



SOUBRE HYDROPOWER PROJECT SUSTAINABLE DEVELOPMENT CONTRIBUTIONS REPORT



Document prepared by AERA GROUP on behalf of CI-ENERGIES

Project Title	<i>Soubré hydropower project</i>
Project ID	1522
Project Start Date	25-May-2017
SD Contributions Reporting Period	25-May-2017 to 30-June-2020
Date of Issue	23-04-2021
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1 SUMMARY OF SUSTAINABLE DEVELOPMENT CONTRIBUTIONS

Soubré Hydro Power Plant (hereafter referred to as “Soubré HPP”) is a greenfield project located on the Sassandra river about 5 km from Soubré village, Côte d’Ivoire. Soubré HPP is composed of a run-of-river hydropower plant with a capacity of 270 MW and a micro-hydro power plant of 5.35 MW generating capacity with a total estimated average gross electricity generation of 1,170 GWh per year, fed by a 17.3 km² reservoir. The project facilities include a 1,730 ha reservoir delimited by a 4.5 km dam with a maximal height of 19.5 m along Sassandra river, in the vicinity of the Nawa falls. It makes full use of the total 42 m denivelation of the natural falls, and also benefits from the regulated inflows from Buyo existing reservoir, built in 1978 and located 90km upstream.

To date, electricity in Côte d’Ivoire is mainly generated from fossil fuels (natural gas and fuel oil) which leads to considerable greenhouse gas emissions. The project activity therefore substitutes fossil-fuel intensive grid-electricity and cuts down corresponding GHG emissions. Since its commissioning date on 25-May-2017 over its first monitoring period ending on 30-June-2020, its GHG emission reductions amount to 2,566,041 tCO₂e.

Besides its environmental benefits on Greenhouse Gases emissions, the project has brought many co-benefits including:

- The project supplied power to 120 newly-electrified rural localities in the Mountain District, including 21 in Cavally region, 44 in Guémon region and 55 in Tonkpi region (rural electrification component of the Transmission and Distribution Network Upgrading Project, which also involves the construction of high-voltage transmission lines from the Soubré power plant to the cities of San Pedro, Duékoué and Zagné)
- The project increased employment opportunities to local people (more than 1,500 direct jobs (20% SINOHYDRO, 80% local) and 2,500 indirect during construction, and 50 permanent positions during operation of the project),
- It reinforced the drinking water capacity of the town of Soubré by building a new 200 m³ station/h and a distribution network, besides village pumps built in the 13 localities of the affected villages,
- The project improved the regional facilities through the implementation of new schools, health center and housing,
- The project increased productivity with the creation of a fishing area, the construction of the Soubré fish market, construction of 3 landing stages and construction of the Gnamagui market in the area where the project is located, opening a new revenue stream for local populations,
- The project helped to the protection of the National Par of Taï buy offering 2 pickups, 1 mortorcycle Yamaha, and awareness panels,
- The project contributed to the construction of the ecological hut, the museum and the associated infrastructures as well as Monitoring and maintenance of the biodiversity area,
- The project will contribute to the development of agriculture and tourism with the promotion of Nawafalls.

2 PROJECT CONTRIBUTIONS

Table 1 : Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1	6.1	6.1.1 Proportion of population using safely managed drinking water services	Implemented activities to increase	<p>10 localities have benefited from village pumps, of which 8 have been installed and 2 are in the process of being installed. 03 localities have benefited from the extension of the distribution network as part of the reinforcement of the drinking water capacity of the town of Soubré. For these localities, more than 868 households have been served corresponding to 6,124 people.</p> <p>Also, CI-ENERGIES reinforced the drinking water capacity of the town of Soubré by building a new 200 m³/h station (on top of the existing 100 m³/h) and a distribution network. The works have been completed in 2016 and improved Soubré population's water service level for its 35,366 households (175,163 people).</p>	6,124 people of Soubré community having access to clean water.
2	7.1	7.1.1 Proportion of population with access to electricity	Implemented activities to increase	<p>The construction of the Soubré hydroelectric dam has made it possible to set up a rural electrification plan for populations without access to electricity. Currently, 120 rural localities have been newly-electrified¹ (55 in Tonkpi area, 44 in Guémon and 21 in Cavally area, out of the 252 villages targeted by 2022, accounting for 245,000 people²).</p>	120 newly-electrified rural localities with access to renewable energy

