



## ADAPTATION FUND

# PRE-CONCEPT FOR A REGIONAL PROJECT

### PART I: PROJECT INFORMATION

Title of Project/Programme:	Adapted Building: Transformative Practices for Better Building in the Sahel
Countries:	Burkina Faso, Mali
Thematic Focal Area <sup>1</sup> :	Food Security
Type of Implementing Entity:	Regional
Implementing Entity:	Sahara and Sahel Observatory
Executing Entities:	The Nubian Vault Association, Ministry of the Environment, Green Economy and Climate Change of Burkina Faso, Agency for the Environment and Sustainable Development of Mali
Amount of Financing Requested:	4,790,000 (in U.S. Dollars Equivalent)

#### Project Background and Context:

In Sahelian Africa, access to adapted housing is difficult, and climate changes have increased the gravity of the issue: wood resources are imperilled by construction needs, inadequate materials render living conditions even more precarious, and buildings are nearly never considered in a sustainability and resilience perspective. This frailty of housing systems – **which include private housing, community buildings and production infrastructures** – imprisons populations in vicious circles of poverty and vulnerability to climate changes.

Housing issues affect all types of human establishments (HE) in the Sahel, but rural areas know specific challenges: the need to preserve depleted wood resources in an area undergoing fast deforestation and desertification (for economic production as well as community wellbeing), the need for adapted agricultural infrastructures, in particular food and produce storage (food and income security), and the need to embed adaptive systems into the socio-economic models that prevail, including self-building practices,<sup>2</sup> informal artisanship, and local employment for youths. Lack of knowledge regarding the issue and alternative solutions, and the high cost of investment in this sector, have led to there being today no integrated policy in either of the countries addressing the challenge. Individual initiatives, such as that of the Nubian Vault Association, have been developed, but need today the means and support for coordinated national and regional scaling, to match the scope of the issue.

#### Project Objectives:

The proposed project's purpose is to transmit to populations and policy makers of Burkina Faso and Mali appropriate tools for practice transformation in the building sector to induce large-scale deployment of adaptive technical solutions with co-benefits on resilient living, in particular in rural areas. It contributes directly to climate change adaptation, transforming the way human establishments are considered in policy and practices, to integrate sustainability.

<sup>1</sup> Thematic areas are: Food security; Disaster risk reduction and early warning systems; Transboundary water management; Innovation in adaptation finance.

<sup>2</sup> Self-building refers not exclusively to building one's own home, but to most informal economy practices, such as the work of experienced yet not formally certified artisans. It is the most prevalent system in Sahel, and Burkina Faso has set its promotion as an objective, recognizing its value for disseminating good practices and supporting economic growth (National Housing Construction Plan, Component 2).

Overall objective: Generate a transformation of practices among institutional and private stakeholders in the Sahel to adopt and promote adapted building concepts and techniques

Specific objective/Component 1: Institutional inclusion of better building practices

Specific objective/Component 2: Implementation of adaptation programmes for the transformation of the building sector and community resilience

### Project Components and Financing:

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Component 1: Institutional inclusion of better building practices	Outcome 1.1: Increased awareness to appropriate building needs and solution systems	1.1.1: Policy stakeholders are aware of the issue of resilience in human establishments (HE) 1.1.2: Policy stakeholders are informed of appropriate technical and methodological solutions for resilience in HE 1.1.3: Consultation mechanisms are set up to identify resilience needs and opportunities for integration with adaptation plans in other correlated sectors (green economy, renewable energies, eco-cities, vocational training, etc.) 1.1.4: Cross-border information and exchange meetings are set up for regional understanding of the issue	Burkina Faso, Mali	250,000
	Outcome 1.2: Improved policies are developed that promote a green economy and sustainable and resilient human establishments through adapted building	1.2.1: Appropriate methodologies are adopted to improve policies in HE 1.2.2: National resilient building needs are identified and integrated into climate adaptation projects 1.2.3: Adapted community buildings (food and produce storage, health centres, schools, etc.) are built within those projects to pilot adaptation in building and housing 1.2.4: Communication tools are set up between both countries for experience sharing and capitalization	Burkina Faso, Mali	1,500,000
2. Component 2: Implementation of adaptation programmes for building sector transformation and community resilience	Outcome 2.1: Scaled and multiplied markets for appropriate solutions at the local level, improving large-scale access for beneficiary populations	2.1.1: Beneficiary populations and local artisans and businesses are informed of needs and opportunities for resilient and adaptive buildings 2.1.2: Local authorities (villages, towns, districts) are informed of needs and opportunities or resilient and adaptive buildings 2.1.3: Local markets for adapted building solutions emerge and grow, both for private housing and community buildings (supply and demand) 2.1.4: Connected considerations for integrated adaptive HE are established at the local level (land management, off-grid renewable energy sources, etc.)	Burkina Faso, Mali	1,100,000
	Outcome 2.2: A strengthened	2.2.1: On-site and in-class training modules are offered to building sector professionals	Burkina Faso, Mali	750,000

