Banamba, as part of the Programme for Natural Resources Management and Climate Change Project (PGRNCC), led by the AEDD and funded by the World Bank.

The great majority of the finished buildings are private houses, for a rural clientele. The NV matches the beneficiaries' needs in terms of vocational training, adapted building solution and cost (significantly reduced through beneficiary involvement and mutual support within communities).

3 buildings open to the public were commissioned by municipalities (2 maternity clinics and 1 youth centre), joining the 70 other exemplary buildings demonstrating the suitability of the NV concept for community uses and needs.



Perspectives for this specific market segment, underdeveloped in Mali, are positive for the seasons to come:

- The NGO GERES, active in the Koutiala area (among others), funded a small building (*photo*) fitted with an electricity generation and storage system for the Productive Energy Centre project, for the benefit of the Workers' Association of Kourou; his project will continue with the building of many workshops next season.
- The NGO *SOS Faim* offered the farmer's organizations it supports to build their storage units in the NV technique and to add to its projects some training activities that will generate local know-how and a NV market profitable to local development and living standards.
- The AEDD plans to fund several administrative buildings in the areas of Nioro, Nara and Banamba, as part of the PGRNCC carried out until August 2019, as well as raising awareness among local actors of the needs to adopt adaptive building solutions, for economic reinforcement and climate change action.

■ Financial incentives to accelerate the market for the many

AVN was for a long time favourable to the emergence of a private market free from direct support measures, the growth of which would validate the relevance of the Nubian Vault. **With the aim of accelerating the transformation of building practices, AVN has decided to use financial incentive tools for the benefit of rural clientele:** financial assistance amounting to 10% of the total cost of a Nubian Vault houses, without deforming the market, helps more clients reach a faster decision on building. The objective of this initiative is also to involve NV artisans in the distribution of this incentive, used as a marketing tool to build up their local market and better guarantee their retribution.

These "large audience" incentives were tested for the first time this season in the Koutiala area (14 municipalities) and in Keme Kafo. These territories were selected for their levels of demand (market successfully kick-started in previous seasons), production capacity (sufficient number of qualified artisans) and involvement of local authorities (AVN is building partnerships with the Koutiala inter-community organization and the Keme Kafo town council).

At the close of the first year of implementation, the impacts of these measures on strengthening the markets have not yet been observed, the production level being equal to the previous year's (57 buildings). A key explanation is that information on this new facility was not circulated at the start of the season, and therefore did not allow clients to organize themselves and save for the construction. The season to come should confirm the expected impacts and/or provide data for an eventual revaluation of the amounts proposed to reach the intended lever effect. ■



Nubian Vault home and beneficiaries in Bancoumana.



Mali

A Skill

For two seasons now, the reinforced on-site technical training and the Cement Mason Promotion have had very positive results on the growth and qualification of a Malian workforce. This season, in addition to prospective partnerships with training institutions, AVN's training tool kit was completed with an entrepreneurial component.

215 level promotions were registered at the season's end (+13%), including 160 apprentices, around 30 masons and 24 artisans, multiplying the productive capacity for next season.

Over 150 Cement Masons were trained on 67 "Cement Masons Promotion" constructions, a financial incentive to training, seen as a priority activity in this season for the enrolment and accelerated training of new apprentices and masons.

Technical modules, organized on 7 construction sites, were opportunities for 41 Malian trainees to gain specific training on building and finishings techniques for community buildings: permanent protective coatings, wall protections, exposed laterite bricks.

30 Trainer Masons were involved in on-site training reinforcement activities and will benefit next season from a targeted training offer covering trainee evaluation and new training systems.

35 artisans have engaged in an entrepreneurship training cycle (*see opposite*).



NV sample building at the CFP of Tominian.

■ A NV Curriculum in Vocational Training Centres

The NV building sector will see a significant advance with the integration of a Nuban Vault curriculum in the formal curriculum of Vocational Training Centres (VTC), which will provide:

- **Institutional recognition** of a sector with considerable employment potential;
- **The pooling of training means and methods,** to improve technical and entrepreneurial learning tracks;
- **The acceleration of training** and therefore the increase in production capacities of the market.

Two VTCs, for whom AVN previously conducted awareness raising and information actions, took a first step this season and had sample buildings erected within their campuses (*see photo*): 3 Niore VTC trainees and 10 Tominian VTC trainees were taught the NV concept, and a partnership offer was extended to the VTC in Tominian.

These first signs of interest will lead to the co-creation of a complete NV curriculum and the implementation of first pilot actions as soon as 2018. ■

■ Entrepreneurial Training, a Tool to Densify Markets

This training component is for AVN a determining vector of NV market acceleration. Equipped with management and marketing skills, these building professionals will be able to autonomously develop their own markets and actively contribute to the transformation of building practices. In Mali, where the numbers of masons and artisans are growing fast, it is important that they be able as soon as possible to support their professional development.

35 Malian masons began the Entrepreneurial Initiation Training, offered in the shape of 3 workshop days led in Koutiala and Dioïla (*photo*) which will be completed next season by an expanded cycle.

6 of these masons also entered into the programme for **Building an Entrepreneurial Project**; each of them was invited for 1 or 2-days workshops led by staff from the Training Division on entrepreneurial concepts (Self-Management, Organization, Financial Management, Market Development, Client Relationships, Team Management) in order to lead to the creation of an individual 3-year plan with targeted ambitions and the identification of key training needs. These masons are then offered the possibility to attend specific modules meeting their needs, such as Numeracy, Quotes, Planning, etc.

This year, one mason (the only one among the 6 with this particular need) followed the Numeracy module, in the shape of daily lessons by a schoolmaster over 2 months. ■



Entrepreneurial Training module in Dioïla.



Mali

A Market

For two seasons now, AVN has set out to boost its advocacy towards State and local authorities, engaging their interest for the NV as an inclusive solution supporting development plans integrating housing, rural economies, vocational education and employment, environment and climate change adaptation. The political instability affecting Mali since 2012 has clearly had a negative influence on this ambition. However, this season, several manifest interests and willingness to commit herald a new dynamic.

At the local level:

A model for partnership is being established with several city councils in the Dioïla area. First contracted with the council of Keme Kafo, this model includes financial incentive programmes for access to housing for all populations, and the promotion of this facility by the local authority in order to generate quickly a promising local market. The quality of this partnership has encouraged three adjacent towns (N'Golobougou, Massigu and Nangola) to enter the programme. AVN will work on enriching these partnerships in the 2017-2018 season through the establishment of an Adapted Housing commission, the organization of events and the construction of demonstration buildings, etc.

At the national level:

The Agency for the Environment and Sustainable Development (AEDD), the first national institution to support the NV dissemination as an integrated solution for environmental and economic issues (since 2015 in three cercles in the Kayes and Koulikoro regions, within the PGRNCC programme), will also commission ten administrative buildings in the next season.

The Malian Housing Office (OMH), met several times since 2015, wishes to take part in a pilot project for the construction of 10 NV social housing units in the area of Segou. The project documents should be finalized in 2018.

Within the Project for Youths Skills Development and Employment (PROCEJ), **the National Directorate for Vocational Education** was called on to support AVN in submitting a NV training project in the Koutiala region. Furthermore, discussions are engaged with **the Vocational Education Centres of Tominian and Nioro** to integrate the NV concept into their training programmes (*see p. 40*).



Presentation of AVN at the FACT.

Highlights of the season

- **Festival on Niger - February 2017**
Presentation of AVN on a stand and interview on the Malian programme's results by two national media
- **Forum of Contemporary Earth Architecture (FACT)**
- February 2017
Information action to the general public, elected representatives and local authorities (*photo*)



Rural awareness campaign in the Dioila region.



Mali



Partner Focus: Teriya Amitié Mali

Teriya Amitié Mali has been a partner of the Niéna populations (Sikasso cercle) for over 30 years, supporting them in projects for education, health, culture and economy. In 2015 the association commissioned the building of an NV Artisanal Production Unit of Misola flour, in order to combat malnutrition and support women and youth in accessing the job market, among others by on-site NV vocational training.

This season, the association continued its commitment by funding the training of 2 Cement Masons and 3 apprentices on the construction of their own homes. Next season, Teriya wishes to have an NV classroom built and fund the Entrepreneurial Training of the cement masons turned NV artisans, today capable of managing their first independent building projects.

Acting as a true relay partner, *Teriya Amitié Mali* is today the linchpin for the dissemination of the NV concept in Niéna and the area of Sikasso more broadly.

Why did you choose the NV concept?

We discovered the NV concept on the Yvelines International Cooperation Forum (France) in 2013. In Niéna, from the beginning of our work there, we have always sought out sustainable solutions, that are above all easily appropriated and reproduced, for the buildings. We wanted the technique to also allow for vocational training and for it to embed itself in local economies.

What was the feedback on your project?

After an initial doubtful period, the construction generated curiosity and admiration. It was much talked about in Niéna, in meeting places and in hallways. Towards the end, the elders

themselves came to look at the building. The women, the prime users of the building, immediately valued its comfort. Both Niéna-based masons trained on the first building asked to continue their training as part of the Cement Mason Promotion, and they are now ready to seek out their own clients. Three apprentices also joined the training and others have stated their interest to do so too. As for local authorities, they are favourable to the NV: the mayor of Niéna and the head of the local education authority have approved the building of a double NV classroom for the town.

What are the prospects for this project and partnership?

The quality of the relations we have forged together is indubitably the basis of a good collaboration. AVN's teams were excellent technical advisors and good supports. The Production unit is a quality building and the classroom project for the kindergarten should soon begin.

A long-term partnership? We hope, but it will also depend on requests by the population and their representatives. It will also depend on our financial capacities. More importantly however, we deem it necessary to continue to train a local workforce so that an autonomous and coherent economic model would develop in Niéna.

More information on teriyaamitiemali.wixsite.com/teriya



On site training of masons in Niéna.



Senegal

POPULATION

15,4 million inhabitants
(55% rural)

GDP PER CAPITA

\$ 958 - 23th African Rank
(World Bank 2016)

CLIMATE

Sahelian

OPENING OF AVN PROGRAMME

in 2010

HUMAN RESOURCES

1 VSI for the NV Fouta project

DEPLOYMENT

1 partnership office AVN/LP

BUILDINGS CONSTRUCTED

143 projects since 2010

LOCAL PARTNERS

Le Partenariat, Malem Auder, Enda Pronat, MEDD



The *Maison des Yvelines* building in Ourossogui.

Key data

2007

1st buildings in the Matam region

2011

Opening of northern regions with the NGO Le Partenariat

2013

1st local AVN team and opening of the Thiès region

2014

Focus on kickstarting the public and community markets

2015

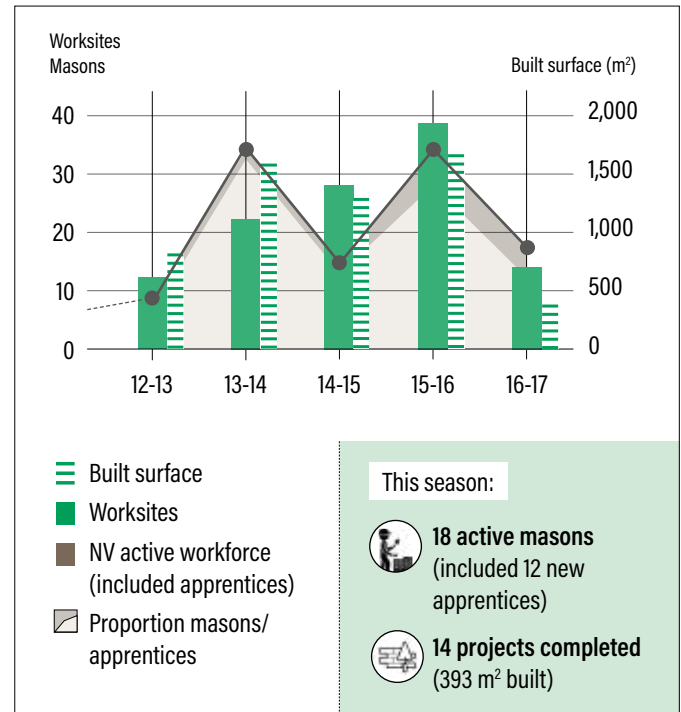
Collaborative partnerships with CSOs

Summary

AVN's experience in Senegal since 2007 has led the Association to develop several experimental methodologies aimed at new targets, notably urban, peri-urban, and community buildings. The Senegalese context is particularly favourable to the emergence of an institutional market, given the strong interest expressed by local and national institutions, leading to a set of technically more complex structures (demonstration buildings, technical R&D, training of masons in specific techniques, formal recognition, training of technicians and architects etc.).

Current opportunities for partnerships, and the interest expressed by institutional actors in Senegal and internationally justify the continuation of these experiments, making Senegal a sort of methodological and technical laboratory. This involvement of institutional actors will help the development of the the NV market and its integration into public policies.

This change of strategy is the reason for the decreased results this season, as the construction of community-use buildings is subject to greater financing and planning demands. Eventually, building on the experience gained in this country, AVN will be in a position to reproduce the methodologies developed and multiply the potential results and impacts both in Senegal and the other countries in which AVN is involved.



