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SuRe® THE STANDARD FOR SUSTAINABLE AND RESILIENT INFRASTRUCTURE

aquasun

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LANDSCAPE OF SANTO ANTAO ISLAND, CABO VERDE, AFRICA ©Daboost/Shutterstock.com

CABO VERDE

SURE® - THE STANDARD FOR SUSTAINABLE AND RESILIENT INFRASTRUCTURE: AQUASUN CABO VERDE AGRIBUSINESS PROJECT

2022

The **Sustainable Infrastructure Tool Navigator**

is an online platform that connects infrastructure practitioners with over 100+ relevant tools that can assist them in evaluating and making decisions at various phases of the infrastructure life cycle. This case study demonstrates the use of a tool in a country context, to better understand the process involved as well as good practices, challenges and lessons learned.

SURE® STANDARD: SUSTAINABLE AND RESILIENT INFRASTRUCTURE

SuRe – the Standard for Sustainable and Resilient Infrastructure (https://sure-standard.org hereinafter referred to as the Sure® Standard) is a third-party verified, global voluntary standard to drive the integration of sustainability and resilience aspects into infrastructure development and upgrade projects by providing guidance. The tool also serves as a globally applicable common language tool for infrastructure project developers, financers and public sector institutions. Infrastructure projects wishing to undergo the SuRe® Standard certification are subject to independent third-party audits provided by an independent accredited Certification Body. After initial certification, surveillance audits are carried out annually.

The SuRe® Standard provides guidance on how to manage sustainability and resilience aspects of infrastructure projects, including through capacity-building, certification, project registration, and impact measuring/monitoring, supporting public entities, project developers and financers of infrastructure developments to select more sustainable and resilient projects for development, to recognize their improved financial performance and to see a greater volume of more sustainable and resilient projects designed and financed. Based on the project's performance across the SuRe® Standard's 61 sustainability criteria, projects are awarded different certifications (Bronze, Silver or Gold).

1. BACKGROUND

Cabo Verde is an archipelago consisting of ten islands located off the west coast of Africa (Monteiro *et al.* 2020). Alongside tourism, the agricultural sector plays a significant role in this Small Island Developing State's economy, with about two-thirds of its workforce being employed in this sector (United Nations Development Programme [UNDP] 2018). Most of Cabo Verde's agriculture is based on subsistence family production (Food and Agriculture Organization of the UN [FAO] 2019). Farming is one of the most promising ways to reduce poverty and to improve livelihoods in Cabo Verde (Monteiro *et al.* 2020), but it requires efficient and sustainable infrastructure to thrive.

Factors like low soil quality, limited farmable land and poor technological knowledge make Cabo Verde's agricultural sector increasingly vulnerable to climate change impacts (FAO 2019). The islands have restricted permanent freshwater sources and supply, and this problem has been amplified by subnormal rainfall over the last twenty years (Monteiro *et al.* 2020). Cabo Verde only has 500 m^3/year of freshwater per capita to meet its needs in terms of agriculture, industry, energy and environment, making it one of the countries that lives in absolute water scarcity (UNDP 2010). For context, Switzerland enjoys eight times the freshwater per capita of Cabo Verde, with 4,780 m^3/year (World Bank and FAO 2017).

In addition to this water crisis, increasing overexploitation of Cabo Verde's cultivable land over the past years has resulted in severe soil degradation. Combined with a troubling trend of decreasing cereal yields since the 1960s, the Cabo Verdean agricultural sector produces less than 15% of the population's food needs, and it continues to be heavily reliant on food imports (UNDP 2010; World Bank and FAO 2018). High costs of infrastructure services and inefficiencies in operation have further created a need for more sustainable infrastructure (Briceño-Garmendia *et al.* 2013), and the government has sought to attract additional investment in new and existing assets (UN Conference on Trade and Development 2018).

