



a programme supported by
UN HABITAT
FOR A BETTER URBAN FUTURE

The Nubian Vault Association

ANNUAL REPORT

2018-2019





Cover: Beneficiaries of the Diakré rehousing project (Mauritania)

Writing and graphic design: AVN - English translation: Adrienne Brayman - Printed by Impact Imprimerie - Photo copyrights: AVN, GERES (p. 41), Malem Auder (p. 6), Régis Binard (p. 4, 5, 8, 84, 87, 88), Atelier Martel (p. 46), Mathieu Hardy (p. 78, 79) - Published in May 2020

Contents

Editorial	5
1 - The programme	6
Key Figures	
Programme History	
Intervention Strategy	
Training	
Technical Expertise	
2 - Our Countries	20
Burkina Faso	
Mali	
Senegal	
Ghana	
Benin	
France & International	
3 - Means and Resources	80
Community Life	
Human Resources	
4 - Financial Report	84
5 - Partners and Awards	88
Financial Partners	
Networks	
Awards and Recognitions	
Field Partners	
Prospects	93



Editorial

One thing is obvious...

Sahelian populations have an urgent need for adapted architectural solutions that help strengthen their resilience to economic and demographic trends and to climate change.

The alternative construction techniques proposed must be simple, standardized, and able to be replicated. They must be based on mobilizing a native workforce and on using local materials that are widely available, while also fitting in with the everyday - largely informal - economies.

For over 20 years, AVN's "Nubian Vault" technical concept has more than proven that it is a good match for local contexts, that it is able to respond to the expectations of different types of clients, and that it does a good job addressing the problem of providing housing for as many as possible in the Sahel through development programmes.

An important step has been taken.

Over the course of a long period of on-the-ground research/action, AVN and its partners have set up and tested approaches and mechanisms that help a market to emerge and grow the basis for disseminating the NV concept.

At the beginning of 2018 work was done to summarize and bring together these different approaches; this helped establish a precise and refined methodology for territorial rollout of the NV market.

This methodology is managed by local development actors who, mobilized, trained and supported by AVN, are responsible for implementing it in their territory.

Thus, the first support measures delineating this methodology saw the light of day during the 2018/2019 season of AVN's programme. They allowed for awareness raising and training of the organization's managers to take place, as well as that of the first of AVN's on-the-ground partners. Together, they began the initial territorial rollout under this comprehensive approach.

This new methodology quickly won over all stakeholders: AVN managers and Operational Partners, as well as development actors, institutional decision-makers and donors. It makes the operational logic behind AVN's programme more visible and provides added visibility to action taken, its cost, and the results and expected impact thereof.

With this concise and persuasive methodological approach, we now have an appropriate tool for the quick and efficient multi-regional rollout of the NV market, which will launch the expected and heralded change of scale.

Together, let us provide the human and financial resources necessary to considerably expand this impetus for structured development.

Thomas Granier
Co-founder and General Director of AVN



1 - The programme

Key Figures	▶ p. 7
Programme History	▶ p. 9
Intervention Strategy	▶ p. 10
Training	▶ p. 14
Technical Expertise	▶ p. 18

Since 2000, the goal of the Nubian Vault Association (AVN) has been to develop a market for sustainable housing in West Africa, providing vulnerable populations access to affordable housing that is comfortable and well-adapted to climate change; it 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.**

■ Impacts & Key Figures



Decent Housing Climate Adaptation

- 37,300 beneficiaries living or working in a NV building
- 3,500 construction sites - 122,000 m² completed since the start of the programme
- 590 private and community buildings built in 2018-2019



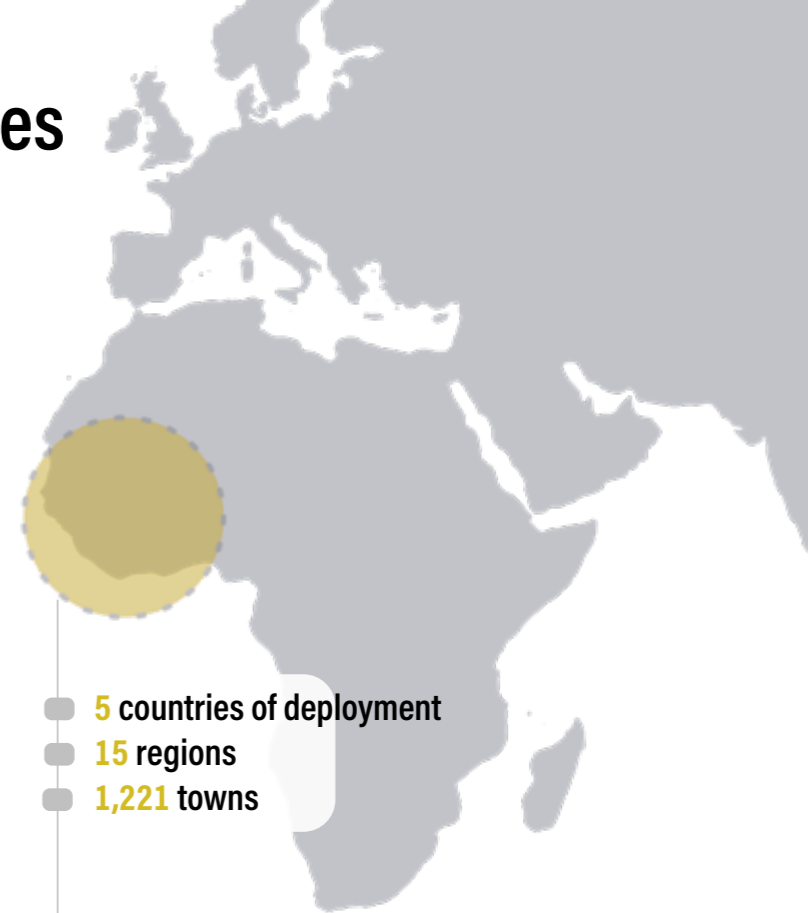
Professional Training Green Jobs

- 806 apprentices, masons, artisans and entrepreneurs active in the market, including
- 250 apprentices who began their training this season
- 146 artisans supported in entrepreneurship



Climate Mitigation Environment

- 0 tree cut down for building purpose
- 99,800 tons CO₂ eq. and 3,100 MWh potentially saved



- 5 countries of deployment
- 15 regions
- 1,221 towns

- 23% average annual market growth (compared to the last 10 years)

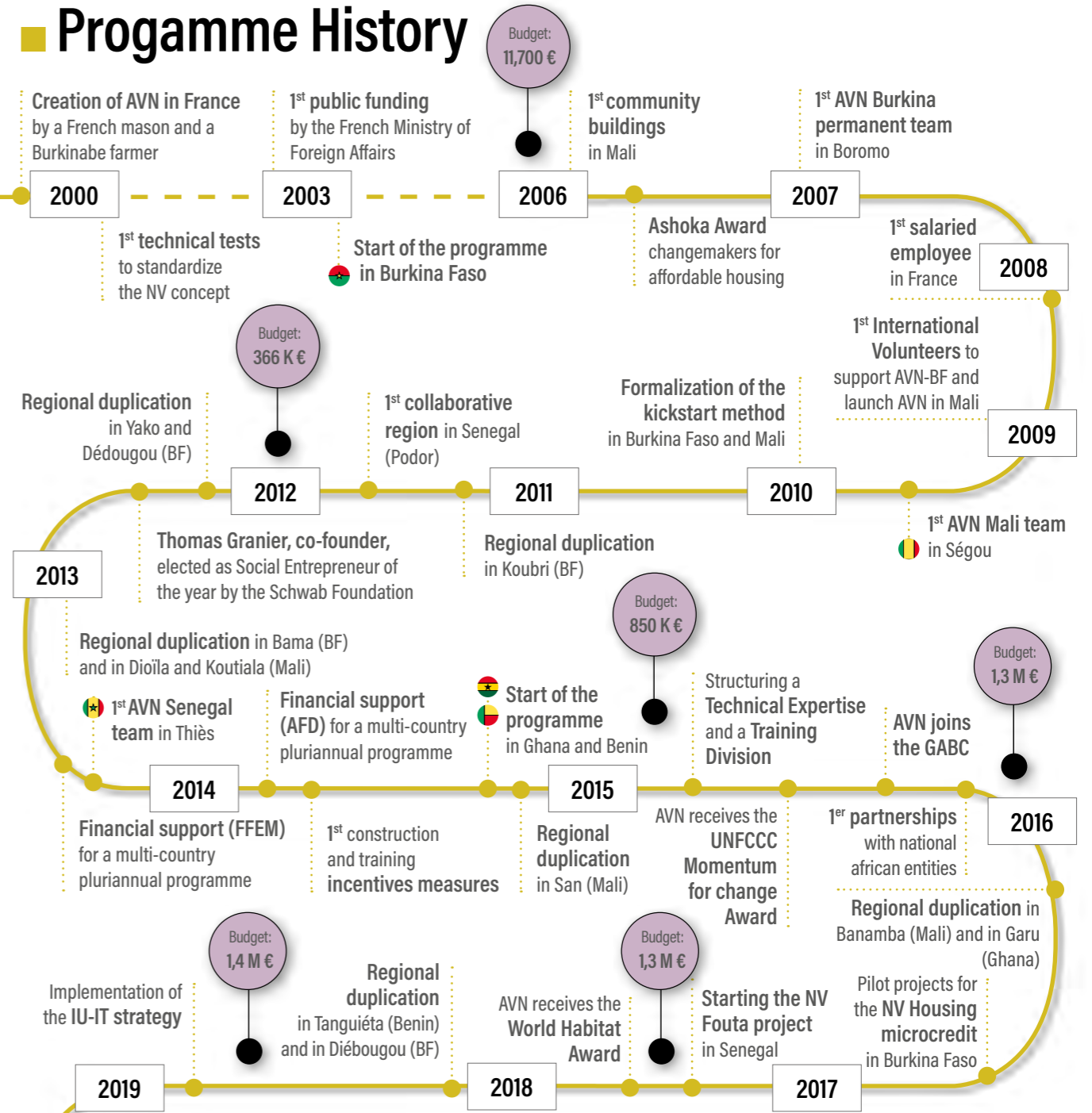


Local Development

- 3,5 million euros generated in the local markets
- 28 local civil society actors involved in disseminating the NV concept



■ Programme History



■ Intervention Strategy

A redefined, optimized intervention strategy

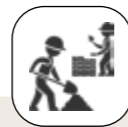
Since the launch of the programme in 2000, the market for Nubian Vault construction has demonstrated its capacity for growth. AVN's staff and thematic teams are experienced, spread out and well structured. The training curriculum for actors from the adapted building sector is largely operational, with good mastery of it on the part of trainers. The methodology, based on territorial dissemination of the market, has gradually expanded and become more focused through contact with partners and the situation on the ground. **Now mature, it is standardized and simplified.** It makes good use of the tested operating procedures, combining those that have proven to be most efficient and that contribute most to the rapid development of the NV market, driven by actors acting on two complementary territorial levels.

This new strategy clarifies how the programme will achieve upscaling and its results.

In particular, it is based on three complementary levers:



The transfer of the NV market dissemination strategy to local Operational Partners and the mobilization of all stakeholders necessary for its longevity;



The implementation, strengthening and diversification of training for jobs in the NV construction sector, in order to ensure an autonomous and green professional sector;



The integration and stimulation of the NV market in local and national economies.

2018/2019: An encouraging first implementation phase

Starting in September 2018, the implementation of the new methodology in intervention countries (except for Senegal) consisted in a **transitional phase aimed at a more well-adapted organizational and operational structure.** The mobilization of and support for programme actors, whether AVN teams or those from partner organizations, constituted the major focus of this reconfiguration.

The choice made to reduce the number of zones where action is taken (**Implementation Territories and Units**) allowed for an equivalent volume of activities to take place, concentrated in fewer areas, while maintaining the programme's results and taking into account budgetary constraints. At the same time, AVN also continued to support the market for artisans and masons in other regions in which action is taken, the so-called **indirect action zones** (thanks to incentives and academic training workshops), in order to prevent any sort of drastic disruption.



Training of Operational Partners in Benin.

Components of the territorial dissemination methodology for the NV market

1 Mobilization of and methodology transfer to local partners

At both of the territorial levels (communes and, depending on the country, departments/*cercles*/provinces/regions), local organizations (associations, civil society organizations, grassroots associations, etc.) are identified and mobilized. They are AVN's partners and include housing issues in their missions and activities. Amongst the latter, **the Operational Partners (OPs)** incorporate the various activities used under AVN's territorial methodology. The OPs are trained and supported by AVN in the implementation thereof. Knowledge transfer is facilitated by a body of professional training modules that is gradually being supplemented and consolidated.

This methodological transfer allows for the proliferation of emerging NV markets and their dissemination; the goal is to eventually ensure the autonomy of the implementation zones led by these Operational Partners.

Expected results:

- Local actors to be made aware of the NV concept and of the NV market development methodology as a lever for local development.
- Operational partners to be mobilized and to have acquired the methodological skills necessary to implement programme activities.



Technical Module on Specific Stage (TMSS) - Elevation of stairs in Tominian (Mali).

2 Training in the NV construction sector

AVN teams and those of the Operational Partners provide technical training modules both on worksites and in the classroom (dual training) for trainees (apprentices, masons, chief masons). In addition, training modules on worksite specifications and entrepreneurship strengthen the abilities of chief masons and NV entrepreneurs to develop their local and national markets.

These training activities are possible thanks to the involvement of and close cooperation with various actors from the vocational training sector, mainly trainer masons, as well as vocational training centres (VTCs) and other stakeholders involved with vocational training that help set up and implement pilot projects.

To ensure the longevity of NV market dissemination, AVN promotes structuring, diversifying and formalizing a professional sector for green construction and bringing together some of these actors. This approach is supported by the development, updating and consolidation of a corpus of technical documents available to all actors.

Expected results:

- The NV apprentices, masons and chief masons to be committed to the dual training approach.
- Numerous vocational training actors to be involved in the NV sector.
- The professional NV sector to be strengthened and formalized.

3 Integration and stimulation of the NV market in local and national economies

In order to help the NV market to emerge and consolidate and to ensure its longevity, AVN and its partners involved in dissemination are setting up a series of supplementary activities with which actors from the NV sector are directly associated.

Clients and project owners, including construction programme operators, are made aware of the different NV products and their projects are supported, whatever the type.

Financial incentives, essential for rapid market growth, are offered to rural clients, the programme's core target. At the same time, microfinance actors are encouraged to work together to sustainably develop new "adapted housing" loan products.

In general, AVN monitors, catalogues, analyzes and accrues data and results concerning the NV market and its growth.

Expected results:

- The adapted construction market to offer products accessible to all types of clients and to continue to grow.
- The financial levers of the NV market to be diverse and lead by strengthened actors.
- The NV market to be monitored and analyzed.



Mason and client in Burkina.

AVN carries out cross-cutting mobilization and training activities and supports all stakeholders in the sector and in the local, regional, national and international adapted housing market. These stakeholders may be:

- AVN staff members, focal points from Operational Partners and their deputies, leaders of organizations and institutions, etc.
- apprentices, masons, artisans, trainer masons, vocational training centres, companies, technicians, consultancy firms, AVN's technical teams, etc.
- political actors, administrative managers, microfinance institutions, project owners, etc.

AVN's programme is based on disseminating knowledge, skills and practices, and capacity building and development are an integral part of all programme components.



Technical Module on Specific Stage (TMSS) "Square tracing" in Tominian (Mali).

■ Training

The 2018/2019 season followed on from the previous season. The Training Team's priorities focused on implementing AVN's new methodology, supporting other teams and activities in transitioning to it. Concretely, this mainly meant bringing adapted guidance tools up to date and continuing to produce documents and support materials for training modules.

Main activities this season

► Producing a body of documents on the methodology

136 referenced documents (supports and tools), including:

- 37 documents produced (27%)
- 15 strategic and / or piloting tools and supports
- 22 documents and module supports
- 31 documents in production (23%)
- 68 documents to be produced (50%)

The documents focused on methodology include both pedagogical material and the Training Team's cross-cutting tools (steering/monitoring tools, documents and cross-cutting support material for various modules). All of the documents are inventoried in a production plan and categorized (title, stage of production, degree of urgency, manager responsible for production, etc.)

► Review of guidance tools

The Training Team held several workshops in order to work with other teams (national training managers and those from the zonal offices) to develop the Training Team's guidance tools. The tools produced and used are found in the following table:

	Paper	Digital
Coordination	<ul style="list-style-type: none"> ■ Training actions monitoring tables (by method) ■ List of training actions ■ Trainee table 	<ul style="list-style-type: none"> ■ Module form ■ Monthly forecast sheet
Zonal Office	<ul style="list-style-type: none"> ■ List of training actions ■ Summary table of results and objectives (by IU) 	<ul style="list-style-type: none"> ■ Training plan ■ Trainee tracking table (Module form)



Academic technical training for apprentices.



Grouped Building sites Training – Access to Housing (GBT-AH) in Ghana.

■ Training (continued)

Implementation of training activities

► Construction sector actors

■ Training of NV masons and apprentices

- 272 modules dispensed (on site and at the academy)
- 88% of modules on site
- 309 trainees

■ Technician training

- 2 training sessions for 23 technicians in Senegal

These potentially include all of the sector's actors, from labourers to construction engineers and architects. Most of the training activities implemented during the season were for NV apprentices, masons and chief masons active on the programme's NV worksites and in academic modules. In Senegal, the technicians (including some from Mauritania) benefited from two training sessions incorporating theoretical learning in the classroom and on-site visits.

► Training actors

- 3 pedagogical training modules for 24 NV Trainer Masons in Burkina Faso and Ghana

Actors involved in training are mainly the NV Trainer Masons (TMs), who are experts in Nubian vault construction and teach the construction technique at worksites and in the classroom. They are the main actors who transfer the knowledge to masons and apprentices and who help produce documents and teaching materials (co-creation workshops). The training of TMs is a priority under AVN's new strategy.

