

ECED-Sahel

A case of integrated water resources planning and use for drinking water in the crisis-affected Sahel region of Burkina Faso



CRWA Conference 2021

Theme 8 S2 - Integrated water resources planning and governance in the context of risk management

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A few words about Cowater International

- Cowater is an international development consulting company established in Ottawa in 1985 with a portfolio of over 2,500 projects and assignments completed in more than 95 countries;
- As a global development player, we deliver results that generate lasting social, economic and environmental impacts. We provide technical assistance, policy advice and implementation supports across 12 major service lines that cover a wide range of economic, human and sustainable development areas;
- Our presenters today:



Laure
Tankpinou



Mark
Redwood



Maxim
Fortin

Presentation Plan

1. ECED-Sahel: Quick Facts
2. Local Context
3. Project Objectives and Activities
4. Key Results Achieved
5. Focus on Water Resources Planning and Governance
6. Risk Management
7. Conclusion



ECED-Sahel: Quick Facts

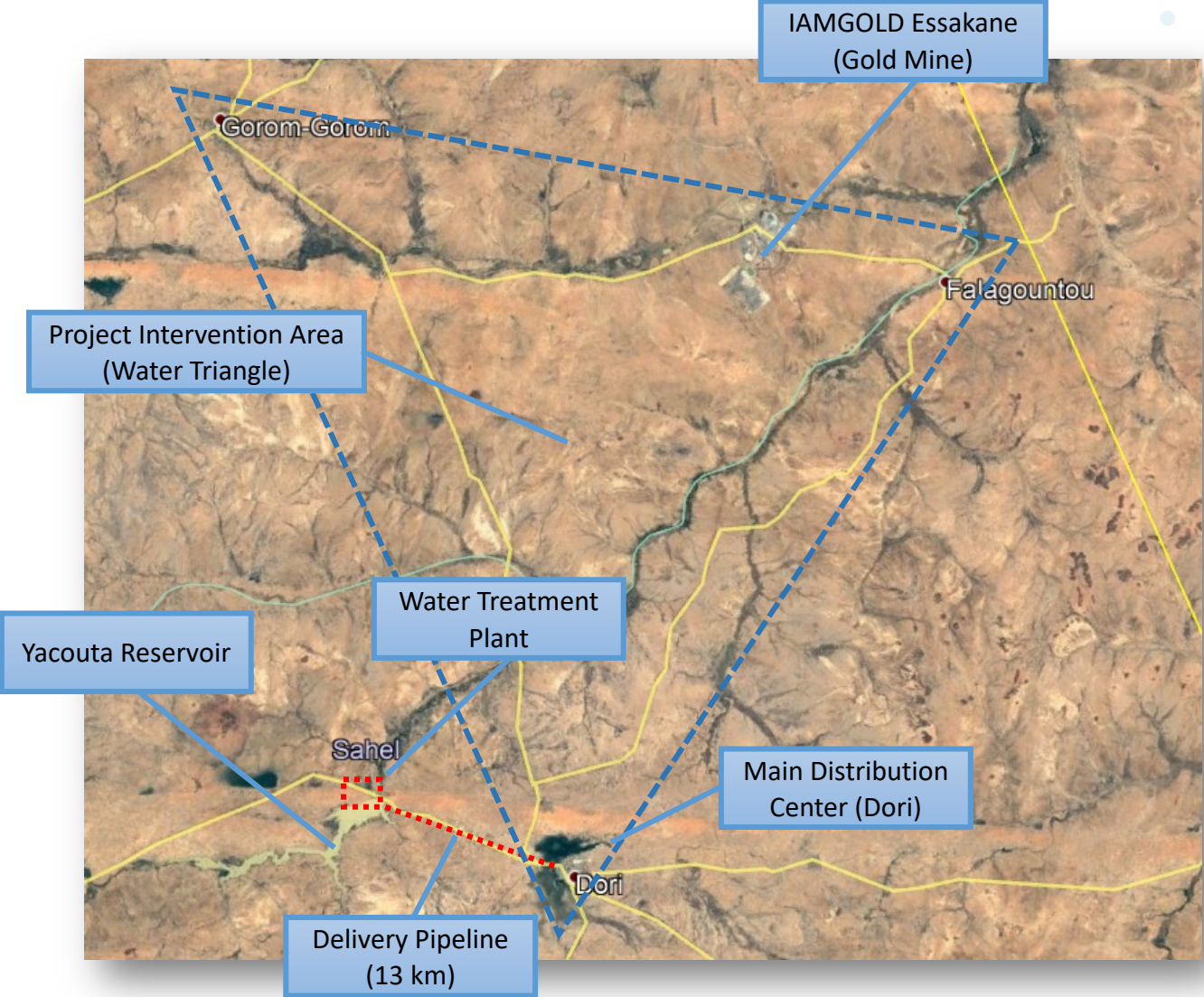
Project Name	Eau et croissance économique durable dans la région du Sahel / Water and Sustainable Economic Growth in the Sahel Region (ECED-Sahel)
Executing Agency	Cowater International
Duration	5 years (2015-2020)
Location	Sahel Region, Burkina Faso
Total Budget	17.4 million \$CA
Funding Partners	Global Affairs Canada (GAC), IAMGOLD Essakane (IMG), One Drop Foundation (OD)
Technical Partners	ONEA (National Water Utility Company) and Burkina Faso's Ministry of Water and Sanitation
Overall Objectives	<p>Integrate water resources management (and resilience) in a cross-cutting way through:</p> <ul style="list-style-type: none">• Water treatment and provision• Agricultural livelihoods• Water, Sanitation and Hygiene (WASH) through a Social Arts approach