Evolution of the building stock and workforce per season in Senegal since 2012-2013

Accordingly, based on the hypothesis that the construction of community-use buildings catering for specific needs will lead to the emergence of an adapted construction sector, **AVN-Senegal's activities focus now on kickstarting public and community involvement, as illustrated by the NV Fouta project.**

Apart from this project, AVN is accompanying various pilot projects initiated by partners in Senegal: Enda Pronat (construction of agricultural storage and livestock barns), and the Belgian-Senegalese NGO Malem-Auder, as well as the Diakré pilot project with the NGO Le Partenariat. AVN is also working on preparing the implementation of a programme for Senegal's Ministry of the Environment and Sustainable Development with funding from the Global Environment Facility (GEF), due to start next season.

2016

Refugee rehousing project in Mauritania, at the Senegalese border

2017

Start of the NV Fouta Project



Senegal



The NV Fouta project

Since 2017, with funding from the French *Conseil Départemental des Yvelines*, AVN and the NGO *Le Partenariat* (LP) have put in place a programme to promote the NV technique, mainly in the departments of Podor, Matam and Kanel in the Fouta region of northern Senegal.

This project has three principal strands:



Awareness raising amongst local communities, civil society organisations and NGOs in the Fouta region and accompanying them in their NV construction projects.



Awareness raising and training actions to accompany and strengthen actors in the NV construction sector and, in the long term, contribute to the emergence of an autonomous local market.



Helping local authorities to integrate the NV concept into standard construction and training methods so as to ensure the long term viability and duplication of the project.



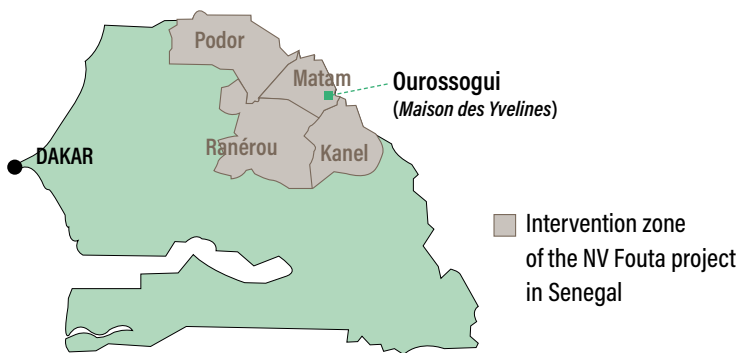
Support workshop for actors in the VN sector as part of the NV Fouta project.



The *Maison des Yvelines* building, exemplary construction of the region and center of the NV Fouta project activities.

The project is being implemented by a joint LP/AVN team composed of three salaried staff (project manager, assistant project manager, and a trainer/technician) with the support of a technical consultant and an LP/AVN coordination committee. LP brings its experience of project management, contracting, and institutional procedures, and AVN its technical experience in NV construction and its training and support methodologies for actors of the NV sector.

The team is based at the *Maison des Yvelines* (photo) in Ourossogui, with help both from a team of volunteers from the French *Département des Yvelines* working on awareness raising amongst local communities, and from steering and technical committees of regional authorities.



ACTIVITIES UNDERTAKEN THIS SEASON

- Setting up of a project team, internal training workshop and training in Burkina Faso;
- Creation of steering and technical committees and organisation of two Regional Development Committees and four Departmental Development Committees for Podor, Matam, Kanel and Ranérou;
- Identification of needs for NV buildings, sensibilisation of potential contracting authorities and preparation of construction projects for the 2017-2018 season;
- Research into identification of project managers, identification and sensibilisation of actors in the NV construction sector (masons, firms, the Ourossogui Training Centre, Matam *Chambre des Métiers*).



Senegal



Enda Pronat

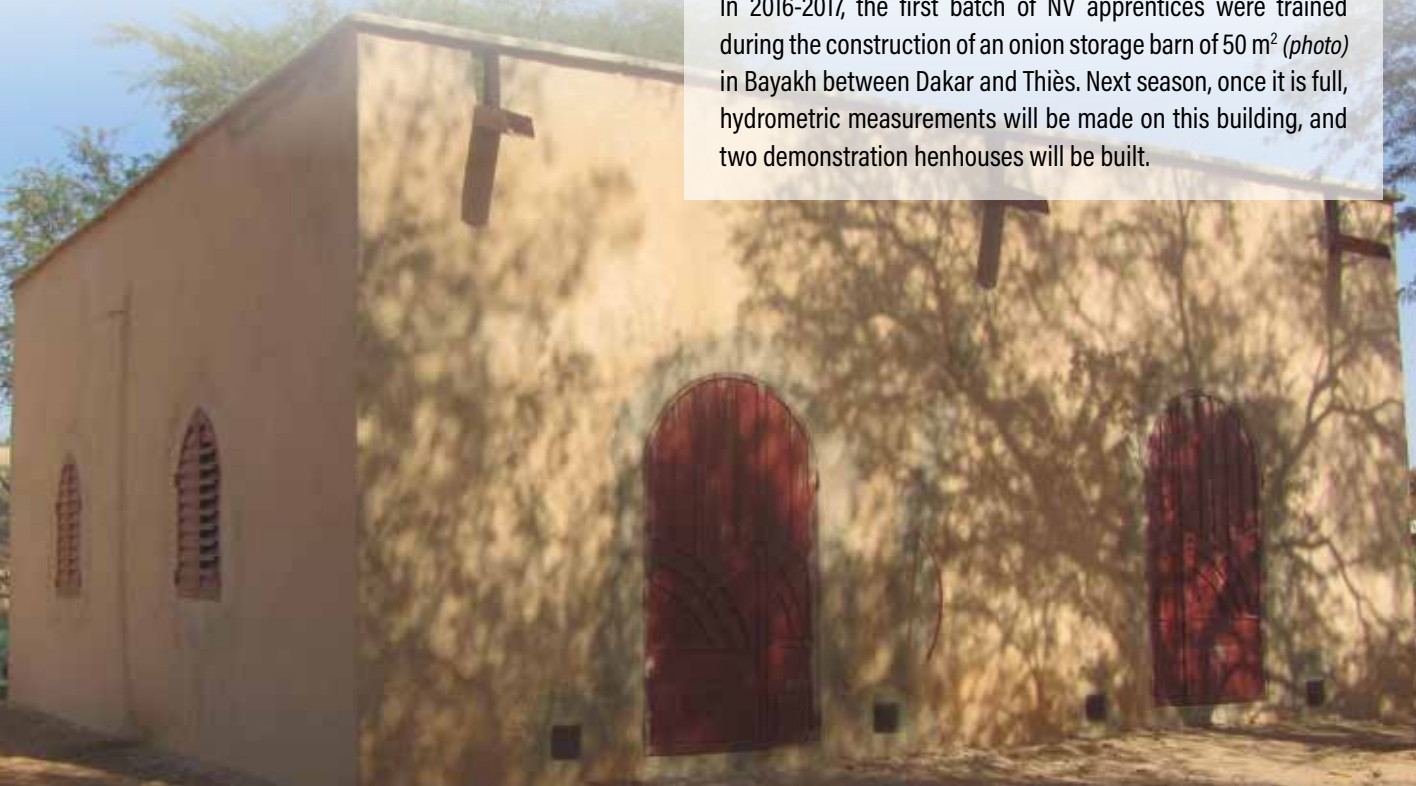
Enda Pronat, a Senegalese NGO concerned with promotion of ecologically sound agriculture, has been a partner of AVN since 2016 for the construction of NV storage barns and henhouses.

The aim of the project is to train local masons in the NV concept and to create a market for the construction of NV barns and henhouses, thus directly benefitting the producers working with Enda Pronat (adapted buildings and training for work during the off-peak farming season).

There are two phases to the project:

- **An experimental phase (2016-2018)** with the construction of three demonstration buildings in the commune of Bayakh, training of the first apprentices, testing and evaluation of the technical concept and its diffusion;
- **A diffusion phase**, involving awareness raising and diffusion of the NV concept amongst producers in the zone of Niayes (both as clients and potential apprentices) aiming at the emergence of a market for farm buildings and private houses.

In 2016-2017, the first batch of NV apprentices were trained during the construction of an onion storage barn of 50 m² (*photo*) in Bayakh between Dakar and Thiès. Next season, once it is full, hydrometric measurements will be made on this building, and two demonstration henhouses will be built.



Demonstration storage building by Enda Pronat.



Construction of a NV as part of the "Green Village" project implemented by Malem Auder.

Malem Auder



AVN accompanied the Senegalese-Belgian association Malem Auder last season in the construction of two community use buildings (the association's office and a health centre) in the department of Malem-Hodar (Kaffrine region). Thanks to the association's capacity to mobilise rural and farming communities, AVN decided to sign a partnership with Malem Auder for a "green village" pilot project and the construction of community buildings.

During the 2016-2017 season, four private NV buildings were completed in the villages of Boulel and Hodar, as well as a midwife's house in the village of Diam-Diam and a crop processing unit in the village of Boulel. A team of NV masons from Burkina Faso worked on these sites, training local apprentices in the process.

THE "GREEN VILLAGE" PROJECT

This pilot project aims to convince the farmers of the same village to build their own NV houses through community self-help. The population agrees to supply the construction materials and unskilled labour and AVN would cover the cost of transport and the masons (from Burkina Faso) during the construction period.

The construction of these buildings will accelerate the training of local apprentices in a new zone and the development of a NV market. Construction of a series of demonstration buildings (houses) in the same village is also a way of raising awareness amongst the population of the zone and local actors (institutional, traditional, associations etc.)



Senegal

The Global Environment Facility (GEF) project

AVN has been working since 2014 with the *Direction de l'Environnement et des Etablissements Classés* (DEEC) of the Senegalese Ministry of the Environment and Sustainable Development to prepare the implementation of a project funded by GEF 5 and supervised by the UNPE.

The three components of the project are:

- Sustainable management of the soil and increased carbon storage to improve agricultural productivity;
- Green NV housing and energy efficiency in rural areas;
- Management of know-how and experience gained.

AVN and *Le Partenariat* are the sole operators for component 2 above, under the direction of a technical committee presided by the *Direction de l'Urbanisme et de l'Architecture*. In addition, they will be involved from time to time in components 1 and 2, along with the other operators.

Two framing and preparatory meetings with the DEEC this season have produced an annual work plan with the different project partners including details of activities and budgets as well as the institutional organisation of the project (technical committee, control, etc.). The meeting which launched the project took place in Dakar in July 2017, with a view to starting activities in 2018.

For the first two years, the project will focus on the regions of Louga and Matam, and the operational component will be led by the NV Fouta team (*see p. 49*). The two projects share the aim of diffusion of the NV concept and creation of an enduring NV construction market.



MINISTÈRE DE
L'ENVIRONNEMENT ET DU
DÉVELOPPEMENT DURABLE
DU SÉNÉGAL



Speech by Mariline Diara at the *Maison des Yvelines*.

"The deployment of the NV concept has led to significant results concerning access to improved housing, with consequent and strong economic, environmental, health and cultural impacts. With respect to demographic realities, economic difficulties, and the need to adapt to climate change, it is clear that issues of housing and construction are major local, regional, and national political concerns."

Translation of an extract from the speech of Mariline Diara, Director of Senegal's *Environnement et des Etablissements Classés* at the inauguration of the *Maison des Yvelines* (2016)



The village of Diakré, built in Nubian Vault.

Diakré : the first Nubian Vault village

Between 2014 and 2017, AVN was instrumental in the construction of the very first village built entirely of Nubian Vaults, implemented by the NGOs *Banlieues du Monde* and *Le Partenariat*, and funded by the Dubai Charity Association. Located in Mauritania, practically on the frontier formed by the river Senegal, the Sheikh Zayed Village of Diakré is made up of 51 private houses, a mosque, a literacy centre, and a maternity clinic. The beneficiaries of the project are Mauritanian refugees who fled their country during the war. Previously, these families lived in precarious shelters, under tin roofs – which are now used to stable their livestock.

During this season, 25 private buildings and the maternity clinic have been completed by NV masons and apprentices from Senegal and Mali. In July 2017 the Mauritanian film company En Haut took some magnificent aerial footage which will shortly be released in a video report.



"This housing is necessary and, even better, is resistant to the strong hot dry winds of the Sahel. These buildings reinforce our decision to never leave this village. We are happy under these vaults because we are sure to be safe from the risks of bad weather and are proud to be living in this village today."