¹ [PROGRESS AND RESULTS REPORT \(2020\) \[https://www.afdb.org/en/documents/cote-divoire-projet-de-renforcement-des-reseaux-electriques-de-transport-et-de-distribution-eer-juin-2020\]](https://www.afdb.org/en/documents/cote-divoire-projet-de-renforcement-des-reseaux-electriques-de-transport-et-de-distribution-eer-juin-2020)

² [Power Transmission and Distribution Networks Reinforcement Project report Cote d'Ivoire \(2016\) \[https://www.afdb.org/en/documents/document/cote-divoire-power-transmission-and-distribution-networks-reinforcement-project-appraisal-report-93695\]](https://www.afdb.org/en/documents/document/cote-divoire-power-transmission-and-distribution-networks-reinforcement-project-appraisal-report-93695)

3	7.b	Installed renewable energy-generating capacity in developing countries (in watts per capita)	Implemented activities to increase	The project has installed a renewable energy-generating capacity of 275.35 MW, thus approx. 0.01 kW/capita ³	Total installed renewable energy generating capacity to date is 0.01 kW/capita .
4	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By building the hydroelectrical power station, the project contributed to Emission Reductions amounting to 2,566,041 tCO₂e for this monitoring period	Total emission reductions for this project amount to 2,566,041 tCO₂e to date.

³At 274.73 kWh per capita per year [<https://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC?locations=CI>]

APPENDIX 1: SUPPORTING EVIDENCE

Evidence for each contribution and required documents are provided below

- **Target 6.1:** as per page 5 of the current document, section: “SOUBRE HYDROELECTRIC SCHEME PROGRESS REPORT ON RAP AND PGES ACTIVITIES». (French original version and English-translated extract version are provided). The details of installations are provided below para 1. Pictures of installed pumps are also provided attached.
- **Target 7.1:** as per POWER TRANSMISSION AND DISTRIBUTION NETWORKS REINFORCEMENT PROJECT (PRETD) appraisal report page 4 para 13 for total number of localities that will be connected as well as corresponding number of people. The number of current connections is 120 localities as stated in extract of the PROGRESS AND RESULTS REPORT (2020) link provided above. A translated extract in English is provided in the section PROGRESS AND RESULTS REPORT ; mentioning (in Effects 9-10-11) that 55+44+21 i.e. 120 localities have been successfully electrified thanks to Soubré power/network.
- **Target 7.b:** as per VVB Final Verification Report
- **Target 13:** as per VVB Final Verification Report

SOUBRE HYDROELECTRIC SCHEME PROGRESS REPORT ON RAP AND PGES ACTIVITIES [*Translated extracts*]

Date: 22/03/2021

The implementation of the RAP/GESP is ongoing and will be completed in the second half of 2021, with the exception of support for crop productivity improvement and support for village economic development.

The measures recommended in the ESMP are as follows:

#13 ADAPTATION OF THE SODECI WATER PUMPING STATION

The construction of the Soubré dam has allowed SODECI to increase its capacity of water treatment for urban consumption. Through a prefabricated station, a supply of 200m³/h has been set up to complete the existing 100 m³/h.

In the rural area, boreholes equipped with manual hydraulic pumps have been built in the villages of Mayo1, Gueyo, Mayo2, Adingrakro, Gnamagui, Konedougou, Mathieukro and Konankro. Only the villages of Amaragui and Petit Tiémé are waiting for their respective pumps due to delays in the work by the IBS company.