Local Context

- Burkina Faso is a French-speaking, landlocked country in West Africa bordered by Mali, Niger, Benin, Togo, Ghana and Ivory Coast with a population of approximately 20 million people
- Ranked 182 out of 189 on the Human Development Index (2019)
- Rise of insecurity from 2014 to today, with important increase in terrorist activity in Northern and Eastern parts of the country
- Sahel Region:
 - ✓ Amongst the poorest regions, in the northern part of the country, with more than 80% of the population relying on subsistence agriculture
 - ✓ 56% of the population have access to clean water, and limited water is available for economic activities such as pastoralism and small-holder agriculture, fueling poverty and insecurity. 13% of the population have access to sanitation.
 - ✓ Dry and arid climate, receiving less than 60 cm rainfall per year and very high temperatures (5 – 47 °C)



Local Context



Project Objectives and Activities

Leverage water as a pillar of development for the Sahel Region of Burkina Faso

Improve access to clean water, sanitation services and hygiene

Provide clean water to the regional capital (Dori) and 17 neighboring villages through the construction of a new water treatment plant

Reduce open defecation by the construction and use of household and public latrines

Raise awareness and promote the use of appropriate sanitation and hygiene practices through innovative social art

Increase revenues and develop local livelihoods

Initiate demand-led project identification process with women's associations and local entrepreneurs

Support selected entrepreneurs and women's groups in the implementation of agricultural and pastoral projects (value chain approach)

Strengthen local governance and build capacity

Establish community-based water supply management structures

Build local capacity for entrepreneurs, women's associations and cooperatives for livelihoods development

Strengthen local and national authorities' capacity to monitor and manage project activities (water supply, livelihoods, governance)

Key Results Achieved

Specific results include:

- Design, procurement and construction in close collaboration with the National Water and Sewerage Authority (ONEA) of a 230 m³/h treatment plant to **supply drinking water to more than 60,000 people in the region.**
- Construction of more than **1,700 household latrines and 35 community latrine blocks** promoting the elimination of open defecation for more than **12,000 people.**
- **Adoption of good hygiene practices such as handwashing by more than 16,000 people** using a combination of the Community Led Total Sanitation and Social Art for Behaviours Change approaches.
- Capacity building and institutionalization of community-based management systems to improve access to drinking water, based on the principles of inclusive governance with **26 water user associations.**
- **Economic empowerment of women's associations and farmer's cooperatives**, comprising over 830 people, that saw a 67% increase in their income.