Siléye Sall, Diakré village chief



Ghana

POPULATION

28,2 million inhabitants
(45% rural)

GDP PER CAPITA

\$ 1 513 - 20th African Rank
(World Bank 2016)

CLIMATE

Sudano-Sahelian

OPENING OF AVN PROGRAMME

in 2014

HUMAN RESOURCES

4 local employees and 1 VSI

DEPLOYMENT

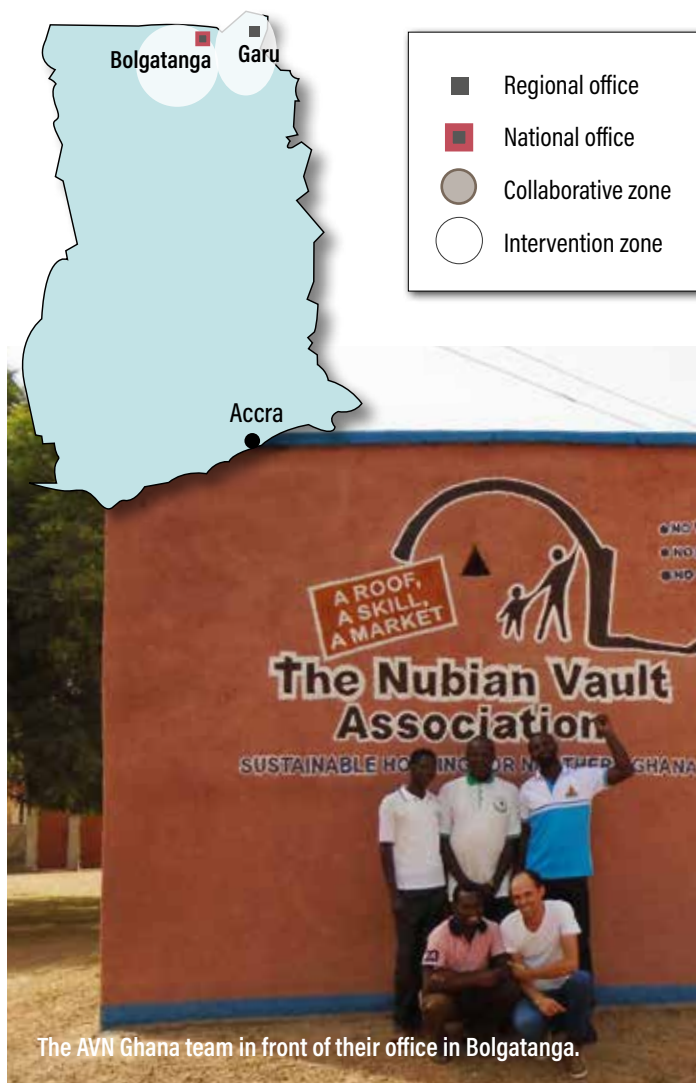
1 national office and
1 regional office

BUILDINGS CONSTRUCTED

27 projects since 2014

LOCAL PARTNERS

Youth Harvest Fondation,
Peal Deng



Key data

2012

Exploratory missions
and recruitment of a
national coordinator (VSI)

2014

1st AVN local team
and opening of
Bolgatanga region

2015

1st private and
institutional projects
and local partnerships

2016

1st local masons
and apprentices
trained

2017

Regional
duplication
in Garu

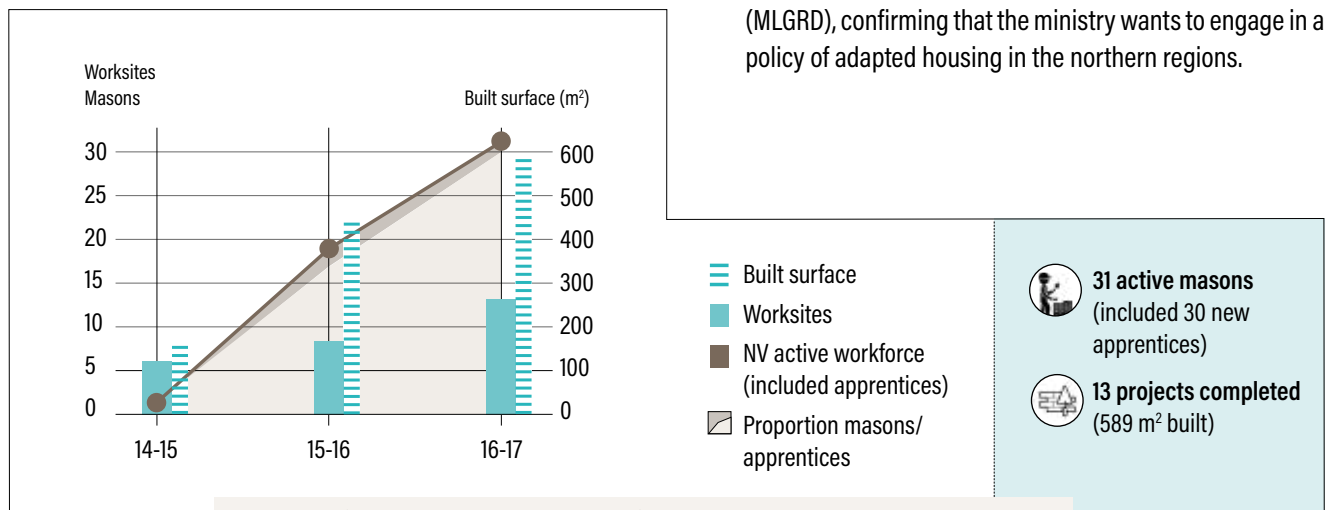
Summary

For AVN, establishing an NV market in Ghana is an interesting challenge on several levels:

- **Strategically**, it is the first time working in an English-speaking country, which ought to improve the programme's international visibility and test its model of development in a zone influenced by the Anglo-Saxon model, which focuses more on small businesses.
- **Methodologically**, the programme must be adapted to a country where the economic situation is much better than in the historic countries (Burkina Faso, Mali), with much more structured administrative organization and well-developed urbanization.

This third year has confirmed that the programme is of interest: positive prospects are offered by the successful opening of a second, more rural region, Garu, and by the fact that both human and financial resources are invested in activities to strengthen training and partner involvement.

13 worksites totalling 583 m² have been constructed, representing growth of 63%, which corresponds to the dynamic expected during a market-opening phase.



Evolution of the building stock and workforce per season in Ghana since 2014-2015

The buildings constructed this season are used for all the main purposes (housing, community and agricultural) and are spread throughout seven new towns, thus favouring local take-up of the NV model.

The AVN team, which has grown by three local employees, has a second NV office, a model building in the new Garu intervention zone.

46% of the market benefitted from financial incentives for the training of cement masons or subsidies to build community buildings.

31 Ghanaian apprentices and masons were active, including 24 new recruits trained by six Burkinabe artisans, who travelled to Ghana to manage the worksites.

The qualification of two artisans and four masons from Ghana at the end of the season will help the Ghanaian builders gain autonomy in developing the local market.

Two agreements are currently being drawn up with local development actors.

An agreement to establish a partnership was signed with the Ministry of Local Government and Rural Development (MLGRD), confirming that the ministry wants to engage in a policy of adapted housing in the northern regions.

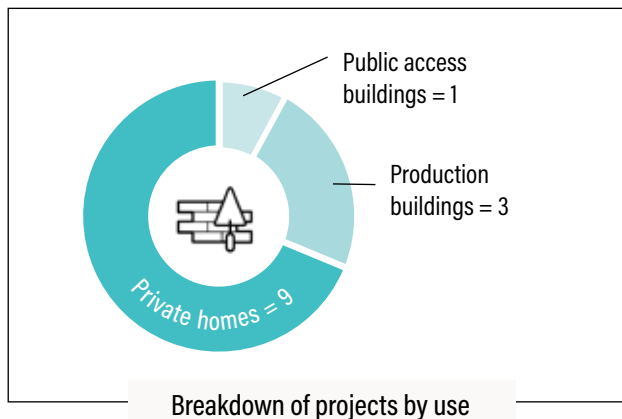


Ghana

A Roof

With the opening of the rural Garu intervention zone, the programme is turning its activities toward rural populations, both in terms of access to adapted housing and to a green and promising job. Indeed, the suburban context in Bolgatanga, which has been open since 2015, does not allow the core target clientele to have financial access to NV; there is also less mutual assistance from within the community, and the cost of labour is higher.

The Ghanaian demand this season nevertheless came mainly from shopkeepers and civil servants (six worksites, totalling 400 m²) mainly in urban areas, with needs in terms of size and building finishing techniques that require a certain technical and entrepreneurial level.



Three farmer clients—cement masons benefitting from the training incentive dedicated to them—built homes this season. Their simple NV houses serve as indispensable model buildings to encourage rural clients to build NVs.



NV library realized by the NGO Peal Deng.

4 community buildings constructed this season will also be directly used for awareness raising with Ghanaian users.

The NGO Peal Deng was the project owner of a 30 m² library in the Bolgatanga zone (*photo*). This local actor could possibly become a partner, managing all or part of the programme's activities, like NGO Youth Harvest Foundation (*see testimony below*), with which an action programme is currently being drawn up.

Two barns were also ordered by local groups of farmers; this could lead to other agricultural actors following suit in the coming seasons.

AVN built its regional office in Garu, using a complex technique (reinforced concrete beams to replace load-bearing walls) to provide more interior space, which is ideal for community buildings that need to accommodate large numbers.



■ Spotlight on partnership: Youth Harvest Foundation

The Youth Harvest Foundation (YHF) has worked with AVN Ghana for two seasons now, offering affordable housing to farmers and teachers, improving both storage of agricultural products and children's education.

"The use of local construction materials is an opportunity for underprivileged rural populations to be able to build and live in durable yet affordable housing. As an organization, we were interested in the NV concept because it provides strong potential to create jobs for young people.

At the beginning of each construction project, the residents often express doubts about the soundness of such a building. Once it's done, however, everyone is impressed by the results.

Through our collaboration with AVN, we want to provide an important solution to the lack of housing in these sectors, by putting in place an ambitious project that would include construction, training and awareness raising." ■

*Comments made by John Krugu, Executive Director of YHF.
For more information, see yhfg.org.*



Ghana



On-site technical training in Tongo.

A Skill

The efforts undertaken for the accelerated training of the first Ghanaian producers means that at the end of the season, the first completely Ghanaian teams will be possible.

Since the start of the programme, recruitment and training have encountered several obstacles:

- The Burkinabe trainer masons were French speakers, and communication problems therefore slowed down the training;
- Although cement masons expressed interest in the NV technique, they made limited commitments because they had to ensure they earned a living wage: although the apprenticeship is remunerated, it does not offset the income earned from cement construction.

AVN therefore offered a more advantageous incentive (the Cement Mason Super Promotion, SPMT): this remunerated any group composed of cement masons who wanted to build their houses in a new deployment zone and who also had to be accompanied by their apprentices.

"I come from Narrango, a village in the Upper East region. I'm a farmer but also a mason during the dry season. I hardly went to school at all, and I began working in the fields with my parents when I was very young.

One day, AVN held an awareness-raising activity in my village. I went to it and, as a mason, I was immediately intrigued by this new technique. I found it fascinating and I joined the training programme under the Cement Mason Super Promotion.

Becoming an NV mason allowed me to improve my situation and that of my family. Today, I'm preparing to become a head mason, and, with AVN's help, I've begun to identify potential clients in my community in order to achieve my objectives."

Jambeidu Abangiba, Ghanaian NV mason

This expensive measure turned out to be key for the emergence of the Ghanaian supply and for establishing NV construction teams, from the very start of the learning process (*see testimony below*).

Funding was received from the Cooperation and Cultural Action Service (SCAC) at the French embassy to Ghana, offering incentives to three or four groups: two groups (seven cement masons and seven apprentices) carried out the first four worksites.

Additional on-site technical modules were set up at four worksites for 14 additional training days: two private houses for basic techniques and two community worksites to learn more complex finishing techniques and architectural layouts.

Two Burkinabe trainer masons out of six artisans led actions to strengthen training this season.

At the end of the season 28 qualifications were granted, including two mason-artisans and four masons who are expected to quickly reach the level of artisan, thus boosting local production capacity, in line with a growing demand.





Ghana

A Market

From the very start of the programme in Ghana, a significant amount of time has been dedicated to institutional advocacy, raising awareness with regional authorities and seeking out civil society partners. This season, AVN Ghana concentrated its activities at the regional level on decentralized authorities in order to turn the interest expressed by national actors into reality through the implementation of local projects.

National and decentralized actors

An agreement to establish a partnership was signed with the Ministry of Local Government and Rural Development (MLGRD) at the "Better Building in West Africa" networking event that AVN led at Habitat III in October 2016 in Quito. An action plan setting out the territory, provisional schedule and expected results of an adapted housing policy is expected to be co-drafted next season.

One disadvantage is that the presidential elections in December 2016, won by the opposition, led to changes being made in the bodies governing the local authorities (mayors, regions) and in the management of many structures, thus bringing the relationships that had begun to form to a halt.

In the second part of the season, AVN nonetheless met with:

- **the new director of the Environmental Protection Agency**, who is willing to study the partnership agreement proposed in 2016, and of the regional EPA team, in order to draw up an action plan, including for the construction of offices in Tamale;
- **the Council of Technical and Vocational Training (COTVET)**, to discuss a training programme about jobs as masons in northern Ghana;
- **the new national director of the Department of Rural Housing (DRH)**, who wants to support AVN in its relationship with the Upper East Regional Coordinating Council.

In addition, the French ambassador to Ghana visited Bolgatanga (*see opposite*), which helped strengthen local institutional relationships, in particular with the Upper East Regional Coordinating Council.

