GEMS Sector Use Cases: Examples from the field

(Interactive Selection)

To view a specific sector-based or cross-cutting use case, please click on the respective link on the next slide and then scroll further. You can always return to the selection slide at the end of each sector summary

(just click on the black box on bottom right on the last sector slide)

Sector-based Examples

Education
Click for example

Transport
Click for example

Social Protection
Click for example

Energy
Click for example

Health & Nutrition
Click for example

Agriculture
Click for example

Environment
Click for example

Gender
Click for example

Urban
Click for example

Water
Click for example

COVID-19 Response

COVID-19 Health Response
Click for example

COVID-19 Urban Response
Click for example

COVID-19 Socio-Economic Response
Click for example

Cross-cutting Examples

ESF / Safeguards
Click for example

Project Planning
Click for example

CDD & Citizen Engagement
Click for example

Portfolio Mapping
Click for example

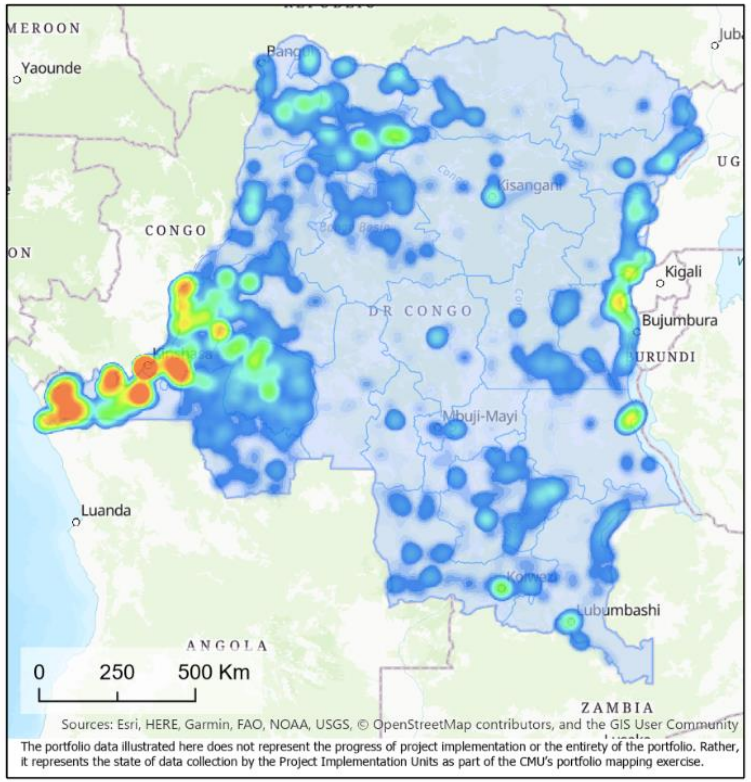
Third-Party Monitoring
Click for example

In the DRC, GEMS helps close crucial Data Gaps in the Education Sector

Through the GEMS-trained PEQPESU project, the DRC Ministry of Education was able to create a detailed database and interactive map of over 25,000 secondary schools within 3 months.

- The database helped to geo-locate all secondary education facilities in the country and record detailed indicators of the individual schools.
- The tool is now used to identify service delivery gaps, plan interventions, and coordinate across agencies.
- The Ministry of Education is conducting a similar data collection exercise for the estimated 40,000 primary schools in the DRC.
- The GEMS school database is essential for implementation of the new DRC Education project, which aims to make elementary education free.

Excerpts from supervision platform

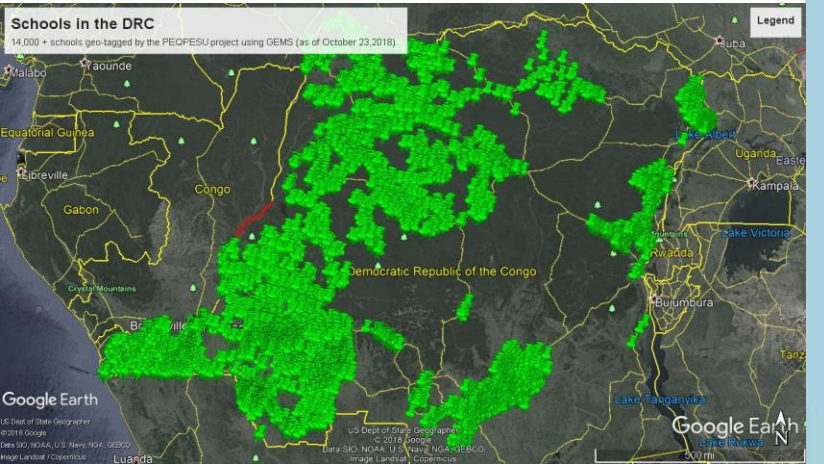


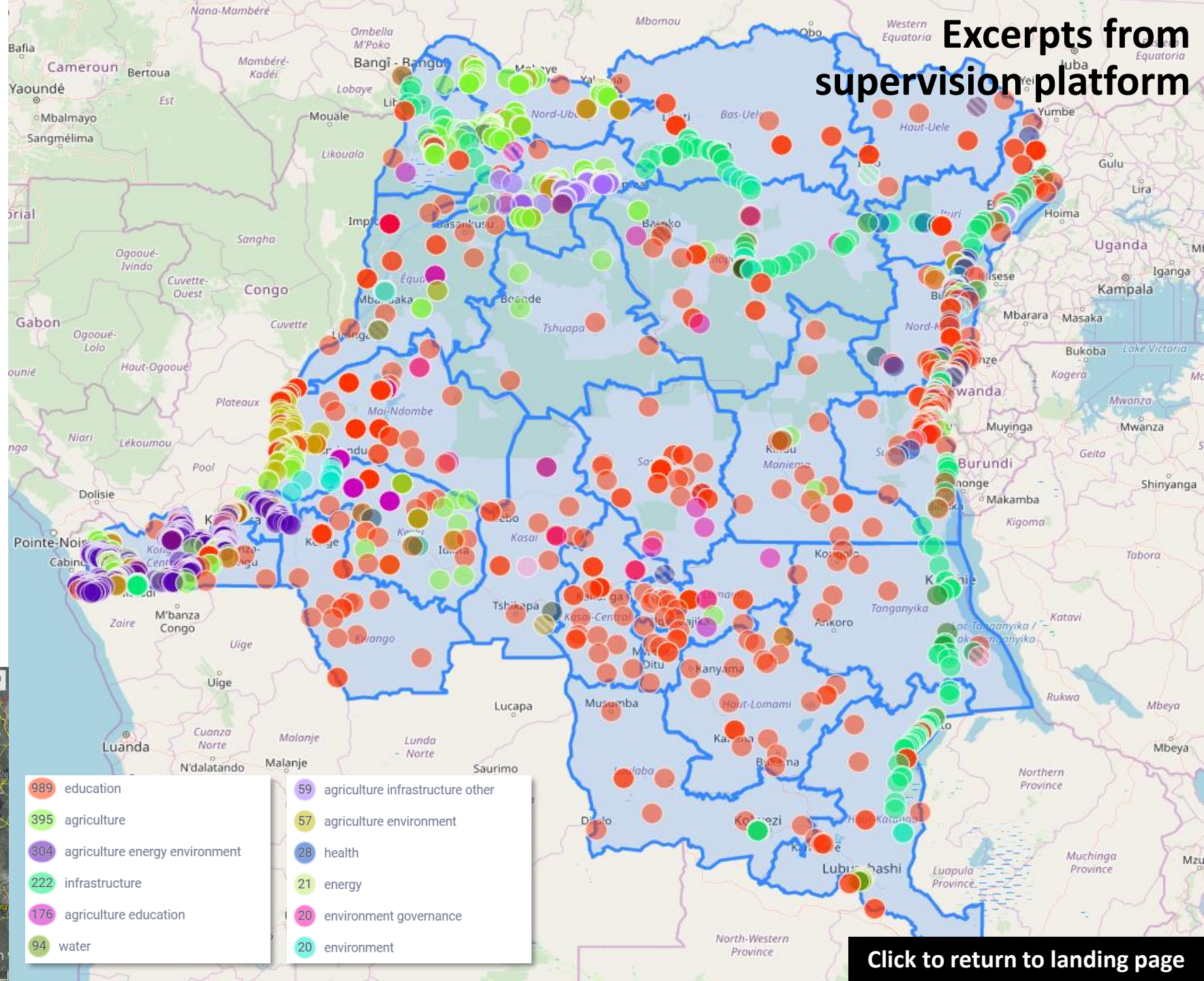
DRC Portfolio - Project Density (September 2020)

Sparse

Dense

Provinces





989	education	59	agriculture infrastructure other
395	agriculture	57	agriculture environment
304	agriculture energy environment	28	health
222	infrastructure	21	energy
176	agriculture education	20	environment governance
94	water	20	environment

Click to return to landing page

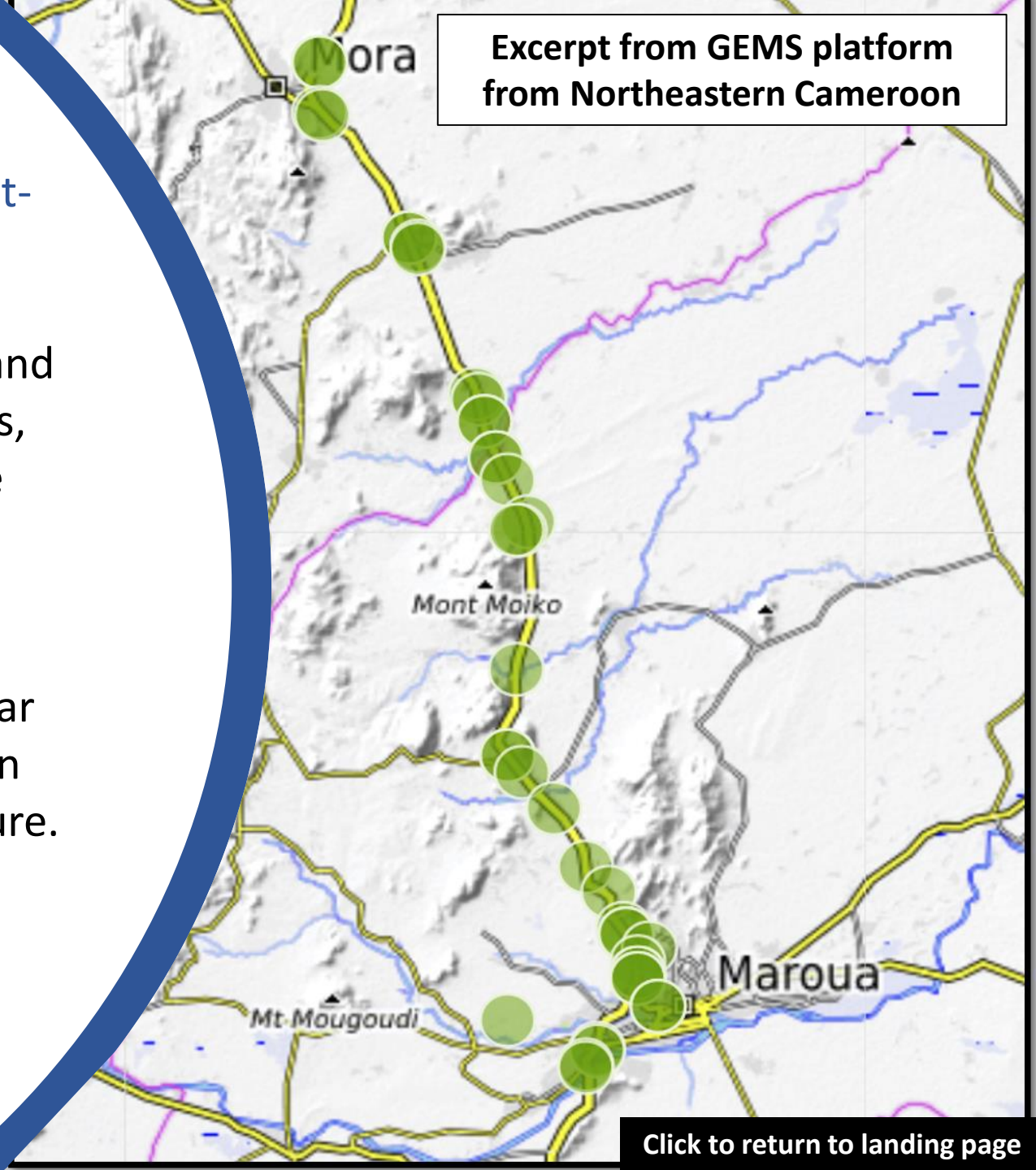
Multimodal Transport Project in Cameroon's Conflict-Affected Far North

The Multimodal Transport project aims to strengthen transport effectiveness and increase security of road corridors and airports in the conflict-affected area in northern Cameroon.