	building sector capable of deploying adaptive solutions	2.2.2: Curricula are developed within vocational training centres for the training of formal or semi-formal building sector professionals 2.2.3: Appropriate building project management and ownership skills are shared with relevant stakeholders (local authorities, conventional building businesses, etc.) 2.2.4: Knowledge capitalization systems are set up and information is shared to all interested parties (open source)		
	Outcome 2.3: Increased availability of better building financial solutions for lower-income populations	2.3.1: Financial and micro-financial partners are identified and informed 2.3.2: Capitalization on previous pilot projects is effective to define larger-scale methodologies of duplication 2.3.3: Adaptive housing microcredit tools and financial incentives to better building practices are deployed among identified target populations, including for each unit the building of a private house, inducing directly practice transformation among end-user beneficiaries 2.3.4: Analysis of first projects is conducted in the view of country-scale replication	Burkina Faso, Mali	430,000
4. Project/Programme Execution cost				475,000
5. Total Project/Programme Cost				4,030,000
6. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				285,000
<b>Amount of Financing Requested</b>				<b>4,790,000</b>

**Project Duration:** (*In years and months*) 4 years (48 months)

## PART II: PROJECT JUSTIFICATION

### COMPONENTS

The *Adapted Building* project is built around two components: (1) improving policy making at the institutional level, for the inclusion of resilient and adapted housing principles, and (2) transformation of the building sector value chain for community resilience in housing.

Specific Objective 1 – Institutional inclusion of better building practices. Activities include: information and awareness actions for policy makers and their administrative and technical agents, capitalization, support to policy-drafting and project definition, expertise, and assistance to the inclusion of better building components in national HE adaptation projects.

Specific Objective 2 – Implementation of adaptation programmes for building sector transformation and community resilience. Activities include: awareness-raising and market development for beneficiary populations and local authorities, vocational training on building sites and in-class modules, capacity-building and skills strengthening, scaling of financial tools for accessibility of adaptive solutions to low-income rural populations.

### INNOVATION

At the core of the project is the Nubian Vault building alternative, an ancestral construction technique revived, simplified and standardized by AVN for dissemination among Base of Pyramid populations in the Sahel region, mainly rural populations living with under \$2 PPP/day.

The Nubian Vault answers a number of challenges these populations face today, climate adaptation being prevalent among these, with two main factors:

- Disappearance of wood and straw, used for traditional architecture, today commonly replaced by cement blocks and metal sheets, despite their inadequacy.
- Increase in temperature extremes & violent weather episodes that significantly diminish already precarious living conditions and productivity settings (food and produce storage, health services, education, commercial production, etc.).

The introduction of the NV solution is an innovative answer to climate challenges in the Sahel, empowering communities to preserve near-vernacular know-hows and building systems while tackling the climate challenges they face. Rewarded by the World Habitat Award (UN-Habitat, BSHF), its value for climate adaptation and community development in Burkina Faso and Mali has already been demonstrated through practice: local dissemination projects have led to 2,500 buildings constructed, and 700 active masons and apprentices across the Sahel.

### **RESILIENCE, SUSTAINABILITY AND CO-BENEFITS**

The main impact of the project is the increase in communities' resilience in rural areas of the Sahel: climate adapted buildings signify better living conditions for all, in particular vulnerable BoP populations. This includes private housing, but also community buildings and workplaces, with associated benefits: **increased productivity in agricultural and commercial activities, food security (storage), increased income and savings on building renovation and materials replacement, improved health care and education services.**<sup>3</sup>

Another set of co-benefits rests in the compatibility of the building technique with local know-how and apprenticeship systems, enabling rural youths to **learn and practice an income-generating trade** in local circuits, curbing rural exodus.