Civil society actors

Two local partnerships are currently being set up with actors who want to participate in implementing the programme (construction of community NV buildings, training activities for NV masons and community awareness raising):

- **the NGO Youth Harvest Foundation**, which takes an integrated approach to development and wants to step up its awareness raising about the NV concept and its support for NV training through an action plan;
- **the NGO Peal Deng**, a client that had an NV library built, would like to support its local development projects by building NVs. A project to build a maternity clinic in the same town next season has already helped raise awareness with the Ministry for Health on the qualities of using NVs for this purpose, as well as with the Nana Foundation, which may renew its support for building NVs.



François Pujolas, Ambassador of France to Ghana accompanied by his delegation and the AVN Ghana team.

The French ambassador to Ghana visits AVN teams

The AVN-Ghana team was pleased to receive the visit of François Pujolas, French ambassador to Ghana, in May 2017. He was accompanied by representatives from the embassy's Cooperation and Cultural Action Service (SCAC) as well as by Frank Fuseini, deputy regional minister for the Upper East region. Mr Pujolas had a chance to speak to masons benefitting from the Cement Mason Super Promotion (*see p. 59*), a project financed by the SCAC that allows traditional masons to be trained on the NV technique by building their own home as well as those of other masons in their group. The delegation also visited the NV library built for the NGO Peal Deng in the village of Tongo.

"I welcome the fact that France, through the AFD and the embassy's SCAC, supports the innovative initiative led by the Nubian Vault Association in northern Ghana, which places environmental and social aspects at its heart. By offering training to Ghanaian masons from their counterparts and neighbours from Burkina Faso, where sustainable and affordable construction techniques have been developing for several years now, this approach is also a perfect example of regional partnership."

François Pujolas, French ambassador to Ghana



Benin

POPULATION

10,8 million inhabitants
(56% rural)

GDP PER CAPITA

\$ 789 - 33th African Rank
(World Bank 2016)

CLIMATE

Sudano-Sahelian

OPENING OF AVN PROGRAMME

in 2014

HUMAN RESOURCES

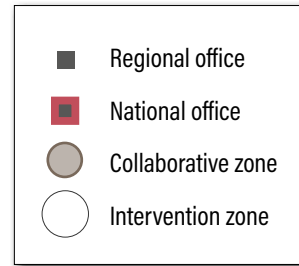
4 local employees and
1 VSI

DEPLOYMENT

1 national office

BUILDINGS CONSTRUCTED

35 projects since 2014



Part of the AVN-Benin team with Séri Youlou, Director Burkina Faso, Francis Tiene, in charge of promotions and a NV mason.

Key data

2011

1st NV constructions requested by first clients and partners

2012

Exploratory missions and recruitment of a national coordinator

2014

1st AVN local team and opening of Djougou region

2015

1st projects, masons and apprentices trained and local partnerships

2016

2017

Regional duplication in Tanguiéta

Summary

This third year of deployment of the programme in northern Benin is a sign of the emergence of a growing NV market that is destined to last: the production results (supply/demand) are doubling or tripling, the programme is expanding to a second department (Atacora), the team has now grown to five employees, and interest from the Ministry for Living Environment and for Sustainable Development (MCVDD) is laying the foundations for institutional support of the market.

22 chantiers private and community building sites were completed, totalling 583 m², twice the number completed the last two years.

86% of worksites benefitted from financial support intended in particular to encourage training in order to rapidly have available a local workforce able to develop the NV market.

86% of buildings are used for housing for rural clients, mainly cement masons who have begun or are continuing their training thanks to the incentives dedicated to them.



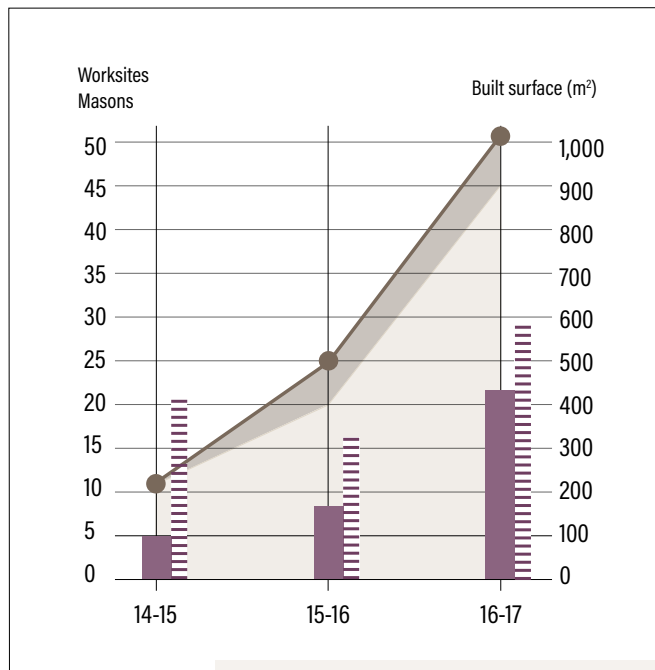
NV site.

3 buildings for community use should boost local take-up of NVs for the sector.





51 apprentices, masons and artisans have worked on-site; this represents a twofold increase in workers, including 36 new recruits and six local masons.

7 Burkinabe foremen managed the worksites and training of the local labour force.

A major success of the season: **the first 4 NV apprentices reached the level of artisan-masons and 13 others reached that of mason**; this means that next year there could possibly be construction teams entirely from Benin.



Evolution of the building stock and workforce per season in Benin since 2014-2015

-  Built surface
-  Worksites
-  NV active workforce (including apprentices)
-  Proportion masons/apprentices



51 active masons
(included 30 new apprentices)



22 projects completed
(583 m² built)



Benin

A Roof

Programme deployment continues in northern Benin in eight active pilot villages (+33%).

Six pilot villages are located in the department of Donga, where the programme began.

Two pilot villages are located in the department of Atacora, a region that has been significantly affected by deforestation and where AVN will be setting up a team next season.

To encourage the opening of the Beninese market, which was still limited last season, **training of local masons has been set as a priority**, as has constructing buildings to serve as models and to facilitate awareness raising vis-à-vis rural clients who are farmers.

At the end of the season the objective had been reached, **with 19 houses constructed, including 16 built by cement masons** taking part in an NV training programme (and benefitting from incentives to build their own houses).

The three community buildings constructed this season are expected to be strong drivers of the NV concept:

- **the second orphanage expansion project ordered by Italian NGO Amicci Dell'Africa.** This 75 m² building, of remarkable workmanship, has received very positive feedback from users as well as many visits from potential clients and local actors (*see testimony, p. 69*);



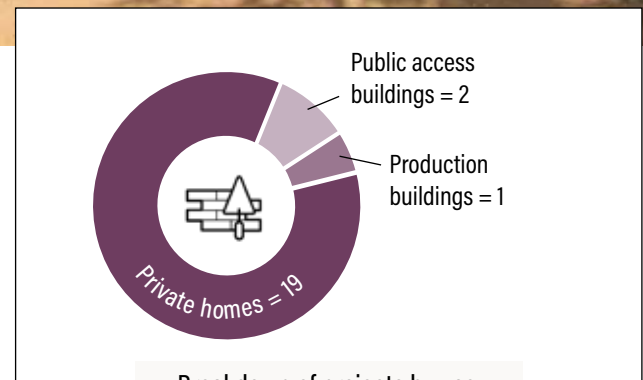
AVN National office in Djougou.



Awareness campaign in a village of Atacora.

- the 26 m² rice processing and storage unit owned by Téoufema, a women's group, is on one of the country's major roads and therefore is very visible;
- the first local AVN office (*photo*) home to the national team and to the Djougou team. This L-shaped building, used for housing and located in an urban area, was chosen so as to provide an example of architecture that can be used by local masons to convince their clientele. Located near a large road, it has already received many visits by the inhabitants of the city of Djougou and will be inaugurated next season, with the local authorities and development actors present.

These model buildings should help reduce the resistance to innovation and to risk-taking witnessed amongst local actors.



Breakdown of projects by use

It should also be noted that the MFIs in Djougou have been made aware of the NV housing microcredit and of the cooperation model that could be launched by 2019, once there are enough Beninese artisans and masons to implement that type of project.



Benin

A Skill

Since the start of the programme, the recruitment and training of local masons has been prioritized in order to:

- **Quickly diminish the dependence on Burkinabe masons**, who are removed from their own markets, requiring significant investment from the AVN team to mobilize them and to organize the worksites;
- **Help the first generation of Beninese NV masons** mastering the technical features of the different sectors of the market to emerge as quickly as possible.

The incentives targeting cement masons (which also allow for model buildings to be built) as well as on-site technical modules have led to **the establishment of a balanced local supply**; at the end of the season, this consisted in four artisans able to manage the worksites and 15 local C3 masons, as well as about 40 apprentices.

7 Burkinabe worksite foremen took on the role of trainer masons for the season, and three of them will receive dedicated training next season.

Technical modules ran at two worksites to guarantee and accelerate the training of masons who were learning about finishings (permanent coatings to protect walls, roofing, upper wall protection) that are particularly well-adapted to the needs of community buildings.

45 people were newly qualified (+80%) by the end of the season, including 28 apprentices, 13 masons and the first four artisans, each one of whom will set up a team to develop their own market.

Support for these young artisans will continue next season, in particular in terms of helping them get their first clients and of strengthening their technical skills. They will also go through a cycle of Business Training aimed at helping them become independent commercially and at increasing their ability to spread the NV concept.



"I was trained by two Burkinabe trainer masons. Our good relationship meant that I was able to join in at their worksites this season even without the promotion for cement masons, which added a lot to what I had learned the previous season. In particular I remember the day when the trainer let me take the lead in putting up the arch and laying the cornerstone: it was a big moment and was really important to me. We're still in touch today and I still get advice from them, despite the distance between here and Burkina Faso."

Samuel Inoussa, Beninese NV artisan mason



Apprentices and masons on a NV building site.



Benin

A Market

The advocacy work and intent to establish partnerships with the Beninese government that came out of that advocacy were frozen by the change in government following the 2016 elections. **This season, the national coordination team, working mainly on the priorities of training and managing a growing team, focused on the most strategic and promising actors.**

Heads of districts as privileged local contacts

AVN's programme was presented at district council meetings in the regions in which the programme is active. Interested by the development of a green economy in their regions, all of the mayors present will be met with individually next season.

Civil society actors replicating AVN activities

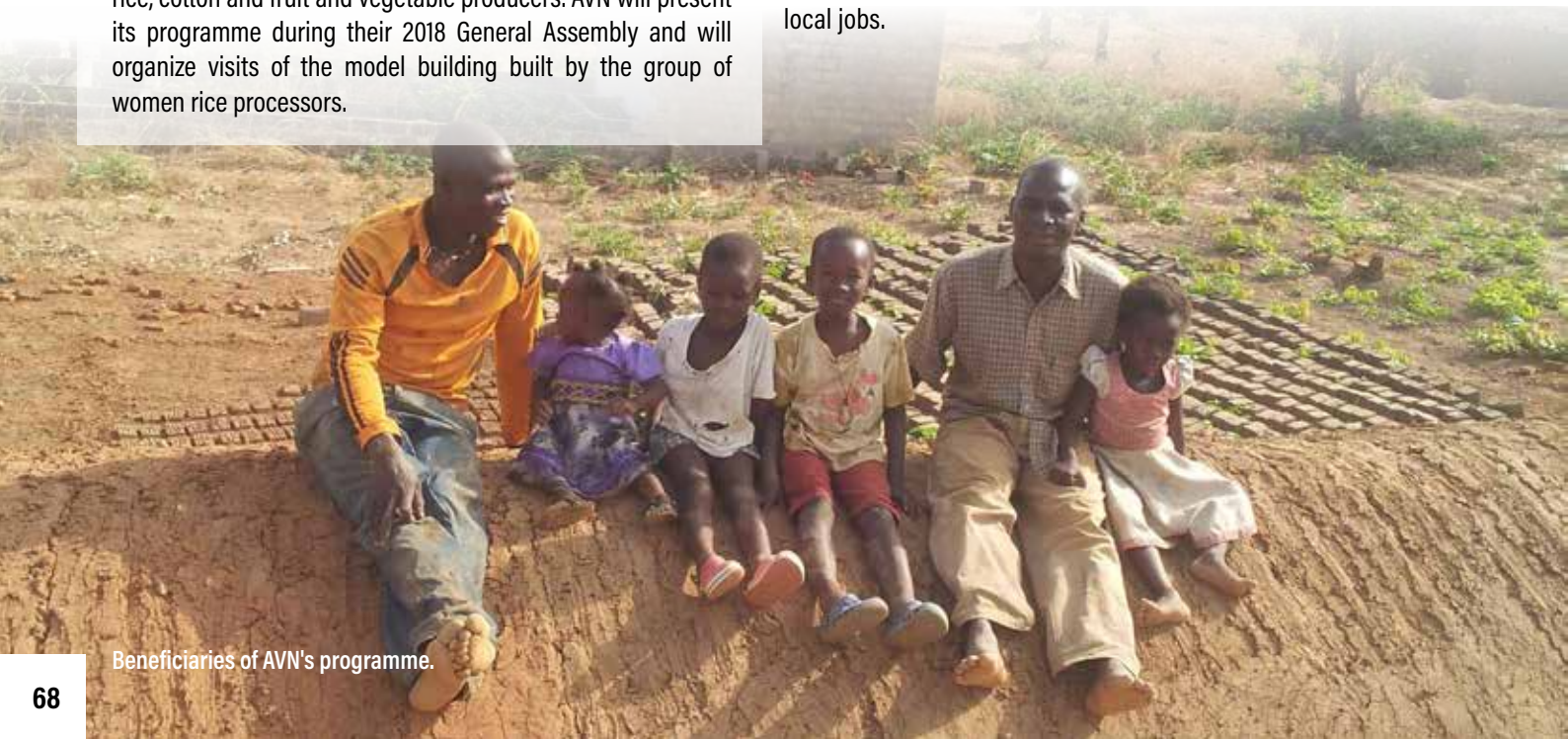
As part of AVN's awareness-raising activities, **most of the farmers' groups in the Donga region have been contacted:** rice, cotton and fruit and vegetable producers. AVN will present its programme during their 2018 General Assembly and will organize visits of the model building built by the group of women rice processors.