► Development actors

- 29 awareness-raising actions for Operator Partners implemented in Burkina, Mali, Benin and Ghana (*Course under development in 2018-2019, work continues during the 2019-2020 season*)

The territorial rollout of the Nubian Vault construction market is supported by a network of on-the-ground actors, to whom the methodology is transmitted: the Operational Partners (OPs). Following a phase focused on awareness raising and mobilization, the methodological transfer is being carried out by alternating between theoretical training modules and on-the-ground technical assistance to implement activities. The 2018/2019 season mainly consisted in mobilizing the OPs, who will be trained and supported throughout the 2019/2020 season. The body of training documents for OPs will be expanded in 2019/2020.

Conclusions for the season

The core focus on training activities in AVN's methodology for territorial rollout has necessitated the Training Team **consolidating the pedagogical documents and guidance tools** (planning, monitoring/evaluation and development).

The teams are well on their way to assimilating the tools, and this must continue throughout the 2019/2020 season. In addition, some of the tools need to be adapted so that they can be transmitted to partner organizations (the IU and IT Operational Partners).

The work to produce documents and material for training modules is 25% completed. The rest of the documents have been partially completed and must still be revised and updated.

■ Technical Expertise

While the positions of Project Manager and Works Supervisor do not yet exist for the NV adapted housing sector, AVN must provide its expertise and train (both internally and externally) professionals capable of taking responsibility for these activities. Indeed, these positions are fully part of completing complex NV worksites, and will provide support to both project owners and companies as well as win over new NV clients (institutional, private urban clients, cooperation and development actors) and involve them in its dissemination.

This season, AVN's Technical Expertise Team (TET) focused on three main areas of activities:

- **technical assistance for strategic operations**, so as to support partners in carrying out major projects;
- **the completion of AVN's technical documents**, by producing tools following on from technical development work;
- **mobilizing project managers on the NV market**, essential for the sector's growth.



Stony brick manufacturing training.

Technical assistance

The TET performs its assistance activities by carrying out missions that are adapted based on the requests, needs and constraints of the project managers and clients (defining the building project, producing plans and cost estimates, etc.) for the construction of generally complex worksites.

This season:

- **18 operations received one-time assistance**, including 13 in Burkina Faso, 3 in Mali, 1 in Senegal and 1 in Benin;
- **6 major operations received ongoing assistance** (from the preparatory phase through completion). This included:
 - phase 2 of the Department of Matam's administrative offices in Senegal,
 - the construction of 5 agricultural buildings in Mali (SOS Faim project),
 - the construction of 6 administrative buildings in Mali (AEDD project),
 - the construction of the Lontou secondary school in Mali (Kounda78 project),
 - phase 1 of the Diaramana Electrified Activity Area in Mali (GERES project);
- **9 worksites received assistance related to construction problems and faults**, focusing on determining their origin and finding solutions.

These activities also imply **the transfer of skills to technicians responsible for the projects**, the goal being for the Technical Expertise Team to gradually detach itself from these activities as the market becomes autonomous.

Development and Production

Providing impetus for broader dissemination, AVN's Technical Expertise Team is expanding the body of NV technical documents and carrying out research to optimize NV attributes and practices (resistance to bad weather, architectural modularity, etc.). At the same time, **monitoring damages and pathologies and associated responses** allows for better prevention of defects and for improved guarantees for all worksites.

This season, work to complete the technical body of documents continued with:

- **the first phase of revising the Mason's Manual**, the central document of the "NV Technical Standards". This project was first subject to significant technical development work with the chief masons, with meetings and consultations held. The manual was also translated for English-speaking actors from the sector, in particular in Ghana;
- **the drafting of a detailed paper and of specifications** in order to produce new technical work-sheets;
- **the creation of tools to calculate the amount of money spent on NV**, facilitating worksite preparations;
- **the drafting of a "meeting room" case study**;
- **the completion of the library of model documents** (PV/CR, planning, basis for CAD).



Site of the college of Lontou in Mali (Kounda78).

In addition, **research continued that focused on complex and/or complementary techniques** aimed at optimizing NV attributes and practices (resistance to bad weather, modularity) and providing more choice in terms of materials and techniques. This season, these specific techniques were used on more than 30% of worksites; in particular, this covered:

- **the need for external maintenance of the buildings to be limited**, by providing anti-erosive solutions (bond pattern of the walls with stony (mud) bricks or BLCs, specific plastering and parapets);
- **requirements for larger interior spaces** (arches of concrete blocks mounted on formwork, reinforced concrete post-and-beam structures).

Studies are underway to refine these techniques and increase their use.

In addition, **missions to develop and identify good practices and solutions** were carried out on the construction of basic roofing, in order to deal with difficulties observed in that area.

Finally, following a significant level of deterioration/damage in Benin and Ghana, **a satisfaction study was carried out vis-à-vis all clients in Benin and Ghana since the start of the programme**, in order to gather opinions now that the buildings have been used, as well as to visit all those constructed and to verify their state following the heavy rainy season in 2018. The results of the survey were positive and confirm that the NV technique is appropriate for the context of these countries.



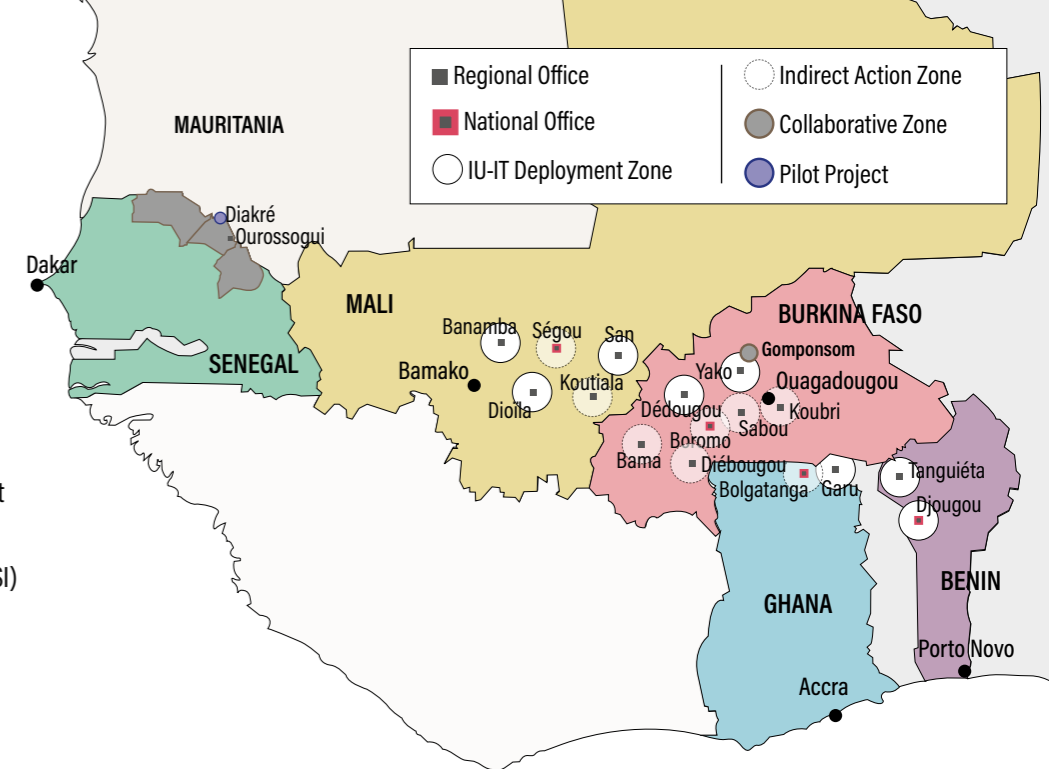
2 - Our Countries

Summary	▶ p. 21
Burkina Faso	▶ p. 28
Mali	▶ p. 38
Senegal	▶ p. 48
Ghana	▶ p. 60
Benin	▶ p. 68
International	▶ p. 76

■ Summary

Season 2018-2019

- ▶ 8 zonal offices for IU-IT rollout
- ▶ 8 territories of indirect action
- ▶ 1 collaborative zone in Senegal
- ▶ 17 regional teams deployed, including a mixed AVN/Le Partenariat team
- ▶ 46 local employees (including 1 VSI)
- ▶ 28 Operational Partners mobilized for programme rollout and 33 Relay and Technical Partners



Buildings constructed

- 590 completed worksites (+19%):
541 for private use (+20%) and
49 community buildings (including 17 for production)
- 17,558 m² of surface area constructed (+39%)
- 5,576 new user-beneficiaries (+59%)
- 77% of the market received incentives
- 50% of worksites were the result of direct contact between the artisan and client, without external intervention
- 92% used for housing
- 88% built for the core target clientele (farmers, shopkeepers and civil servants)
- 103 new towns, bringing the number of towns with at least one NV building up to 1,221



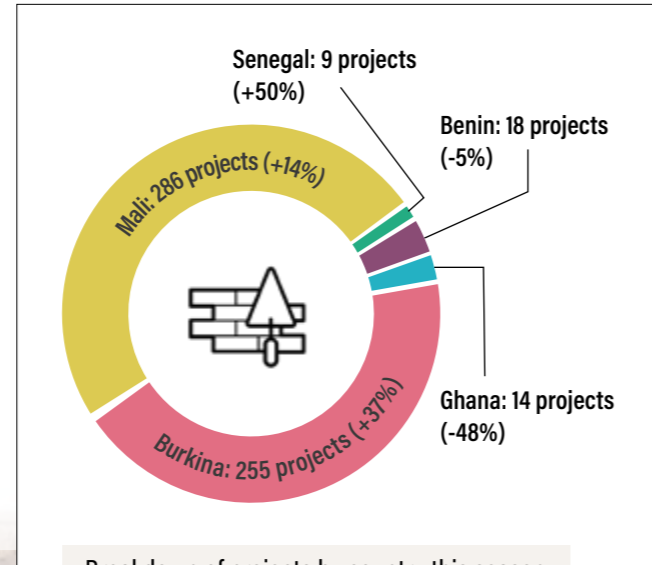
Ghanaian NV masons.

Summary (continued)

Buildings constructed (continued)

There was a renewed impetus for production this season (+23%), thanks in particular to two factors:

- the generalization of financial incentives intended for private clients: awareness-raising activities in villages were in fact replaced by support for masons in managing their own marketing (finding clients and apprentices) by distributing a single, optimized building incentive: the **Client Incentive Coupon (CIC, see box)**. 317 worksites were completed thanks to the CIC; that is, 56% of production.
- the implementation of specific donation and rehousing projects in Burkina Faso and Mali (PCPM project in Burkina Faso = 60 NV houses built; the DCA N'Golobougou project in Mali = 50 NVs built: that is, 20% of overall production).



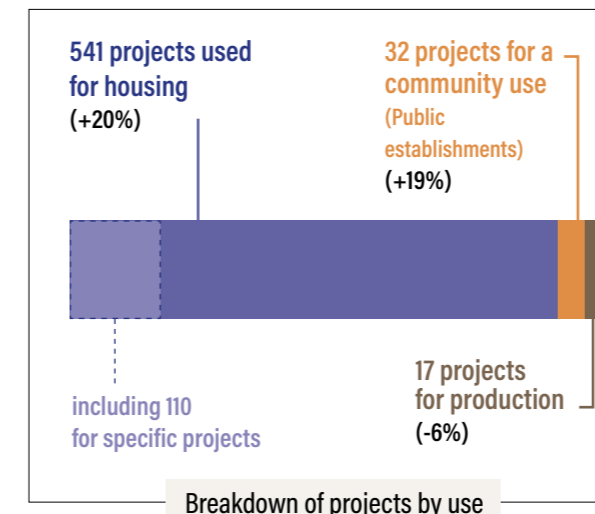
Breakdown of projects by country this season

In Benin and Ghana, however, production results were below target, for several reasons:

- a shortened production period due to early rains;
- several instances of damage;
- clients' limited investment capacity in view of local agricultural deficits;
- the complete cessation of "traditional" awareness-raising activities and limited autonomy on the part of masons to develop clients despite the establishment of the CIC.

In Senegal, a minority of building projects were from the private sector and were carried out without intervention by AVN (which concentrated its efforts on the NV Fouta project), but rather through direct links between the clients and local chief masons.

The number of community projects is on the rise, in particular in Mali (18 buildings/1,370 m²) and in Senegal (6 buildings/771 m²), bearing witness to the fact that gradually, both civil society and institutional clients are taking ownership of the NV concept. It should also be noted that 8 community buildings were built in Mauritania (see pp. 76-7).

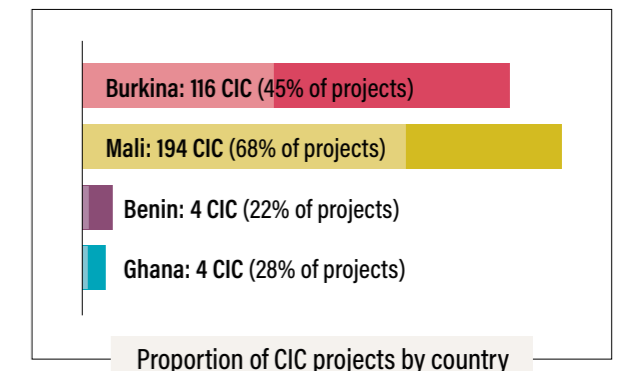


Breakdown of projects by use

Client Incentive Coupons (CIC)

Distributed by AVN or local Operational Partners to the masons, these consisted of printed and numbered coupons that allowed their use to be tracked. Worksite production and incentive payments are subject to controls (verification certificate, state of payment) and monitored using geotagged photographs. These documents are then gathered in digital mapping tools, allowing for random checks to be carried out. Each incentive corresponds to a maximum of 15% of the total cost of a building but represents a significant share of the cash injection necessary to pay the wages of the specialized labour. The client provides the materials and nonspecialized labour.

Client incentive coupons are generally worth between €200 and €250 in Mali and Burkina Faso. These incentives are therefore of a modest amount (€225 for a 25 m² building) but are a highly effective lever in terms of convincing private rural clients to use the NV construction model.



Proportion of CIC projects by country



Beneficiaries of the PCPM project funded by the Polish Government in Burkina Faso.



Ghanaian NV masons on a construction site.

■ Summary (continued)

Establishment of supply

806 apprentices, masons and artisans worked on NV worksites, an overall decline of 4%; in particular, this was due to the programme's new strategic aims (limited territorial rollout, priority given to those already being trained and to activities to support partners).

In Burkina Faso: The implementation of specific building projects and the use of the CIC favoured the work of C4 artisans (+13%) and of C1/C2 apprentices (+55%), who are more productive, to the detriment of that of C3 masons, who are less solicited (-14%).

In Mali: While the number of C4/C5 artisans and entrepreneurs is on the rise (+9%), few new trainees have been made aware of the advantages of continued training for those already involved in a training cycle.

In Senegal, the positive rate of completion of training activities should allow for an increase in the skill levels of Senegalese workers.

In Benin and Ghana, the fall in production for the period in question and the decision taken to prioritize trainees who have already begun training favours qualitative rather than quantitative results.

Training activities were improved in tandem with the beneficiaries themselves, in order to meet the needs identified as best as possible.

The curriculum kicks off with The Grouped Building Sites Training - Access to Housing (GBT-AH; formerly the Cement Mason Promotion). This module establishes groups of trainees who then train together on successive worksites while building their own NV houses. These NV worksites/schools also allow for trainee masons to have a personal building to use as a model, thus facilitating their marketing vis-à-vis their future clients (good example/credibility). 158 cement mason trainees were trained on 71 GBT-AH worksites.

The Reinforcement on Building Site - First Clients (RB-FC) modules were introduced this season and allow masons about to become chief masons to take responsibility for their first worksite, while receiving support from a trainer mason during half of the work. This allows for the mason to receive both technical training and that relating to client relations and managing a team. 64 RB-FC modules were set up, benefitting 48 trainee chief masons, supported by their teams.

Full Building Site Training (FBST) takes place wholly on building sites and is adapted to the needs of trainees, based on pedagogical proposals from the trainer masons. 69 FBST modules were carried out, benefitting 52 trainees.

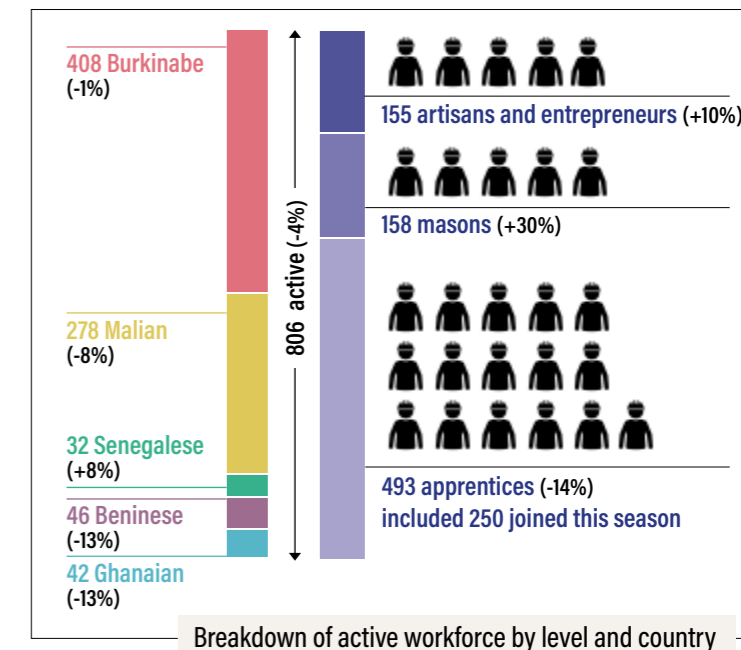
The Technical Modules on Specific Stages (TMSS) are held to strengthen trainees' expertise in key construction stages, which are often the most complex.