Small-scale irrigation



Storage bank for livestock feed



Small livestock fattening



School latrine blocks



Community water kiosks



Social art for behavior change

Focus on Water Resources Planning and Governance

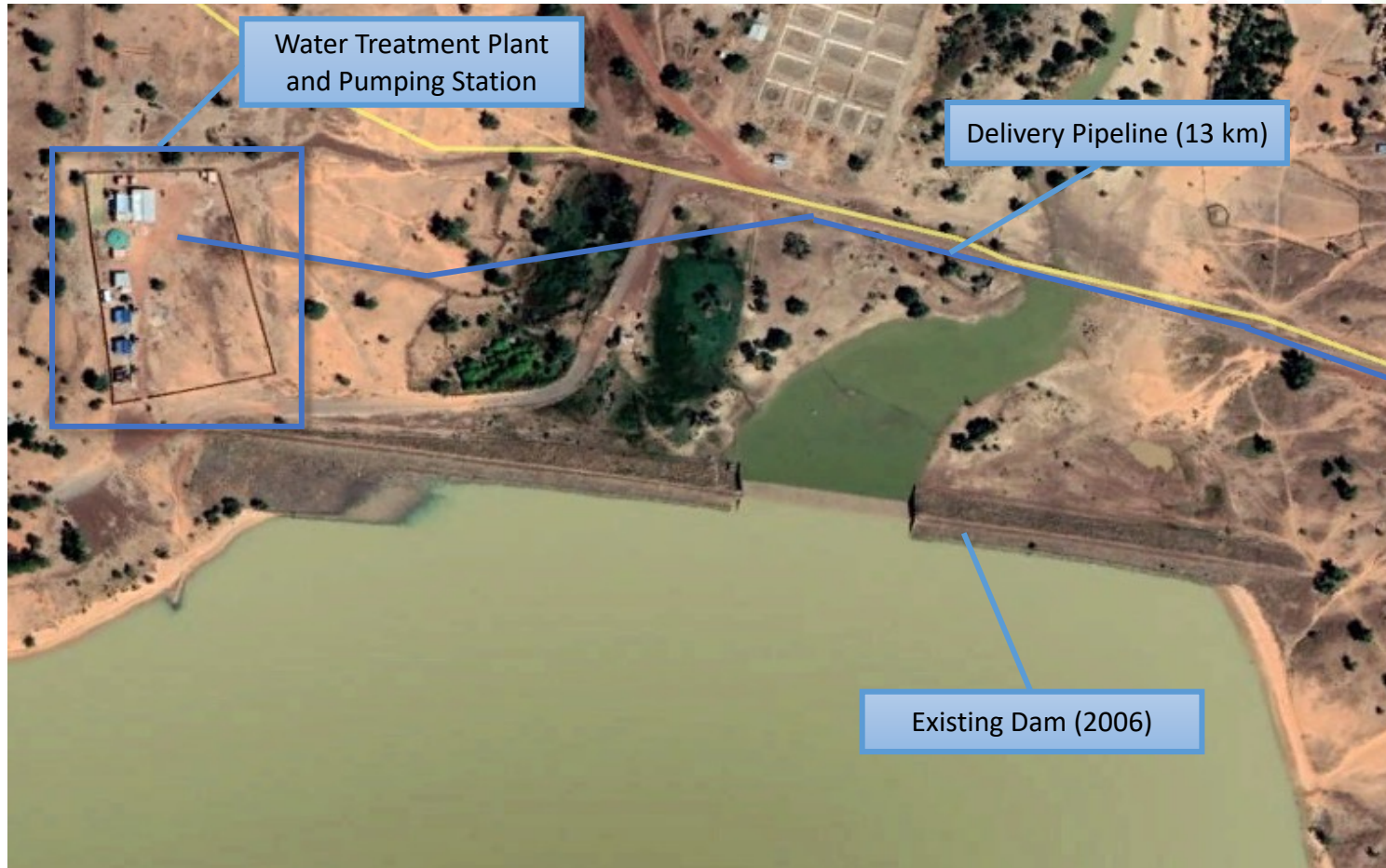
- **Implementation context**

- ✓ Designed by Cowater in partnership with IAMGOLD and local authorities (consultations)
- ✓ Funded by GAC, IAMGOLD and One Drop
- ✓ MOU between the Government of Burkina and Canada
- ✓ Main technical partner for implementation and handover – ONEA
- ✓ Cowater responsible to deliver a complete project that meet the norms and standards applicable