- The project operates in a conflict-affected area and faces access constraints, a lack of ground insights, and difficulties in efficient data collection for the scale of the project.

- GEMS is used to remotely supervise the rehabilitation works of a 62km road in a region far from the capital city and collect real-time data on roads as well as social and economic infrastructure.

- The use of GEMS will be expanded to 2 other ongoing transport projects in the country.



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Social Protection

Real-time monitoring of the Ebola Crisis Response in the DRC

© Vincent Tremeau

The Social Protection team leveraged GEMS skills and tools to build the MARTA (Monitoring Automated for Real-Time Analysis) platform to improve real-time supervision and monitoring of the Ebola Emergency response in the DRC.

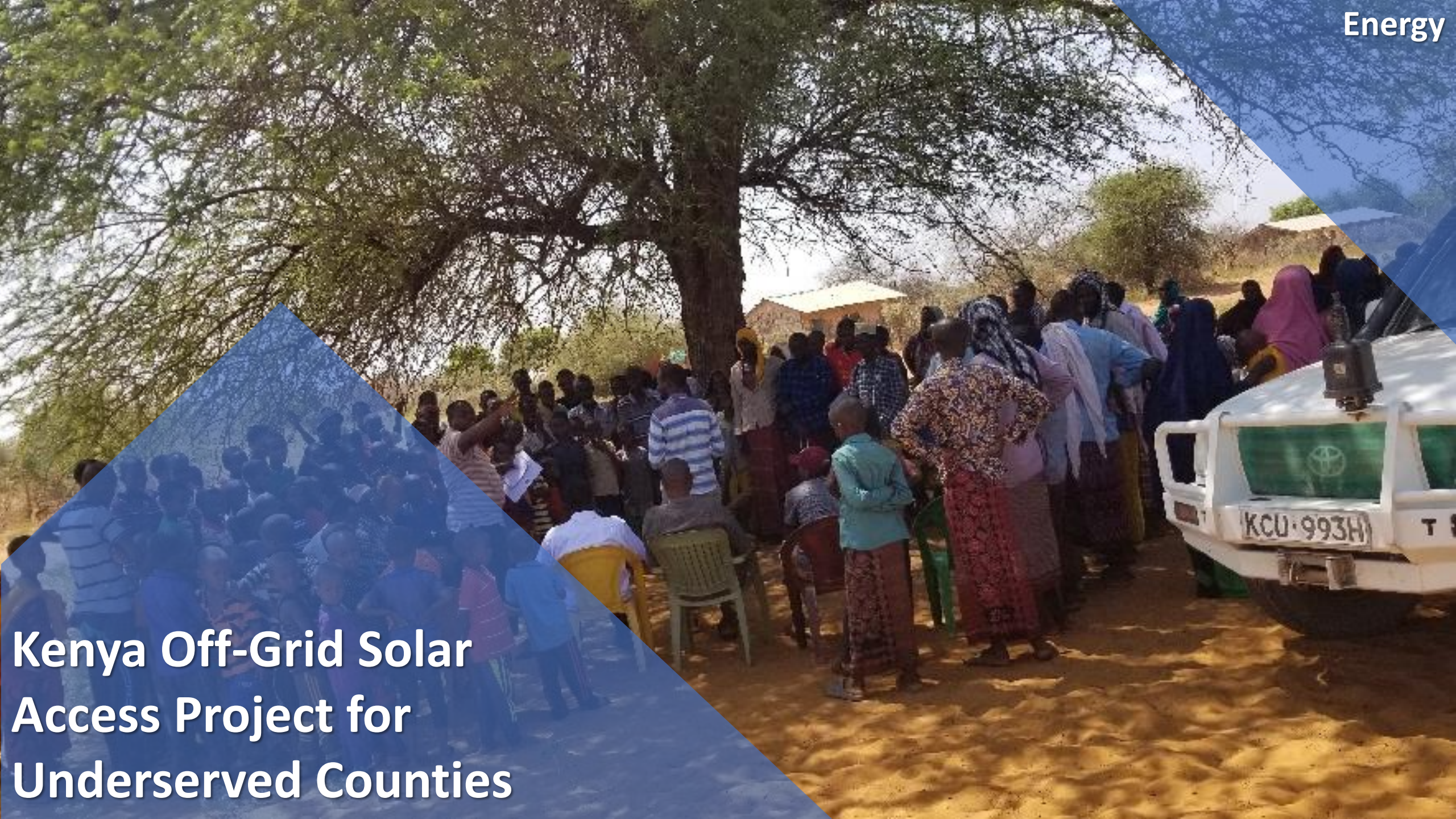
- Digital Registration, Entry, Exit, Perception and Worksite surveys with over 100,000 beneficiaries in Ebola-affected zones were developed with the GEMS tools.

- GEMS helped streamline the registration of beneficiaries, monitor their perceptions, obtain a baseline for impact evaluation and monitor the work sites in real-time for course correction.

- As of September 2020, around 111,000 surveys were administered & 14 million data points were collected in hard-to reach areas.

Click to return to landing page

Energy



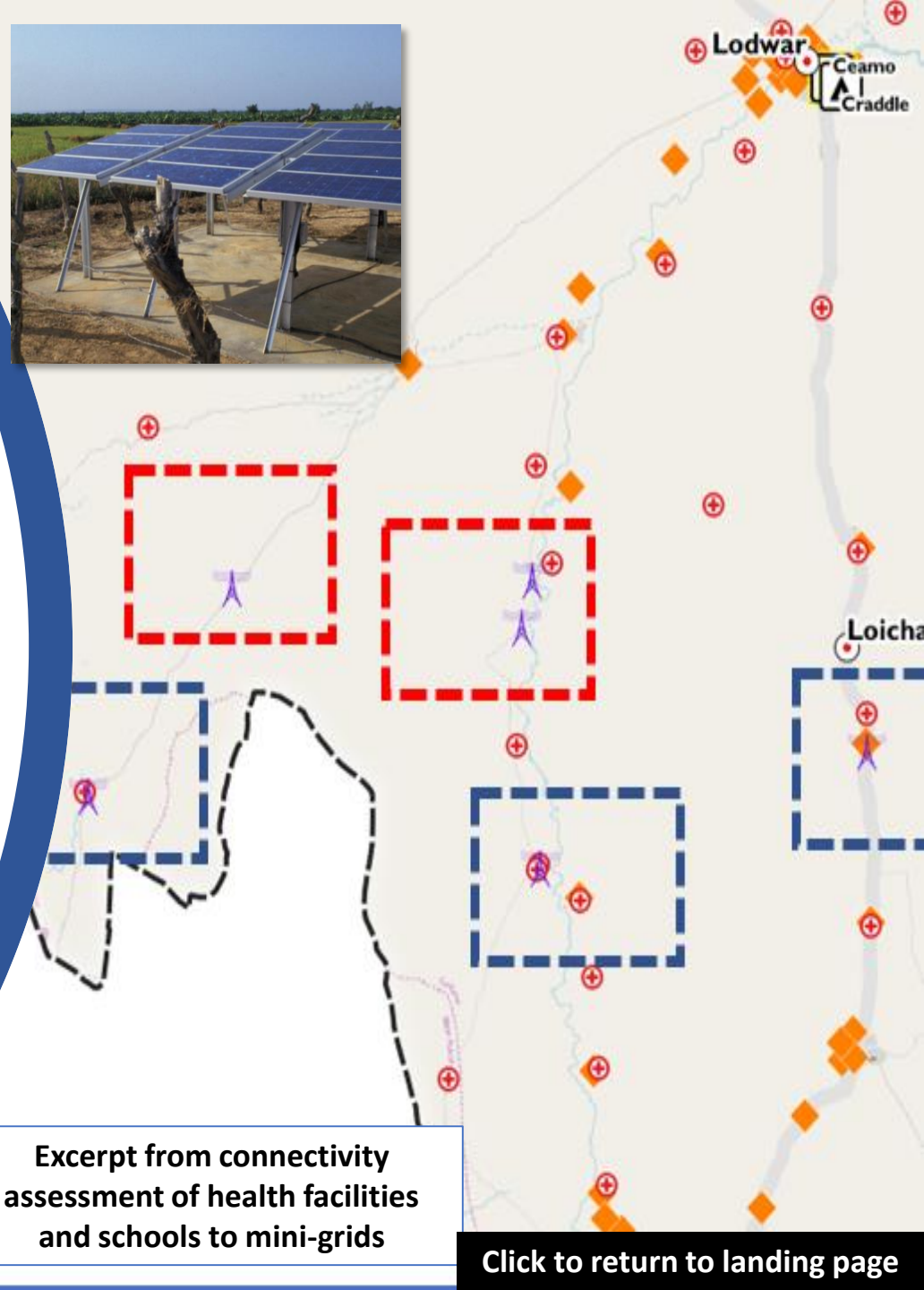
Kenya Off-Grid Solar Access Project for Underserved Counties

The Kenya Off-Grid Solar Access Project (KOSAP) prov
electricity and clean cooking solutions in remote,
underserved areas of the country.

- The project used GEMS to map a network of mini-grids and assess their connectivity with existing social infrastructure.

- The project's participation in the Kenya GEMS portfolio mapping platform enabled it to identify synergies with other WBG-funded operations based on proximity.

- Using GEMS, the project was able to track the construction of mini-grids, capture baseline beneficiary information, track the sale of commodities by solar service providers, monitor ESF compliance and document land acquisition, public participation and community engagement.



Excerpt from connectivity assessment of health facilities and schools to mini-grids

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Health & Nutrition

The Multisectoral Food Security and Nutrition Project: Reducing Child Malnutrition in Uganda

© Uganda Multisectoral Food Security & Nutrition Project

The Uganda Multisectoral Food Security and Nutrition Project (UMFSNP) supports the government to promote good nutrition and health through school-based education and agriculture programs.