Once acquired, this knowledge represents a true selling point for the trained masons and artisans and ensures their production ability, in particular on the swiftly growing community market. 44 TMSS modules were carried out, benefitting 54 trainees.

197 Trainee Progress Booklets were updated or started: 66 in Burkina Faso, 49 in Mali, 13 in Senegal, 43 in Benin and 26 in Ghana.

21 academic modules were held on technical training, on defining and managing worksites and on introducing entrepreneurship; this rather poor result is explained by the fact that on-site training was prioritized and by budgetary restrictions that led to some academic modules being cancelled at the end of the season, as well as by the large number of specific projects carried out during the academic period that involved a lot of trainees.

56 NV chief masons were involved with Business Training, mainly under the specific PCPM project in Burkina Faso. Although most academic business training activities were postponed, masons' autonomy in managing their own market is



Breakdown of active workforce by level and country

on the rise, with nearly 50% of completed worksites the result of direct contact between the client and the mason, without any intervention by AVN. This was particularly true of Burkina Faso (39% of worksites) and of Mali (66% of worksites), the countries in which AVN's programme has most taken root.

23 Trainer Masons (TMs) received support in the form of an academic module, on "How to Carry Out Good On-Site Training"; this was fewer than aimed at, due to budgetary constraints and TMs focusing on on-site training and building projects.

9 awareness-raising modules for masons were held, all of them in Burkina Faso. Out of 250 participants, about 50 were mobilized. Since the target audience of the module was expanded to other actors from the commune, so as to collectively inform them about how NV training under the new methodology works, AVN concentrated its efforts on creating new material and trying out the first modules.

8 Vocational Training Centres (VTCs) were briefed, so that they could incorporate the NV curriculum into their teaching programmes.



COFERSA awareness-raising mission, Partner-Operators in Mali.

■ Summary (continued)

Mobilization of partners

The implementation this season of the new territorial methodology (the IU-IT strategy) made a priority of mobilizing partners (operational, relay and technical), with positive results, especially as regards Operational Partners, who are central to disseminating the NV market under the new strategy.

In Burkina Faso, there was a successful mobilization of Operational Partners (22 OPs committed and 10 mobilizing). This success was due to both strong interest in the programme and an already deeply rooted conviction held by local organizations, as well as to the awareness-raising and canvassing efforts carried out by AVN teams. In addition, the partnership with the mayor's office of Ouagadougou and with NGOs such as Welthungerhilfe and SOS Faim also play an exemplary role, which motivates mobilization by local public partners as Relay Partners and the setting up/financing of multi-actor projects.

In Mali, while mobilization of Operational Partners is underway (four OPs) and awaiting financing to carry out territorial development activities, **institutional partners led the way with several projects as sponsors** (donors) or Relay Partners: six administrative buildings (AEDD), the construction of a secondary school (Kounda 78), start of construction on an Electrified Activity Area (GERES), etc.

In Ghana, partnerships are being developed, and discussions with the Department of Construction Techniques and Civil Engineering of Bolgatanga Polytechnic led to a memorandum of understanding (MoU) being signed during the 2019/2020 season, to implement a pilot dual curriculum for the training of construction technicians and for the wider mobilisation of the entire adapted housing sector.

In Benin, support from local actors has made the region suitable for rolling out the new strategy: five Operational Partners have already mobilized and ten are doing so. Local mayors' offices have also expressed interest in NV as a solution to their building needs and are lobbying ministers for authorization to that end.

In Senegal, where AVN's activities have largely concentrated on public and community kickstarting, **there is significant support from local/regional public actors and from development actors**. The NV Fouta project, implemented with the NGO Le Partenariat, allowed for cooperation to take place with the Matam and Kanel Departmental Councils in using the NV concept to build their government building, thus providing an excellent regional example. At the level of the communes, local development organizations (ADEP, the Mboloyel Kawral Association, Bokidiawé commune/ADOS, ASCAL, etc.) have also used NVs for the needs of their health care, educational and agricultural buildings. As part of the NV Fouta Project, AVN cooperated with Vocational Training Centres, Chambers of Trades and Departmental offices in its zone of intervention, in order to develop NV vocational training curricula for formal training centres.



VN building realized with a Client Incentive Coupon (CIC) in Dédougou.



Burkina Faso

POPULATION (IN 2018)
19,7 million inhabitants
(70,6% rural)

GDP/CAPITA (IN 2018)
\$715 – 26th in Africa
(World Bank)

CLIMATE
Sudano-Sahelian

LAUNCH OF AVN PROGRAMME
in 2000

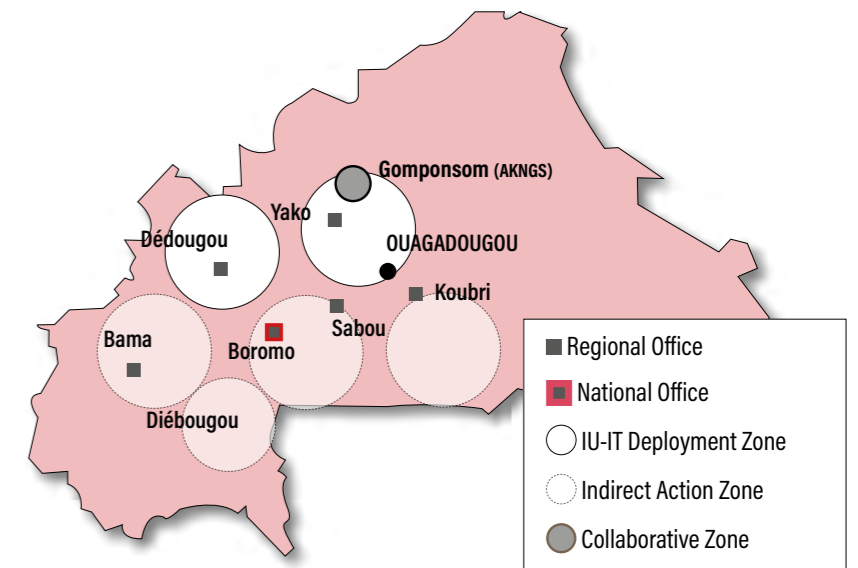
HUMAN RESOURCES
16 local employees

ROLLOUT
2 Implementation Territories
4 indirect action zones

BUILDINGS CONSTRUCTED
1,848 worksites since 2007

ACTIVE LABOUR FORCE
408 NV apprentices, masons, artisans and entrepreneurs in 18-19

PARTNERS MOBILIZED
22 Operational Partners
3 Relay Partners
2 Technical Partners



Summary

The geographical rollout of AVN's programme has changed somewhat with the implementation of the IU-IT strategy. Activities are underway in **2 Implementation Territories** – Dédougou and Yako – and **4 indirect action zones**.

A total of 255 worksites and 7,840 m² have been built, up 37%, largely due to expansion of CIC client incentives (45% of worksites) and to the construction of the PCPM project (60 NVs built).

89% of clients are farmers, the programme's core target, needing rural housing. **13 community buildings (880 m²)** were built.

22 Operational Partners have already mobilized and 10 are in the process: this success was due to both strong and deeply rooted interest in the programme on the part of local organizations as well as to the awareness-raising and canvassing efforts carried out by AVN teams.

408 apprentices, masons, artisans and entrepreneurs are active, with a rise in mobilization of artisans (+13%) and C1/C2 apprentices (+55%), in particular for the PCPM specific project, to the detriment of the less-solicited C3 masons (-14%).

The NV market is becoming more autonomous: 39% of projects are found directly by the masons (+26%), without help from AVN teams. In part, this result demonstrates the successful optimization of the client incentives that have been set up.



NV building realized with a Client Incentive Coupon (CIC) in Bama.



Burkina Faso

Buildings constructed

255 worksites were completed this season, bringing the total number of buildings constructed in Burkina Faso up to 1,800 (+66,000 m²), benefitting about 18,000 users.

The efforts to raise awareness with clients in villages have been replaced by support for masons in managing their own marketing, aided by the distribution of Client Incentive Coupons (CICs). 116 CICs were given out, including:

- 57 CICs given out by 27 NV artisans in Implementation Territories,
- 59 CICs given out by six service providers outside of Implementation Territories.

The specific project set up in the Nord region and financed by the Polish government through the PCPM allowed 60 private buildings to be constructed in 14 communes, nearly one-quarter of this season's production.

The number of community buildings is declining (-62% for public access buildings and -33% for buildings for production), but partnerships set up this season serve as examples (the mayor's office of Ouagadougou, WHH, SOS Faim, etc.) and should encourage additional local public partners to act as Relay Partners and the setting up/financing of multi-actor projects in the coming seasons.

Following three years of experience and of implementation of the "NV Housing Loan" pilot projects with the MFIs UBTEC and APFI-B, expansion of this product has now been suspended due to a lack of dedicated funding from MFIs, as well as a need for technical reinforcement for their employees in rolling out the product and for additional partners to mobilize (MFIs in the South, TFPs in of these institutions in the North).

In short

- 255 projects completed (+37%)
95% used for housing
- 7,840 m² built (+59%)
- 1,890 new user-beneficiaries
89% farmers
- 13 community buildings including
8 for production/livestock
- 116 projects (45%) realized with CIC
- 6,430 tons of CO₂ eq. potentially saved





Burkina Faso

Training of the workforce

408 NV apprentices, masons, artisans and entrepreneurs were active this season, a stable outcome resulting from the geographical deployment carried out (fewer areas covered).

There was a slowdown in recruiting new apprentices, with activities focusing more on mobilizing partners. To that end, AVN held 9 modules to raise awareness, helping to mobilize about 50 apprentices over the course of the season.

The implementation of the PCPM specific project and the use of the CIC favoured the work of the more productive C4 artisans (+13%) and C1/C2 apprentices (+55%), to the detriment of that of the less-solicited C3 masons (-14%).

NV market autonomy is on the rise: More than one-third of projects were the result of direct contact between the mason and the client.

21 trainer masons (TMs) bolstered their pedagogical skills through an academic training module, "How to Carry Out Good On-Site Training", and then implemented them during the course of the 121 technical training modules held this season:

- 39 Grouped Building Sites Training - Access to Housing (GBT-AH) modules, for 79 trainees,
- 19 Reinforcement on Building Site - First Clients (RB-FC) modules, for 27 trainees,
- 63 Full Building Site Training (FBST) modules, for 19 trainees.

66 Trainee Progress Booklets were started/updated, and 201 new qualifications were recognized.

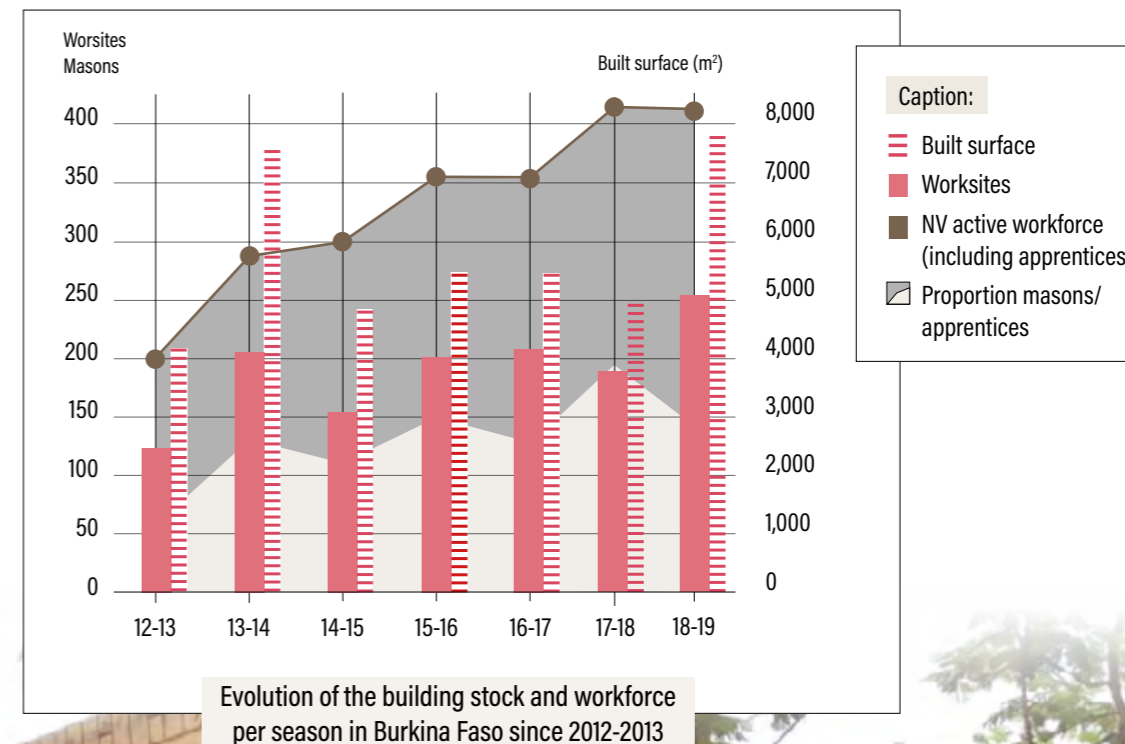
Only 12% of training activities were held in the classroom, for a total of 8 modules and 250 trainees.

40 NV chief masons participated in an Entrepreneurial Training module under the PCPM specific project.

In short

- 408 active apprentices, masons, artisans and entrepreneurs including 145 apprentices who began their training this season
- 39% of sites found independently (+26%)
- 6% growth in the rate of artisans / entrepreneurs
- 201 new qualifications (-14%)
- 66 Trainee Progress Booklets started/updated
- 121 technical training modules implemented on sites by 21 trainer masons

AVN is trying to involve numerous partners, both Operational Partners and donors, in vocational training issues. Thus, possible cooperation in drawing up and implementing a dual training curriculum (technical/academic) for actors from the "green" construction sector (from rural apprentices to construction sector technicians and from NV trainer masons to technical training schools) was discussed with the Support Programme for Vocational Training and Apprenticeships (PAFPA), the NGO Job Booster, the Permanent Secretariat of Non-Government Organizations (SPONG) and three regional CFPs.



Technical training module "Setting out rules" in Yako.

Mobilization of partners

22 Operational Partners are mobilized and 10 are in the process. For instance:

- the **AKNGS NAAM Union**, a partner that has worked on local deployment in the Yako region since 2014, which encouraged the involvement of the **National Federation of NAAM Groups (FNGN)** and of 15 other NAAM Unions. In May 2019, there were **20 NAAM Unions** involved to various degrees in programme deployment in as many communes, spread over two regions;
- **several Civil Society Organizations** – the Tind Yalgré Association (ATY), the Provincial Association of Nong-Taaba Craftsmen and Guilds from Boulgou Province (APAGAN-B), the Regional Unions of Dolo Women Producers from the Boucle du Mouhoun (URPD-BM), the Association of Women for Nord Development (AFEDN) – and their local, recently committed networks.

In addition, the partnerships with the mayor's office of Ouagadougou and with NGOs such as Welt Hunger Hilfe and SOS Faim also serve as examples that mobilize local public partners as Relay Partners, leading to the setting up/financing of multi-actor projects.

Furthermore, in the framework of mobilizing actors based on the inclusive dual training programme and on the advice of the Swiss Agency for Development and Cooperation (SDC), AVN has begun a cycle of exchanges with the Support Programme for Vocational Training and Apprenticeships (PAFPA), the NGO Job Booster, the SPONG and three regional CFPs. This cooperation should allow a dual training curriculum (technical/academic) to be implemented for actors from the "green" construction sector (from rural apprentices to construction sector technicians and from NV trainer masons to technical training schools), in an effort to formalize some of the actors on the market.



Awareness raising of Operator Partners: Naam Union of Boucles du Mouhoun.

Regional and national advocacy

Significant advocacy work has been carried out with regional actors for several seasons. Partnerships are being discussed with:

- the **Regional Councils of Centre-Nord and of Boucle du Mouhoun**, which have committed to incorporating adapted housing into their development plans;
- the **mayor's offices in the intervention zones**.

In March, a partnership was also entered into with the mayor's office of Ouagadougou, focusing on constructing reference buildings and on training technical actors from the construction industry.

At national level, several meetings were held with potential cooperation donors:

- the **Great Green Wall initiative for the Sahara and the Sahel** in February, with a draft concept note on programme deployment in Bourzanga commune;
- the **Executive Secretariat of the Green Climate Fund** in February, for initial contact and exchanges based on the concept note drawn up by the Sahara and Sahel Observatory (OSS) and AVN;
- **AFD's branch in Ouagadougou**, to encourage housing issues to be taken into account in cooperation/development activities in the Sahel, in particular through that of the French government and the Alliance for the Sahel;
- the **European Union**, to present the programme and request funding (this was successful for 2019/2020);
- the **Belgian development agency (ENABEL)**, with whom a project should materialize in 2020 in the Centre-Est region;
- the **Swiss Agency for Development and Cooperation (SDC)**, with whom financing of training activities should be finalized in 2020;



Training organized by the Institute for Poverty Action (IPA) in partnership with the French Development Agency (AFD) and the International Labor Office (ILO).

- the **World Bank**, which also co-finances many solicited cooperation programmes;
- the **Burkinabe and Spanish Red Crosses**, to which a project co-designed with the Nunuma Federation (FG) has been submitted;
- the **German NGO Welthungerhilfe (WHH)**, with whom AVN received funding for the Cross-border Empowerment of Communities at Risk of Destabilization project (April 2019–August 2021), financed by the PATRIP Foundation, which has as its objective to stabilize cross-border areas by improving the well-being of Malian and Burkinabe populations;
- **Swisscontact, a Swiss NGO, and SNV, a Dutch NGO**, with whom avenues of cooperation – mainly on vocational training – have been discussed, without any results thus far.