Projects being prepared to institutionalize the NV market

The Ministry for Living Environment and for Sustainable Development (MCVDD), which combines what used to be the ministries for the environment and for housing, has a true interest in AVN's programme. A draft partnership agreement has been drawn up and is now being approved by the parties.

This partnership is of strategic importance in convincing elected officials and regional institutions in the areas in which the programme is active of the soundness of what AVN proposes. This is an argument that is often used locally.

AVN is therefore seeking to establish specific projects with the MCVDD, such as incorporating NVs into the ministry's "20,000 social housing units" project and the proposal (which was also sent to the Ministry of Planning and Development) to build 100 institutional buildings, supporting the creation of local jobs.



Beneficiaries of AVN's programme.



The NV canteen/kitchen/shop of the orphanage in Djougou, built this season.

■ **Focus: Successful cooperation between Amici dell'Africa and AVN**

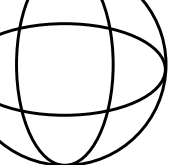
The cooperation between Italian association Amici dell'Africa and AVN began in 2015 with a project to build an NV canteen/kitchen/shop for an orphanage in Djougou and was strengthened this season by constructing another building for the same purpose, at another shelter.

"Our choice of the NV concept is warranted by the use of locally available materials, by its comfort and by aesthetics: the harmony of nature is reflected in this architecture. In addition, NVs help create jobs and strengthen the local economy: we therefore contributed financially to training last season.

The children who live in this shelter and the volunteers from the association really appreciate these buildings. The shelter

receives a lot of visitors, including of local figures: they are always impressed by how comfortable the buildings are and by their looks. The local AVN team was always ready to provide support at each step of the way: awareness raising, visits to demonstration worksites, approval of the plans, putting us in touch with an NV mason, drawing up of estimates, construction and monitoring of training. The qualities of the artisan-mason responsible for the worksite (Nédaradoua Bayoulou) were a considerable asset. We're very satisfied: our adventure with AVN is going so well it will definitely continue!" ■

*Comments by Davide Colombo, co-founder of Amici dell'Africa.
For more information, see amicidellafrica.it.*



France & International

International events

AVN is involved in international advocacy on the issue of adapted construction, with the goal of having this being taken more seriously into account in development programmes and the funding they receive. The themes of habitat, climate change and desertification have been the subject of special attention on the part of the international community this season. AVN has participated in many international events.

■ Habitat

An often overlooked issue, habitat/the built environment entered the agenda of the international community this year, and AVN has supported this interest, responding to a plea that goes back many years. In particular, AVN took part in the **Habitat-III Summit 5**, during which the New Urban Agenda was adopted, and has been invited to the **UN-Habitat Governing Council 9**, after winning the World Habitat Award.

■ Climate

AVN has been present this year at the world's major climate meetings: **COP22 6**, the first edition of the summit of non-state actors, **Climate Chance 1**, and the **Climate Action Dialogue (SB46) 10** at UNFCCC Headquarters in Bonn. AVN presented its programme for sustainable housing, and facilitated workshops on the theme of the evolution of the construction sector.

■ Desertification

As a member of the Desertification Working Group and observer to the UNCCD, AVN has been active this season in events dealing with desertification and land degradation issues. Three meetings in Spring 2017, including the **World Forum to Combat Desertification 12** and the **Desertification Summit 14**, were an opportunity to develop AVN's involvement in these networks.

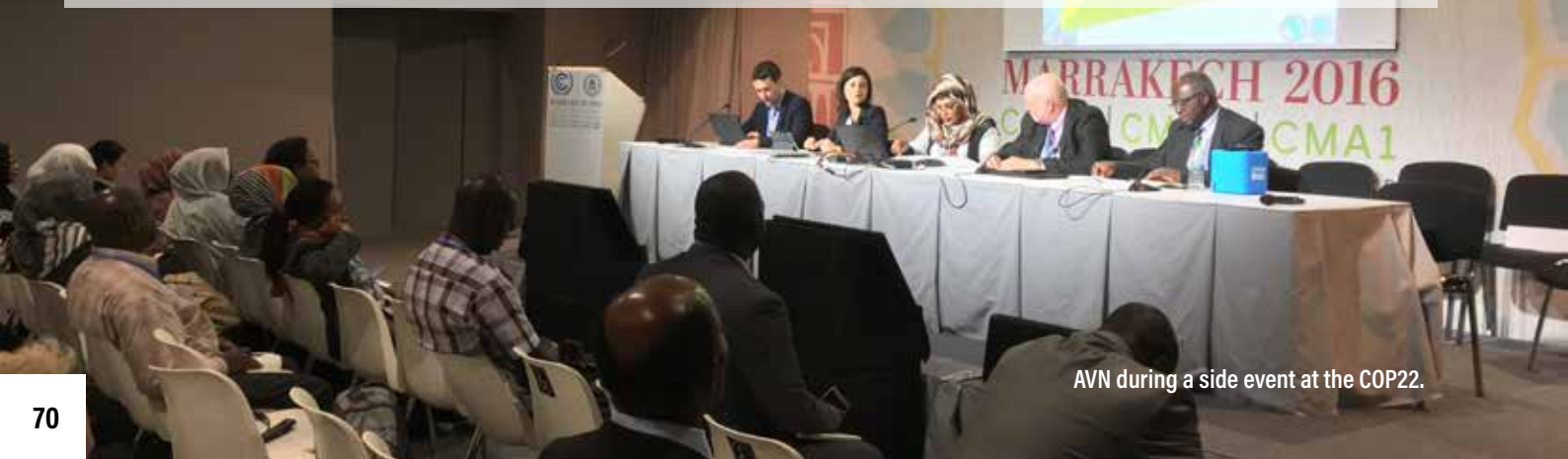
AVN has also been present at meetings of specific actors:

French networks: *Rencontres d'YCID et d'ailleurs 4*, *Agora Occitanie Coopération 3*

Designers : *SXSW Eco 2*, *What Design Can Do 11*

Development Actors and Social Entrepreneurs:

World Economic Forum 8, *DIHAD 7*, *InterActions Forum 13*



AVN during a side event at the COP22.



1 Climate Chance
Nantes (France) - 26>28 September 2016

2 SXSW Eco Festival
Austin (USA) / 10>12 October 2016

3 Agora Occitanie Coopération
Carcassonne (France) / 14 October 2016

4 Rencontres d'YCID et d'ailleurs
Mantes-la-Jolie (France) / 15 October 2016

5 Habitat III
Quito (Ecuador) / 17>20 October 2016

6 COP22
Marrakech (Morocco) / 7>18 November 2016

7 DIHAD
Dubai / 21>23 March 2017

8 World Economic Forum
Durban (South Africa) / 3>5 May 2017

9 UN-Habitat Governing Council
Nairobi (Kenya) / 8 May 2017

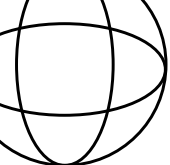
10 Climate Action Dialogue (SB46)
Bonn (Germany) / 15>18 May 2017

11 What Design Can Do
Amsterdam (Netherlands) / 23/24 May 2017

12 World Forum to Combat Desertification
Ouagadougou (Burkina Faso) - 15 June 2017

13 InterActions Forum
Washington (USA) / 20>22 June 2017

14 Désertif'Actions
Strasbourg (France) / 27/28 June 2017



France & International

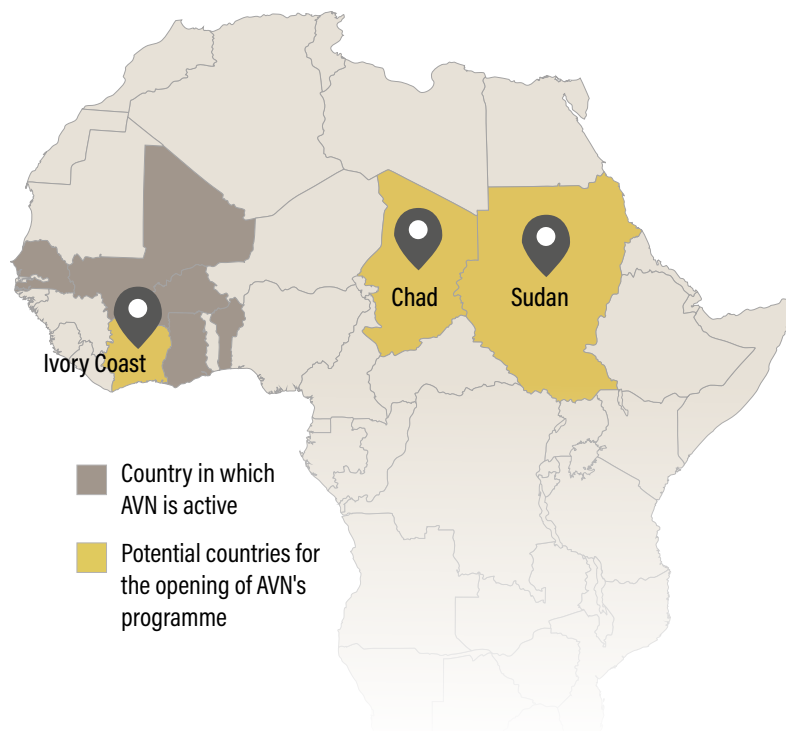
Opening in new countries

Currently present in five West African countries, AVN's goal is to disseminate the Nubian Vault technique in all countries where it is appropriate, particularly in the Sudano-Sahelian band. AVN is regularly solicited by different actors (NGOs, training centres, political actors, etc.), interested in the advantages of the Nubian Vault technique, and eager to develop this concept in their countries. AVN studies the different proposals and responds according to their relevance to the strategic goals of the Association.

During the 2016-2017 season, some discussions were initiated with:

- **Sudan** (*see opposite*);
- **Ivory Coast:** AVN has received multiple requests for partnership from Ivorian actors: the NGO Sounyegnon, Municipality of Kouto, Société MIRI Ingénierie SARL, etc. AVN was also invited to present the Nubian Vault at a seminar on Sustainable Construction, organised in June 2017 by the School of Mines of Saint-Etienne and the Ivory Coast Chamber of Commerce, for executives, entrepreneurs, directors and managers in the building sector in Ivory Coast;
- **Chad:** The Cooperative of Construction and Public Works Professionals (COOPBT) of Chad has made a formal request to AVN to act as a training operator and promoter of NV housing. A meeting was held with the Minister of Economy and Development Planning to initiate an application for accreditation of AVN as an international NGO in Chad.

Exchanges were also held with organisations operating in Kenya, Morocco, Togo and Tanzania, among others.



During the next season, AVN will structure its strategy of intervention in new countries, presenting different modes of intervention:

- Opening of an AVN office in the country;
- Deployment of the programme by a local NGO with support from AVN;
- Deployment of the programme with construction and training actors, etc.

Towards the opening of the programme of the Nubian vault in Sudan

In 2016, AVN signed a contract with the Forest National Corporation to study the feasibility of the AVN programme in Sudan, financed by AFD's Proparco. As part of their development programme for the gum arabic sector, a key resource for the country, Sudan, through the National Forest Corporation, is seeking construction solutions to avoid cutting down acacia trees for roofing. The project takes place in 3 stages:

- **Exploratory mission of an AVN technical expert in Sudan** in November 2016 and production of a report validating the interest and relevance of the NV concept locally, both on the technical aspects (environmental and local climatic context, construction practices) and the institutional aspects (interest of local populations, civil society and political actors);



The Sudanese delegation visits a NV storage building in Burkina Faso.

- **Mission of a Sudanese delegation to Burkina Faso**, in March 2017, to learn more about the implementation of the AVN programme on the ground: visits of NV buildings and meetings with stakeholders of the programme (clients, masons, AVN teams, operational and institutional partners, etc.);
- **Next step: Return mission to Sudan** (2018) to present an action plan for the deployment of the Nubian Vault in the country to political actors, construction actors and local organisations.