2. THE AQUASUN AGRIBUSINESS PROJECT

To address these challenges in particular, the Cabo Verdean agricultural sector needs to improve access to clean and affordable water by combining agricultural technologies and different infrastructure assets. The Aquasun Agribusiness Project strives to provide a sustainable solution for this, inspired by the efforts of Cabo Verde's national government and local municipalities to lead the country towards a more sustainable future. By integrating energy, water and agricultural production, the project aims to generate a stable water supply for the islands of

DESALINATION PLANT SITE, CABO VERDE ©AQUASUN

Santo Antão and Santiago in Cabo Verde. Aquasun, the project developer, will construct two desalination plants to produce affordable and clean water that will support agricultural production and rural livelihoods. To produce the large amount of energy needed for running the desalination plants, the project will install a microgrid that incorporates solar photovoltaics (PV), wind power and battery storage.

To ensure that the project will benefit local stakeholders, Aquasun has also integrated local farmers into the planning of numerous project details. Recognizing that careful water management on Cabo Verdean farms is essential for addressing Cabo Verde's water crisis, and that valuable produce grown and sold locally is key to regional economic sustainability, Aquasun is exploring specific water supply and produce agreements with farmers. In addition, local farmers will be provided with employment opportunities on farmlands operated by Aquasun, where they will earn almost three times the Cabo Verdean minimum wage.

Even though Aquasun was committed to providing a sustainable infrastructure solution to Cabo Verde's water shortages from the outset, the project developers still wanted a more comprehensive definition of what "sustainable infrastructure" meant in the context in which they were operating. Finance also plays a large role in project development: the Cabo Verdean government was supportive of the project due to its sustainable nature, and awarded Aquasun significant tax breaks. To gain support from potential impact investors, Aquasun had to demonstrate their commitment to embedding environmental, social and governance (ESG) criteria in their project. For these reasons, Aquasun decided to undergo a sustainable infrastructure certification process.

3. OBTAINING THE SURE® STANDARD

Aquasun requested Sustainability and Resilience appraisal based on the SuRe® Standard. One major reason for this choice was the SuRe® Standard's flexibility. Since the SuRe® Standard is applicable to food systems, water infrastructure and energy infrastructure, it could accommodate the integrated nature of the Aquasun project. In addition, the tool can be applied at every stage of the project development process. Other important factors leading to the choice of the SuRe® Standard were that it is recognized among impact investors and includes well-regarded baseline criteria for sustainability.

Aquasun underwent an appraisal process at the planning and concept design phase of the project. During the appraisal, Aquasun was assessed based on the SuRe® Standard's 61 criteria; Aquasun received several recommendations to further improve the sustainability of the project and was preliminarily awarded a gold certification. This appraisal process took four weeks, including a fee of 9,140 Swiss francs (CHF). The process was undertaken as a desktop assessment, requiring approximately 40 hours of work to assist the SuRe® assessors, while the full SuRe® Standard certification will involve local stakeholder engagement. Aquasun plans to obtain the full certification when starting with the operation phase of the project. This full certification is expected to take four to eight months, with additional fees of approximately CHF30,000.

4. RESULTS

The recommendations that Aquasun received during the SuRe® Standard appraisal process led them to take further steps towards improving the sustainability of the project. These steps included reinforcing Aquasun's pre-existing contract requirements that prohibited forced labour and child labour in all project supply chains (SuRe® Standard criterion S2.4), and advancing research on the use of recycled materials. Aquasun has also committed to using 100% recyclable materials for the packaging of all agricultural products, as per SuRe® Standard criterion E3.3.

In addition, several plans and supporting documents were produced in response to the recommendations Aquasun received during the appraisal process. These plans aim to improve the overall resilience of the project and to increase community benefits. For instance, Aquasun created a Women's Employment Plan targeting the training and employment of women for technical and managerial positions, with the goal of having women in at least 33% of these roles. Another document borne out of the SuRe® Standard recommendations is a farmer management strategy. Involving community stakeholders in this stage has had compelling, positive results. 80% of local farmers have already signed a pre-agreement to work with the Aquasun project. Further, the SuRe® Standard appraisal helped Aquasun secure funding from private impact investors by credibly signalling the ESG commitments of the project.