Burkina Faso

Regional and national advocacy (continued)

At ministerial level:

Following several requests put to the **Ministry of Housing and Urban Planning (MUH)** in February 2019, a working meeting with the **Directorate General for Sector Studies (DGESS)** and the **Directorate General for Architecture, Housing and Construction (DGAHC)** was held to revive pending files. On this occasion, it was proposed that the project "40,000 Dwellings" be incorporated into a Green Climate Fund project and a reference building be constructed in Tenkodogo for the celebration of independence in December.

A meeting with the **Directorate General for Sector Studies (DGESS)** under the **Ministry for Health** was an opportunity to put forward technical documents for the construction of health-care buildings.

Several meetings with the **Energy Ministry's Directorate for Renewable Energy and Energy Efficiency** led to the signing of a draft framework convention.

It was clear that institutional actors are aware of the benefits of the NV programme and initial partnerships were established this season. Procedures, of which there are many in Burkina Faso, are moving quite slowly, despite repeated submissions to the ministries.



Beneficiaries of the PCPM project in the North region.

In the spotlight

The government of the Republic of Poland commits to adapted housing

Through the Polish Centre for International Assistance (PCPM), the government of the Republic of Poland has committed to funding a construction project in Burkina Faso's Nord region.

Implemented by 15 NAAM Unions acting as Operational Partners-IU, with support from AVN, this project allowed 60 NV homes of 25 m² each to be built for vulnerable families in 14 communes. About 30 NV chief masons and more than 100 apprentices also benefitted from technical and entrepreneurial training.

This project also aimed to initiate long-term collaboration between AVN and the Polish government. At the end of this initial pilot, the PCPM confirmed its desire to support larger AVN projects, and proposals were drawn up to that end.





Beneficiaries of the DCA project in the village of N'Golobougou.



Mali

POPULATION (IN 2018)

19 million inhabitants
(57,6% rural)

GDP/CAPITA (IN 2018)

\$899 - 22nd in Africa
(World Bank)

CLIMATE

Sudano-sahelian

LAUNCH OF AVN PROGRAMME in 2009

HUMAN RESOURCES

16 local employees

ROLLOUT

3 Implementation Territories
2 indirect action zones

BUILDINGS CONSTRUCTED

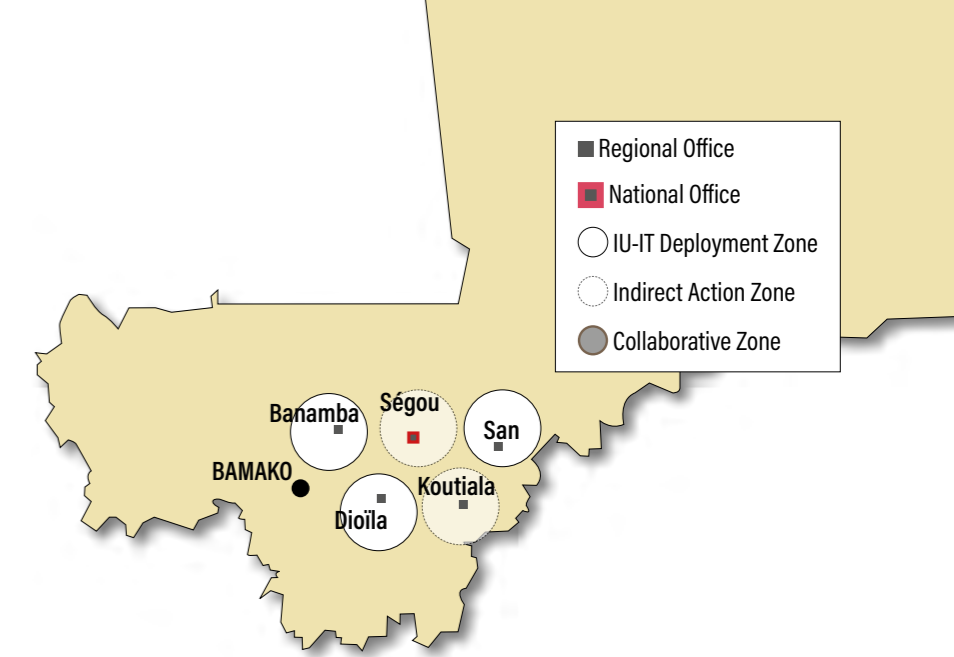
1,358 worksites since 2007

ACTIVE LABOUR FORCE

278 NV apprentices, masons,
artisans and entrepreneurs
in 2018-2019

PARTNERS MOBILIZED

4 Operational Partners
8 Relay Partners
1 Technical Partner



Summary

The geographical rollout of AVN's programme has changed somewhat with the implementation of the IU-IT strategy. Activities are underway in **3 Implementation Territories** - Banamba, Dioïla and San - and **2 indirect action zones**.

With 286 worksites completed for a total of 7,780 m², there was a 12% growth in the number of worksites and a 28% growth in surface area constructed. This was thanks to expansion of the CIC client incentives (68% of worksites) and to the completion of more community and agricultural buildings.

18 community buildings (1,370 m²) were completed, twice the number completed the previous season.

93% of clients are farmers, the programme's core target, needing rural housing.

4 Operational Partners are currently mobilizing, and joint fundraisers will take place next season to carry out territorial development operations.

278 apprentices, masons, artisans and entrepreneurs are active, with a rise in mobilization of masons, artisans and entrepreneurs (+49%), to the detriment of the less-solicited C1/C2 apprentices (-26%).

The Malian NV market is gaining autonomy: 64% of production was found directly by masons (+38%) without intervention by AVN teams; this demonstrates the success of the incentives that have been in place for several seasons now.



The college of Lontou (Kounda78) construction site (top) and finished building (bottom).



Mali

Buildings constructed

286 worksites were completed this season, increasing the total number of buildings constructed in Mali to more than 1,300 (+40,700 m²), benefitting about 13,500 users.

The cessation of the village awareness-raising campaigns did not have a negative impact on the market because in Mali, masons already do this directly: **64% of projects were found independently by masons this season.** Support for masons concerning the use of Client Incentive Coupons (CICs) was provided by telephone by AVN teams at the beginning of the season. **194 CICs were given out. More than 89% of the Malian NV market received an incentive.**

The rehousing project for N'Golobougou village financed by the Dubai Charity Association (DCA) allowed 50 private buildings to be constructed, nearly 20% of the season's production.

There was more demand for community buildings this season (+83% for public access buildings and +133% for buildings for production). Support by institutional actors acting as sponsors or Relay Partners led to several projects, including:

- 6 administrative buildings (565 m², AEDD project),
- 4 agricultural storage barns (111 m², USCPCD and Yèrènyèton projects),
- 1 changing room for the Cecifoot association (100 m²),
- 1 secondary school in Kayes (390 m², Kounda78 project),
- 1 kindergarten for the Bilou Toguna association (65 m²).

In short

- **286 projects** completed (+12%)
94% used for housing
- **7,780 m²** built (+28%)
- **2,700 new user-beneficiaries**
93% farmers
- **18 community buildings** including
7 for production/livestock
- **194 projects** (68%) realized with CIC
- **6,380 tons of CO₂ eq.** potentially saved



Interior view of a building of the Productive Energy Pole in Koury (GERES - © Nicolas Réméné).



Mali

Training of the workforce

278 NV masons, artisans and entrepreneurs were active this season, a slight decline due to a fall in mobilized C1/C2 apprentices (-36%); this in turn was due to fewer recruitment activities and a greater focus on continuing training for trainees who have already begun a training cycle and on partner mobilization. **The number of C3/C4/C5 masons, artisans and entrepreneurs, on the other hand, grew by 49%.**

64% of the market is autonomous: more than two-thirds of projects were the result of direct contact between the mason and the client.

13 trainer masons (TMs) helped teach trainees, providing 50 technical training modules this season:

- **21 Grouped Building Sites Training – Access to Housing (GBT-AH) modules**, for 30 trainees,
- **26 Reinforcement on Building Site – First Clients (RB-FC) modules**, for 26 trainees,
- **3 Technical Modules on Specific Stages (TMSS)**, for 12 trainees, held specifically in preparation of the AEDD project (construction of 6 administrative buildings).

TMs did not receive support via specific modules this season, due to budgetary constraints and to them carrying out on-site training and working on construction projects themselves, as well as serving as reinforcements in other countries.

49 Trainee Progress Booklets were started and/or updated, and **125 new qualifications** were recognized; these results were due to a fall in training activities.

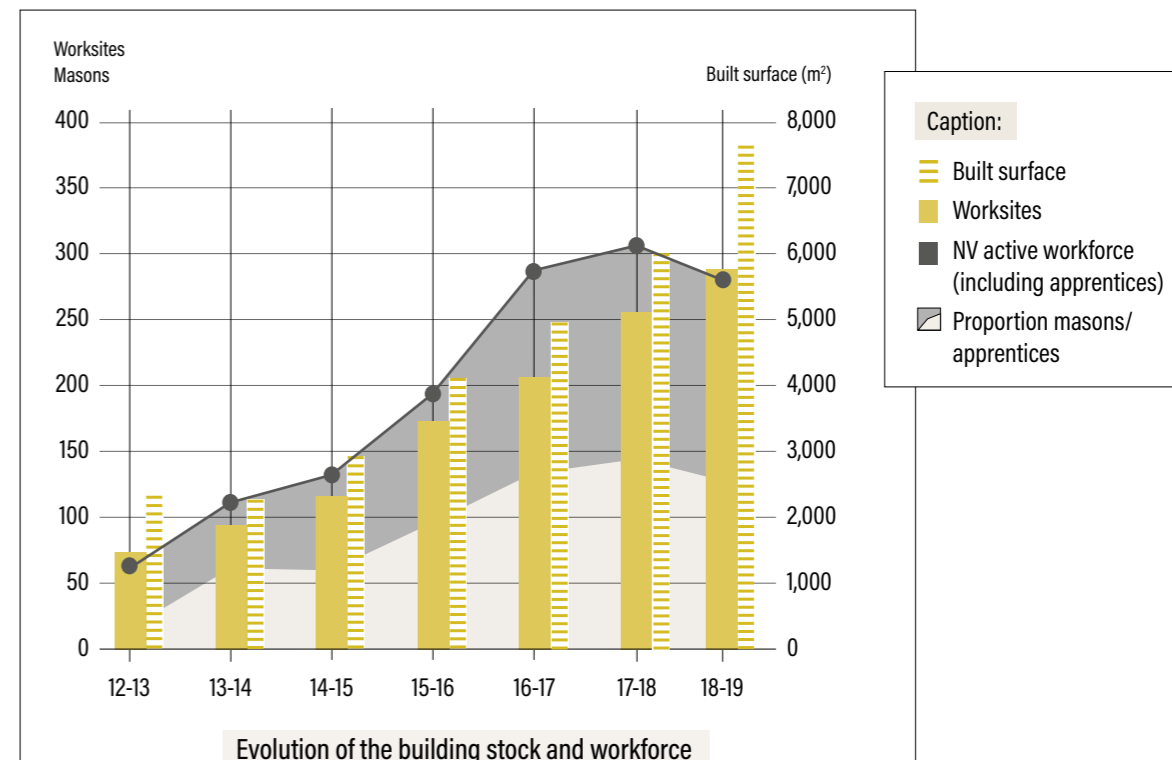
4 academic training modules were held for 54 trainees.

In short

- **278 active apprentices, masons, artisans and entrepreneurs** including 59 apprentices who began their training this season
- **64% of sites** found independently (+38%)
- **49% growth** in the rate of artisans / entrepreneurs
- **125 new qualifications** (-43%)
- **49 Trainee Progress Booklets** started/updated
- **50 technical training modules** implemented on sites by **13 trainer masons**



Malian NV masons on the building site of the college of Lontou.



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



Technical Training Module on Specific Stage (TMSS) "Arcades".



Mali

Mobilization of partners

In Mali, there is growing interest on the part of local development actors in the use of adapted housing.

One example is the construction of barns and training for local NV masons funded by the Belgian NGO SOS Faim for the Diédougou Unions of Cereal Producer Cooperatives (USPCPD) and Yèrènyèton, two farmers' groups that are currently mobilizing as Operational Partners in three and four communes, respectively.

Two women's federations, the Coordination for Women's Associations and NGOs in Mali (CAFO) and the Meeting of Rural Women for Food Sovereignty (COFERSA), each representing nearly 3,000 women from the San and Sikasso regions, have confirmed their commitment to becoming Operational Partners.

Several subsidy requests were submitted this season so that NV dissemination activities can be carried out in coming seasons.

In addition, **institutional partners acting as sponsors (donors) or Relay Partners are already quite visible.** This is demonstrated by the construction of several projects this season (six administrative buildings with AEDD, construction of a secondary school with Kounda78, start on a project to build an Electrified Activity Area with GERES, etc.), with more to come (micro pilot project on social housing with the Malian Office for Housing (OMH), a project with the African Development Bank (ADB) covering 32 communes, etc.).



One of the 6 administrative reference buildings implemented with the AEDD.



COFERSA awareness raising workshop in Sikasso.



Mali

Regional and national advocacy

Pilot projects were carried out with:

- the **Agency for Environment and Sustainable Development (AEDD)**, for the construction of six administrative reference buildings for the mayor's offices of the Nioro du Sahel, Nara and Banamba cercles; this project followed on from the PGRNCC deployed in these regions since 2015;
- the **Malian Office for Housing (OMH)**, to approve a project to build five NV reference social housing units in the Ségou region (implemented at the end of 2019).

These projects represent the start of the **integration of the NV programme in Malian public policy** and should lead to larger construction programmes and territorial projects.

A project covering 32 communes in the cercles of Kayes, Koulikoro and Ségou was set up with the **African Development Bank (ADB)** and is **expected to be approved by the Global Environment Facility (GEF)** in 2020.



Mali

Regional and national advocacy (continued)

In addition, meetings were held with many potential cooperation donors, in order to suggest that they incorporate activities to develop the NV market into current and future projects:

- Luxembourg's cooperation agency (LuxDev) is interested in funding the pilot project designed with the Tominian CFP;
- the Belgian cooperation agency (ENABEL), which had already financed a rural development project incorporating agricultural buildings and training in the NV concept, has shown interest in developing other training/ action projects with AVN in 2020;
- potential partnerships for construction and training might be possible with the Danish cooperation agency (DANIDA).
- the Swiss cooperation agency (SDC), in line with the dual training strategy proposed by AVN, encouraged a meeting to be held with the NGO Helvetas, the main implementation body for the SDC;



Aerial view of the Cecifoot cloakroom site (Association Libre Vue - © Atelier Martel).

In the spotlight

The Dubai Charity Association continues to work on behalf of the Malian people

This season, the Dubai Charity Association (DCA) financed the construction of 50 NV houses of 26 m² each in the village of N'Golobougou, in Mali.

These worksites provided training and jobs for many local masons. The 50 beneficiary families are now enjoying comfortable Nubian Vault homes.

Carrying out projects of this scope is an asset for AVN, because they ensure the quick spread of the NV concept in the targeted zones and also have many positive impacts: they boost young people's employability, strengthen local economies, improve the populations' living conditions, provide a good example of the NV concept, etc.

In addition, the DCA also financed an incentive programme this season throughout the country, with 500 beneficiaries. ■





Multiservice centre in Agnam-Lidoubé.



Senegal

POPULATION (IN 2018)
15,8 million inhabitants
(52,8% rural)

GDP/CAPITA (IN 2018)
\$1,521 - 20th in Africa
(World Bank)

CLIMATE
Sahelian

LAUNCH OF AVN PROGRAMME
in 2010

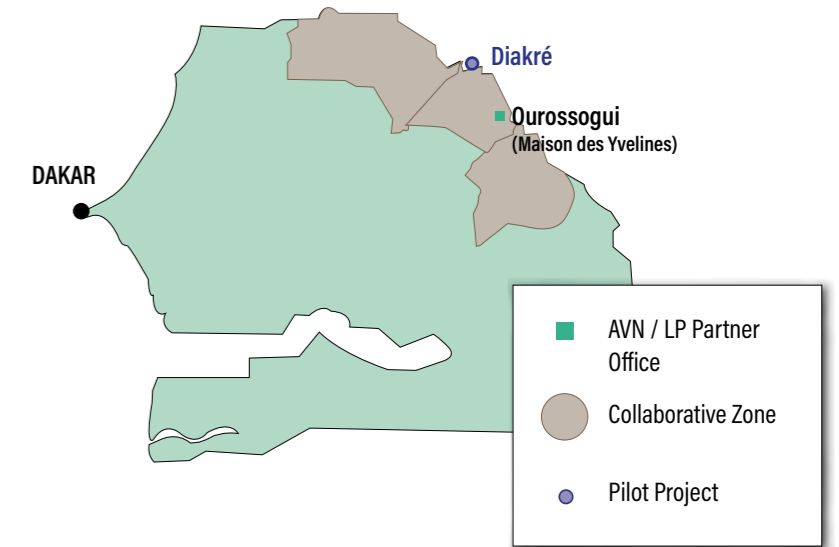
HUMAN RESOURCES
1 local employee, 1 VSI
and 1 training manager
under the NV Fouta project

ROLLOUT
1 AVN/LP office

BUILDINGS CONSTRUCTED
101 worksites since 2010

ACTIVE LABOUR FORCE
32 NV apprentices, masons,
artisans and entrepreneurs
in 2018-2019

PARTNERS MOBILIZED
1 Operational Partner
10 Relay Partners
7 Technical Partners



Summary

AVN's activities in Senegal focus mainly on public and community commissions through the construction of the NV Fouta project in northern Senegal, carried out with the NGO Le Partenariat, AVN's partner since 2014. Le Partenariat also collects and monitors data on the private NV market, putting clients and masons in touch whenever possible.