Status of drinking water supply in the communities of Soubré and Soubré Town

N°	Impacted locations and beneficiaries	Hydraulic system	Type of the system	Status	Number of Households	Number of peoples	Note
1	Mayo1	VillageWater system	1 pump	Completed	2	4	
2	Gueyo	Village Water system	1 pump	Completed	4	13	
3	Mayo2	Village Watersystem	1 pump	Completed	40	493	
4	Adingrakro	VillageWater system	1 pump	Completed	6	52	
5	Gnamagui	VillageWater system	1 pump	Completed	324	1 921	Installed in primary school
6	Konedougou	Village Watersystem	1 pump	Completed	Not defined		
7	Mathieukro	Village Watersystem	1 pump	Completed	Not defined		

8	Konankro	Village Watersystem	1 pump	Completed	7	62	
9	Amaragui	VillageWater system	1 pump	In progress	55	639	
10	Petit Tiémé	VillageWater system	1 pump	In progress	44	586	
11	Kpéhiri	Urban hydraulics	Connection to the SODECI network	Completed	294	2 316	
12	Kopéragui et Kouamékro	Urban hydraulics	Connection to the SODECI network	Completed	185	1 209	
13	Galéa	Urban hydraulics	Connection to the SODECI network	Completed	6	54	
Sub-Total	11 Localities served			11 installations completed	More than 868 households served	More than 6,124 people served	
	<i>+ Town of Soubré</i>	<i>Reinforcement of the drinking water capacity</i>	<i>A new 200 m³/h station built to complete available 100 m³/h pump</i>	<i>Completed in 2016</i>	<i>35,366 households</i>	<i>175,163 people</i>	<i>As number of people that have gained new access to water cannot be distinguished, this realization is only reported in terms of water service level improvement (+200%)</i>

AMENAGEMENT HYDROELECTRIQUE DE SOUBRE POINT D'AVANCEMENT DES ACTIVITES DU PAR ET PGES

Date : 22/03/2021

La mise en œuvre du PAR/PGES est en cours et s'achèvera au second semestre de l'an 2021 à l'exception de l'appui à l'amélioration de la productivité des cultures et de l'appui au développement économique des villages.

Les mesures préconisées dans le PGES sont les suivantes :

#13. ADAPTATION DE LA STATION DE POMPAGE AEP DE LA SODECI




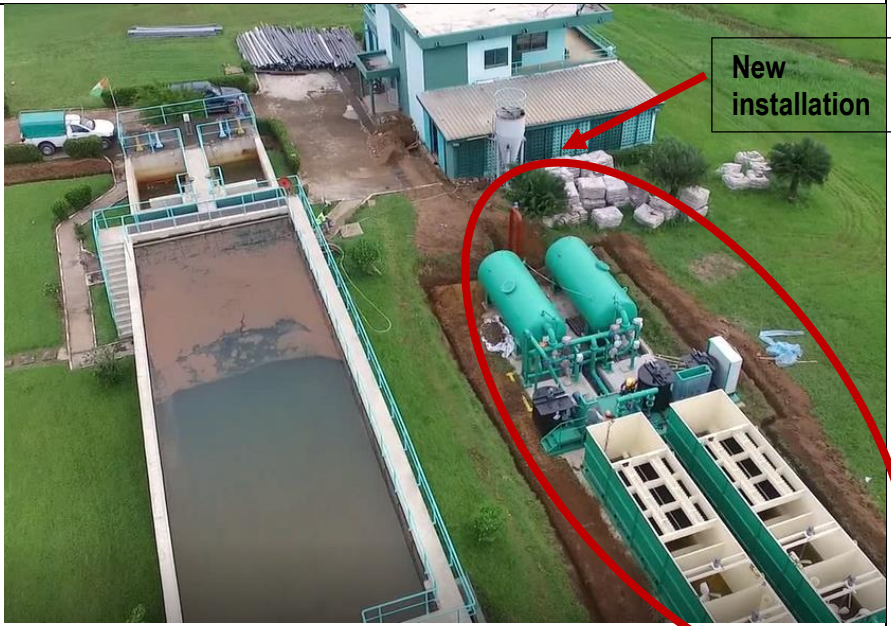
La construction du barrage de Soubré a permis à la SODECI d'augmenter sa capacité de traitement d'eau pour la consommation urbaine. A travers une station préfabriquée un apport de 200 m³/h a été mis en place pour compléter les 100 m³/h existants

Quant à la zone rurale, des forages équipés de pompes hydrauliques manuelles ont été réalisées dans les villages de Mayo1, Gueyo, Mayo2, Adingrakro, Gnamagui, Konedougou, Mathieukro et Konankro. Seuls les villages Amaragui et Petit Tiémé sont en attente de leur pompe respective du fait des retards des travaux enregistrés par l'entreprise IBS.

