

Evaluation overview

Typha Combustible Construction Afrique de l'Ouest project (TyCCAO)

Countries: **Senegal and Mauritania**

Topic: **Adaptation and low-carbon transition of towns, cities and regions**

Assessed by: **Espelia**
Date of evaluation: **May 2024**

Key FFEM support data

Project name: Typha Combustible Construction Afrique de l'Ouest (TyCCAO)

Project number: CZZ2192

Amount financed by the FFEM: €1.5m

Project grant date: 02 December 2016

Duration: 8 years (2016-2024)

Context

Typha australis is a fast-growing reed which has been proliferating in the Senegal basin at increased rate following construction of the Diama anti-salt dam in 1988. This proliferation raises serious issues for public health, water security, natural risk prevention, and maintaining biodiversity in the Senegal River delta, and is also impacting local economic activities. The TyCCAO project forms part of a strategy of control through structuring industries to make use of the resource rather than eradicate it, and follows-on from previous initiatives.

Participants and operating methods

Project coordination is provided by ADEME, supported by the GRET for the combustion element in particular, and by BioBuild Concept for the construction element, acting essentially as ADEME-delegated project owner. The Senegalese ministry for the Environment and Sustainable Development and Mauritanian company Habidem provide local links for the construction element, supporting BioBuild Concept. In addition, the consultancy firm Wavestone acts as assistant project owner alongside ADEME.

These participants together make up COMEX, which provides day-to-day monitoring and management of TyCCAO.

The project also involves numerous other actors, for the most part supporting the project as implementation partners.



education and research actors; engineering and consultancy firms; architectural firms working on bioclimatic construction integrating biosourced materials; institutional actors.

Aims

The TyCCAO project breaks down into four elements with the shared objective of contributing to the ecological transition and combating climate change, through developing the use of renewably-sourced fuels and improving the environmental performance of buildings through the upscaling and dissemination of typha-based products.

Specific objectives:

- **Element 1 - Understanding and managing the resource:** controlling the invasiveness risks of the plant, creating a framework for dialogue to optimise management of the resource and ensuring the optimal typha harvesting methods;
- **Element 2 - Transforming typha into biofuel:** setting up an industrial unit employing typha and rice husk as biofuel, and demonstrating relevance to the sector;
- **Element 3 - Transforming typha into an energy-efficient construction material:** developing typha-based construction materials, underpinning public policy and supporting the design of low environmental impact demonstration buildings;
- **Element 4 - Capitalisation, awareness-raising and education** around the learnings from the project

Performance appraisal

Relevance

The initial intervention logic of TyCCAO appears relevant with respect to the continuation of preceding initiatives, including involvement of the same actors. However, while the difficulties in accessing finance have resulted in the project's re-scaling, the initial aims have been insufficiently reviewed in light of the financial constraints. The intervention logic then seems less pertinent following the period of restructuring of TyCCAO.

Coherence

During its instruction, the TyCCAO project showed coherence with other initiatives both past and present, but complementarities or synergies with other projects remained weak during the project's execution. In terms of internal coherence, although the project's structuring into four elements is aligned to the project's general goal, the means allocated to their implementation were not coherent with the project's ambitions.

Effectiveness and Impact

Although numerous planned activities within the revised logical framework were achieved, gaps were observed and certain activities lacked steering or were neglected. TyCCAO has had the direct impact of setting important foundations for the next work on the valorisation of typha, but has only partially responded to the challenges posed by exploitation and supply of typha. Learnings related to the production of typha-based biofuels were drawn from element 2's activities. The work of element 3 demonstrated the relevance of the typha-based construction sector, and important progress was made in understanding of the materials and the development of technical documentation, although the impact of the project on structuring of the sector remains limited. Finally, education carried out within the project framework has had significant impact, particularly for local populations. However, capitalisation and dissemination of knowledge remains limited.

Efficiency

Efficiency of the TyCCAO project was impacted by the challenges of seeking financing, consuming time and meeting with little success, necessitating restructuring of the project. The governance model proposed by the project sponsors appears coherent with the structuring of the project in four elements. However, project governance appears to lack resilience in the face of the difficulties encountered. Finally, project implementation was hindered by the lack of regional anchoring, as well as by the Covid19 health crisis.

Viability and Sustainability

During project evaluation, the project results remained mixed due to the lack of resources allocated to the capitalisation and dissemination of results, as well as the fact that the budget had been spread too thinly across a multitude of activities. Financing of a second project phase would allow these initial achievements to be consolidated and subsequently upscaled to properly structure the resource's valorisation industries.

Visibility

The project enjoys good visibility and recognition among the project's target audiences and institutional actors. However, it appears difficult to differentiate activities conducted by the project from those conducted within the framework of other previously conducted projects, or financed by other funding partners.

Innovation

The TyCCAO project stands out for its novel approach, based around the valorisation of a biosourced material in construction and as a fuel, as well as through its ambition to revolutionise the preconceived ideas and the models associated with typha.

FFEM support - added value

FFEM support enabled the project to see light of day thanks to its financial backing and the provision of a certain "institutional guarantee", in addition to that of ADEME, so facilitating the involvement of numerous actors. Further, the project's instruction procedure allowed a relevant project to be developed.

Recommendations & learnings

Recommendations to sponsors of complex and ambitious projects:

For the design and structuring of projects:

- Delve into the sequencing of the project upstream, taking into account the available resources and time needed to obtain particular results, and clarify the goals assigned to each phase.
- Allocate financing to structured, visible actions (a single sector, or financing for demonstrator buildings).
- Define precisely the arrangements for communication and for dissemination of deliverables as from the outset of the project.

For the governance and management of projects

- Simplify the governance and decision-making processes for the project, and put in place a real form of monitoring and steering able to drive the project forward, and underpin the beneficiary structures on the project's technical, administrative and financial aspects.
- Allocate adequate human resources to the project's governance.
- Provide better local anchoring for the project, to improve involvement of certain regional actors and local acceptance of the project, through the mobilisation of a project team in each country.

Recommendations for the remainder of TyCCAO:

- Explore work on the development of industries through separate projects in order to facilitate the governance and financing of the project.
- Continue knowledge acquisition work for typha and encourage its dissemination through facilitating a network of actors able to play a coordination role for existing initiatives, consolidation of the results obtained and the dissemination of information based on learnings from TyCCAO.