**Environmental impacts:** Burkina Faso and Mali are affected by deforestation and desertification, and alternatives to tree cutting for construction are imperative. Sustainable building solutions preserve ligneous resources (wood and straw) that contribute to communities' wellbeing and economic growth (preserving shea, gum Arabic or other "productive" trees).

**Sustainability of the project** is integrated into its design: the market creation approach ensures impacts beyond the end-term of the project, through income-generating activities for the beneficiaries, and commercial access of the NV solution. Housing and building are long-lasting investments and introducing adaptive practices benefits several generations.

The project includes **concrete adaptation actions** to be conducted, including skills transmission to a local workforce, the first vector of dissemination and replication of better practices, and holistic development/green growth projects integrating housing and building components (such as Burkina's eco-villages), with a strong demonstrative value for replication.

### **CONSULTATION & COMMUNITY PARTICIPATION**

Consultations will be organized to ensure coherence of the project's aims with beneficiary communities' needs (these include farmers', women's and masons' coops). AVN's 17 years of experience disseminating the NV concept within 800 towns and villages of the Sahel ensures relevance of the project. Community participation is embedded in the project, through a series of social and economic co-benefits that support local adoption of adaptive practices.

### **REGIONAL VALUE**

The Sahel is today a region of focus for key international issues, including climate change adaptation, food security, employment, security and migration. Improved human establishments and climate resilience have a direct impact on all these interconnected fields and represent a lever for integrated development. The project serves as a **momentum initiator** for the entire Sahel region, which knows the same challenges regarding climate adaptation needs, housing inadequacy and lack of integrated approaches in policy-making. **Burkina Faso and Mali** present today the best conditions for large-scale dissemination of adaptive housing systems, including first generations of NV masons and artisans, a necessary base for implementation, and are keen

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<sup>3</sup> In schools in particular, teachers testify that pupils have better academic results in Nubian Vault buildings

to develop a regional approach to its appropriation. The NV solution has been introduced in 4 other countries of the region, Senegal, Benin, Ghana and Mauritania. Other LDCs (Sudan, Chad) have expressed their interest in developing similar approaches, national and cross-regional strategies for adaptation of the building and HE sectors.

### **COHERENCE WITH NATIONAL POLICIES AND STANDARDS**

The project is coherent with national development, climate adaptation and housing strategies in both countries. Burkina Faso has inscribed the Nubian Vault in its NDC to strengthen a vulnerable housing and urban development sector.<sup>4</sup> Mali has set a similar emphasis on adaptation of building methods in its Sustainable Development Framework: promotion of local materials, energy efficiency and the NV solution.<sup>5</sup> Operational implementation of these ambitions is yet to be fully developed in both these countries, and is the purpose of the present project. This proposal can be tied to specific initiatives as well: in particular, it will support the integration of a housing component into Burkina Faso's eco-village project, which it is today still lacking despite the stated ambition to create sustainable HEs.

The project also aims to help develop integrated standards in areas closely connected to housing, which today fail to support adaptive practices: national building standards, energy efficiency, sustainable land management, self-building and others.

### **COST EFFECTIVENESS**

Housing is a considerable investment in all contexts, its long-lasting nature and heavy environmental impact justify careful consideration of sustainability issues at conception. This project supports improved policies in this field for more efficiency in national and regional building/housing initiatives. The project's co-benefits induce economic growth, social wellbeing and employment opportunities in rural territories.

### **LEARNING AND KNOWLEDGE MANAGEMENT**

The proposed project is one of knowledge, information and skills transmission to a variety of stakeholders, from national public institutions to local smallholder communities. Technical and methodological capitalization is necessary for its short and long-term effectiveness. It is ensured by AVN and the Steering Committee, in open source for replication to other Sahelian countries.