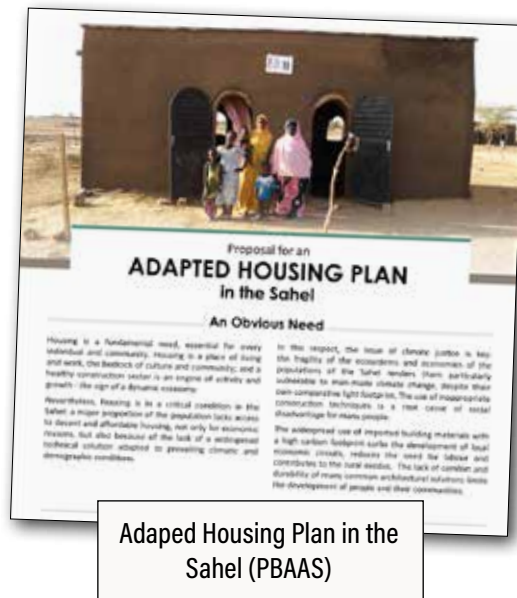
Manufacture of mud bricks in El-Obeid, Sudan.

Advocacy in France

In June 2017, AVN proposed that its partners in the Alliance for the Sahel incorporate adapted housing issues into development projects in the region.

This proposal is based on prior French and international commitments in the fields of development, the fight against climate change and housing. It strives to develop a long-term initiative aimed at implementing public policies in adapted housing in Africa, as well as vocational training programmes, especially for young people in rural zones.

AVN's proposal is based on four focal points:



Adaped Housing Plan in the Sahel (PBAAS)



Innovation

Encourage adapted, transferable technologies* that populations can make their own and replicate.



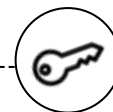
Training

Train the housing sector (including the informal sector) and strengthen policy makers and development operators.



Awareness raising

Provide information about the extent of the issue, availability of alternative solutions and methods of wide-scale dissemination.



Incentives

This involves financial mechanisms that provide access to those in the most precarious situations.

AVN wants to set up a coalition of actors working on these issues: NGOs, local authorities, institutions that work in the field of cooperation, etc. This coalition will lead advocacy efforts aimed at the international community working for the development of the Sahel.

This advocacy work, launched during the 2016–2017 season, occurred simultaneously with the creation of the Alliance for the Sahel by the French and German governments. It will continue in the coming years in order to generate multi-actor programmes that have a rapid and lasting impact on the development of the Sahelian subcontinent.

* In most of development contexts low-tech has the strongest potential.



NV house in Senegal.



Part of AVN's teams gathered in Boromo (Burkina Faso) for the end-of-season steering committee.



3 - Our Means for Action

An innovative proposal must be backed by collective commitment if it is to create a momentum for development.

For AVN, the initial years of the programme and managing the not-for-profit status as set up under French law in 2000 were made possible thanks to determined volunteers.

Today, the role of administrators has now refocused on moral and legal responsibilities. AVN's human resources are specializing more and are divided into thematic units that work on the transfer of methodologies to other local actors. Media exposure and external communications are proliferating, advertising the integrated development principles put forward by AVN teams.

- Community Life** ▶ p. 78
- Human Resources** ▶ p. 79
- Communications** ▶ p. 80

■ Community Life

Established in 2000, AVN is a non-profit organization. It currently consists of 30 active members, including a board of directors made up of five people:

- **Benoît Lambert**, President - Designer (retired);
- **Anthony Kaye**, Vice president - University professor (retired);
- **Jean-Marie Crombez**, Treasurer - Retailer;
- **Jean-François Naud**, Secretary - Film director;
- **Nathalie Guillot**, Administrator - Architect.



The Nubian Vault's Board of Directors is recruiting!

- ✓ Do you feel strongly about sustainable development issues in Africa?
- ✓ Would you like to put your skills to work in the fields that AVN is involved in (housing, vocational training, advocacy, the social and solidarity-based economy, project management, etc.)?
- ✓ Can you invest your time to support the growth of an ambitious structure and development programme?

Join the Board of Directors of the Nubian Vault Association and together, let's proactively work to improve living conditions for as many people as possible in West Africa.

*Contact Benoît Lambert, President of AVN, for additional information:
benoit.lambert@lavoutenubienne.org - +33 (0)6 10 05 01 01.*

Working session at the steering committee in Boromo.



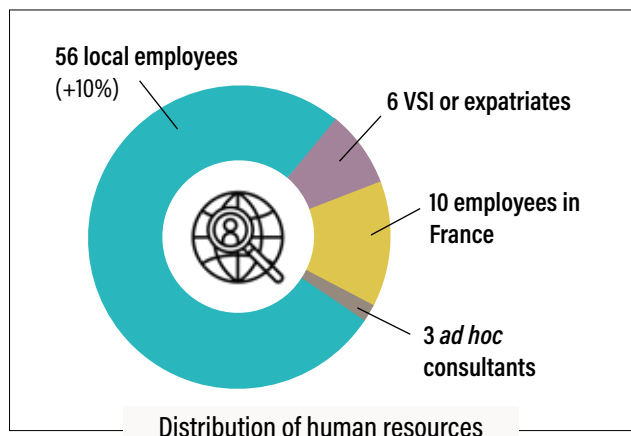
■ Human Resources

In order to achieve its goal of mass dissemination of the NV market and of transferring the management of its methodologies, AVN works to improve the organization and specialization of its staff resources. In 2016–2017, this crucial issue benefitted from a lot of hard work.

Although the season began with changes in the teams in Mali, about twenty people were quickly hired, including for posts created that were directly linked to strategic development activities (NV job enhancement, micro-finance, etc.).

Two audits, one a voluntary four-month management audit and the other an internal audit on in-service training, helped set priorities for improvement that were consistent with the evolution of the programme. The restructuring of the Training Unit also led to some employees taking up new positions internationally, nationally and regionally; it also led to the definition of the unit's missions, objectives and operating methods.

In addition, throughout the season, the setting up of projects involving local partners, particularly in Burkina Faso and Senegal (FGs, MFIs, NGOs operating locally), led AVN to question its methodology and the ways in which it transfers its operating methods.



The culmination of the process came at the end of the season: collaborative work was carried out to modify the programme's flagship methodologies and to optimize AVN's internal structure, given its new activities (technical and entrepreneurial training, kick-starting and incentives to increase market growth, etc.). This co-creation-based dynamic was important to:

- Define territorial and thematic strategies for the following season;
- Implement provisions and tools to improve the circulation of information and therefore the coordination of teams;
- Overhaul jobs, including a pay raise that represented 20% added to the payroll;
- The priority objectives for the 2017–2018 season; that is, the update of AVN's methodologies and the setting-up of continuing training for teams working on new activities and for field partners.



Part of the Mali team at the steering committee.

■ Communications

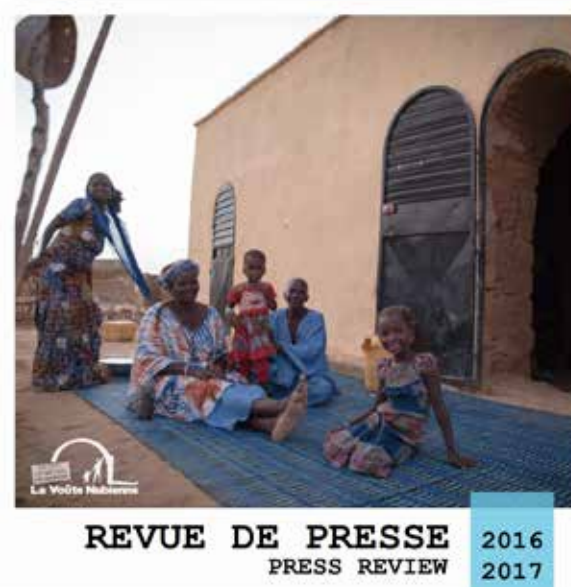
In the media

Again this year, AVN benefitted from strong international media coverage, which marks the growing recognition of its programme; this was emphasized by it winning the World Habitat Award (*see, p. 91*). **AVN was covered in 50 press articles this year:**

- **21 in the Francophone press;**
- **29 in the foreign press**, including 25 articles in English, 3 in German and 1 in Italian.

In addition, **seven reports/interviews on AVN were filmed**, including two for foreign channels and magazines.

Articles and videos are available on lavoutenubienne.org



Contributions

As an actor in the field of adapted housing in Sahelian Africa, AVN contributed to two publications:



The 2nd edition of the Hermès Foundation's Skills Academy: this publication brings together the work and reflections of artisans, designers and engineers, talking about the innovation potential for this universal material; eight pages were dedicated to the architectural concept of the Nubian Vault, as told by Thomas Granier, co-founder of AVN.

For more information, see fondationentreprisehermes.org.

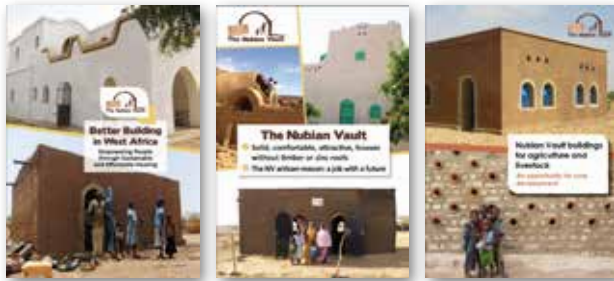
Comité 21 report - The SDGs and take-up of them by French non-State actors: as a new member of the Comité 21 network, AVN, along with 48 other members and partners, helped write a report about take-up of the Sustainable Development Goals (SDGs) by French non-State actors. More specifically, AVN contributed to the reflections on SDG 11, which deals with the resilience of cities and human settlements, one of the topics that the Nubian Vault programme is involved in.

For more information, see comite21.org



Publications

AVN updated its communication materials and also created new material:



- 1 The booklet "Better Building in West Africa" gives a general overview of AVN's programme (activities, results, forecasts) and replaces the general overview pamphlet used in previous years.
- 2 The booklet about on-the-ground awareness raising to kick-start the NV market provides an illustrated description of the advantages of NVs as well as of opportunities to become trained as an NV mason.
- 3 The booklet targeting the agricultural and livestock farming sectors touts the advantages of NVs in terms of infrastructure for the sector, in particular as regards thermal inertia, costs and environmental impact.

All of AVN's communication material is available for download in the "resources" section of the AVN website.



As part of the Autodesk skills sponsorship, AVN worked with graphic designer Bianca Ruse to create **computer graphics** about the stages in the professional life of an NV mason and about **on-the-ground awareness raising** concerning the status of entrepreneur. This collaboration was successful, in particular thanks to Bianca's determination and investment in the project.



Cyril Chabaud, an architect, was charged with producing **technical and perspective drawings** of NV buildings. These drawings present the concept of the NV technique in a clear and detailed manner. They further add to the technical material developed by AVN's Technical Expertise Unit that is distributed to artisans, companies and technical operators in the sector, as well as to project managers.

Follow Us



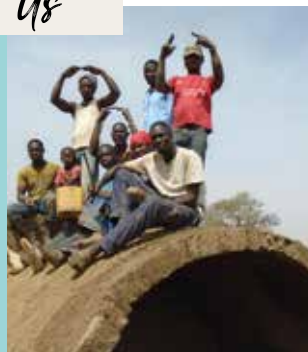
thenubianvault



@earthroofs



la Voûte Nubienne





4 - Financial Report

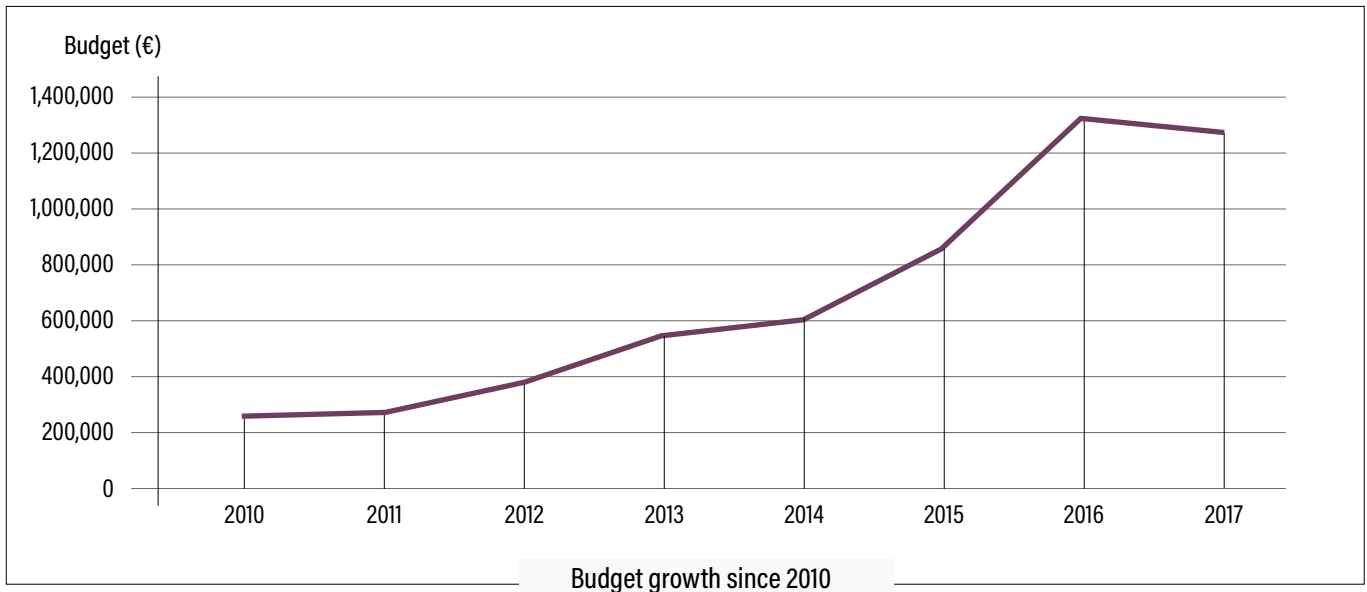
Boosting growth

Following several years of growth, the budget of the Nubian Vault Association is now in a phase of consolidation.