- The project aims to increase production and consumption of micronutrient-rich foods and utilization of community-based nutrition services among smallholder households.

- It serves 1.28m beneficiaries at 1,500 primary schools and 300 health centers and involves 4 Ministries (Health, Education, Agriculture, Local Government) which makes effective coordination paramount.

- Previous to GEMS, the project relied on paper-based data collection, which complicated the structured, timely and reliable monitoring of activities, including de-worming of school children.

© Uganda Multisectoral Food Security & Nutrition Project

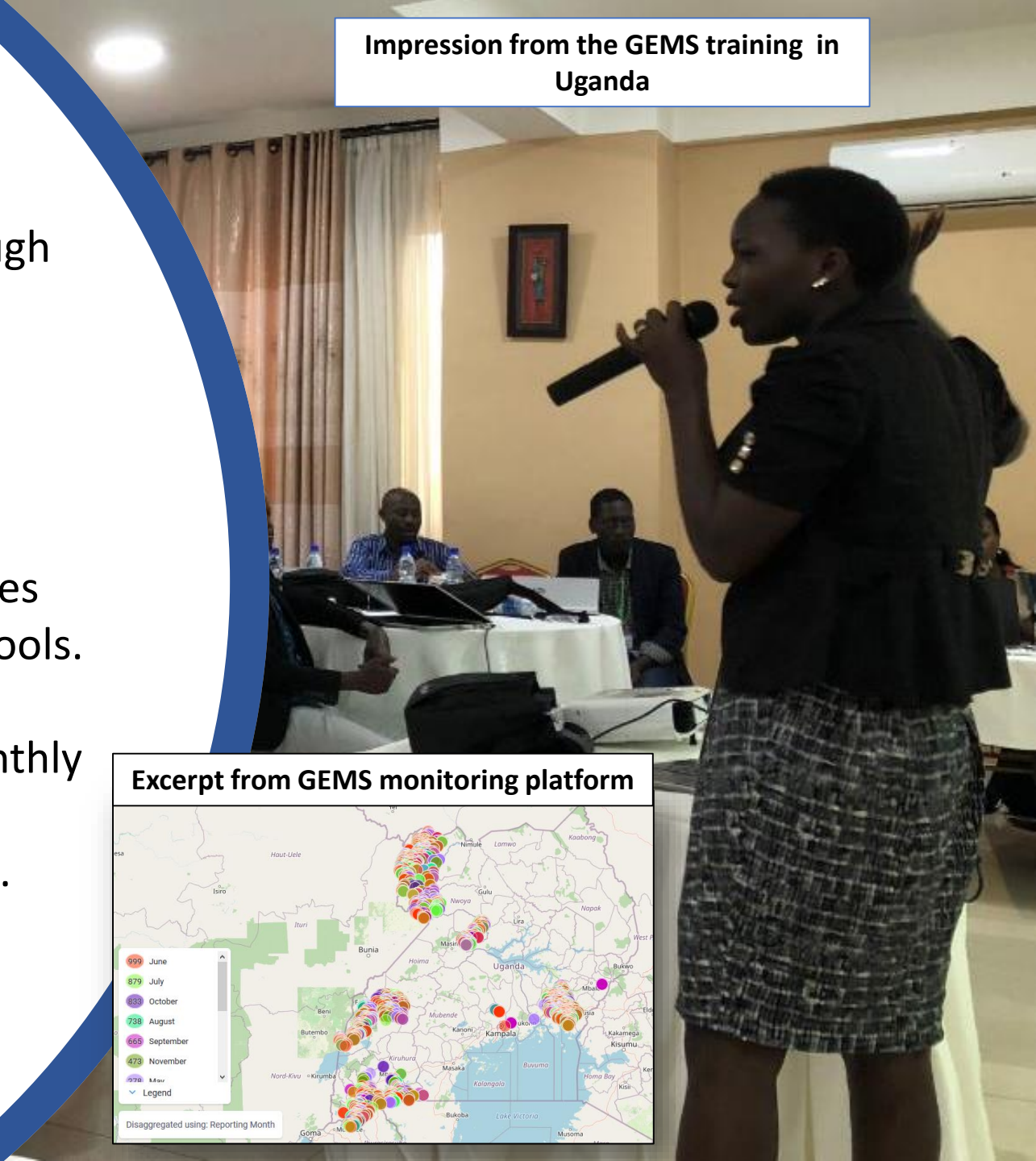
GEMS Application with the Uganda Multisectoral Food Security and Nutrition Project

- GEMS was integrated to build PIU capacity through face-to-face trainings and translate the M&E framework into a digital platform.

- The GEMS-based monitoring platform has since allowed for structured real-time project management and monthly monitoring of activities and results at the level of individual primary schools.

- Data and evidence photos recorded through monthly progress reports include inter alia:
  - Updates on community gardens and harvests.
  - Gender-disaggregated information on training of agricultural practices.
  - Tracking of deworming activities.
  - Local challenges and recommendations.

Impression from the GEMS training in Uganda



Excerpt from GEMS monitoring platform

East Africa Public Health Laboratory Networking Project

© Dominic Chavez/World Bank

The East Africa Public Health Laboratory Networking Project aims is to control the spread of communicable diseases in Eastern Africa through improved diagnostic and surveillance.

- The project supports the establishment of a network of efficient public health laboratories in the five partner states in East Africa (Burundi, Kenya, Rwanda, Tanzania, and Uganda).

- In Kenya, satellite public health laboratories have been constructed and served by the project in various remote areas.

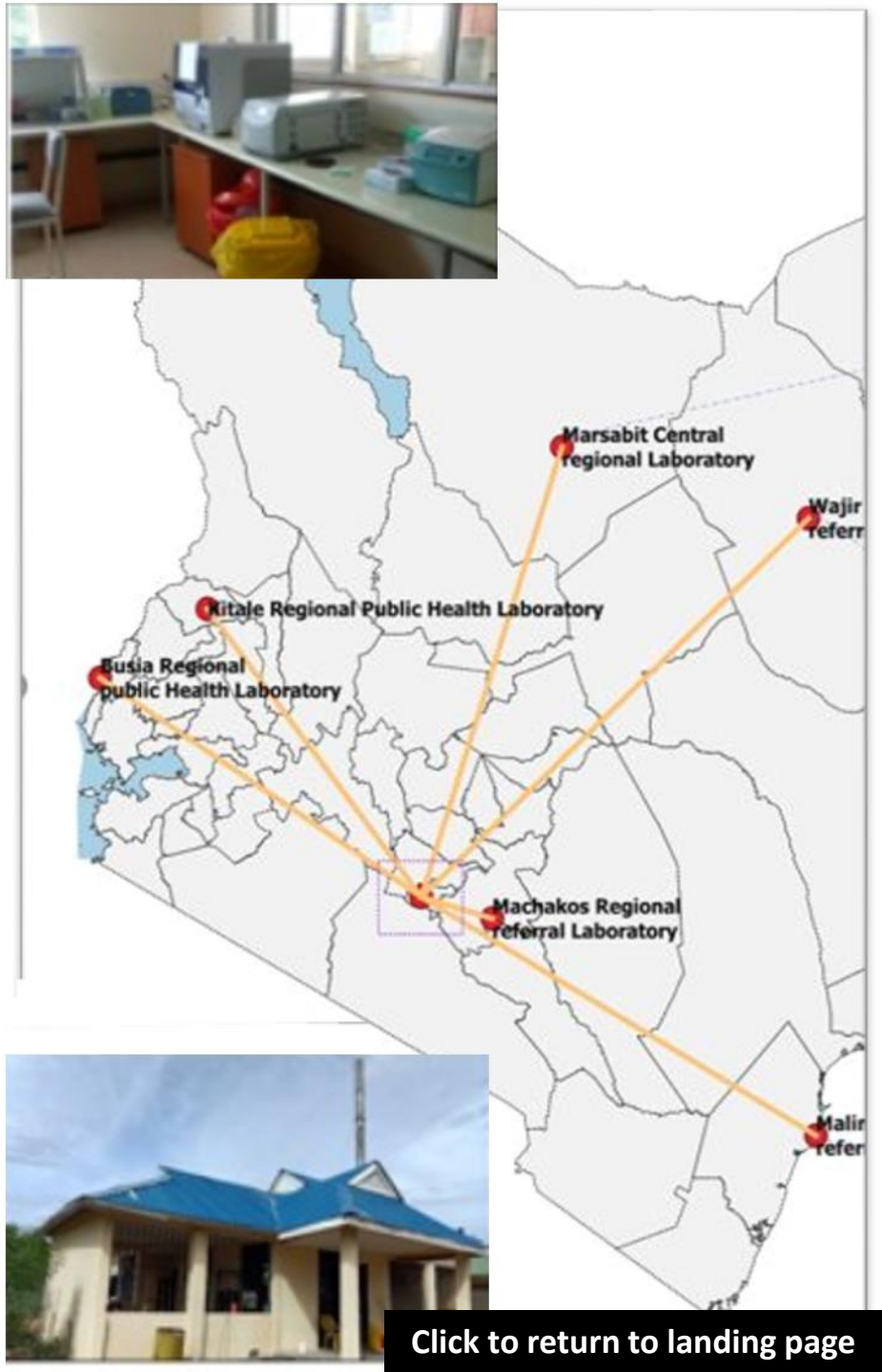
- The project needed a reliable and centralized monitoring system for the construction of facilities as well as capacity-building activities of staff.

GEMS Application with the East Africa Public Health Laboratory Networking Project

- The GEMS platform has been used to map the locations of the laboratories, create a database of their inventories and track the construction and renovation of the laboratories' medical waste management facilities.

- The project also leveraged GEMS to report on the installation of quality management systems, the delivery of capacity-building activities as well as ESF compliance at the facilities.

- GEMS also serves in the creation of progress reports on the equipment with medical supplies, such as GenXpert for TB, RT-PCR screening kits for COVID-19, and laboratory reagents.