This season, **9 worksites were completed**, with built surface area more than doubling compared to last season. Of these worksites, 5 were part of the NV Fouta project, 3 were private homes and 1 was a henhouse.

32 apprentices, masons, artisans and entrepreneurs were active (+39%) this season; this increase was, among other reasons, due to strengthened training activities (45 technical training modules held).

Local and regional public and development actors have proven their commitment. The NV Fouta project enabled the Departmental Councils of Matam and Kanel to get involved; they chose the NV concept for the construction of their departmental government buildings, providing an excellent example for the region. At the level of the communes, local development organizations have also used NVs for the needs of their health-care, educational and agricultural buildings. In addition, AVN worked with Vocational Training Centres, Chambers of Trades and Departmental Councils in its intervention zone to draft a memorandum of intent to develop NV vocational training curricula for formal training centres.



Senegal






Buildings constructed

In Senegal, no kickstarting activities for the private market were held under the NV Fouta project, which put most of its resources toward developing the public and community markets in the Fouta zone, in conjunction with the NGO Le Partenariat.

This season, **9 worksites were constructed, including 5 under the NV Fouta project.**

3 private homes (including one urban NV of 151 m²) **and a henhouse** (a Malem Auder project) were also built.

In short

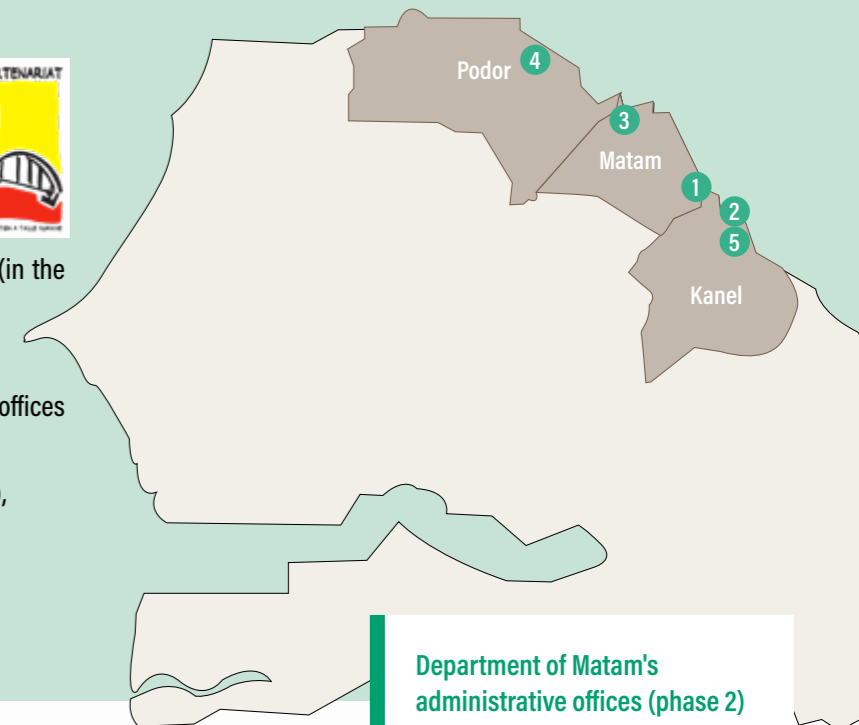
-  **9 projects** completed (+50%) including 5 under the NV Fouta project
-  **974 m²** built (+159%)
-  **578 new user-beneficiaries**
-  **6 community buildings** including 2 for production/livestock
-  **799 tons of CO2 eq.** potentially saved



NV henhouse (Malem Auder project) in Malem-Thérigne.

NV Fouta Project

Since 2017, with financing from the Departmental Council of Yvelines, AVN and the NGO Le Partenariat (LP) has implemented a programme to popularize and disseminate the NV technique, mainly in the departments of Podor, Matam and Kanel (in the north of the Fouta region).



This season, **5 projects were completed:**

- 1** phase 2 of the Department of Matam's administrative offices (393 m²),
- 2** the library of ancient manuscripts in Ganguel (151 m²),
- 3** the Agnam Lidoubé multiservice centre (94 m²),
- 4** the Doumga Rindiao agricultural warehouse (74 m²),
- 5** the covered market stalls in Polel (36 m²).

Department of Matam's administrative offices (phase 2)

Surface: 393 m²

Location: Matam, Department of Matam

Client: Departmental Council of Matam

Project Manager: Habitat Moderne (execution), Departmental Council of Matam (monitoring and control)

Project completed between January 2018 and July 2019





Senegal

NV Fouta Project (continued)



Library of ancient manuscripts

Surface: 151 m²

Location: Guangel, Department of Kanel

Client: Departmental Council of Kanel

Project completed between February and June 2019



Agricultural warehouse

Surface: 74 m²

Location: Doumga, Department of Matam

Client: Municipality of Bokkidiawé (assisted by the NGO ADOS)

Project completed between May and July 2019



Multiservice Centre

Surface: 94 m²

Location: Agnam Lidoubé, Department of Matam

Client: Association for the Socio-Cultural Development of Agnam Lidoubé (ADSCAL)

Project completed between April and June 2019



Covered market stalls

Surface: 36 m²

Location: Polel Diaoubé, Department of Kanel

Client: Polel Development Association

Project completed between December 2018 and January 2019



Senegal

Training of the workforce

32 NV apprentices, masons, artisans and entrepreneurs were active this season, an overall increase (+39%); this was mainly due to the number of active C3/C4/C5 masons, artisans and entrepreneurs, which doubled compared to last season.

2 trainer masons (TMs) helped teach trainees, with 45 technical training modules held this season:

- 6 Full Building Site Training (FBST) modules, for 33 trainees,
- 39 Technical Modules on Specific Stages (TMSS), for 34 trainees.

Large-scale projects such as the Department of Matam's administrative offices were an opportunity for apprentices to learn specific and complex techniques throughout the construction process.

13 Trainee Progress Booklets were started and/or updated.

2 modules were held in the classroom for 33 trainees.

In addition, under the NV Fouta project, AVN worked with Vocational Training Centres, Chambers of Trades and Departmental Councils in its zone of intervention to draft a memorandum of intent to develop NV vocational training curricula for formal training centres.

In short

32 active apprentices, masons, artisans and entrepreneurs including 5 apprentices who began their training this season

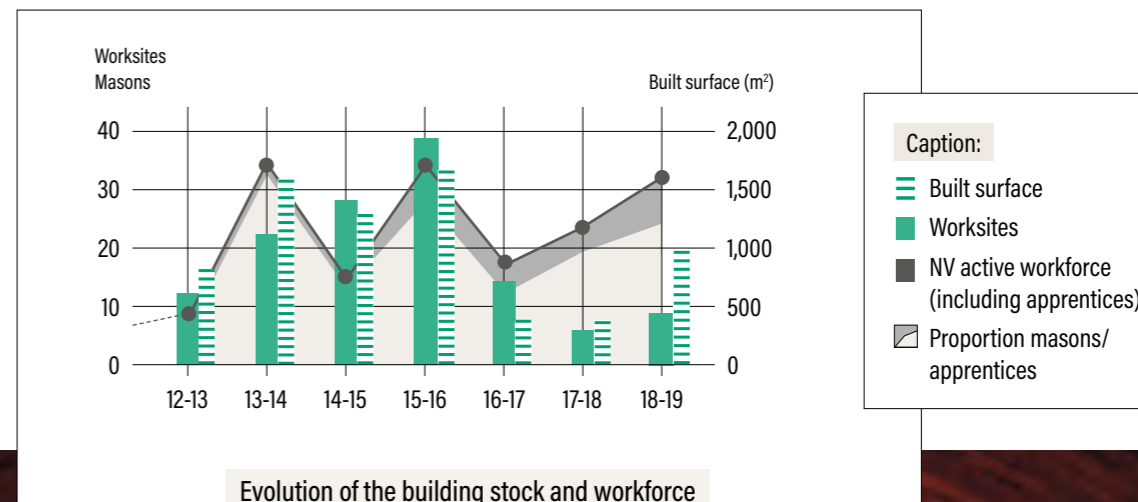
44% of sites found independently (+4%)

100% growth in the rate of masons, artisans and entrepreneurs

6 new qualifications (-54%)

13 Trainee Progress Booklets started/updated

45 technical training modules implemented on sites by 2 trainer masons



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



Site of the Department of Matam's administrative offices.



Senegalese NV masons.



Site of covered market stalls in Polel-Diaoubé.



Senegal

Mobilization of partners

The NGO **Le Partenariat**, which has been AVN's partner in Senegal since 2014, implements the NV Fouta project alongside AVN, with support from the Department of Yvelines. Cooperation with the **Departmental Councils of Matam and Kanel** began as part of the project to build their administrative offices.

At the level of the communes, **local development organizations** (the **Association for the Development of Polel-Diaoubé Village**, the **Mboloyel Kawral Association**, the **commune of Bokidiawé/Ardèche Drôme Ourossogui Senegal Association**, the **Association for the Socio-Cultural Development of Agnam-Lidoubé**, etc.) also chose the NV concept for their health-care, education and agricultural building needs.

Under the NV Fouta project, AVN also cooperated with **Vocational Training Centres, Chambers of Trades and Departmental Councils** in its zone of intervention to draft a memorandum of intent to develop NV vocational training curricula for formal training centres. This memorandum was submitted to the French Development Agency (AFD) by the Department of Yvelines under the "French Local Authorities Financing Facility" (FICOL) (*see following section*).



Visit to the construction site of the Department of Matam's administrative offices by the NV Fouta team.



Visit of the College of Saldé.



Senegal

Regional and national advocacy

In Senegal, institutionalization of the programme is strategic because development of the NV market rests mainly on establishing public and community markets. Two large-scale projects were carried out with the NGO Le Partenariat (LP), which operates the NV programme in Senegal and has historic ties to decentralized cooperation between Lille and Saint-Louis in Senegal, a partner of the Hauts-de-France region.

The NV Fouta project led to awareness being raised with public actors from the Podor, Matam and Kanel departments and to the identification of needs for public clients. The NV concept is currently being integrated into the departmental plans of various departments, in particular those of Matam and Kanel, which chose to use the NV technique to build their administrative offices. This work advanced the sector's

institutionalization, as illustrated by the different documents produced for the construction of the Department of Matam's administrative offices.

In order to expand upon this, the Departmental Council of Yvelines, in partnership with the departments of Kanel, Matam, Ranérou and Podor, drew up a project to be presented to the FICOL (memorandum of intent sent in October 2019), the objective of which is to promote and disseminate the construction of low-carbon NV buildings. Preparations for this project led to several workshops on institutionalizing NV training programmes with institutional actors involved in vocational training at departmental level (Departmental Vocational Training Centres [CDFPs], Departmental Chambers of Trades [CDMs], as well as the Maison des Yvelines and Le

Partenariat); the goal was to think about possible ideas for the deployment of one or more vocational training methods that would allow the training of masons in this eco-construction technique to be scaled up. In a broader sense, this also aimed to bring together partners to think about the framework for the future project, so that some of their building projects could be included.

Preparations for this institutionalization of training measures were held in parallel to regular dialogue with the government services responsible for vocational training and their local representatives: the Directorate for Vocational and Technical Training (DFPT), the National Office for Vocational Training (ONFP), the Directorate of Examinations, Vocational Examinations and Certification (DECPC), the Fund for Financing Vocational and Technical Training (3FPT), etc.

At the same time, LP and AVN supported the work carried out prior to the project (begun in 2014), led by the Directorate of the Environment and Classified Establishments (DEEC) under the Senegalese Ministry for the Environment and Sustainable Development (MEDD), financed by the Global Environment Facility-5 (GEF) and supervised by the United Nations Environment Programme (UNEP). The goal of this project is to increase the impact of the NV Fouta project and to expand NV dissemination to new areas of intervention. Following scoping and preparatory meetings held with the DEEC in 2017, activities were supposed to begin in 2018 and 2019. Due to administrative slowness, there was a delay in signing the convention between AVN and the DEEC, but that is expected to take place during the 2019/2020 season.

In addition, in the framework of the Global Alliance for Buildings and Construction (GABC), in December 2018 a joint mission was requested by AFD's Energy Division, which is responsible for the Programme for Energy Efficiency in Buildings (PEEB), in partnership with the German international cooperation agency (GIZ) and the Environment and Energy Management Agency (ADEME). The PEEB's objective is to support countries in constructing energy efficient buildings by investing and providing technical expertise. As part of its implementation being considered for Senegal, one of the mission's aims was

to visit construction projects that use local materials (NVs, compressed earth blocks, typha) and to evaluate the relevance of construction techniques for classrooms and health-care buildings (in response to needs expressed in the national strategies of the Ministries for Health and Education). Four NV buildings were visited (two maternity clinics, one secondary school, one set of covered market stalls), and meetings were held with several institutional and NV market actors (clients and masons) in order to better understand the ecosystem of the NV market.

As an extension of this first phase (beginning of 2019/2020 season), the PEEB expedited a forward-looking mission to evaluate the potential of eco-construction markets, the goal being to develop and finance construction projects that incorporate NVs (mainly focusing on health care and education) and to potentially carry out training activities to ensure replication. AVN is working with the PEEB to forge ahead with this project.



Visit of the Polel maternity unit.



NV building carried out as part of a Grouped Building Site Training – Access to Housing (GBT-AH) module.



Ghana

POPULATION (IN 2018)
29,7 million inhabitants
(43,9% rural)

GDP/CAPITA (IN 2018)
\$2,202 - 9th in Africa
(World Bank)

CLIMATE
Sudano-sahelian

LAUNCH OF AVN PROGRAMME
in 2014

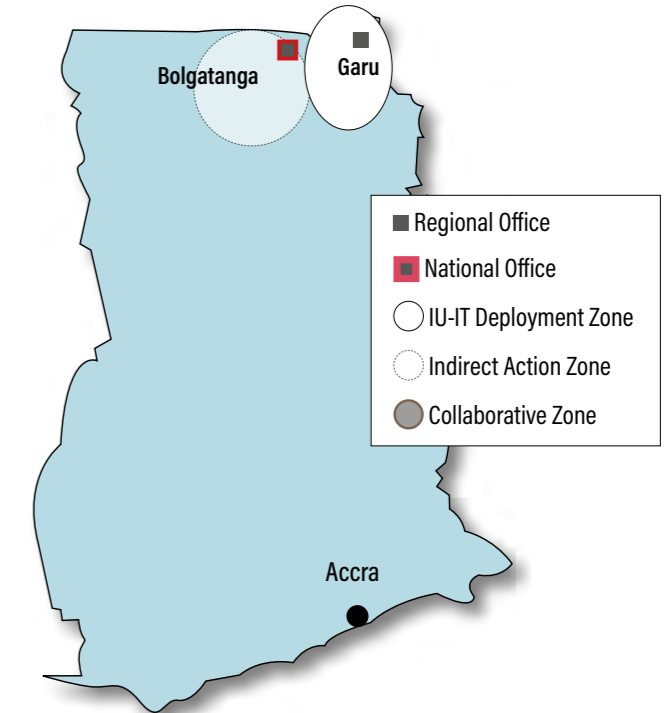
HUMAN RESOURCES
5 local employees and 1 VSI

ROLLOUT
1 Implementation Territory
1 indirect action zone

BUILDINGS CONSTRUCTED
68 worksites since 2014

ACTIVE LABOUR FORCE
42 NV apprentices, maçons, artisans and entrepreneurs in 2018-2019

PARTNERS MOBILIZED
1 Technical Partner



Summary

The geographical rollout of AVN's programme has changed somewhat with the implementation of the IU-IT strategy. Activities are carried out in **1 Implementation Territory** – Garu – and **1 indirect action zone**.

With 14 worksites completed for a total of 396 m², production is down by 48%, due in particular to the limited success of CIC client incentives (28% of worksites). The Ghanaian market is still quite young, and the marketing abilities of the masons need to be further reinforced to encourage the incentive.

64% of clients are farmers, the programme's core target, needing rural housing. **2 community buildings** (130 m²) were built.

42 apprentices, masons, artisans and entrepreneurs are active, with a rise in the mobilization of masons, artisans and entrepreneurs (+43%), to the detriment of C1/ C2 apprentices (-22%).



Client and mason having signed a contract through the CIC system.



Ghana

Buildings constructed

14 worksites were completed this season, bringing the total number of buildings constructed in Ghana up to 68 (2,370 m²), benefitting about 730 users.

Production results were lower than in the preceding season for several reasons:

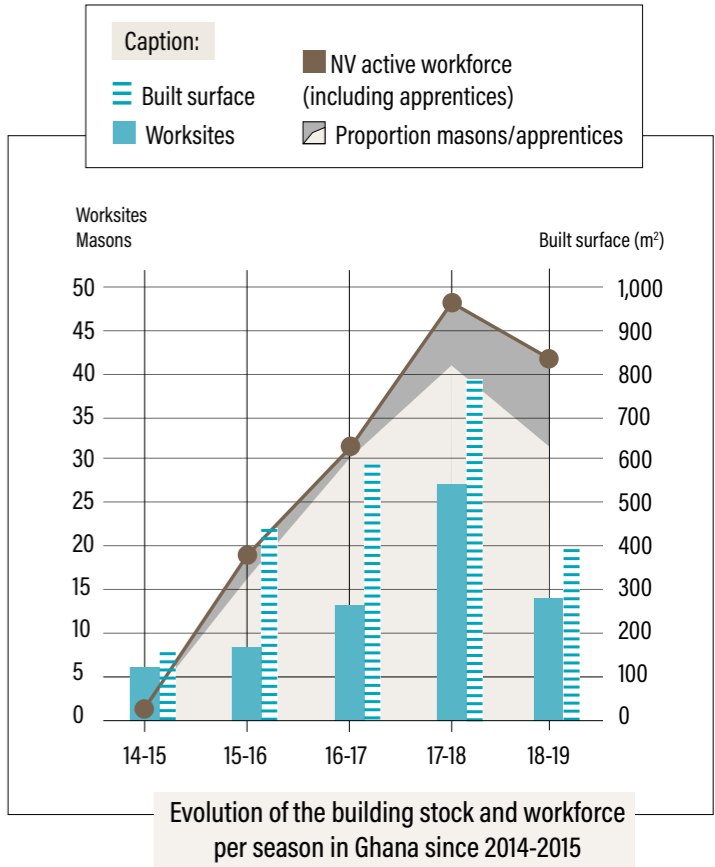
- a shortened production period due to early rains;
- several instances of damage, which meant masons had to work on repairs;
- clients' limited investment capacity in view of local agricultural deficits;
- the complete cessation of "traditional" awareness-raising activities and limited autonomy on the part of masons to develop a client base despite the implementation of the CIC.