5. LESSONS LEARNED

While conducting the SuRe® Sustainability and Resilience appraisal has been helpful for Aquasun to ensure the sustainability of their infrastructure project and secure funding, the project developers also faced some challenges during the appraisal process. Mainly, the developers found it challenging to ensure that contractors adhered to the sustainability requirements that emerged from the preliminary certification process (such as guaranteeing child- and forced labour-free supply chains). In response, Aquasun made efforts to legally bind contractors to ESG commitments as much as possible. For cases where this was not feasible, Aquasun is now developing its own "ESG Charter" which all contractors are requested to sign, in order to demonstrate a commitment and willingness to meet certain ESG goals while working on Aquasun projects. The adherence of contractors to the requirements of the ESG Charter will be monitored by Aquasun.

6. REPLICABILITY

The SuRe® Standard is widely applicable and has already been used for assessing infrastructure projects across a range of sectors in more than 14 countries. Projects in Ghana, Indonesia and Vietnam are also currently undergoing the SuRe® Standard certification process. In addition, application of the SuRe® Standard can be helpful for project developers to enhance their understanding of a "sustainable and resilient infrastructure" project, which is likely to benefit future project developments.

As the experience of Aquasun demonstrates, the SuRe® Standard can be readily applied to infrastructure projects that integrate multiple sectors or assets. Being able to assess the integrated nature of projects such as Aquasun's – and of infrastructure systems more broadly – makes the SuRe® Standard a useful tool for advancing integrated approaches to sustainable infrastructure in the future.

PROJECT AREA AND AGRICULTURAL LANDS, CABO VERDE ©AQUASUN

KEY INSIGHTS

- The SuRe® Standard and its assessment outcomes pushed Aquasun to broaden the sustainability scope of the project, expanding and enhancing the benefits that can be delivered to the local community well beyond the original boundaries of the project.
- The tool was instrumental in securing project funding, which brought the project from the drawing board to reality.
- Even a one-time use of the tool can lead to significant improvements in the overall internal project development process of an entity, with sustainability considerations percolating through other operations.

ACKNOWLEDGEMENTS

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REFERENCES

Briceño-Garmendia, C.M., Benitez, D.A., (2013). *Cape Verde's Infrastructure: A Continental Perspective*. World Bank. https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-5687. (Accessed on 1 December 2021).

Food and Agriculture Organization of the United Nations (2019). Climate-Smart Agriculture in Cabo Verde. https://cgspace.cgiar.org/bitstream/handle/10568/106069/CSA%20profile%20Cabo%20Verde.pdf. (Accessed on 1 December 2021).

Monteiro, F., Fortes, A.R., Ferreira, V.A.D.S., Pereira, A. (2020). Current Status and Trends in Cabo Verde Agriculture. In: *Agronomy, 10,* 74. (Accessed on 4 August 2022).

United Nations Conference on Trade and Development (2018). "Investment Policy Review", New York and Geneva. https://unctad.org/system/files/official-document/diaepcb2018d2_en.pdf. (Accessed on 1 December 2021).

United Nations Development Programme (2010). Second National Communication on Climate Change of Cape Verde, Technical Sheet. https://www.adaptation-undp.org/projects/trust-cape-verde-second-national-communication. (Accessed on 2 July 2022).

United Nations Development Programme (2018). Human Development Indices and Indicators: 2018 Statistical Update. https://hdr.undp.org/content/statistical-update-2018. (Accessed on 2 August 2022).

World Bank and Food and Agriculture Organization of the United Nations (2017). Renewable internal freshwater resources per capita (cubic meters), Switzerland. https://data.worldbank.org/indicator/ER.H2O.INTR.PC?locations=CH. (Accessed on 1 December 2021).

World Bank and Food and Agriculture Organization of the United Nations (2018). Cereal yield (kg per hectare) - Cabo Verde. https://data.worldbank.org/indicator/AG.YLD.CREL.KG?locations=CV&view=chart. (Accessed on 1 December 2021).