## **PART III: IMPLEMENTATION ARRANGEMENTS**

The management and implementation arrangements of the project are as follows:

- The Sahara and Sahel Observatory (OSS), Regional Implementing Entity, is in charge of the overall supervision of the project and the connection between project partners and the Adaptation Fund. It is also part of the project Steering Committee.
- The Nubian Vault Association (AVN) serves as regional coordinator for the project, in charge of ensuring effective design and implementation of activities, coordinating partners' engagement and all financial, monitoring and reporting aspects to the Adaptation Fund. It leads the project Steering Committee. It is also Executing Entity, contributing its knowledge and experience in dissemination of adaptive housing practices in the Sahel.
- National entities (Burkina Faso: Ministry of Environment, Green Economy and Climate Change, Mali: Agency for the Environment and Sustainable Development) participate in the implementation of the project, and are beneficiaries of component 1's capacity-building.

A project Steering Committee is to be set, composed of each abovementioned institutions, in order to monitor the effective implementation of the project, and contribute to capitalization and experience-sharing activities. It will meet on a regular basis in either Burkina Faso or Mali.

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<sup>4</sup> Priority n°9, with stated targets of 20,000 individual homes and 2,000 community buildings (see esp. pp. 3, 33, 44)

<sup>5</sup> *Cadre Stratégique pour la Relance Economique et le Développement Durable 2016-2018*, Objective 26, page 100

## PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

### A. Record of endorsement on behalf of the government<sup>6</sup>

<i>Ambroise KAFANDO, Director General of Cooperation, Ministry of Economy, Finance and Development, Burkina Faso</i>	Date: July 21 <sup>st</sup> , 2017
<i>Boureïma CAMARA, Director General, Environment and Sustainable Development Agency, Mali</i>	Date: July 28 <sup>th</sup> , 2017

### B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (NAPAs) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project.	
Implementing Entity Coordinator <b>Mr. Khatim KHERRAZ</b> Executive Secretary SAHARA AND SAHEL OBSERVATORY (OSS)	
Signature: 	
Date: (Month, Day, Year)	Tel. and email
<b>August 4<sup>th</sup>, 2017</b>	(+216) 71 206 633 <a href="mailto:boc@oss.org.tn">boc@oss.org.tn</a>
Project Contact Person: <b>Mr. Nabil BEN KHATRA</b>	
Tel. and email: (+216) 71 206 633 <a href="mailto:nabil.benkhatra@oss.org.tn">nabil.benkhatra@oss.org.tn</a>	

<sup>6</sup> Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

MINISTERE DE L'ENVIRONNEMENT,  
DE L'ASSAINISSEMENT ET DU  
DEVELOPPEMENT DURABLE

Agence de l'Environnement et du  
Développement Durable (AEDD)



N° 1291 /MEADD/AEDD-FVC

REPUBLIQUE DU MALI  
*Un Peuple - Un But - Une Foi*

Bamako, le 28 JUIL 2017

*The Director General of the Environment  
and Sustainable Development Agency*

To

The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email : [Secretariat@Adaptation-Fund.org](mailto:Secretariat@Adaptation-Fund.org)  
Fax: 202 522 3240/5

**Subject : Endorsement for the project “Adapted Building: Transformative Practices for Better Building in the Sahel”.**

In my capacity as designated authority for the Adaptation Fund in Mali, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the selected region.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Sahara and Sahel Observatory and executed by the Nubian Vault Association, the Ministry of the Environment, Green Economy and Climate Change of Burkina Faso, and the Agency for the Environment and Sustainable Development of Mali.



The Director general

**Boureïma CAMARA**  
Chevalier de l'Ordre National



**BURKINA FASO**  
Unité - Progrès - Justice

Ouagadougou, le

21 JUL 2017

### Letter of Endorsement by Government

To: The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: Secretariat@Adaptation-Fund.org  
Fax: 202 522 3240/5

Subject: Endorsement for the project "Adapted Building: Transformative Practices for Better Building in the Sahel"

In my capacity as designated authority for the Adaptation Fund in Burkina Faso, I confirm that the above (select national or regional) project proposal is in accordance with the government's (select national or regional) priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Burkina Faso.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by the Sahara and Sahel Observatory and executed by the Nubian Vault Association, the Ministry of the Environment, Green Economy and Climate Change of Burkina Faso, and the Agency for the Environment and Sustainable Development of Mali.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ambroise Kafando", written over a blue horizontal line.

**Monsieur Ambroise KAFANDO**  
Fund National Designated Authority  
Director General of Cooperation  
Of Minister of Economy, Finance and Development  
03 BP7063 Ouagadougou 03-Tél: (226)25 33 30 16  
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