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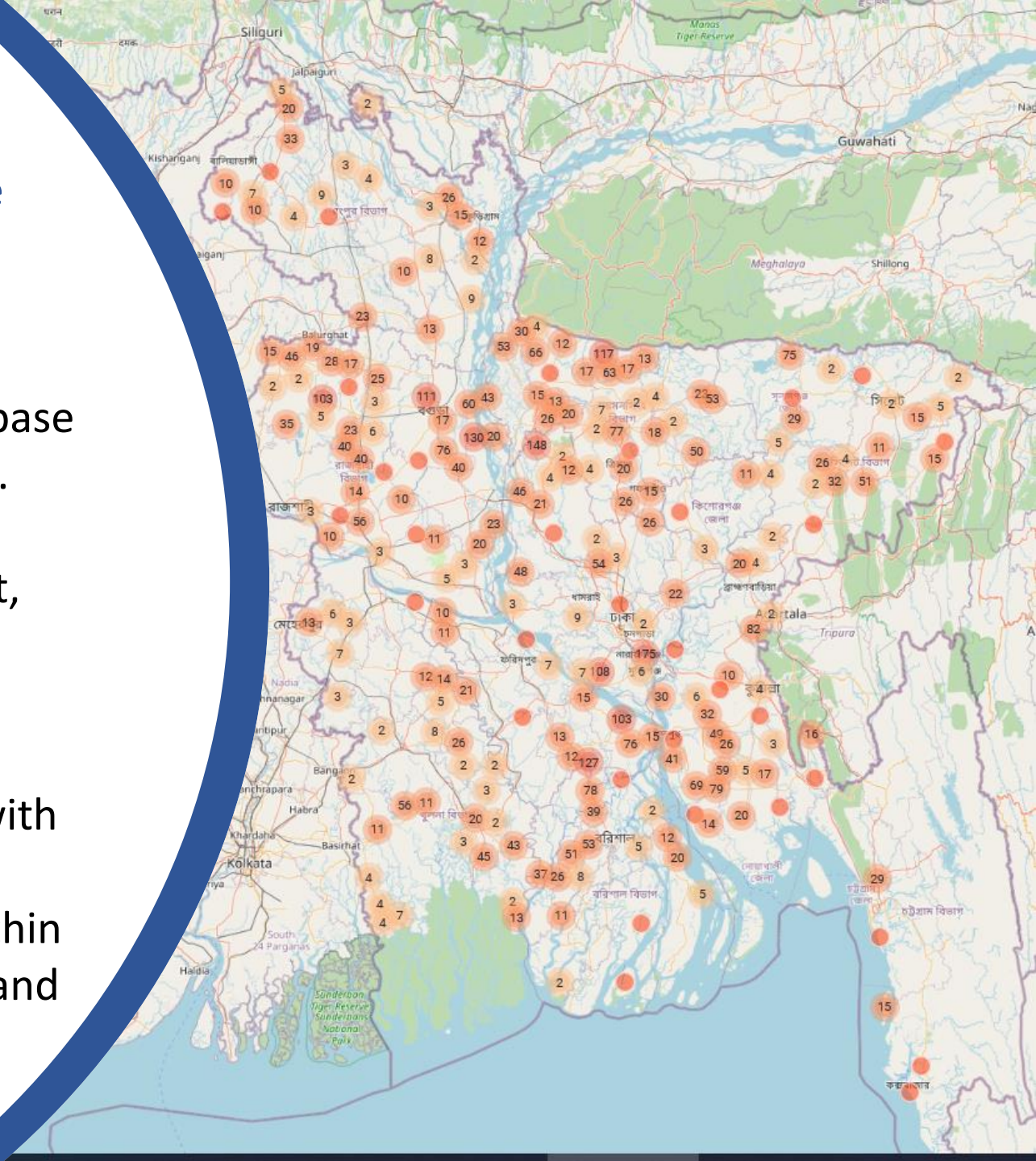
Large-scale Agriculture Project Monitoring in Bangladesh and Ethiopia

The Bangladesh Livestock and Dairy Development Project's Contingency Emergency Response Component compensate livestock farmers from the losses incurred due to the COVID-19 pandemic.

- The Project supports 620,000 livestock farmers throughout the country and had to create a database on the beneficiaries within a short period of time.

- This entailed a huge data collection, management, verification and analysis process, which was supported by the GEMS tools.

- GEMS was rolled out through a remote training with 20 project monitoring officers, who oversaw field data collection by some 15,000 enumerators. Within 6 weeks, the project was able to collect detailed and gender-disaggregated data on over 70,000 beneficiaries as a sample.



The Ethiopia Agriculture Growth Project supports smallholder farmers to increase agricultural productivity and commercialization. The project targets over 500,000 beneficiaries in 4,000 Kebeles across seven regions.

- The Ministry of Agriculture connects the GEMS tools to its MIS for seamless integration of field data into its M&E system in real-time.

- During the COVID-19 travel restrictions, the Ministry collaborated with the Bank team to conduct a virtual mission to review the implementation progress of 50 sub-projects.

- The data was collected by local officials in the field and analyzed and mapped automatically via GEMS. The data includes pictures, beneficiary feedback, safeguards status, corrective actions taken, etc.

Nutrition Smart Agriculture (NSmartAg) Project

Analytical Study (Agriculture)

A joint Agriculture & HNP GP task team developed Nutrition Smart Agriculture country profiles for the DRC, Guatemala, Haiti and Mozambique.

- GEMS was used to collect information of post-harvest food transformation processes through surveying agri-businesses from the four countries simultaneously.
- Consultants were trained remotely to collect the data on the field. Within a few months the project received detailed datasets of 530 agribusinesses including over 1,000 photos.
- In Haiti, GEMS was leveraged as third-party monitoring tool to provide inputs for the study.
- Using GEMS allowed the team to collect quality data in record time, which was key for the development of the NSmartAg country profiles.

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Remote Monitoring for the Maldives Clean Environment Project

The Maldives Clean Environment Project helps improve waste management across the island nation.

- The project relies on close coordination across a number of agencies. GEMS made information sharing and reporting easy through centralized access to field data from each facility.

- Through this, GEMS has helped to significantly ease the coordination of waste management in the island nation. Previously unknown indicators are now quantified, mapped, routinely updated, and tracked by all responsible parties.

- Next steps include scaling up the use of GEMS across more islands and incorporating automated notifications when any data-related concerns are raised. Also the use of drones and combination with the GEMS platform has been piloted.

Example of Drone image integrated in GEMS tool

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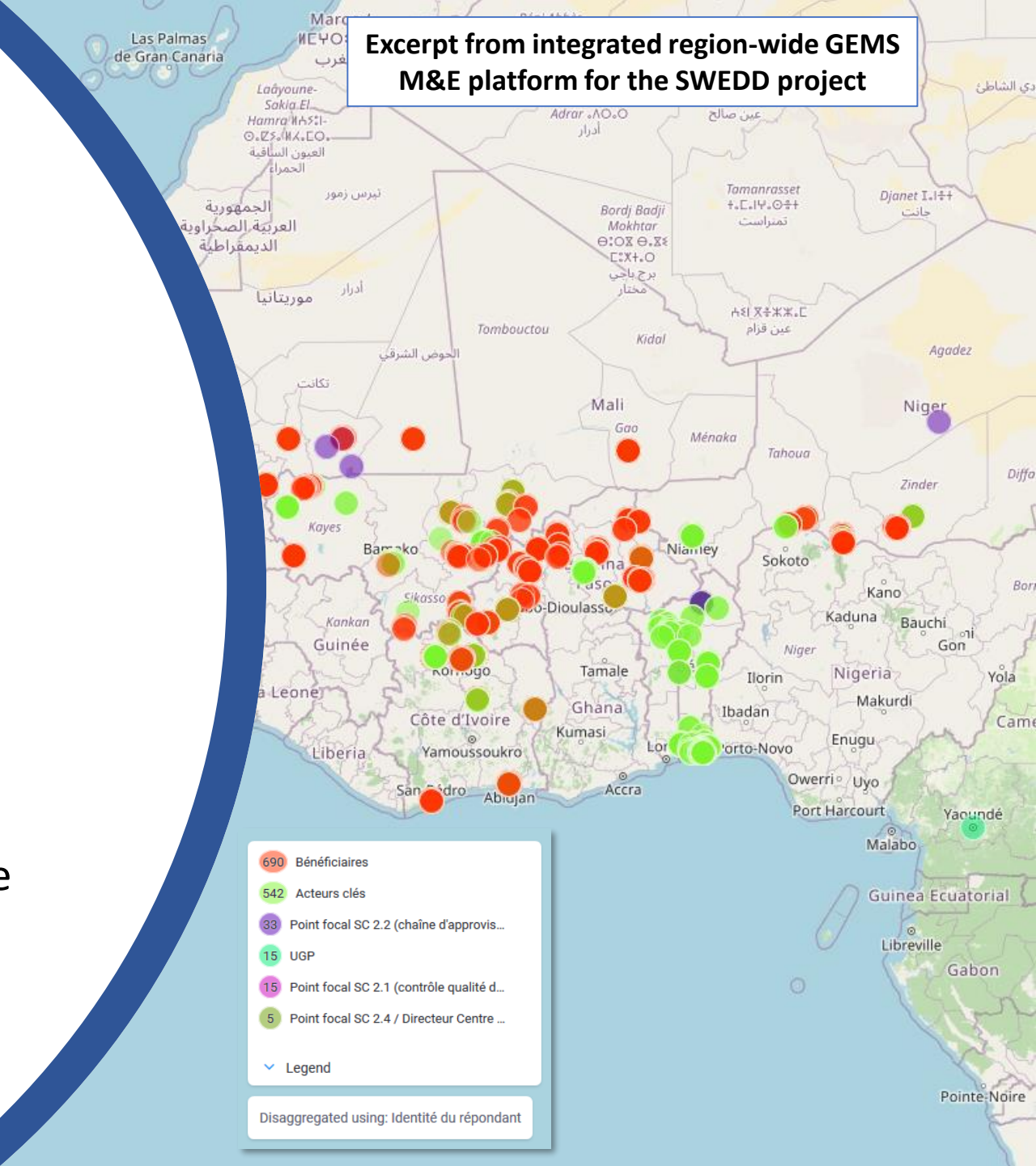
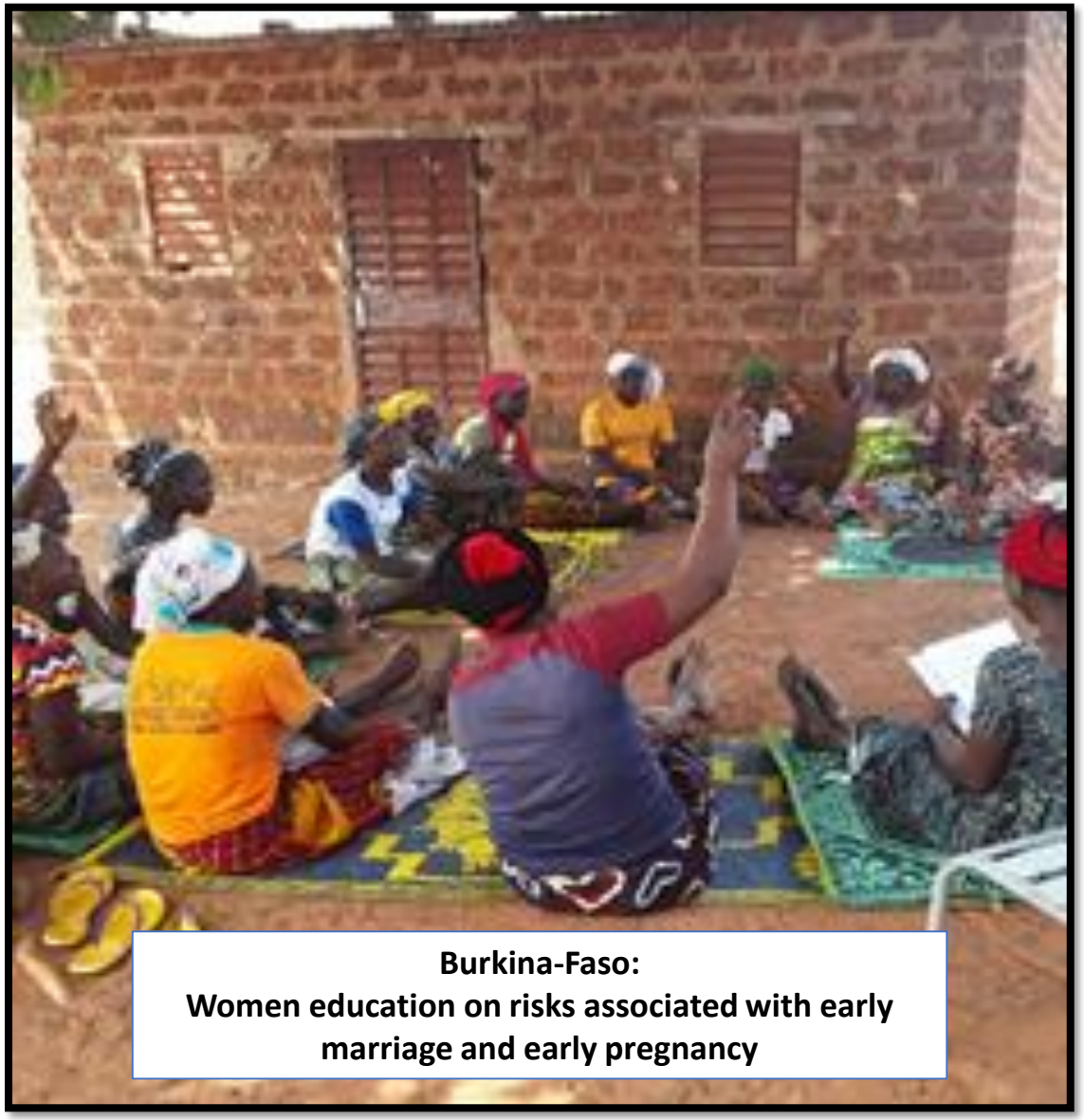
Gender and COVID-19 Response

Sahel Women Empowerment and Demographics Project (SWEDD) – Regional M&E

The Sahel Women's Empowerment and Demographic Dividend Project (SWEDD) conducted an assessment of the impact of COVID-19 on the implementation of its activities.

