



## ODIN Project

**Workshop organized on July 25 and 26<sup>th</sup>, 2024 in Koudougou, Burkina Faso**

### Objectives:

- To discuss the availability of metadata from the ministry of health and how to access these metadata
- To discuss on the existing data from water surveillance conducted by the stakeholders in the country
- To present and discuss water safety plan (WSP) and sanitation safety plan (SSP) in Burkina Faso
- To discuss the practical issues for water samples collection and the start of the pilot sampling

### Workshop plan:

#### Day 1:

- Welcome and introduction of participants
- The opening speech of Prof. Maminata Traoré/Coulibaly, scientific director of IRSS/DRCO/CRUN (former minister of environment, water and energy), representing the head of CRUN
- Group photo (see in annex)
- Amendment of the workshop agenda
- Presentation of Clinical Research Unit of Nanoro (CRUN)
- Presentation of ODIN project (the different work packages)
- Presentation and discussion of sampling locations (selected sites for ODIN project)
- Panel (1): discussion on the availability of previous water surveillance (meta)data

#### Day 2:

- Panel (2): discussion on the availability of previous clinical (meta) data (MoH) regarding water-based pathogens (mainly pathogens of interest for the project)
- Panel (3): Pilot sample collection
- Presentation of SSP in Burkina Faso
- Presentation of WSP in Burkina Faso

### 1. Summary of Day 1 content

#### 1.1. Presentation sessions

The local PI of ODIN project, Dr Marc Christian Tahita, presented CRUN to the stakeholders after the introduction of the participants and the opening speech. The story lines of CRUN from its creation and its current status as well as its organization and projects were presented to the participants. This enables to introduce ODIN project. Hence, he presented the project objectives,



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its different work packages and expected outcomes. The participants were delighted to know more about the project and promised to support its implementation including water sample collection.

After these presentations, Dr Palpougouini Lompo, the regional coordinator, presented the selected water sampling sites in Ouagadougou and Nanoro. He presented the rationale for choosing these sites, which includes some poliovirus surveillance sites: in Ouagadougou (pont de Kossodo, Tanghin, Loumbila, sewage at pharmacie Yobi, Paspanga (pont SONABEL), CHUYO (junction avec le système d'égout de l'ONEA), Tampouy (marché de bétail)) and in Nanoro (dam of Soum, CMA St Camille sewage, drinking water, hole water, slaughter).

After discussions with the stakeholders, it was mentioned that the site "pont Kossodo" was not anymore part of poliovirus surveillance sites because of infructuous sampling, it has been replaced by another site ("canal du Mogho Naba). In addition, the poliovirus surveillance Institute defines a suitable site as a site with in habitant density between 100 000 – 300 000 persons; this calls for collaboration with the institute of statistics and demography (INSD) for retrieving these data. It was, thus, suggested to add additional sites for Burkina Faso to take in consideration the autonomic sanitation plants, so-called sewage-sludge treatment plants ("station de traitement des boues de vidanges – STBV"), which are located in Ouagadougou township (Zagtouli, Sourgoubila and Kossodo) and are collecting most of the wastewater of Ouagadougou. Furthermore, the general direction of sanitation, wastewater and excreta (DGAEUE) suggested to look at the wastewater ponds in the city's neighborhood in Ouagadougou where wastewater combined with toilet excreta are sometimes released. The general direction of environment protection (DGPE) mentioned that the dams (barrages n°2 and n°3) in Ouagadougou have an important concentration of *E. coli* based on previous data and are eventually interesting for ODIN project. To conclude these discussions, it was suggested to keep in touch with the national institute of public health (INSP) in order to collect the available clinical data for the health district in the sampling sites to corollate the water surveillance data with the frequent diseases. In addition, it was highlighted the importance to have suitable water sampling techniques.

Dr Lompo continue the presentation with the results of the survey (Mentimeter) organized during the first ODIN workshop held in December 2023 in Ouagadougou. He focused on the frequently mentioned pathogens supposed to cause public health issue by the participants. The top three pathogens in all ODIN participating countries were poliovirus, *Salmonella* Typhi and *Vibrio cholerae*. This leads to guide the project investigators to choose the pathogens to be surveilled in the project. He also mentioned that a subsequent proposal submission by ODIN consortium on Mpox virus was successful.

## 1.2. Panel discussions (1)

The panel discussions (1) include the representants of the direction of prevention by vaccination (DPV), the general direction of sanitation, wastewater and excreta (DGAEUE), the general direction of water resource (DGRE), the general direction of potable water (DGEP), and the general direction of environment protection (DGPE), and was moderated by Dr Palpougouini Lompo.