36% of projects were found independently by masons this season. 4 CICs were given out.

The community market is emerging, and the completion of the first reference buildings should lead to growing interest from local actors and encourage the sector. 2 community buildings were constructed, including a cyber-centre in Zongo Macheri (40 m²).

In short

- 14 projects completed (-48%)
86% used for housing
- 396 m² built (-50%)
- 212 new user-beneficiaries
64% farmers
- 2 community buildings completed
- 4 projects (28%) realized with CIC
- 325 tons of CO₂ eq. potentially saved





Technical training module for apprentices on "Setting out rules".



Ghana

Training of the workforce

42 NV apprentices, masons, artisans and entrepreneurs were active this season, a slight decline (-13%) compared to the previous season; this was mainly due to the mobilization of fewer C1/C2 apprentices (-22%), with priority given to trainees already having begun the curriculum.

The number of active C3/C4/C5 masons, artisans and entrepreneurs is on the rise (+43%).

The market is becoming more autonomous: nearly one-third of projects were the result of direct contact between the mason and the client.

8 trainer masons (TMs) helped teach trainees, with 13 technical training modules held this season:

- 9 Grouped Building Sites Training – Access to Housing (GBT-AH) modules, for 23 trainees,
- 2 Reinforcement on Building Site – First Clients (RB-FC) modules, for 9 trainees,
- 2 Technical Modules on Specific Stages (TMSS), for 8 trainees.

These 8 TMs and 4 potential TMs received support in the form of an academic training module, "How to Carry Out Good On-Site Training".

26 Trainee Progress Booklets were started and/or updated, and 32 new qualifications were recognized.

3 academic technical training modules were held for 39 trainees.

7 NV chief masons received support in the form of Entrepreneurial Training.

In short

- 42 active apprentices, masons, artisans and entrepreneurs including 26 apprentices who began their training this season
- 36% of sites found independently (+32%)
- 43% growth in the rate of masons, artisans and entrepreneurs
- 32 new qualifications (-14%)
- 26 Trainee Progress Booklets started/updated
- 13 technical training modules implemented on sites by 8 trainer masons



Ghanaian VN masons at work.



Mobilization of partners

The NGO Youth Harvest Foundation Ghana (YHFG), with whom AVN has carried out activities since 2016, was involved in joint awareness-raising missions this season for communities in the Bolgatanga zone. The change of management/coordination of the two organizations at the beginning of the season was an opportunity to revive the partnership, to inform the YHFG about the new strategy and to raise awareness about the different types of possible partnerships.

Four new actors also received information about the programme during the season: the NGOs Garu Presbyterian Community Based Rehabilitation Centre (CBR), Presbyterian Agric Station (PAS) and El-Ehsan Charitable Relief Foundation (ECRF) in the Garu region, and the NGO Mihoso International in the Jirapa Municipal district. Their involvement as Operational Partners will be confirmed based on their commitment and ability to act.

Financing from the Cooperation and Cultural Action Service (SCAC) of the French Embassy in Ghana should allow Operational Partners to mobilize and work on developing the private market in two implementation units (area councils) of the Upper East region next season.

In addition, discussions with the Department of Construction Techniques and Civil Engineering of Bolgatanga Polytechnic, underway since last season, led to a framework partnership agreement (MoU) being signed at the beginning of the 2019/2020 season, the aim of which is to draw up and implement a pilot dual curriculum for the training of construction technicians and for the wider mobilization of the entire adapted housing sector (see next page).



Awareness raising session of potential partners.



Regional and national advocacy

An agreement to establish a partnership had been signed with the Ministry of Local Government and Rural Development (MLGRD) at the international Habitat III conference in Quito, Ecuador, in October 2016. The AVN team then focused on raising awareness with institutional actors, but these efforts have declined since last season, with greater focus placed on operational matters on the ground.

These on-the-ground activities have led to potential partnerships with local NGOs (see previous page). Cooperation is also being considered at institutional level with the four area councils from the Garu region and with the Department for Rural Housing (DRH), which has confirmed its desire for such a partnership.

In the spotlight

In October 2019, the Department of Construction Techniques and Civil Engineering of Bolgatanga Polytechnic and AVN-Ghana signed a framework partnership agreement (MoU), the aim of which is to draw up and implement a pilot dual curriculum (combining practice and theory) for the training of construction technicians and for the wider mobilization of the entire adapted housing sector.

The first steps in this partnership will consist in creating a framework for cooperation between the university and AVN, so as to identify their initiatives and way of working, and to promote a multi-actor network for learning that incorporates students, teachers and trainer masons, as well as experts in social entrepreneurship and other actors from the sustainable construction sector. An action plan and a plan to raise the necessary funds have been drawn up.

Bolgatanga Polytechnic University has thus become the first institution to have signed a technical agreement with AVN.





The AVN-Benin team in front of the Djougou office.

Benin

POPULATION (IN 2018)
11,4 million inhabitants
(52,6% rural)

GDP/CAPITA (IN 2018)
\$901 - 33rd in Africa
(World Bank)

CLIMATE
Sudano-sahelian

LAUNCH OF AVN PROGRAMME
in 2014

HUMAN RESOURCES
6 local employees

ROLLOUT
2 Implementation Territories

BUILDINGS CONSTRUCTED
72 worksites since 2014

ACTIVE LABOUR FORCE
46 NV apprentices, masons, artisans and entrepreneurs in 2018-2019

PARTNERS MOBILIZED
5 Operational Partners
1 Technical Partner



Summary

The geographical rollout of AVN's programme remains unchanged with the implementation of the IU-IT strategy. Activities are carried out in **2 Implementation Territories: Djougou and Tanguiéta.**

With 18 worksites completed for a total of 367 m², there has been a slight decline in the market, due in part to the limited success of CIC client incentives (22% of worksites); the Beninese market is still young and the marketing capacity of masons is not yet developed enough to stimulate the incentive. **It is, however, becoming more autonomous, with 12% of projects found directly by masons.**

94% of clients are farmers, the programme's core target, needing rural housing. **2 community buildings (52 m²) were built.**

46 apprentices, masons, artisans and entrepreneurs are active, with a rise in mobilization of C2 apprentices (+23%).



Beneficiary in front of his NV house.

Benin

Buildings constructed

18 worksites were completed this season, bringing the total number of buildings constructed in Benin up to 72 (2,062 m²), benefitting about 700 users.

The production results this season were similar to those of last season, and various factors have had an impact on the market:

- early rains led to a shorter production period;
- some instances of damage;
- clients' limited investment capacity in view of local agricultural deficits;
- the complete cessation of "traditional" awareness-raising activities and limited autonomy on the part of masons to develop a client base despite the implementation of the CIC.

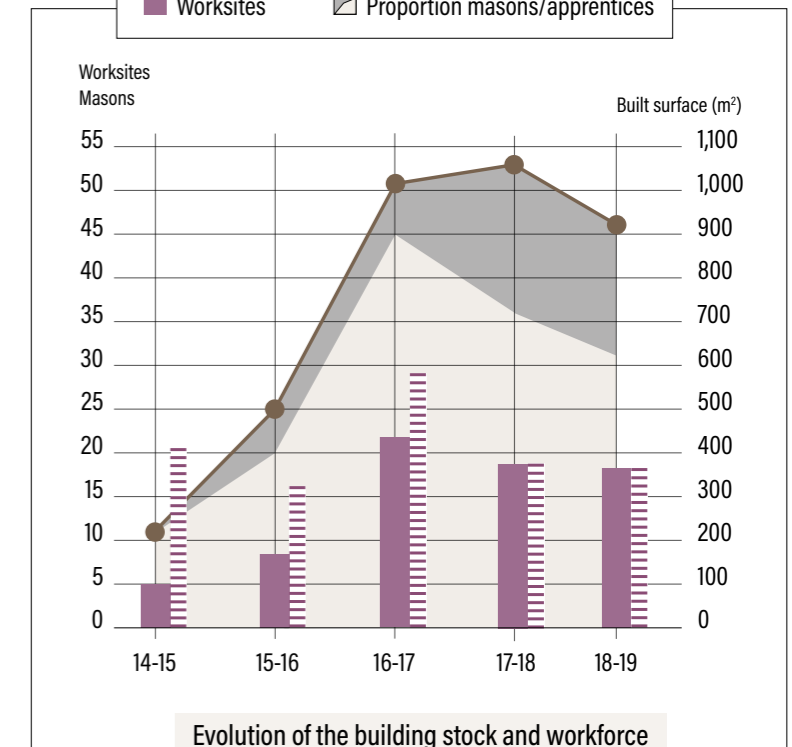
4 CICs were given out. 70% of the Beninese NV market received incentives.

2 community buildings were constructed; the community market is emerging, and the completion of the first reference buildings should lead to growing interest from local actors and encourage the sector.

In short

- 18 projects completed (-5%)
89% used for housing
- 367 m² built (-3%)
- 99 new user-beneficiaries
94% farmers
- 2 community buildings completed
- 4 projects (22%) realized with CIC
- 301 tons of CO₂ eq. potentially saved

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



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



NV worksite in Benin.



Benin

Training of the workforce

46 NV apprentices, masons, artisans and entrepreneurs were active this season, a slight decline (-13%) recorded at all levels.

The NV market is becoming more autonomous (+12%): 15% of projects were the result of direct contact between the mason and the client. The expansion of the CIC and support for masons in making better use thereof should help improve upon this result in the coming seasons.

4 trainer masons (TMs) helped teach trainees, with 13 technical training modules held this season:

- 10 Grouped Building Sites Training - Access to Housing (GBT-AH) modules, for 26 trainees,
- 3 Reinforcement on Building Site - First Clients (RB-FC) modules, for 2 trainees.

43 Trainee Progress Booklets were started and/or updated, and 30 new qualifications were recognized.

3 academic technical training modules were held for 32 trainees.

9 NV chief masons received support in the form of Entrepreneurial Training.

In short

- 46 active apprentices, maçons, artisans and entrepreneurs including 15 apprentices who began their training this season
- 15% of sites found independently (+12%)
- 30 new qualifications (-14%)
- 43 Trainee Progress Booklets started/updated
- 13 technical training modules implemented on sites by 4 trainer masons



NV worksite in Benin.

Mobilization of partners

In Benin, support for AVN from local development actors has made the region a good place to roll out the new strategy: **5 Operational Partners have already mobilized and 10 are in progress.** Two of these partners, **the Villagers' Association for the Management of Wildlife Reserves (AVIGREF)**, in the Pendjari National Park, and **the Djougou Communal Union of Cooperatives for Cashew Nut Producers (UCCPA-Ouaké)**, will receive financing from the European Union for the next three years with a focus on the "professional integration of young people in rural areas in a sector of highly labour-intensive, green jobs". This will permit the implementation of the IU-IT strategy in 8 arrondissements. This project will cause the number of zones in which the IU-IT method is deployed to double.

An adapted housing commission has been set up by two potential OPs-IU, **the Action Group for the Protection of**

Children (GAPE), a local NGO from Pénessoulou arrondissement, and **TCHOUKOULÉ**, the women's association of Bassila arrondissement. A three-year project has been drafted and is expected to be signed by all parties in 2019/2020.

A partnership was signed with the Kouarfa-based **NGO RAIL** (a network to support local and environmental initiatives), demonstrating RAIL's commitment to participating in the deployment of new NV markets in its region.

The mayor's offices, gathered together in the Atacora Donga Association of Communes (ACAD), are in favour of building their institutional buildings (maternity clinics and village schools) out of low-carbon materials. They are lobbying the Ministries for Health and Primary Education for the necessary authorizations to do so, without which they cannot use NVs.



Awareness raising of partners.

Regional and national advocacy

AVN's national coordination team, working mainly on the priorities of training and managing a growing team, focused on the most strategic and promising actors. AVN's programme was presented at arrondissement council meetings in the regions in which the programme is active. Interested in developing a local green economy, **many of the mayors have expressed interest, in particular in the communes of Djougou and Péhunco.** The Atacora Donga Association of Communes (ACAD) drew up a project combining stone and NV building techniques and is lobbying the Ministries for Primary Education and Health for these types of construction.

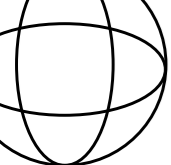
The Ministry for Living Environment and for Sustainable Development (MCVDD), which combines what used to be the ministries for the environment and for housing, has expressed interest in AVN's programme. Formalizing a partnership with this ministry is of strategic importance in convincing elected officials and regional institutions in the areas in which the programme is active of the value of AVN's proposal. This argument is often put

forward by local elected officials. A draft partnership agreement was drawn up two seasons ago, and AVN is now trying to get specific projects off the ground: incorporating NVs into the "20,000 Social Housing Units" project led by the ministry and action on a proposal (also sent to the Ministry of Planning and Development) to build 100 institutional buildings; this would provide training opportunities and generate local jobs. Despite successive attempts to revive the partnership, the Beninese government has not yet followed through on this, and these proposals remain dormant.

On another note, **the Ministry of Agriculture, Livestock and Fisheries** has expressed interest in the NV concept for the building of storage barns and buildings for livestock farming. A meeting was also held with **the National Agricultural Research Institute of Benin (INRAB)**, which has expressed particular interest in supporting AVN in providing agricultural storage solutions.



Discussions with partners and masons.



France & International

Other countries

■ Mauritania

The Nubian Vault Association is not physically present in Mauritania, but several opportunities there led to the construction of NV projects. As a reminder, between 2014 and 2017, AVN helped build the first entirely NV village in Diakré (near the town of Bogué). The village is made up of 51 private homes, a mosque, a literacy classroom and a maternity clinic.

In 2016, the International Labour Office (ILO) in Mauritania began to implement the PECOBAT project. This project, financed by the European Union, aims to improve employability of young people and boost the capacities of SMEs by developing a sub-sector for construction using local materials and by professionalizing workers through training on actual worksites. This project led in particular to the building of a reference primary school approved by the Mauritanian Ministry for Education, part of which consists of NV buildings. The task of carrying out technical studies has been given to the consultancy firm Al-Mizan Sahel, founded by Mathieu Hardy, an architect who works with AVN, author of a prior study (published in 2017) entitled "*Le secteur du bâtiment Mauritanien: enjeux, orientations et potentiel de réforme. Architectures et matériaux durables, formations adaptées et emplois décents*" ("*The Mauritanian Building Sector: Issues, Guidance and Reform Potential. Sustainable Architecture and Materials, Adapted Training and Decent Jobs*"). This study looks in particular at Nubian Vaults.

During the 2017/2018 season, 2 schools were built under the "training worksites" approach, the first in Dar Es Salaam (in the Gorgol region) and the second at Sélibabi (in the Guidimakha region). Each school has an NV caretaker's lodge of about 30 m².



Caretaker's lodge of the Dar Es Salaam school.

During the 2018/2019 season, two new schools were built by the ILO using the same approach: the first in Mbagne (in the Gorgol region) and the second in Gouraye (in the Guidimakha region). Each school has an NV caretaker's lodge and administrative offices of about 90 m².

These NV worksites were aided by the consultancy firm Al-Mizan Sahel, with participation from Malian trainer masons and NV masons. They allowed 18 Mauritanian trainees to be trained (3 C3 masons, 9 C2 apprentices and 6 C1 apprentices). The construction of two additional schools is foreseen for the 2019/2020 season, in Kankossa and Sani (in the Assaba region).

In addition, during the 2018/2019 season, 2 mini NV dairies were built in Mboul and Patoukone (in the Gorgol region), on the initiative of the Spanish NGO CERAI and of the Mauritanian Association for Self-Development (AMAD), with technical support from the Al-Mizan Sahel consultancy firm. These projects were entrusted to the Senegalese company Borom Darou, which is involved in the NV Fouta project in Senegal.



For more information:

- PECOBAT project: www.ilo.org
- Al-Mizan Sahel consultancy firm: almizan-sahel.com
- NGO Cerai: cerai.org



Mini NV dairy in Mboul.



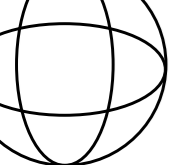
Mini NV dairy in Patoukone.



Overview of the Sélibabi school.



Caretaker's lodge and admin building of Mbagne.



France & International

International events and advocacy

AVN actively lobbies bilateral and multilateral actors, development and cooperation organizations, international donors, and the general public, in order to stir up strong mobilization on housing issues (which are still not taken into sufficient consideration enough, including at international level), employment and local materials, as well as on how to mitigate greenhouse gas emissions in the construction sector and how to adapt construction to the climate changes that directly affects the subcontinent.

AVN participated in many international events:

■ **The Phitrust Partenaires Day in Paris (September 2018):** Phitrust is an investment company with a social dimension that provides technical and financial support to small and medium-sized companies that have a positive social and environmental impact. AVN is involved with the Phitrust network and regularly participates in meetings intended for the company's partners.

■ **CARI's 20th Anniversary in Paris (October 2018):** AVN has long been a partner of the Centre for International Actions and Achievements (CARI) and celebrated its 20th anniversary alongside partner associations and institutions (AFD, UNFCCC, etc.). AVN actively participates in the work of the Desertification Working Group (GTD), which is led by CARI.