- The SWEDD project uses GEMS as regional M&E system across participant countries.
- The GEMS platform made it possible to centralize and analyze the testimonies from project beneficiaries, key actors, national PMUs, laboratory directors and health providers from 7 countries.
- The goal of the evaluation was to understand the constraints that are limiting access to various services during the pandemic. The assessment proposed possible alternatives to ensure continuity of services.





Burkina-Faso:
Women education on risks associated with early marriage and early pregnancy

Cote d' Ivoire:
Training session for empowerment of women.

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Real-Time Monitoring of Urban Investments in Afghanistan

The Cities Investment Program (CIP) in Afghanistan supports institutional strengthening and the development of small to medium-scale infrastructure projects in select secondary cities.

- The project uses GEMS to remotely monitor project implementation throughout the country via weekly time-series data for seamless case management.

- GEMS has enabled the project team to remotely identify sub-project implementation issues, trace implementation progress, track the quality of work, and make note of tests conducted on site.

- GEMS is also used to detail the implementation of Environment, Health & Safety regulations, and ensure the adherence to the COVID-19 guidelines for each project site.

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Monitoring Urban Water Connections in the DRC

Through the DRC Urban Water Supply Project, the Congolese Water Administration was supported in setting up 65,000 water connections at household levels in Kinshasa and two other major cities.

- GEMS has been leveraged to allow the Water Administration (REGIDESO) to better manage and track the revenues from these connections.

- The tools allowed the team to monitor works at a water treatment plant and to track the performance of the companies and the controllers working on the verification of the quality of the water connections.

- The PIU also used GEMS to record complaints from beneficiaries which are immediately transmitted to headquarters.

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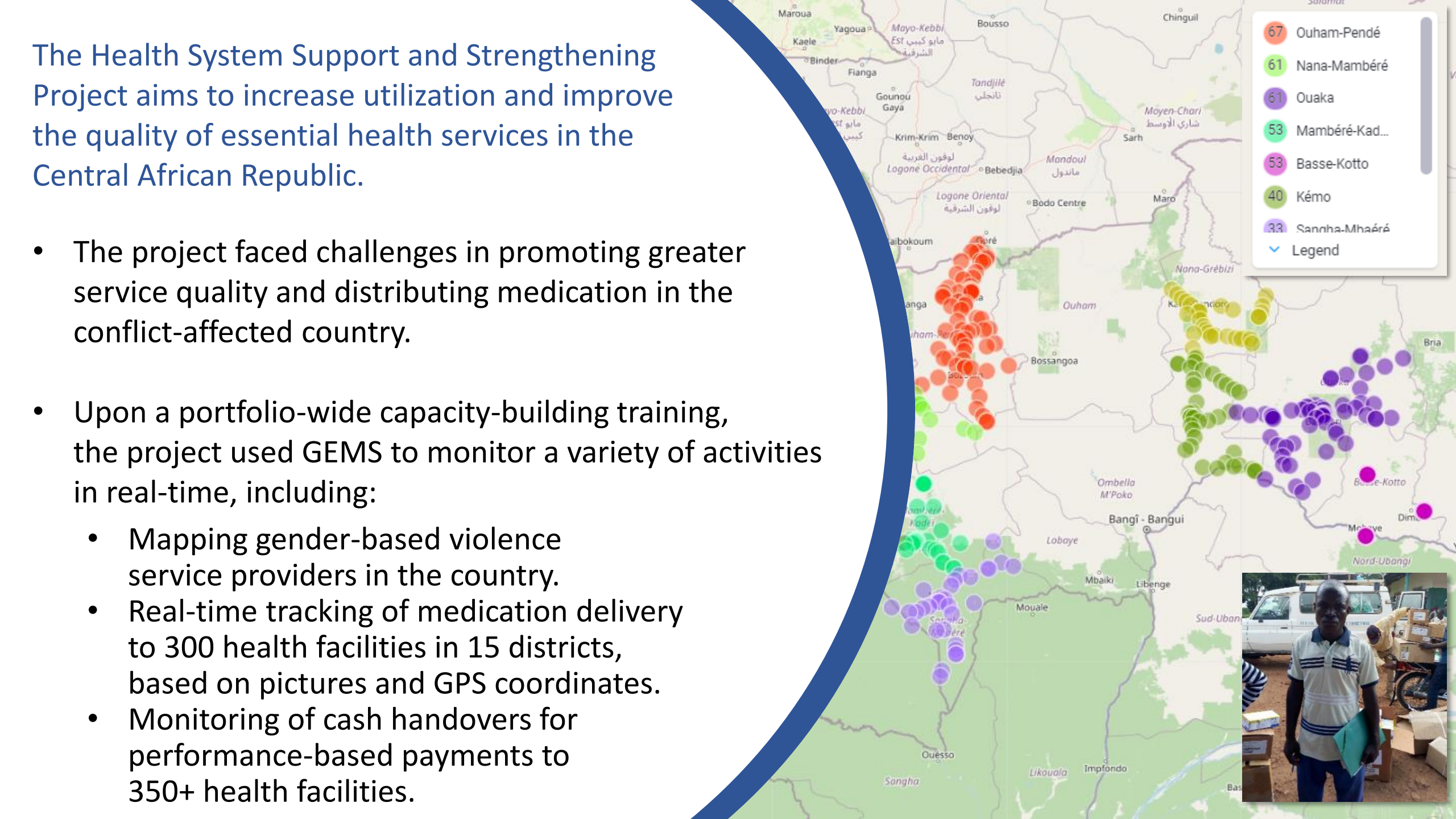
COVID-19 Health Response

Tracking Medicine Delivery In the CAR & and Monitoring Health Services in Cameroon

The Health System Support and Strengthening Project aims to increase utilization and improve the quality of essential health services in the Central African Republic.

- The project faced challenges in promoting greater service quality and distributing medication in the conflict-affected country.

- Upon a portfolio-wide capacity-building training, the project used GEMS to monitor a variety of activities in real-time, including:
  - Mapping gender-based violence service providers in the country.
  - Real-time tracking of medication delivery to 300 health facilities in 15 districts, based on pictures and GPS coordinates.
  - Monitoring of cash handovers for performance-based payments to 350+ health facilities.

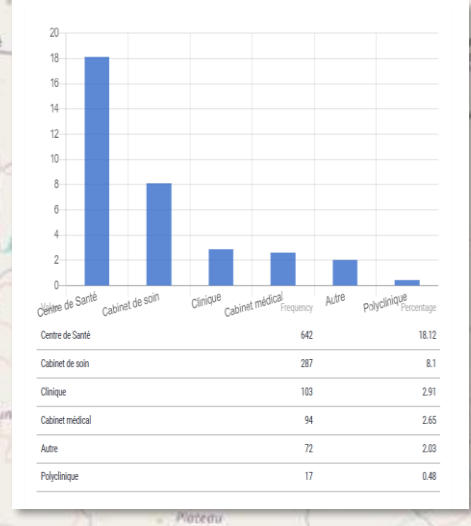


In Cameroon, the Health System Performance Reinforcement Project aims to increase utilization and improve the quality of health services on reproductive, maternal, child and adolescent health, and nutritional services for the population.

- The project faced access constraints in conflict-affected areas and the lack of fundamental data health centers in the country.

- GEMS was implemented through a training-of-trainers approach, with two workshop participants training 300 health staff at the provincial level.

- A database was created for more than 3,600 health centers throughout the country was created. It serves as project M&E tool and to track the project's COVID-19 component.



Centre de Santé	642	18.12
Cabinet de soin	287	8.1
Clinique	103	2.91
Cabinet médical	94	2.65
Autre	72	2.03
Polyclinique	17	0.48