AVN constantly seeks to ensure reliable and transparent financial management. Since 2013, the annual accounts have been audited by a statutory auditor following review by a chartered accountant. The control procedures for financial transactions have been strengthened every year to ensure that expenditure is compliant with the expectations of various donors. Financial scorecards and indicators are regularly established, allowing AVN's activities to be continually monitored throughout the year and compared to the budgets for each country and region. The local financial directors are regularly monitored and trained by the team at headquarters with monthly internal checks on expenditure.

Anticipating seasonal changes

As regards significant changes to the budget from season to season, **AVN has for several years established a multi-annual budget that is updated quarterly.** Expenses are forecast in view of donor expectations and local constraints. This periodic forecasting allows AVN to efficiently redirect expenses and best manage fundraising. The steering committee, unit managers and local coordinators work together to produce high-quality information both up- and downstream.



Recruiting and motivating needed human resources

In the Burkina Faso and Mali national offices, two skilled administrative and financial managers (RAFs) check the accounting information from the regional offices and import it into SAGA; this takes place in Boromo (Burkina Faso) for the six regions in Burkina Faso and in Ségou (Mali) for the five regions in Mali, Benin and Ghana.

At headquarters, the financial team checks, coordinates and produces the summary financial statements and reports to donors, administrators and accountants in France. Country coordinators are responsible for budgets and funding appeals and also check local expenditure.

Working in partnership

AVN has established close relationships with its partners, thus allowing it to subcontract some of its activities, in particular with the NGO Le Partenariat for activities in northern Senegal. This cooperation involves regular, reliable financial reports as well as a mutual understanding of administrative and financial procedures.

Providing suitable IT resources

With help from FRIIO, AVN has had effective IT tools from early on; these allow it to follow expenditure per country, per project and per donor, thanks to the SAGA software. The local teams have mastered this tool, which allows them to carry out standardized monitoring of their expenses against their budget. Accounts in euros are combined on a quarterly basis using the Coala programme, with the assistance of a chartered accounting office. Payment of salaries at headquarters is outsourced.

Managing cash flow

The diversity of financial resources requires regular cash management with investment of liquidities or, in contrast, using advances under the Dailly law. Funds received in advance of expenditure are placed in interest-bearing accounts paying around 2%. Foreign donors subsidizing activities in dollars also means that those resources must be monitored to ensure that the currency exchange is properly applied in accordance with those activities.

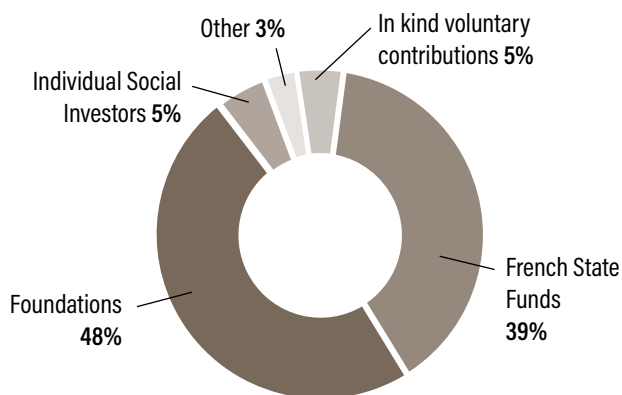
Providing local employees with the resources for effective management

AVN provides local employees with the resources to gradually gain autonomy through in-service training and by having them take charge of certain operations. The financial management tools are controlled locally, and certain donors pay their subsidies directly into the accounts of local branches, which requires supervised local management of transfer of funds, from allocation of expenditure to the establishment of specific financial reports .

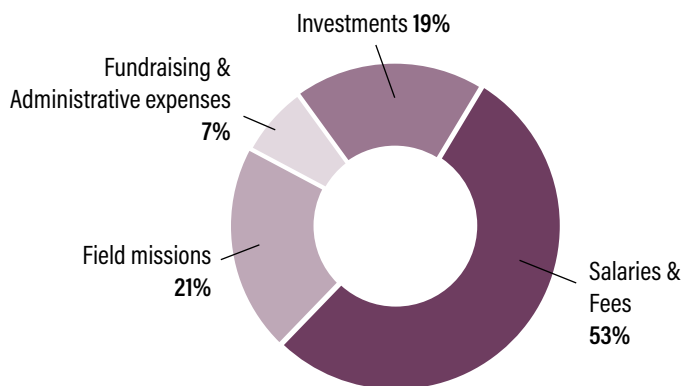
Statement of Resources & Expenses

RESOURCES (in euros)	2016-2017	2015-2016
French State Funds	513,752	653,950
Foundations	638,066	599,200
Individuals Social Investors	62,046	69,307
Other	45,555	14,617
Total Resources	1,259,419	1,337,074
In kind voluntary contributions	63,213	65,645
Total General	1,322,632	1,402,719

EXPENSES (in euros)	2016-2017	2015-2016
Salaries & Costs	560,146	492,324
Fees	104,083	201,952
Field missions	305,977	270,653
Fundraising & Administrative expenses	106,232	92,767
Investments & Constructions	178,858	244,044
Total Expenses	1,255,296	1,301,740
Result	4,123	35,334
In kind voluntary contributions	63,213	65,645
Total General	1,322,632	1,402,719



The programme founders



How funds are used

AVN's founders and areas



FOUNDERS

Burkina

Mali

Benin

Ghana

Senegal

Maur.

French State

AFD - DPO

CD78 - Fouta

CD78 - YCID

International Foundations

Alwaleed Philantropies

OPEC - OFID

Dubai Charity Association

Autodesk - Silicon Valley

World Bank - PGRNCC

Islamic Development Bank

French Foundations

Delagrang Foundation

Eiffage Foundation

Phitrust Foundation

Individuals Social Investors

Local Partners

Billing

Awards

	Burkina	Mali	Benin	Ghana	Senegal	Maur.
French State						
AFD - DPO	■	■				
CD78 - Fouta					■	
CD78 - YCID			■			
International Foundations						
Alwaleed Philantropies	■	■	■	■	■	■
OPEC - OFID	■	■			■	
Dubai Charity Association						■
Autodesk - Silicon Valley	■	■	■	■	■	■
World Bank - PGRNCC		■	■			
Islamic Development Bank		■	■			
French Foundations						
Delagrang Foundation	■	■	■	■	■	■
Eiffage Foundation				■	■	
Phitrust Foundation					■	
Individuals Social Investors	■	■	■	■	■	■
Local Partners	■	■		■		
Billing	■	■	■	■	■	■
Awards	■	■	■	■	■	■





A village community, beneficiaries of a NV building in Tansila (Burkina Faso).

5 - Partners and Awards

The success of AVN's programme is largely linked to the commitment and loyalty of its financial, technical and operational partners.

This collaboration ensures the long-term continuation of action in favour of adapted housing as well as a lasting visible impact and international recognition.

- Financial Partners** ▶ p. 87
- Field Partners** ▶ p. 88
- Network Partners** ▶ p. 90
- Prizes and Honours** ▶ p. 91

■ Financial Partners

Financial partners who co-financed the 2016-2017 season



Entrepreneurial Training Workshop in Burkina Faso.

Phitrust is committed to the entrepreneurial development of AVN

This season, the endowment fund of Phitrust, a French management company, supported AVN's programme, specifically to help it develop its entrepreneurship training activities. A grant worth €15,000 provided support to more than 50 artisans and entrepreneurs from Burkina Faso and Mali, which is an encouraging result for the first year in which this was implemented

For more information, see phitrust.com

Autodesk/AVN: High-tech at the service of low-tech

In its second year of partnership with AVN, the Autodesk Foundation worked more on the technical side of things, helping the Technical Expertise Unit. The AutoCAD licenses provided by the company, to be supplemented by future training sessions for local AVN teams, will be used to draw up complex building plans for model community buildings. Other software donations are expected, thus allowing AVN to make use of its technical know-how and to produce communication materials aimed at institutional and international targets. This partnership has demonstrated that high- and low-tech are effective allies in achieving a common goal to fight climate change.

For more information, see autodesk.com

Field Partners

Burkina Faso

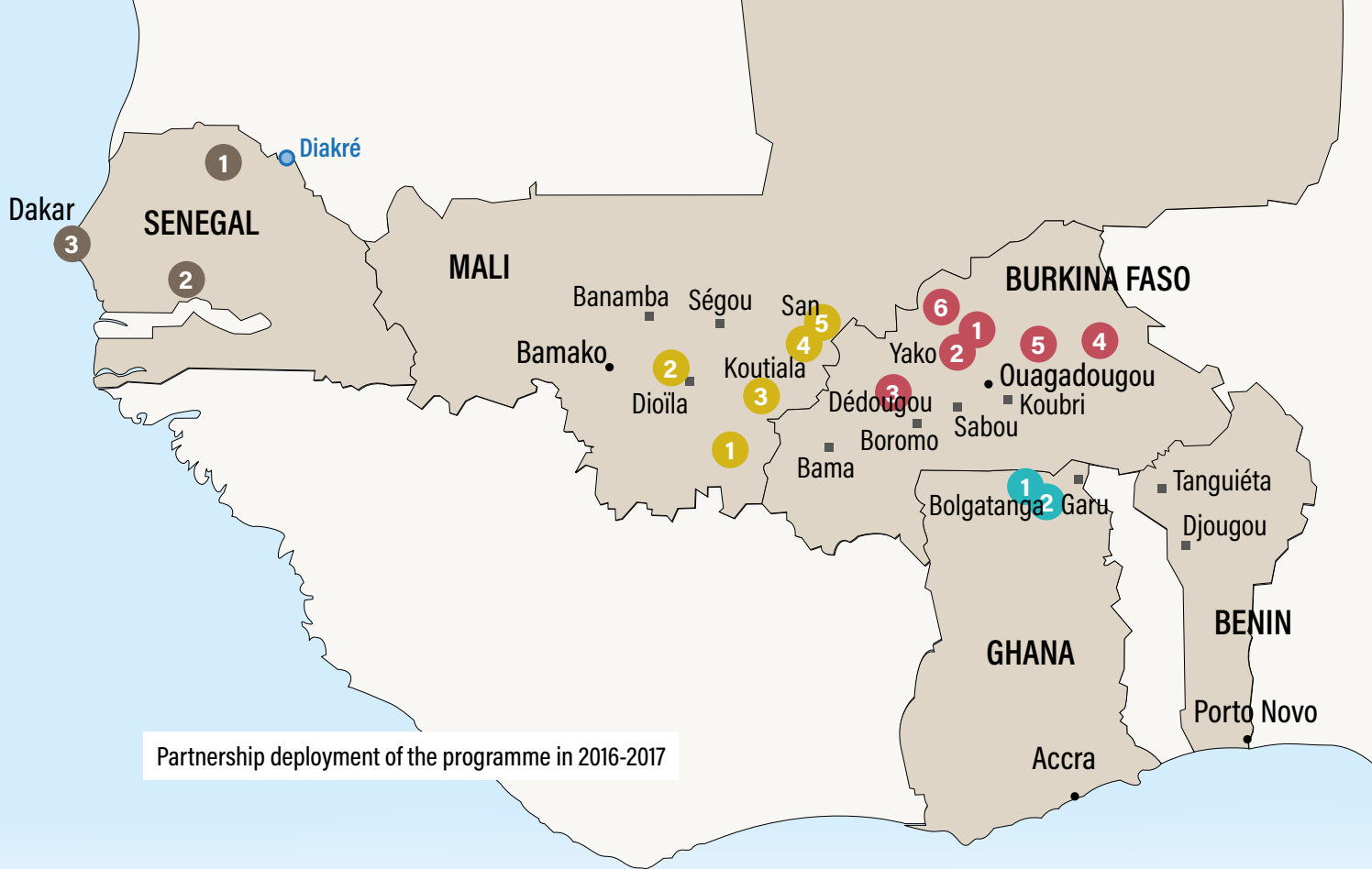
- 1 Kombi-Naam Association of Gomponsom for the Sahel (AKNGS) - Farmers' group**
 - ▶ Awareness raising, promotion of the NV housing microcredit, construction of NV agricultural and community buildings, training of local young people
- 2 Credit and Savings Baoré Tradition Union/Naam (UBTEC) - Microfinance Institution**
 - ▶ Setting up and dissemination of NV housing microcredit products
- 3 Association for the Promotion of Inclusive Finance in Burkina (APFI-B) - Microfinance Institution**
 - ▶ Setting up and dissemination of NV housing microcredit products
- 4 Tinyenga Niyemba Burkina /Via Nebba (TNB) - NGO**
 - ▶ On-site project operator working to rehouse disaster-stricken populations in Nebba (2012-2016), monitoring of NV mason training and construction of community buildings
- 5 Morija - NGO**
 - ▶ On-site operator for the expansion project of the Medical-Surgical Centre of Kaya, monitoring of NV mason training
- 6 Fédération Nationale des Groupements Naam (FNGN) - Umbrella organization of farmers' groups**
 - ▶ Development of the AVN programme and of the NV market