■ **Fondation d'Entreprise Hermès's anniversary in Paris (November 2018):** AVN was invited to take the floor during the Foundation's tenth anniversary celebrations and to have an exchange with the investors who attended.

■ **Conference of the Parties for the Climate - UNFCCC, in Katowice, Poland (December 2018):** AVN participated in the COP24, which was held under the Polish presidency. It also met with delegations from implementation countries, in order to support them in incorporating housing issues and training for an adapted construction sector into their climate action plans.

■ **Climate Chance's Steering Orientation Committee in Katowice, Poland (December 2018):** AVN participated in drawing up the 2018 synthesis report with current partners and new actors of the Climate Chance network. The 2018 Global Observatory on Non-State Climate Action, published by the network, cites Nubian Vault constructions as an example.

■ **Humanitarian Coordination and Development's (CHD) NGO Support Group in Paris (January 2019):** As an on-the-ground actor, AVN participates in this working group's meetings; the group deals with improving the quality of humanitarian interventions and their durability (monitoring of human resources, logistics, information management, etc.).

■ **Coordination SUD's Climate and Development Commission in Paris (February 2019):** AVN is a member of the consortium that manages the project to support climate mobilization of French NGOs (PAMOC). To that end, it is involved in Coordination SUD's Climate and Development Commission (CCD), which entered a new three-year operational phase in February 2019, involving activities coordinated by GERES.

■ **The annual General Assembly of the Global Alliance for Buildings and Construction (GABC) in Ottawa, Canada (February 2019):** With ADEME, AVN is committed to this alliance, bringing to it the issue of adapted housing by sharing its on-the-ground practices used with vulnerable populations in the Sahel.

■ **Dubai International Humanitarian Aid & Development, DIHAD in Dubai, UAE (March 2019):** AVN attended the Dubai humanitarian and development conference. This was an opportunity to raise awareness with cooperation actors from the region about the issues of adapted housing in West Africa in order to encourage them to incorporate these issues into their development strategies.



Meeting with our partner DCA at DIHAD: (from left to right) Abdellah Aboularjan, AVN relay in the UAE, Ahmed Mismaar, Secretary General of the Dubai Charity Association and Thomas Granier, Director General of AVN.

■ **Africa Climate Week - UNFCCC in Accra, Ghana (March 2019):** AVN participated in this week of exchanges alongside its Ghanaian partners and neighbouring countries, UN agencies and international donors, forging new relationships and strengthening existing ones.

■ **The French Partnership for Cities and Territories (PFVT) in Paris (May 2019):** AVN participated in the co-production seminar of the thematic groups set up by the PFVT to prepare the Abu Dhabi World Urban Forum (February 2020) and the next Africa-France Summit. AVN is in particular committed to the "resilience and adaptation to climate change" working group.

■ **The ESSEC Grand Prix for the City of Solidarity and Responsible Real Estate in Paris (June 2019):** AVN participated in this awards ceremony at the Paris City Hall as the winner of the special prize "French-speaking African city of solidarity and sustainability", awarded by Jean-Pierre Elong Mbassi, the Secretary General of United Cities and Local Governments of Africa (UCLG Africa).

■ **Coordination SUD's General Assembly in Paris (June 2019):** As an active member of Coordination SUD, AVN participates in the network's governance and in activities in its field of intervention: development financing, climate, gender, agriculture, etc.

■ **Comité 21's General Assembly in Paris (June 2019):** AVN is committed to this network of actors working on sustainable development and in particular participates in its major events with other associations, companies and public authorities.

■ **The Desertif'Actions International Civil Society Summit in Ouagadougou, Burkina Faso (June 2019):** AVN's teams from Burkina Faso and headquarters in France participated in this event, which brought together a multitude of actors working against desertification, in particular in the Sahel. Civil society was broadly represented alongside UN agencies and international donors.

■ **The Meeting of the Green Initiative for the Sahel in Paris (June 2019):** Alongside Ambassador and Special Envoy Jean-Marc Châtaigner, AVN has participated in meetings of this initiative since its inception. In 2019 the meeting took stock of the initiative and drew up prospects for the coming years.



3 - Means and Resources

■ Community life

Established in 2000, AVN is a non-profit organization. It has about 30 active members. This season, the Board of Directors welcomed two new administrators:

- **Michel Lenthéric**, elected as AVN's secretary, the former director of ADEME and a former regional councillor (retired);
- **Mand Ryaira Ngarara**, a public service executive, responsible for the non-profit Multisectoral Initiatives for the Promotion of Economic and Technological Development in Chad (Improdett).

In addition, along with his activities in the *Île-de-France* region, AVN's president, Benoît Lambert, also participated in various field missions, in particular to Togo, with the Lomé School of Architecture (EAMAU); there he interviewed ten candidates to monitor a project led by AVN and organized a visit to a worksite in Sanguera for 90 students in June.

■ AVN's Board of Directors:

- **Benoît Lambert**, President, designer (retired)
- **Anthony Kaye**, Vice president, university professor (retired)
- **Jean-Marie Crombez**, Treasurer, retailer
- **Michel Lenthéric**, Secretary, former director of ADEME and former regional councillor (retired)
- **Jean-François Naud**, Administrator, film director
- **Nathalie Guillot**, Administrator, architect
- **Mand Ryaira Ngarara**, Administrator, public service executive

"I find that the programme AVN has carried out in West Africa for more than 20 years is the best response we've ever seen to solve the problems Sahelian countries face in terms of job creation, local development and the most difficult challenge of our time: climate change. I'm therefore working to help AVN get set up in Chad."

Mand Ryaira Ngarara, Administrator



Presentation of the Nubian Vault to students of the school of architecture (EAMAU) of Lomé (Togo) by the President of AVN, Benoît Lambert.



The AVN Burkina national team.

Human Resources

This season, significant changes were made to AVN's teams in terms of human resources.

In Burkina Faso, during the season the team was reduced from 28 to 16 employees, a choice that corresponded both to strategic and budgetary constraints of the programme. It should be noted that Sébastien Turcaud was hired as National Coordination Assistant.

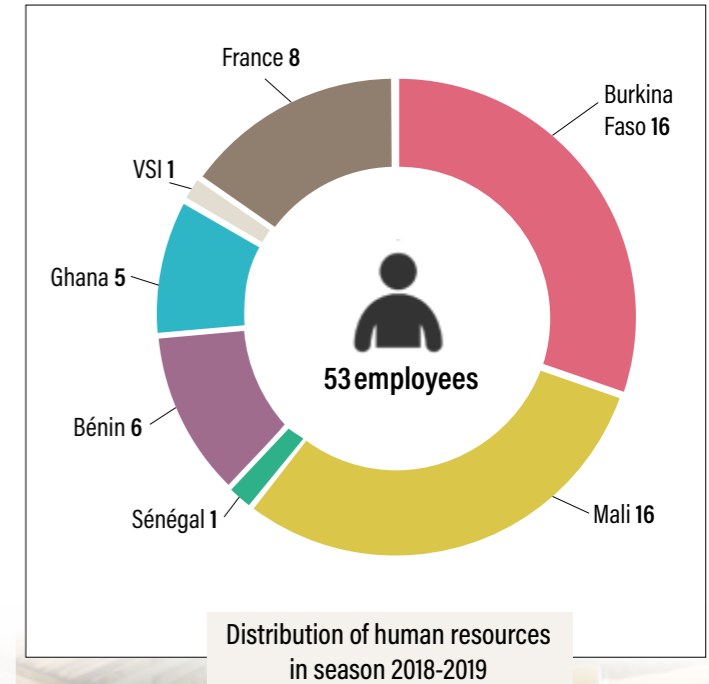
In Mali, the team welcomed a new National Coordinator in December, Souleymane Boubacar Diarra, as well as a new Administrative and Financial Manager.

In Senegal, Dingamhouman Bekoul was hired as the Technical Expertise and Training Manager under the NV Fouta project.

In Ghana, Isabelle Houessou, VSI, took over as National Coordinator following the departure of the previous coordinator at the end of last season.

In Benin, the departure of the National Coordinator at the end of last season led to his deputy, Narcisse Sare Ali, being appointed to lead the local AVN team, which is now 100% Beninese.

The team at headquarters in France has seen some changes with the arrival of Emmanuel Bossennec, Coordinator for the Training Division, Sébastien Chailleux, Development Manager and, at the end of the season, Sylvia Maeght, Project Development Manager.



Part of the AVN teams in a strategic reflection workshop during the End of Season Steering Committee.

4 - Financial Report

Sound financial management

The Association constantly seeks to ensure transparent and reliable financial management. Since 2013, the annual accounts have been audited by a statutory auditor following review by a chartered accountant. Specific audits are carried out to ensure that expenses comply with the expectations of the different donors. Financial scorecards and indicators are regularly established, allowing AVN's activities to be continually monitored throughout the year in line with the budgets established for each country and region. The local financial directors are regularly monitored and trained by the team at headquarters.

Monitoring of forecasts

Each year, AVN draws up a budget that is updated quarterly. Expenditure is forecasted, taking into account specific features requested by donors and local constraints. This periodic forecasting allows AVN to efficiently redirect the monitoring by headquarters and local coordinators and to best manage fundraising. The steering committee, division managers and local coordinators work together to produce high-quality information both up- and downstream.

Providing suitable IT resources

AVN has for several years used SAGA software to follow expenditure by country, project and donor. 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.

Motivated members of staff

In the Burkina Faso and Mali National Coordination 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 three regions of Burkina Faso, Benin and Ghana (two regions each) and in Ségou (Mali) for the five regions in Mali.

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.

A partnership that continues to develop

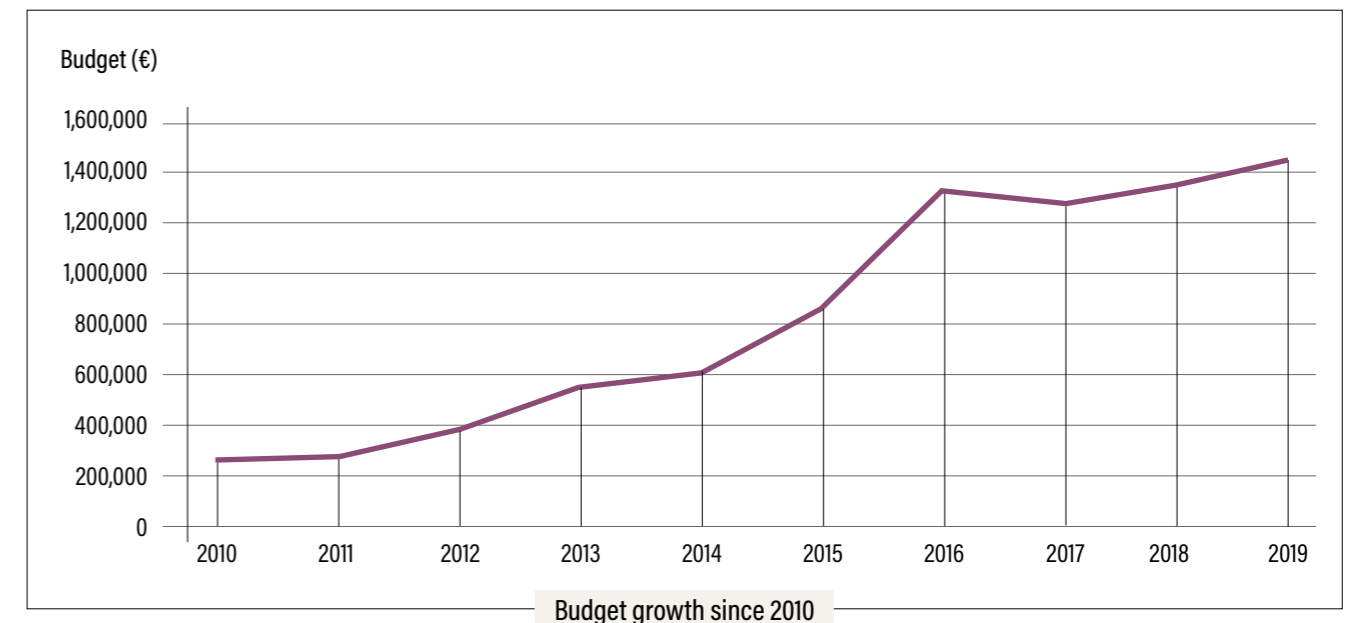
AVN has established close relationships with its partners to whom it subcontracts some of its activities, in particular with the NGO Le Partenariat for activities in northern Senegal. This cooperation involves regular, reliable financial reports as well as a mutual understanding of administrative and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

Regular cash management

The diversity of resources managed requires regular cash management, investment of liquid assets and using advances under the Dailly law. Funds received in advance of expenditure are placed in interest-bearing accounts paying around 2%. Some foreign donors subsidize activities in dollars, which also means that those resources must be monitored to ensure that the currency exchange is properly applied in accordance with those activities.

Enhanced local management

AVN provides local actors with the resources to gradually gain autonomy through continual training and by having them take charge of different operations. The financial management tools are controlled locally, and certain donors transfer their funding 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 (e.g., the World Bank in Mali, the Canadian government in Burkina Faso, the French embassy in Ghana).



Budget growth since 2010

Statement of Resources & Expenses

RESOURCES in EUROS	2018-2019	2017-2018
French State Funds	659,632	663,584
Foundations	665,575	595,829
Individuals Social Investors	68,934	63,981
Other	55,503	29,371
Total Resources	1,449,644	1,352,765
In kind voluntary contributions	13,786	45,875
Total General	1,463,430	1,398,640

EXPENSES in EUROS	2018-2019	2017-2018
Salaries & Costs	532,975	629,256
Fees	116,921	118,642
Field Missions	413,474	391,148
Fundraising & Administrative Expenses	74,988	99,449
Investments & Constructions	270,492	92,997
Total Expenses	1,408,850	1,331,492
Result	40,794	21,273
In kind voluntary contributions	13,786	45,875
Total General	1,463,430	1,398,640

Balance sheet

70% of the accrued revenue recorded was received in mid-January, with most of the remainder mainly concerning a French governmental agency.

The prepaid expenses refer to funds advanced to a partner.

Certain donors have advanced funds to AVN for periods beyond 31 August. These funds are recorded as deferred revenue.

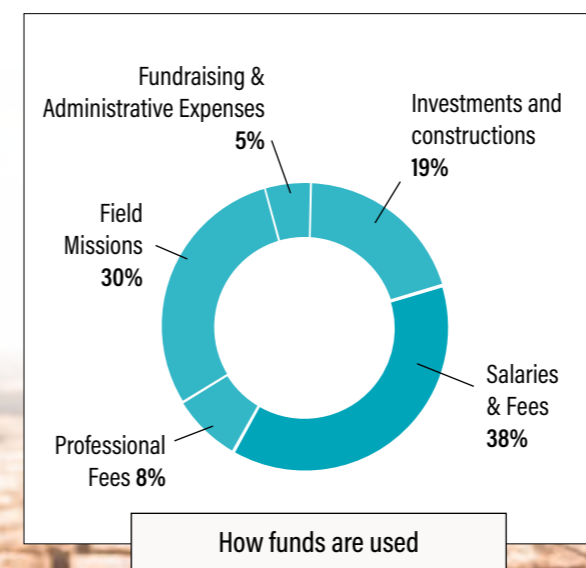
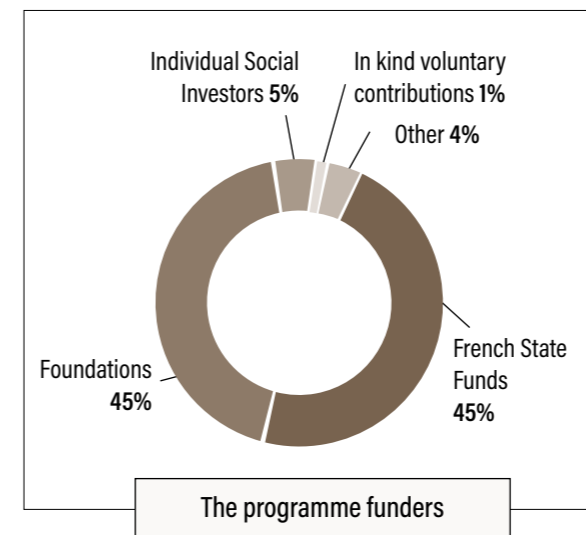
Jobs

In addition to its usual development programme, more and more focused on construction subsidies and informal training for masons, during the 2018/2019 season AVN received a commission from Mali and the Polish government to build community buildings and individual homes.

The programme in northern Senegal continues with the NGO Le Partenariat.