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COVID-19
Urban Response

High Population Density Hotspot Mapping in Kinshasa

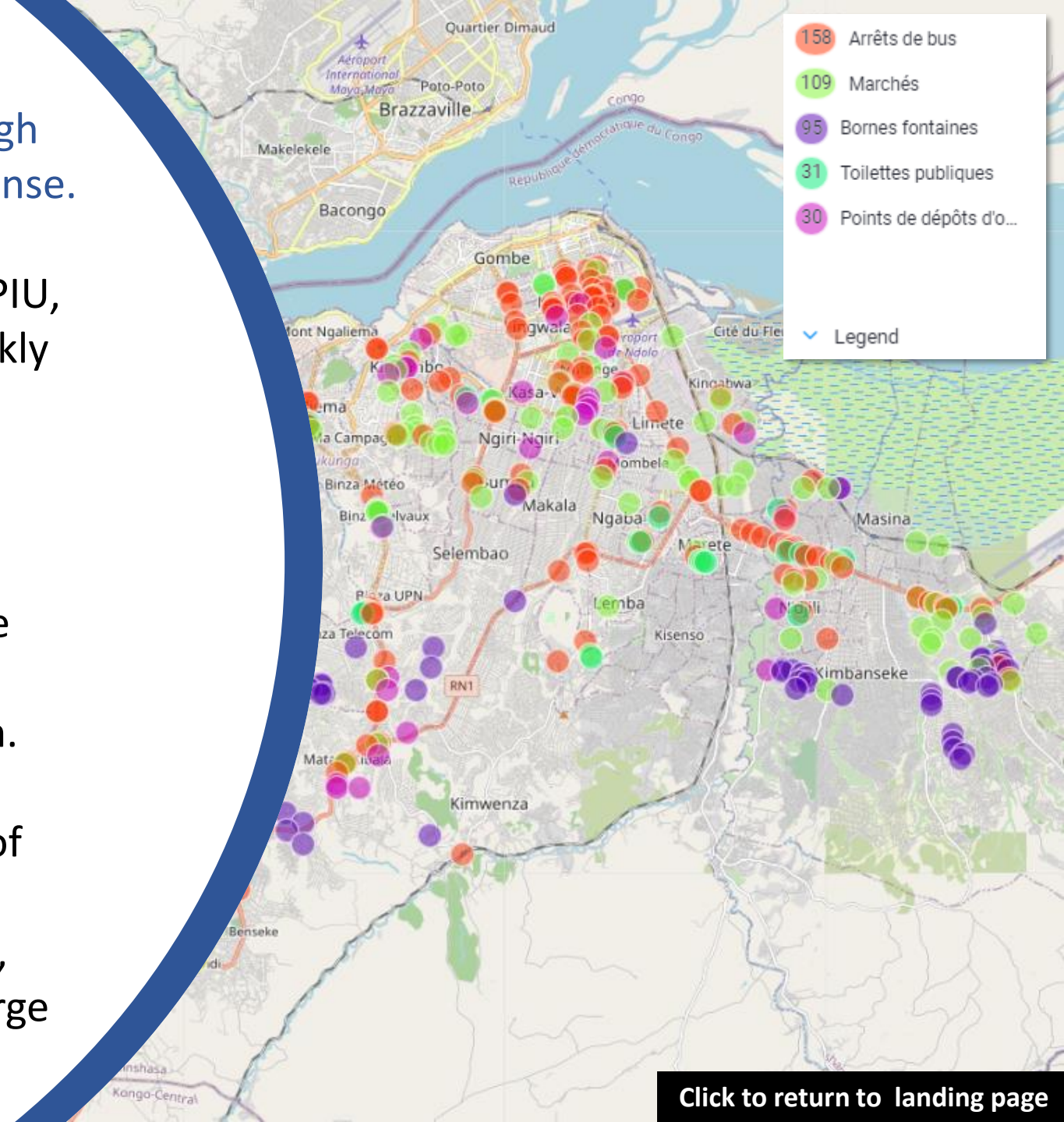
© World Bank / Ousmane Traore

In the DRC's capital Kinshasa, GEMS tools and skills helped to identify vulnerable areas with high COVID-19 transmission risks for the urban response.

- By leveraging a GEMS-trained water project PIU, the World Bank Urban team was able to quickly collect critical data on the ground.

- The GEMS team helped create a tailor-made digital mapping form, which could be quickly deployed. The PIU collected detailed baseline data throughout the city which was automatically mapped on the GEMS platform.

- The data helped identify the different areas of high disease propagation risks, which helped identify the most vulnerable areas of the city, from which to select the beneficiaries of a large Emergency Cash Transfer Program.



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COVID-19
Socio-Economic
Response

Responding to COVID-19 in Haiti: Activated Emergency Components in Agriculture

The Haiti Strengthening Agriculture Public Services and Resilient Productive Landscape Projects aim to increase the adoption of resilience-enhancing agriculture and landscape management practices.

- The Contingency Emergency Response Component of both projects was launched to mitigate food security impacts dduring the COVID-19 crisis for 21,500 families and to support the next crop productions.

- Before adopting GEMS, the projects collected data on paper, which resulted in low data quality, high costs, risk of data loss, and no systematic data sharing between the national and regional level project M&E specialists.

- Upon the introduction of GEMS, a registry of 17,000 farmers was established within 10 days, and the monitoring of seed distribution and crop implementation are now done in real-time.

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ESF / Safeguards Monitoring

Digital ESF and Safeguards Monitoring in Myanmar, Maldives and Sri Lanka

The National Electrification project in Myanmar focuses on increasing access to electricity and providing an immediate response in crisis.

- The project aims to extend electricity grids to 750,000 households, 11,600 clinics, 132,000 public streetlights, as well as schools and other community buildings.

- The project team faced Limited capacity for screening and reporting at the sub-project level and used an inefficient paper-based data collection method, especially considering the scale of the project.

- GEMS built the capacity of the E&S Specialists and the Project Engineers to establish a digital risk screening and M&E system. This triggered a multiplier effect: the GEMS-trained project team trained engineers at the regional level who, in turn, trained facilitators on the ground.

Impression from Myanmar GEMS training

The Safeguards team working in the Maldives and Sri Lanka developed a country-specific, streamlined digital system to monitor progress on Environmental and Social Management Plan (ESMP) compliance during subproject implementation.

- The safeguards team used the GEMS platform to develop a set of adaptable standard ESMP forms that any PMU can tailor to their needs.

- Data collected through the platform has been used to track implementation progress on safeguards and the ESF with a focus on ESMP implementation for civil works. Access constraints have always posed a major issue given the physical geography of the Maldives, yet GEMS has allowed ESF data to flow in near real-time, despite often remote locations.

- Teams were able to analyze performance trends in relation to contractors and project locations, while overseeing the ESF management process.

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Type de site de déplacés	• Communauté accueillant des déplacés internes
Catégorie d'infrastructure	Routes, pistes rurales, ponts, dalots
Photo	
Extra photo?	Non
Existance/Etat de l'infrastructure	A réhabiliter
Année de construction de l'infrastructure	2011
Utilisation de l'infrastructure	Oui
Nombre de localités desservies	100

257 A réhabiliter

180 En bon état de fonctionnement

135 A construire (manquant mais néces...

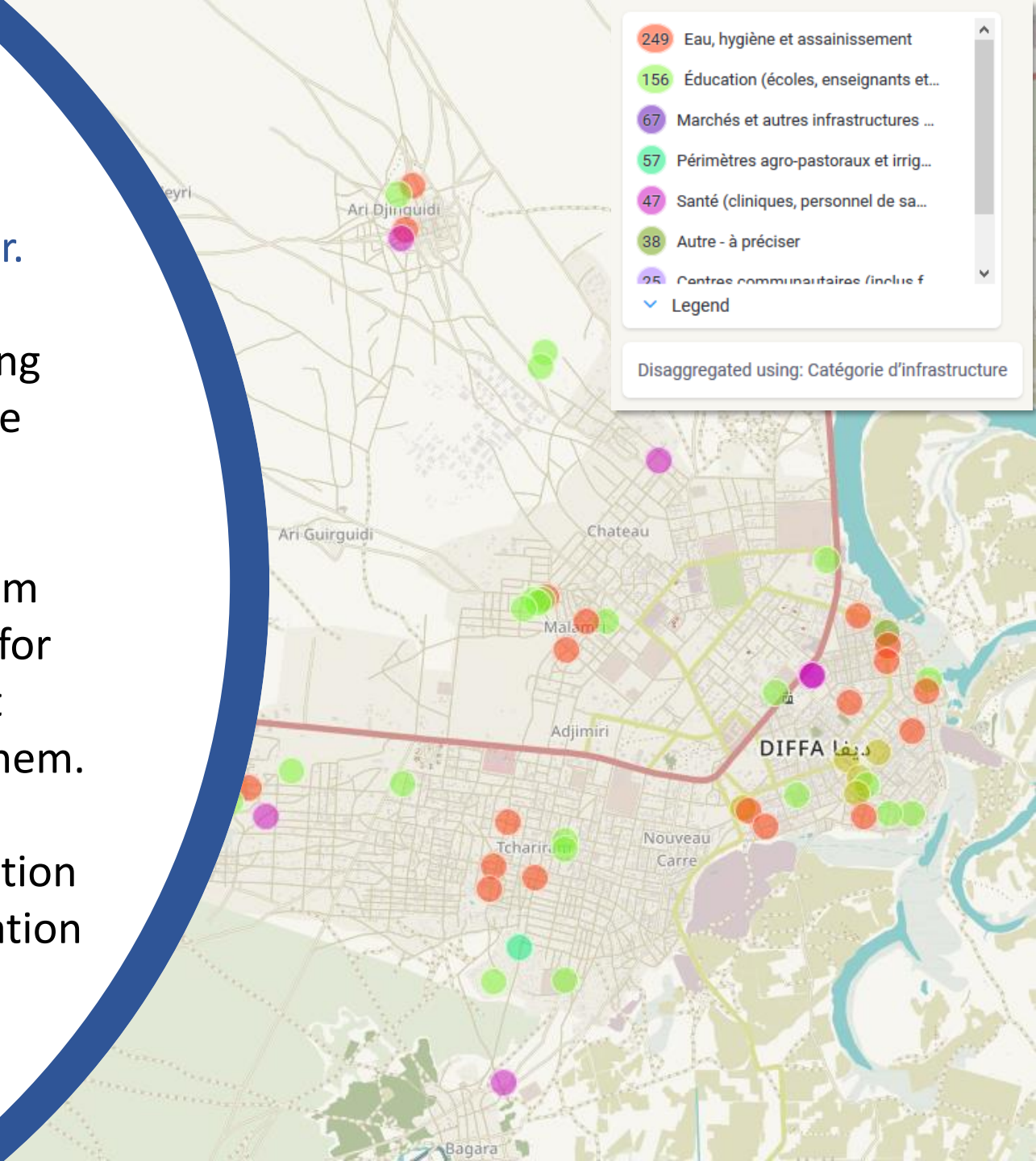
Platform for Project Planning and Real-Time M&E in Niger and Kosovo

The Niger Refugees and Host Communities Support Project (PARCA) aims to improve access to basic services and economic opportunities for refugees and host communities in 3 regions of Niger.

- The project adopted GEMS already in the planning phase to leverage the tool for structured baseline data collection and ongoing M&E.

- The platform was used to record information from local enumerators on the state of infrastructure for displaced populations, determine needs for host communities and plan sub-projects to support them.

- The baseline database contains detailed information on all proposed investments, including an evaluation of existing infrastructure, gap assessments, and cost estimates that allow for a structured follow-up in one integrated project platform.