N°	Localités impactés et bénéficiaires	Système hydraulique	Type de système	Statut	Nombre de ménages	Nombre de personnes	Note
1	Mayo1	Hydraulique Villageoise	1 pompe	Réalisé	2	4	
2	Gueyo	Hydraulique Villageoise	1 pompe	Réalisé	4	13	
3	Mayo2	Hydraulique Villageoise	1 pompe	Réalisé	40	493	
4	Adingrakro	Hydraulique Villageoise	1 pompe	Réalisé	6	52	
5	Gnamagui	Hydraulique Villageoise	1 pompe	Réalisé	324	1 921	Installée à l'école primaire
6	Konedougou	Hydraulique Villageoise	1 pompe	Réalisé	Non défini		
7	Mathieukro	Hydraulique Villageoise	1 pompe	Réalisé	Non défini		
8	Konankro	Hydraulique Villageoise	1 pompe	Réalisé	7	62	
9	Amaragui	Hydraulique Villageoise	1 pompe	En cours	55	639	
10	Petit Tiémé	Hydraulique Villageoise	1 pompe	En cours	44	586	
11	Kpéhiri	Hydraulique Urbaine	Raccordement au réseau SODECI	Réalisé	294	2 316	
12	Kopéragui et Kouamékro	Hydraulique Urbaine	Raccordement au réseau SODECI	Réalisé	185	1 209	
13	Galéa	Hydraulique Urbaine	Raccordement au réseau SODECI	Réalisé	6	54	

**SAMPLE PICTURES OF INSTALLED PUMPS IN THE
COMMUNITIES OF SOUBRÉ**

N°	Impacted locations & beneficiaries	Hydraulic system	Type of system	Pictures of installations
1	Mayo1	Village water pump	1 pump	 
2	Gueyo	Village water pump	1 pump	
3	Mayo2	Village water pump	1 pump	 

4	Adingrakro	Village water pump	1 pump	
5	Gnamagui	Village water pump	1 pump	
6	Konedougou	Village water pump	1 pump	Picture not available
7	Mathieukro	Village water pump	1 pump	
8	Konankro	Village water pump	1 pump	Picture not available
9	Amaragui	Village water pump	1 pump	Work in progress
10	Petit Tiémé	Village water pump	1 pump	Work in progress
11	Kpéhiri	Urban hydraulics	Connection to the SODECI network	
12	Kopéragui & Kouamékro	Urban hydraulics	Connection to the SODECI network	
13	Galéa	Urban hydraulics	Connection to the SODECI network	

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PRETD PROGRESS AND RESULTS REPORT
[translated extract version]

Progress towards achieving the development objective (project goal)

Indicate the development objective of the project (usually the project goal as stated in the Logical Results Framework) and evaluate progress

Accelerating the structural transformation of the economy through industrialization and improving the living conditions of the population.

Report on the effects

effect indicators (as specified in the CLR, add lines if necessary)	Reference value (a)	Most recent value (b)	Final target (expected value at project completion) (c)	Progress towards the target (% completion) (b-a/c-a)	Evaluation
Effect 9: Improvement of the coverage rate of Tonkpi	41,24%	46%	62,77%	nd	On the right track 55 localities out of 128 have been electrified and facilities put into service
Effect 10: Improvement of the coverage rate of Guémon	57,14%	68%	87,96 %	nd	On the right track 44 localities out of 82 have been electrified and facilities put into service
Effect 11: Improvement of Cavally's coverage rate	58,58%	69%	96,31%	nd	On the right track 21 localities out of 42 have been electrified and facilities put into service