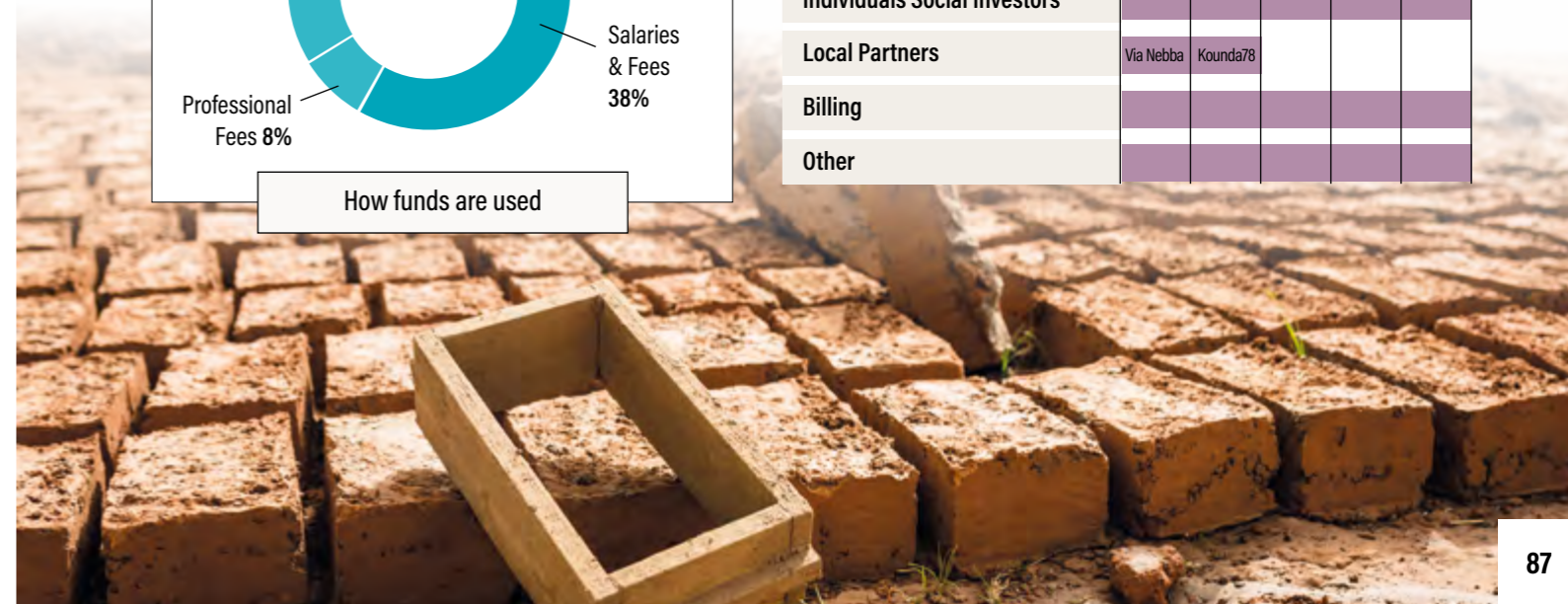
Active and passive balance sheet

ACTIVE BALANCE SHEET in EUROS	31/08/19	31/08/2018	PASSIVE BALANCE SHEET en EUROS	31/08/19	31/08/2018
Fixed assets	7,507	10,070	Stocks	87,241	65,968
Other receivables	4,518	9,833	The result of the exercise	40,794	21,273
Prepaid expenses	22,823	-	Payables	50,396	5,382
Products to receive	215,112	278,239	Other debts	50,642	347,031
Treasury	109,427	198,160	Prepaid income	130,314	56,648
Total Assets	359,387	496,302	Total Liabilities	359,387	496,302



AVN's funders and areas

FUNDERS	Burkina	Mali	Benin	Ghana	Senegal
French State					
AFD - DPO					
CD78 - Fouta					
ADEME					
CD78 - YCID					
Île de France					
SCAC - Ambassades de France					
International Foundations					
Dubai Charity Association					
Autodesk - Silicon Valley					
Polish Government - PCPM					
World Bank - PGRNCC AEDD					
Government of Québec - PCCI					
Individuals Social Investors					
Local Partners	Via Nebba	Kounda78			
Billing					
Other					





5 - Partners and Awards

Financial Partners

Financial partners who co-financed the 2018-2019 season



Networks



Prizes and Awards

Prizes and awards won in 2018-2019



The ESSEC Grand Prix: AVN, winner of the special French-speaking African City prize

The ESSEC Business School awarded AVN the special prize for the "French-speaking African city of solidarity and sustainability" for its adapted housing programme in West Africa. This prize was one of the seven major awards under the ESSEC Grand Prix for the City of Solidarity and Responsible Real Estate, which highlights initiatives that contribute to living better in urban areas and that deal with social and economic housing crises and environmental problems.



The Terra Award Sahel: AVN receives a distinction for training

AVN received a special distinction for training as part of the 2019 Terra Award Sahel+ awards organized by the FACT Sahel+ network, in recognition of its training tools, in particular the **Trainee Progress Booklet**. This method makes use of specific entries and was co-created by AVN and beneficiary actors from the construction sector and is used by trainer masons to assess trainees' acquisition of NV construction techniques throughout the training process.

Partners on the ground

Burkina Faso

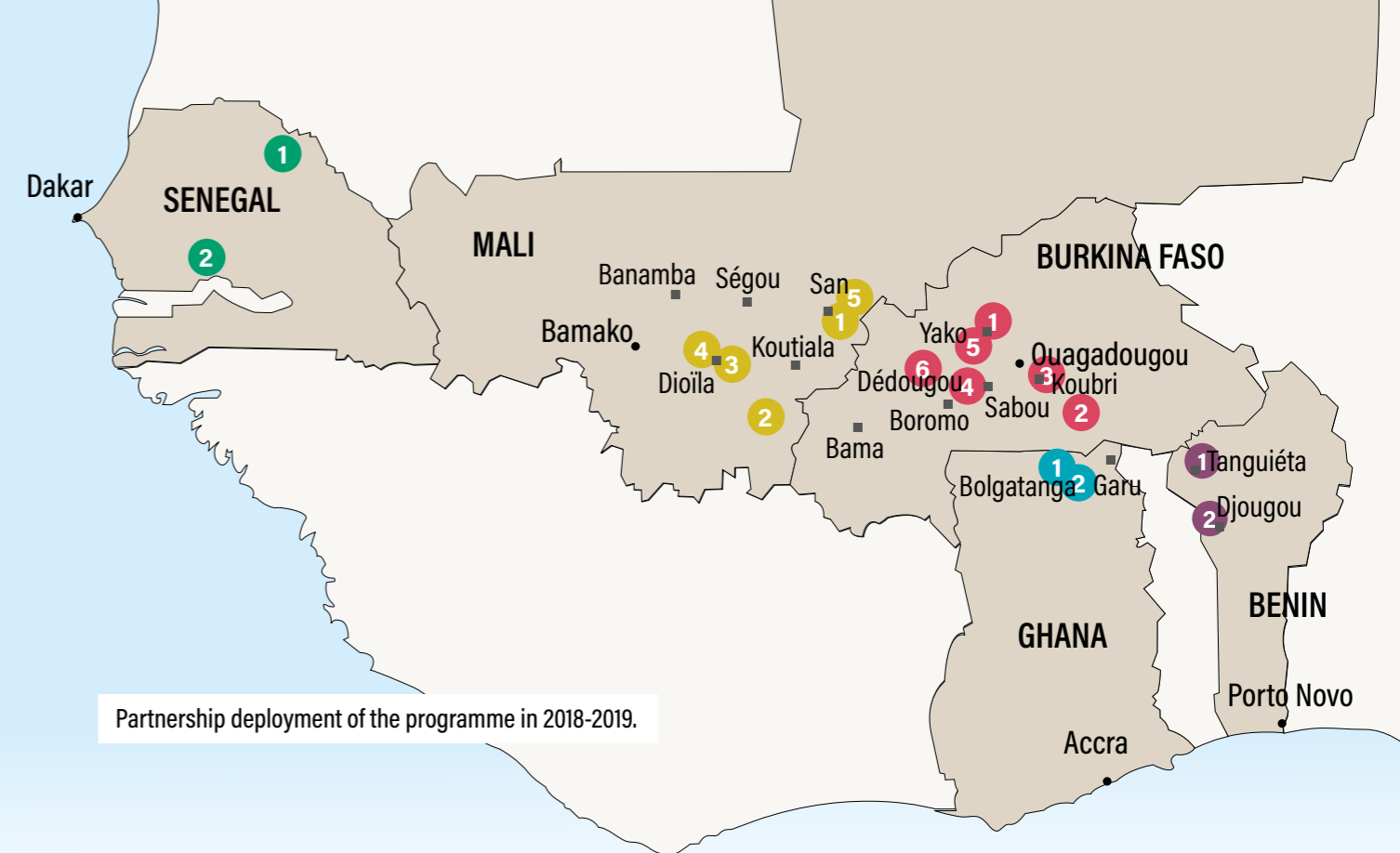
- 1 **National Federation of NAAM Groups (FNGN), Viim Baoré Cooperative and NAAM unions**
Umbrella organization for 90 farmers' organizations
▶ AVN's programme is disseminated by about 20 NAAM unions and by the Viim Baoré Cooperative in two regions in Burkina Faso (the Nord and Boucle du Mouhoun regions).
- 2 **Provincial Association of Nong-Taaba Craftsmen and Guilds from the Boulgou Province (APAGAN-B) and local unions**
Artisan association
▶ AVN's programme is disseminated in the Tenkodogo province (the Centre-Est region), with support from local communal relays, including four targeted as future OP-IUs.
- 3 **Tind Yalgré Association (ATY) and local unions**
Farmers' group for socio-economic and cultural development
▶ AVN's programme is disseminated in the Plateau-Central region through the efforts of village groups and by referencing community building needs.
- 4 **Regional Unions of Dolo Women Producers from the Boucle du Mouhoun (URPD-BM) and local unions**
Grassroots organization
▶ Dissemination of AVN's programme in the Boucle du Mouhoun region.
- 5 **Credit and Savings Baoré Tradition Union (UBTEC)**
Microfinance institution
▶ NV Housing Loans established and distributed (project currently on hold while awaiting the funds and mobilization of partners necessary for its implementation).
- 6 **Association for the Promotion of Inclusive Finance in Burkina (APFI-B)**
Microfinance institution
▶ NV Housing Loans established and distributed (project currently on hold while awaiting the funds and mobilization of partners necessary for its implementation).

Mali

- 1 **Coordination for Women's Associations (CAFO)**
Coordination of 200 women's associations
▶ Dissemination of AVN's programme in three communes in Tominian cercle.
- 2 **Meeting of Rural Women for Food Sovereignty (COFERSA)**
Meeting of 36 rural women's cooperatives
▶ AVN's programme is disseminated in the Sikasso region by several of its cooperatives.
- 3 **Diédougou Union of Cereal Producer Cooperatives (USPCPD)**
Association of seven cooperatives
▶ Implements projects to build agricultural buildings and to train local NV masons, financed by the NGO SOS Faim.
- 4 **Yèrènyèton**
Union of six cooperatives
▶ Implements projects to build agricultural buildings and to train local NV masons, financed by the NGO SOS Faim.
- 5 **Tominian Vocational Training Centre (CFP-Tom)**
Vocational training actor
▶ Project to set up a pilot training curriculum on the NV technique in a formal training centre (awaiting funds).

Senegal

- 1 **Le Partenariat (LP)**
NGO
▶ Co-operator of the NV Fouta project, which promotes and disseminates the NV market, in partnership with institutional actors, in the departments of Matam, Podor and Kanel.
- 2 **Malem Auder**
NGO
▶ Construction of agricultural and livestock farming buildings in the Malem Hodar region.



Partnership deployment of the programme in 2018-2019.

Benin

- 1 **Villagers' Association for the Management of Wildlife Reserves (AVIGREF)**
Umbrella organization of 32 village associations
▶ Dissemination of AVN's programme in three arrondissements in Atacora department, under the programme financed by the European Union.
- 2 **Ouaké Communal Union of Cooperatives for Cashew Nut Producers (UCCPA)**
Umbrella organization for cooperatives
▶ Dissemination of AVN's programme in the commune of Ouaké (Donga department), under the programme financed by the European Union.

Ghana

- 1 **Youth Harvest Foundation Ghana (YHFG)**
NGO
▶ Relay Partner that raises awareness and mobilizes Operational Partners in the Upper East region of Ghana.
- 2 **Department of Construction Techniques and Civil Engineering of Bolgatanga Polytechnic**
Vocational training actor
▶ Implementation of a pilot dual curriculum (technical and academic) to train construction technicians.



Prospects

Three distinct priority areas exist:

Evolution of the construction sector in the Sahel: a fundamental requirement for prosperity

Like the changes seen since the second half of the 20th century in industrialized countries, it is essential that the question of adapted housing be addressed in the Sahel and no longer be relegated to a position of indifference; it must take up its legitimate place, given its significance in socio-economic, health-related, cultural and climatic issues. Making sure civil society leaders and institutional decision-makers are aware of this issue is a priority, as is their structural involvement in making this a major cause to achieve development and social and climate justice.

Proliferation of committed stakeholders

For instance: committed community leaders, on-the-ground operators that implement the territorial methodology, institutional decision-makers and cooperation partners incorporating the evolution of the housing sector into their development strategy, project owners and donors who seek good thermal and environmental performance for their buildings, actors from the vocational training and employment sectors who work with vulnerable people, and of course construction sector actors. Their combined energy and mobilization will generate sufficient leverage to overturn the vicious circle that the issue of housing for as many as possible is caught in.

The carbon offset market: a lasting financial tool

Funding received from cooperation and/or development funds helps to implement the methodology to develop the NV market and boosts mobilization around its business model, but is not enough to generate the lasting exponential growth that a rapid shift in context requires.

Numerous rural clients, the programme's target audience, have expressed their interest in the NV concept, which in theory fits in with their traditional practices and their ability to mobilize, but they have trouble coming up with the cash necessary for such projects.

NV construction has a positive impact in terms of carbon (tonnes of CO₂ equivalent); when owned by farmer clients who have carried out eco-construction projects, this represents an attractive asset when negotiating and trading on the carbon offset market.

These assets should be used as a financial incentive for building in a way that will benefit rural clients.

This incentive can provide strong encouragement to build new projects and therefore, in conjunction with the territorial rollout methodology, can help upscale the NV market and its cross-cutting impact, including its increasing impact on carbon.

Acronyms

3FPT: Fund for Financing Vocational and Technical Training

ACAD: Atacora Donga Association of Communes

AEDD: Agency for Environment and Sustainable Development

ADEME: Environment and Energy Management Agency

AFD: French Development Agency

AFEDN: Association of Women for North Development

AKNGS: Gomponsom Kombi Naam Association for the Sahel

AM: Atakwame Mason

AMAD: Mauritanian Association for Self-Development

APAGAN-B: Provincial Association of Nong-Taaba Craftsmen and Guilds from the Boulgou Province

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

ATY: Tind Yalgré Association

AVIGREF: Villagers' Association for the Management of Wildlife Reserves

AVN: The Nubian Vault Association

BAD: African Development Bank

BBSC: Stony (mud) brick

BF: Burkina Faso

BLC: Laterite Bricks of Quarry

C1/C2/C3/C4/C5: Beginner apprentice / Advanced apprentice / Mason / Artisan / Entrepreneur

CAFO: Coordination for Women's Associations and NGOs

CARI: Centre for International Actions and Achievements

CBR: Garu Presbyterian Community Based Rehabilitation Center

CCD: Climate and Development Commission

CDFP: Departmental Vocational Training Centres

CDM: Departmental Chambers of Trades

CHD: Humanitarian Coordination and Development's

CIC: Client Incentive Coupons

CO₂ eq: CO₂ equivalent

COFERSA: Meeting of Rural Women for Food Sovereignty

COP: Conference of Parties

DANIDA: Denmark's Development Cooperation

DCA: Dubai Charity Association

DECPC: Directorate of Examinations, Vocational Examinations and Certification

DEEC: Directorate of the Environment and Classified Establishments

DFPT: Directorate for Vocational and Technical Training

DGAHC: Directorate General for Architecture, Housing and Construction

DGESS: Directorate General for Sector Studies
DIHAD: Dubai International Humanitarian Aid & Development

EAMAU: African School of Trades of Architecture and Town Planning

ECRF: El-Ehsan Charitable Relief Foundation

ENABEL: Belgian Development Agency

ESSEC: Higher School of Economic and Social Sciences

FBST: Full Building Site Training

FFEM: French Global Environment Fund

FICOL: French Local Authorities Financing Facility

FNGN: National Federation of NAAM Groups

GABC: Global Alliance for Buildings and Construction

GBT-AH: Grouped Building Sites Training – Access to Housing

GEF: Global Environment Facility

GERES: Renewable Energies, Environment and Solidarity Group

GIZ: German International Cooperation Agency

ILO: International Labor Office

IMPRODETT: Multisectoral Initiatives for the Promotion of Dynamics Economics and Technologies in Chad

INRAB: National Agricultural Research Institute of Benin

IPA: Institut for Poverty Action

LP: Le Partenariat

LuxDev: Luxembourg's Cooperation Agency

MCVDD: Ministry for Living Environment and for Sustainable Development

MEDD: Senegalese Ministry for the Environment and Sustainable Development

MLGRD: Ministry of Local Government and Rural Development

MoU: Memorandum of Understanding

TMSS: Technical Training Module on Specific Stage

MUH: Ministry of Housing and Urban Planning

OMH: Malian Office for Housing

ONFP: National Office for Vocational Training

NGO: Non Governmental Organization

NV: Nubian Vault

PAFPA: Support Programme for Vocational Training and Apprenticeships

PAS: Presbyterian Agric Station

PCCI: International Climate Cooperation Program

PCPM: Polish Centre for International Assistance

PFVT: French Partnership for Cities and Territories

PGRNCC: Natural Resources Management and Climate Change Project

OP: Operational Partner

RAF: Administrative and Financial Manager

RB-FC: Reinforcement on Building Site – First Clients

SCAC: Cooperation and Cultural Action Service

SNV: Dutch Development Organization

SPONG: Permanent Secretariat of Non-Government Organizations

TM: Trainer Mason

UAE: United Arab Emirates

UBTEC: Credit and Savings Baoré Tradition Union

UCCPA: Ouaké Communal Union of Cooperatives for Cashew Nut Producers

IU-IT: Implementation Unit - Implementation Territory

UNEP: United Nations Environment Programme

UNFCCC: United Nations Framework Convention on Climate Change

URPD-BM: Regional Unions of Dolo Women Producers from the *Boucle du Mouhoun*

USCPCD: Diédougou Unions of Cereal Producer Cooperatives

VSI: International Solidarity Volunteer

VTC: Vocational Training Centre

WHH: *Welt Hunger Hilfe*

WOM: Widows and Orphans Movement

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