- **Infrastructure delivered**

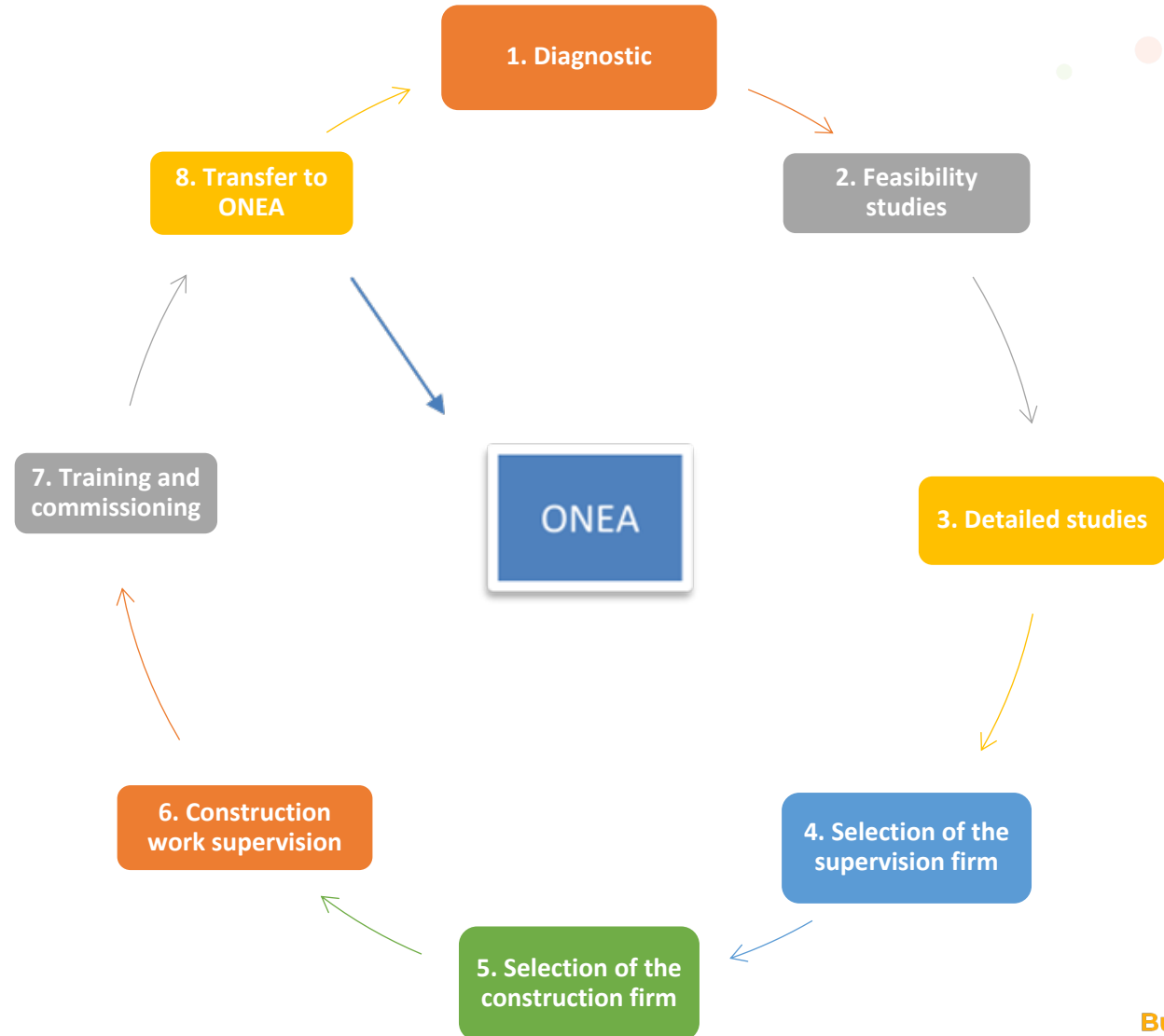
- ✓ Initial phase for Dori and neighboring villages, with scalable design to increase production capacity for other ONEA centers in the region (phase 2 to be confirmed)
- ✓ Water source: Yacouta Dam
- ✓ Improvement of the existing raw water pumping station
- ✓ Complete water treatment plant (flocculator, sedimentation basins, filters, 460 m3 treated water tank)
- ✓ Drinking water pumping station, capacity 230 m3/h
- ✓ 13 km of delivery pipe (PEHD 315 mm PN10) to ONEA center in Dori
- ✓ Other facilities (technical room, storage room, staff housing, etc.)