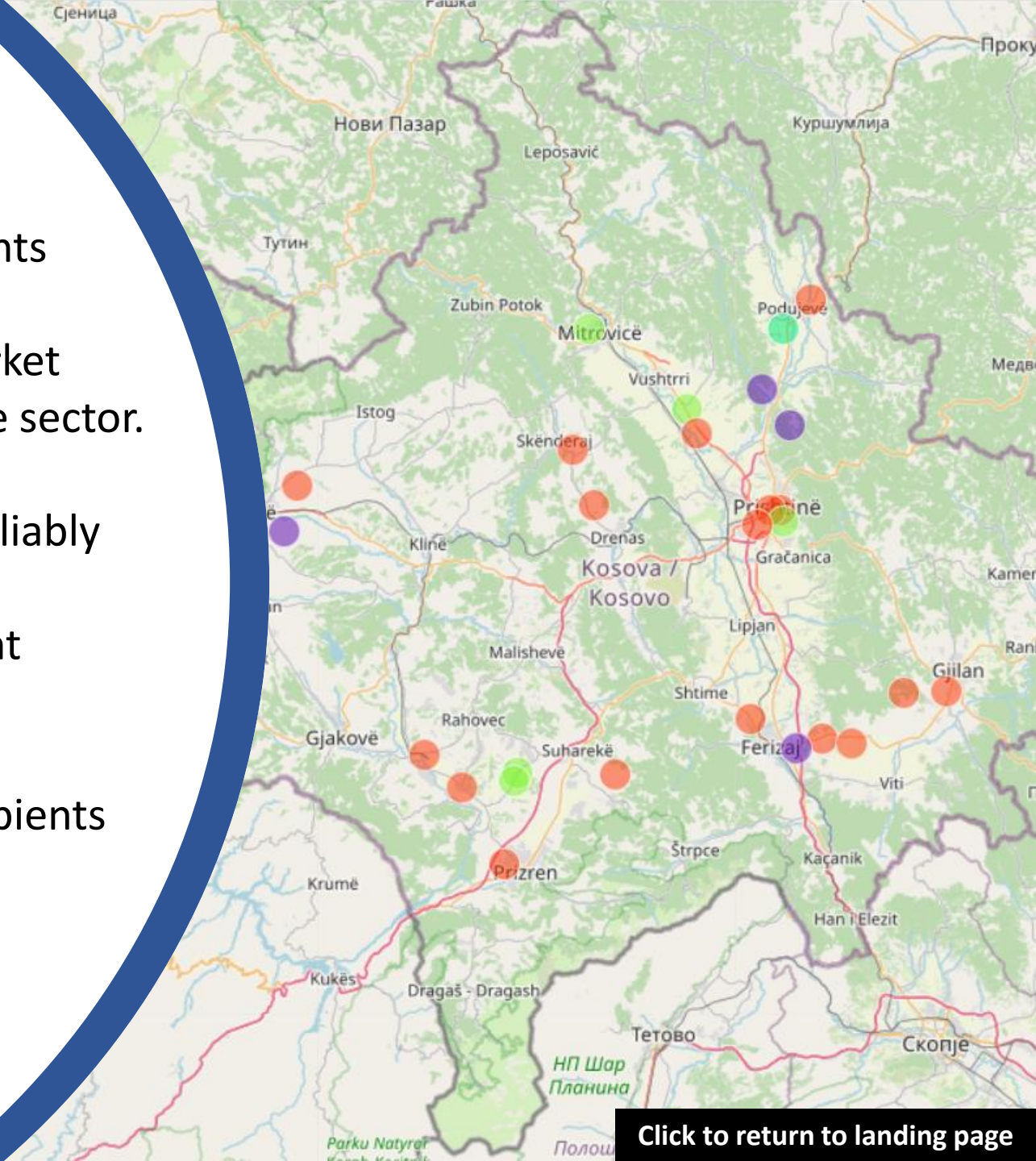


The Kosovo Agriculture and Rural Development Project supports farmers and agro-processors.

- The project provides 727 rural development grants to farmers and 111 grants to agro-processors, to increase production capacities and enhance market competitiveness in the livestock and horticulture sector.

- GEMS implementation allowed to quickly and reliably collect critical baseline data before starting with implementation of the Horticulture Development Grants.

- The GEMS tools also helped to survey grant recipients and display the geographical distribution of the provided grants for greater transparency and accountability. Building upon the baseline, the platform can be used as real-time M&E and remote supervision tool.



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Citizen Engagement

Citizen Engagement for Community-Driven Development in Azerbaijan

Azerbaijan Rural Investment Project (AzRIP)

The Azerbaijan Rural Investment Project (AzRIP) was designed to address the rapid decline in rural infrastructure and services for people living in rural areas (about 50% of the population). It supports the government's programs for reducing disparities in rural areas and for improving access to and quality of rural infrastructure. These programs emphasized the need for increased local responsibility in managing infrastructure and service delivery.

Project Effectiveness

- 2,000 community and livelihood projects have been implemented in 1,453 villages comprising 3.5 million beneficiaries, 51% of whom are women. In total, this covers 90% of municipalities and one third of the villages in Azerbaijan.

- AzRIP forged strong working relationships among the communities, municipalities, and local governments and has enhanced local leadership by electing 430 community leaders to municipalities.

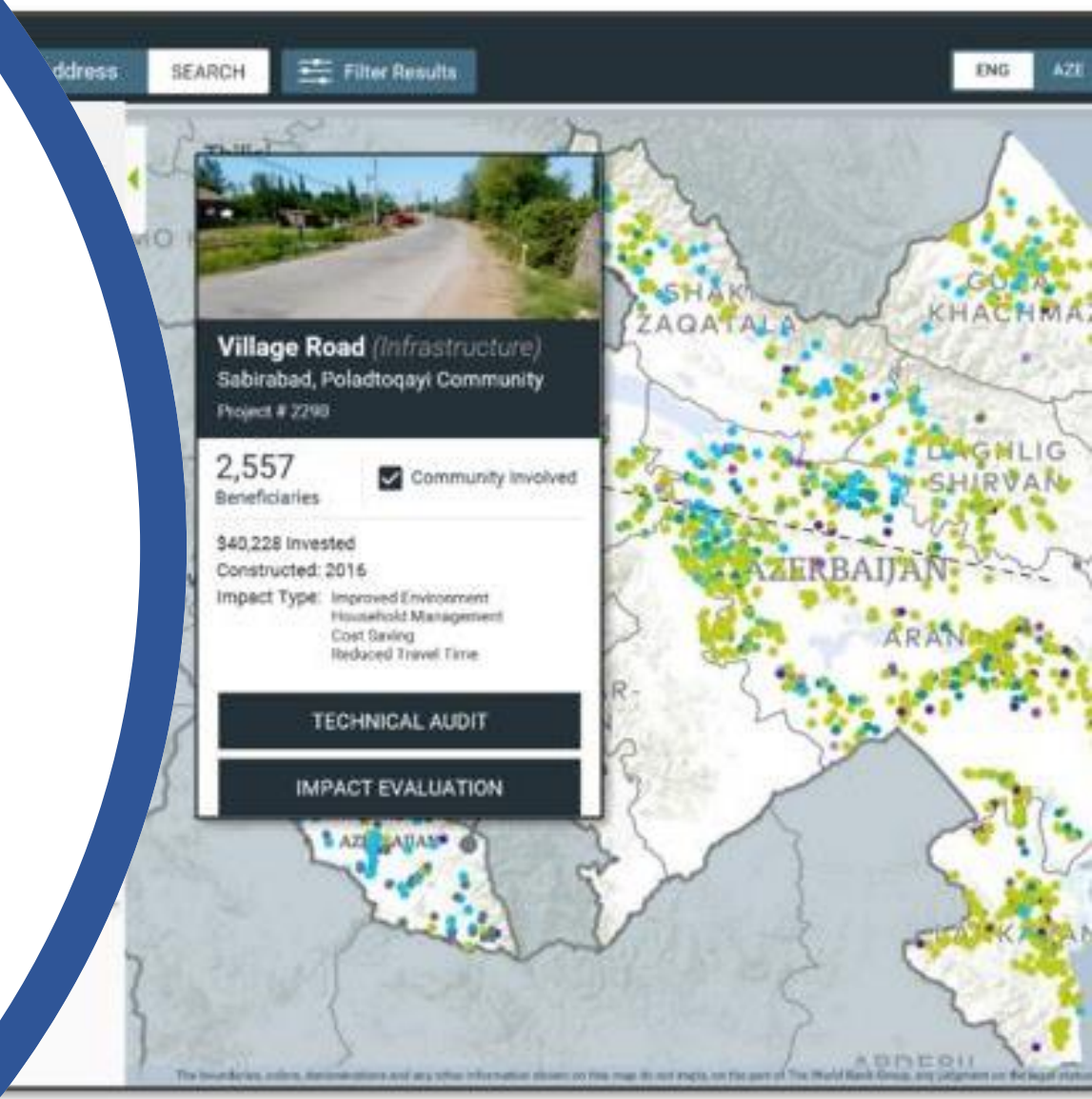
Head of a newly built kindergarten

GEMS Application with the Azerbaijan Rural Investment Project:

- GEMS was rolled out with AzRIP via an in-country training for some 40 PIU members, in which a digital M&E platform was created. The PIU was able to map over 2,000 community project sites throughout the country within 10 days.

- All data is available to the public on a user-friendly interactive web map that is searchable by location, year of construction, and infrastructure type and provides details on each project investment.

- The platform serves for accountability and citizen engagement and includes a GM function that allows citizens to send comments on project- related issues directly to the PIU.



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Community-Driven Development

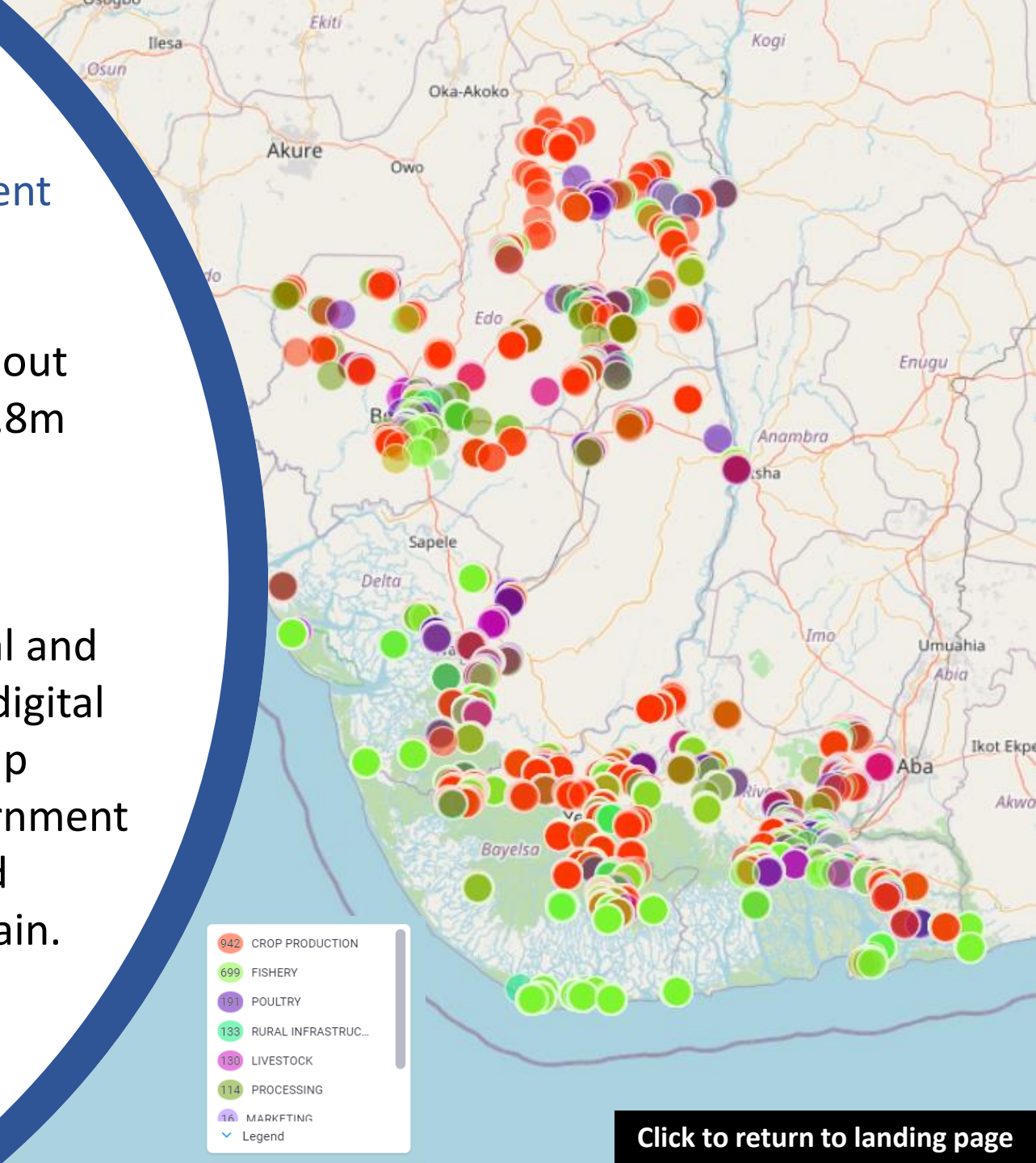
Monitoring Community-Driven Development and more in Nigeria

The State Employment and Expenditure for Results Project supports youth employment and public financial management reform, with a CDD component to increase access to socio-economic services.