Mali

- 1 Teriya Amitié Mali - NGO**
 - ▶ Awareness raising, construction of agricultural and community buildings, monitoring of NV mason training in Niéna commune
- 2 Mayor's office of Kemekafo - Local authority**
 - ▶ Awareness raising and promotion of NV use in Kemekafo commune
- 3 Miniankala-Kafo/Koutiala inter-community body - Territorial authority**
 - ▶ Awareness raising and promotion of NV use in the *cercle* of Koutiala
- 4 Farmer's Union of the Tominian Circle (UACT) - Farmers' group**
 - ▶ Awareness raising about NVs in the *cercle* of Tominian
- 5 Vocational Training Centre (CFP) of Tominian - Vocational training actor**
 - ▶ *Training of NV masons*

Senegal et Mauritania

- 1 Le Partenariat (LP) - NGO**
 - ▶ Development of AVN's programme and of the NV market in the regions of St. Louis and Matam, institutional kickstarting of the NV market, technical operator for the rehousing programme in southern Mauritania and co-operator for the Fouta NV project (institutional kickstarting of the NV market in the Departments of Matam, Podor, Kanel et Raneirou)



Ghana

- 2** **Malem Auder - NGO**

 - ▶ Awareness raising in rural areas, support for community building projects in the Kaffrine region, monitoring of NV mason training
- 3** **Enda Pronat - NGO**

 - ▶ Research and action on constructing agricultural buildings in the Niayes zone, monitoring of mason training
- 1** **Youth Harvest Foundation (YHF) - NGO**

 - ▶ Awareness raising in rural zones, construction of community buildings, monitoring of NV mason training in the Bolgatanga region
- 2** **Peal Deng - NGO**

 - ▶ Awareness raising in rural zones, construction of community buildings in the Bolgatanga region

■ Network Partners



New networks in 2016-2017



AVN Burkina joined the **Permanent Secretariat of Non-Governmental Organizations (SPONG)**, a Burkina Faso collective that brings together a large number of national and international development actors, foundations, research and training centers and networks operating in the country.

For more information, see spong.bf



Comité 21, a French network aimed at facilitating synergies between non-State and State actors for the implementation of Agenda 21 and the SDGs within organizations and territories, validated AVN's membership this season : an opportunity for AVN to share resources via a dedicated platform, and to contribute to projects and other partner events.

For more information, see comite21.org



AVN has joined **the AfricaFrance** association, a network of private and public actors, whose ambition is to strengthen relations between companies in France and throughout the African continent to promote sustainable and inclusive growth.

For more information, see africafrance.org

■ Prizes and Honours

Prizes and honours won in 2016-2017



Joan Clos, Executive Director of UN-Habitat and Secretary-General of Habitat III awards Cécilia Rinaudo, Deputy Director of AVN.

This season, AVN's programme has received the **World Habitat Award**, the most prestigious international award in the field of housing, awarded by the Building and Social Housing Foundation (BSHF / World Habitat) in collaboration with UN-Habitat.

Already a 2009 award finalist, AVN is awarded this year's Jury Award among 12 selected projects, benefiting from a £10,000 grant and strategic support for scaling up its programme.

The awards ceremony was held at the beginning of May in Nairobi, on the occasion of the 26th UN-Habitat Board of Directors.



AVN has been recognized as one of the winners of the **2017 Social Design Circle**, an honor presented on the occasion of the 10th anniversary of the Curry Stone Design Prize.



AVN participated in the final of the **Place by Design competition** in the Resilience and Health category at the SXSW Eco Festival in Austin (USA).

Received in the past seasons





Family in Diakré (Mauritania), in front of their Nubian Vault house.

Prospects

Progressive densification of the NV market must take place through the mobilization of all building sector stakeholders (technicians, operators, policy-makers, funders) and through AVN's self-affirmation in its role as technical implementer and support provider for these parties.

In order to reach these ambitions and implement true change of scale, AVN focuses today on strengthening its structure and financing all activities. Its objective is to ensure financial stability of the overall programme, but also enable it to carry out ad hoc projects – usually in partnerships and relating to specific territories or issues. Even these context-specific projects contribute collectively to the inclusive development of the appropriate housing sector.

These prospects involve:

- **Reinforcement of vocational training actions and marketing capabilities of the construction sector**, and more specifically with producers from the rural world and the informal market (masons, brick makers);
- **The decline of advocacy actions** conducted directly by AVN to local populations;
- **The consolidation of partnerships**, both with Community Based Organisations (CBOs) and with development and cooperation operators;
- **Looking for donor-partners for the implementation of specific financial tools** (microfinance and incentives) for NV clients (mainly modest clients / target audience of the programme);
- **Continuing advocacy on the importance of the issue of housing for the greatest number**, in order to encourage the involvement of decision makers in Africa and internationally;
- **Repositioning the construction sector and the quality of the built environment at the centre of discussions** at the heart of climate adaptation and mitigation issues.



Acronyms

AEDD: Agency for Environment and Sustainable Development

AFD: French Development Agency

AKNGS: Kombi Naam Association of Gomponsom for the Sahel

AMBF: Association of Mayors of Burkina Faso

AOPP: Farmers' Professional Organization Association

APFI-B: Association for the Promotion of Inclusive Finance in Burkina

ARBF: Association of Regions of Burkina Faso

AVN: the Nubian Vault Association

BCO: Basic Community Organization

BF: Burkina Faso

BID: Islamic Development Bank

BSHF: Building and Social Housing Foundation

BTP: Buildings and Public Works

C1/C2/C3/C4/C5: Beginner Apprentice/
Apprentice Confirmed /Mason/Artisan Mason/
Entrepreneur

CCI: Chamber of Commerce and Industry

CD: *Départemental* Council

CDD: Departmental Development Committee

CFP: Vocational Training Center

CHVN: Nubian Vault Housing Microcredit

CO₂eq: Carbon equivalent

COOPBT: Cooperative of Building and Public Works Professionals

COP: Conference of Parties

COTVET: Council of Technical and Vocational Training

CRD: Regional Development Committee

CSO: Civil Society Organization

DCA: Dubai Charity Association

DEEC: Directorate of the Environment and Classified Establishments

DIHAD : Dubai International Humanitarian Aid & Development

DRH: Department for Rural Housing

ET: Entrepreneurial Training

FACT: Forum of Contemporary Earth Architectures

FAO: Food and Agriculture Organization

FFEM: French Fund for the Global Environment

FCFA: Franc of the African Financial Community

FNGN: National Federation of Naam Groupings

FP: Farmers' Organization

FRIO: Institutional and Organizational Strengthening Fund

GABC: Global Alliance for Buildings and Construction

GEF/FEM: Global Environment Facility

GERES: Renewable Energies Group, Environment and Solidarity

LP: *Le Partenariat*

MCVDD: Ministry of the Environment and Sustainable Development

MEDD: Ministry of Environment and Sustainable Development

MEEVCC: Ministry of the Environment, Green Economy and Climate Change

MFI: Micro-Finance Institution

MJFIP: Ministry of Youth, Integration and Vocational Training

MLGRD: Ministry of Local Government and Rural Development

NGO: Non Governmental Organization

NV: Nubian Vault

BCO: Basic Community Organization

OMH: Malian Office of Habitat

OPEC OFID: OPEC Fund for International Development

PAFPA: Support Project for Vocational Training and Apprenticeship

PAO: Operational Action Plan

PBAAS: Adapted Housing Plan for the Sahel

PEP: Productive Energy Cluster

PGRNCC: Natural Resource Management and Climate Change Project

PISCCA: Innovative Projects of the Civil Society and Coalitions of Actors

PNDD: National Sustainable Development Policy

PNDES: National Economic and Social

Development Plan

PN/EFTP: National Policy for Technical and Vocational Education and Training

PROCEJ: Skills Development and Youth Employment Project

RAF: Financial and Administrative Manager

SCAC: Department of Cooperation and Cultural Action

SDG: Sustainable Development Goals

SIERO: International Exhibition of Renewable Energies of Ouagadougou

SPONG: Permanent Secretariat of NGOs

SXSW: South by South West

TNB: Tinyenga Niyemba Burkina association

TPM: Training Project Manager

UACT: Union of Farmers of the Tominian Circle

UBTEC: Union of Baoré Tradition of Savings and Credit

UGN-B: Union of Naam Groupings of Boussé

UN: United Nations

UNCCD: United Nations Convention to Combat Desertification

UNEP: United Nations Environment Program

UNFCCC: United Nation Framework Convention on Climate Change

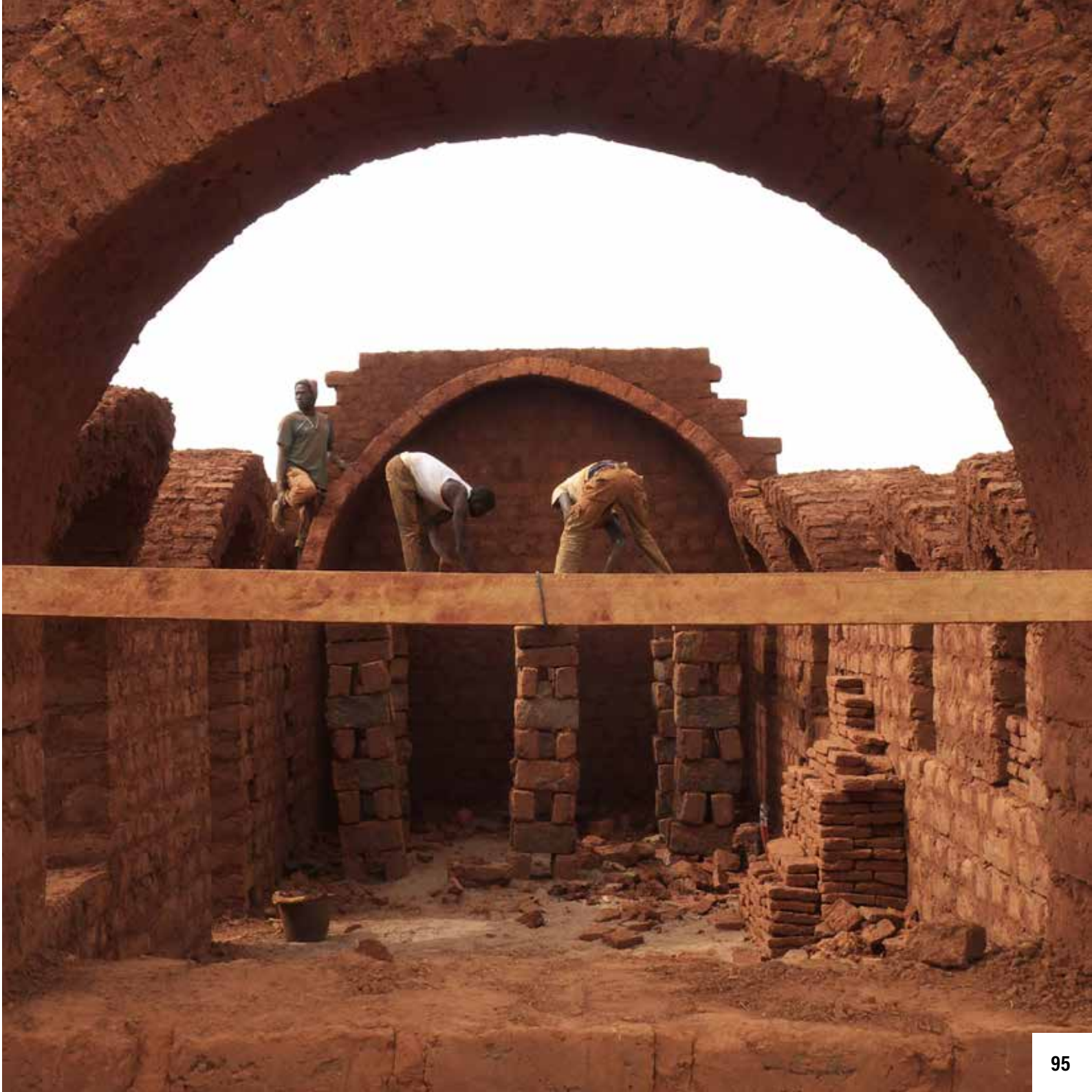
UPA: Artisanal Production Unit

NV/RC: Nubian Vault/Reinforced Concrete

VSI: Volunteer in International Solidarity

YCID: Yvelines International Cooperation and Development

YHF: Youth Harvest Foundation





www.lavoutenubienne.org



thenubianvault



@earthroofs



la Voûte Nubienne

AVN France

contact@lavoutenubienne.org



AVN Burkina Faso

avn-bf@lavoutenubienne.org



AVN Mali

avn-mali@lavoutenubienne.org



AVN Senegal

avn-senegal@lavoutenubienne.org



AVN Benin

avn-benin@lavoutenubienne.org



AVN Ghana

avn-ghana@lavoutenubienne.org