Focus on Water Resources Planning and Governance



Focus on Water Resources Planning and Governance

➤ Process for the delivery of turn-key water supply infrastructure



Focus on Water Resources Planning and Governance



Treated water tank and other facilities



Sedimentation tank

Risk Management

- **Water availability in the context of climate change**

- ✓ Water demand for multiple usages at the reservoir (drinking water, irrigation, industrial use, etc.)
- ✓ Hydrological modeling to confirm water availability for phase 1 and phase 2
- ✓ Development of solutions to increase water availability in the future (integrated water resources management and interventions along the river basin, dam upgrades, etc.)

- **Institutional and financial**

- ✓ Scope definition and turn-key budget
- ✓ Complex implementation environment with multiple stakeholders and competing demands (Gov. of Canada and Burkina Faso, ONEA, IAMGOLD, One Drop Foundation, local authorities and leadership, communities, etc.)
- ✓ Initial resistance by ONEA regarding the proposed approach for the implementation of the water supply component

- **Security**

- ✓ Increased security threats from 2015 to 2020 in the Sahel Region, with terrorist attacks, kidnapping, carjacking, etc.
- ✓ Restricted access to the project region for international experts and towards the end of the project partly for the local team
- ✓ Reluctance of local consultants and contractors, even Burkinabe, to work in the region
- ✓ Limited quality of the proposals received in response to the tenders and requests for proposals for construction
- ✓ Management of construction site security/surveillance with national police

Illustration of Project Results



Conclusion

- Importance of reliable water supply to catalyze economic development and improve socio-economic well-being in the Sahel Region
- Innovative project model integrating:
 - ✓ Access to water supply, sanitation and hygiene (drinking water supply, agriculture and livestock, IWRM)
 - ✓ Livelihoods development (women's associations, local entrepreneurs)
 - ✓ Strong emphasis on local governance
- “Win-win” with Canada taking a leadership role in the water supply sector in Burkina Faso and positive benefits for communities, project stakeholders and partners (IAMGOLD, One Drop, etc.)
- Robust risk management approach and adaptability over the course of project implementation
- Project was successful and phase 2 is currently under preparation with technical and financial partners
- For more information on project results and activities:

<https://www.innovatingcanada.ca/business-and-economy/canadian-led-collaboration-shapes-sustainable-solutions-in-burkina-faso/>

Questions?



Sunset on Yacouta Reservoir