- The project supports provides employment to about over 65,000 youth via public works. More than 1.8m people received access to services in targeted communities through the CDD sub-projects.

- GEMS trained the M&E Specialists at the National and State level, allowing the project to create a fully digital monitoring system. The platform was used to map thousands of project sites, coordinate with government agencies via a shared MIS, facilitate outreach and created a multi-sectoral portal in the public domain.

- The GEMS system and trainings were replicated in the Niger Delta and Northeast of Nigeria.



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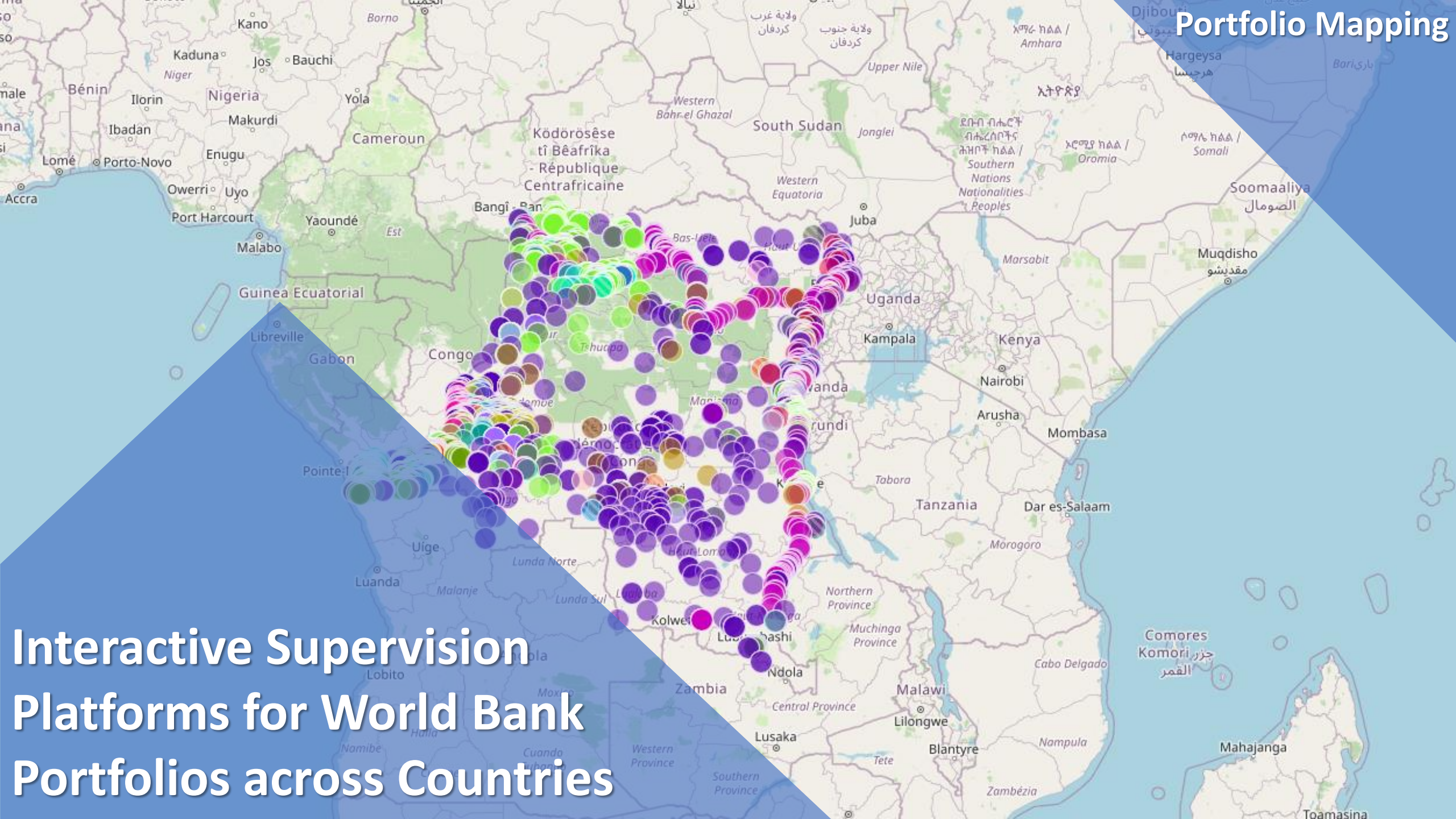
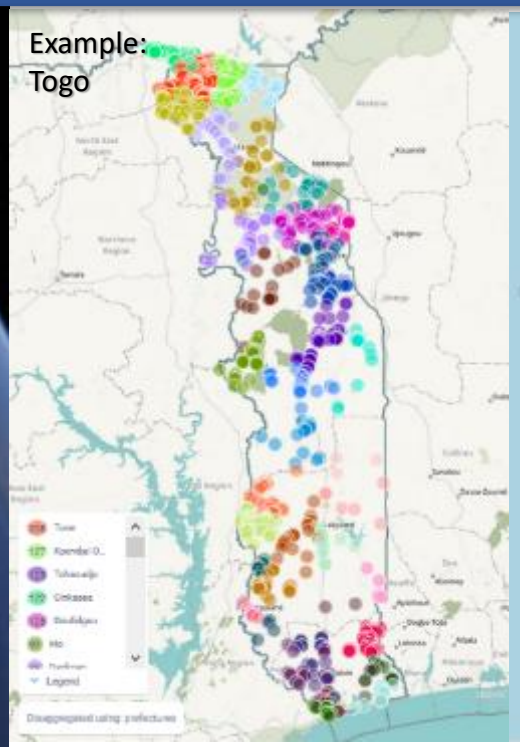
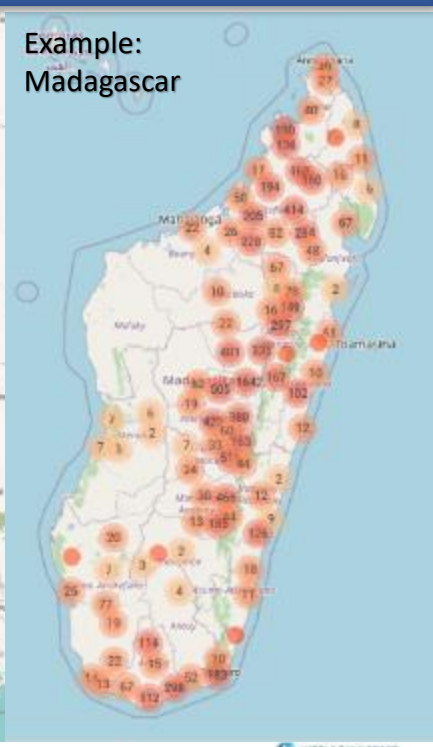
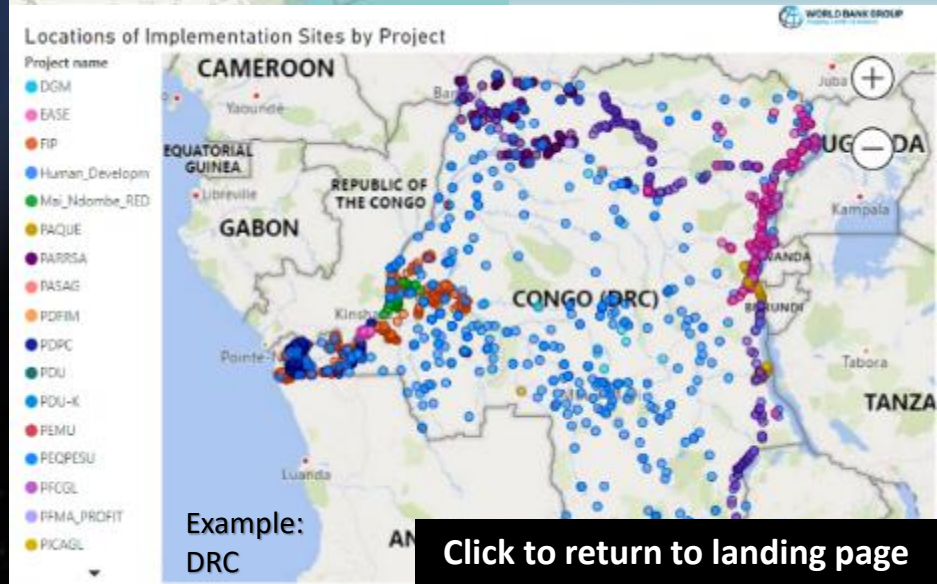

Portfolio Mapping
Interactive Supervision Platforms for World Bank Portfolios across Countries
Kano
Kaduna
Jos
Bauchi
Niger
Nigeria
Bénin
Ilorin
Ibadan
Makurdi
Yola
Cameroun
Enugu
Lomé
Porto-Novo
Owerri
Uyo
Port Harcourt
Accra
Yaoundé
Malabo
Guinea Ecuatorial
Libreville
Gabon
Congo
Kodorosêse tî Bêafrîka - République Centrafricaine
Western Bahr el Ghazal
South Sudan
Jonglei
Upper Nile
Western Equatoria
Juba
Marsabit
Uganda
Kampala
Kenya
Nairobi
Arusha
Mombasa
Tanzania
Dar es-Salaam
Morogoro
Tabora
Northern Province
Muchinga Province
Central Province
Western Province
Southern Province
Luapula
Lunda Norte
Lunda Sul
Malanje
Uíge
Luanda
Lobito
Kolwezi
Ndola
Zambia
Lusaka
Malawi
Lilongwe
Blantyre
Cabo Delgado
Nampula
Tete
Zambézia
Mahajanga
Comores
Komori
Muqdisho
Soomaaliya
Hargeysa
Djibouti
Amhara
Oromia
Somali
Southern Nations Nationalities Peoples
Western Equatoria
Pointe-I

Systematic Mapping & Creation of Databases on Sub-Projects at Activity Level







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TPM and
Remote Sensing

In Mali, GEMS serves as Platform for Third-Party Monitoring in insecure Areas

The Mali Reconstruction and Economic Recovery Project (PRRE) operates in conflict-affected and remote areas in Northern Mali.

- Project M&E and supervision rely on regular observations from third parties that are present in central and Northern regions of Mali.

- GEMS has been used to collect third-party monitoring data on the ground and to allow for structured real-time insights into local dynamics and needs of beneficiaries.

- For monitoring the reconstruction of a major fishing port, GEMS data has been combined with high-resolution satellite imagery for advanced remote sensing analyses. This allows to understand implementation issues and project results despite access constraints.

Excerpt from integrated GEMS field data and satellite-based analysis

Perimeter of M'Béwani "Part B"

Clearing: completed on 125ha
Earthworks: in progress, 80ha planned
Riprap: in progress

Hydromechanical equipment:
4 sprinklers installed,
4 sprinkler drains completed,
4 module sockets for sprinklers installed

High resolution imagery
Digital Globe - 2019-01-19

Drain BT16 under construction

Construction of machinery completed

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