The representant of DPV gave an overview of Poliovirus surveillance sites (4 sites in Ouagadougou and 2 in Bobo Dioulasso) and reports. The wastewater for poliovirus surveillance samples are collected biweekly and the samples shipped to Dakar, Senegal at Institut Pasteur for analysis.



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Overall, 13.3% of the surveillance sites were positive to enterovirus, but none was specifically positive to Poliovirus.

The representant of DGRE talked about the surveillance activities of this institution. They focus on the measurement of the level of water in some ponds in the country (e.g. dams and water streams) to inform decision makers. In addition, they surveille deep groundwater for the mobilization of potable water (52 sites surveilled), surface water quality to anticipate temporal or recurrent pollution, and to determine the causes of contamination. They also assess the physical and chemical parameters of water (temperature, pH, conductivity, heavy metals); microbiology analysis is done only when requested. The surveillance data are available on a reasonable request at the DGRE.

At the DGEP, they do not analyze water, they rather collaborate with DGRE (see above paragraph) for the follow-up of some indicators such as fecal coliforms, *E. coli*. Their role is to make sure that the drinking water is suitable for human safe consumption before the installation of water fountains and in the distribution flow of the main water provider (national office of water and sanitation – ONEA). They are also responsible for implementing water safety plan (WSP). According to their previous data, unfortunately, 40% of water sources are contaminated, 90% of contamination occur during water transportation and 100% during water storage.

## 2. Summary Day 2 content

### 2.1. Presentation sessions

- *Sanitation safety plan (SSP)*

The presentation of the SSP in Burkina Faso was given by Ms. Zalissa Ouédraogo, representant of DGAEUE. She presented the national program of sanitation of wastewater and excreta, which has been developed according to WHO 2016 recommendations. The management plan of sanitation safety (called PGSSA = plan de gestion de la sécurité sanitaire de l'assainissement) consists on (i) planning, (ii) describing sanitation system, (iii) identifying the hazardous events, assessing the existing mitigation measures and exposure risks, (iv) elaborating and implementing an iterative improvement plan, (v) following-up the containment/mitigation plan and verifying its performances, and (vi) elaborating supports and reassessing the plans. Their perspectives are: (i) launching the national campaign for secured sanitation, (ii) elaborating the plan “the end of open defecation” (FDAL) in each region with considering the management of wastewater and excreta, (iii) **elaborating SSP at the national level**, and (iv) making mandatory that each municipality has an available treatment station of sewage sludge in 3 years. The different documents can be found on [www.eaiburkina.com](http://www.eaiburkina.com). Their expectation is that ODIN experts in WSP/SSP help them to achieve an active and effective SSP in Burkina Faso.

- *Water sanitation plan (WSP)*

This presentation was done by the representant of the general direction of potable water (DGEP), Mr. Boubakary Kaboré. He presented the national program for potable water procurement 2016 – 2030 (PN-AEP), which main objective is to satisfy sustainably the potable water need of the populations in terms of quality and quantity. This contributes to achieve the UN sustainable development goal (SDG), objective 6. The management program of water safety (PGSSE = programme de gestion de la sécurité sanitaire de l'eau) has six steps : (i) involving the community and building a PGSSE team, (i) describing the community's water supply, (iii) identifying and



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assessing hazards and hazardous events, risks and existing risk mitigation measures (the community health workers will be trained for that), (iv) elaborating and implementing an iterative improvement plan, (v) ensuring the follow-up of risk containment measures and assessing the effectiveness of PGSSE, and (vi) recording, analyzing and improving all the aspects related to the PGSSE implementation. DGEP is planning to elaborate and implement a pilot project of PGSSE in some regions, to recruit a consultant to help the implementation of PGSSE in the pilot regions, and **to define a roadmap for the elaboration and the implementation of a follow-up system for water quality in Burkina Faso**. This roadmap includes the revision of the potable water standards in Burkina Faso for drinking water with national standard association (ABNORM), the elaboration of the national guidelines for PGSSE in Burkina Faso, elaboration of national strategy for the surveillance of water quality in rural area, the training of people and authorities in PGSSE, and the technical support for the follow-up of PGSSE implementation in the nation level.

Note: DGEP is responsible of WSP in rural area, while the national office of water and sanitation, ONEA, the main drinking water provider in the cities, is responsible for WSP in the big cities. Unfortunately, no representant of ONEA assisted to the workshop. The research team planned to visit ONEA as soon as possible to take them onboard in ODIN project.

## **2.2. Panel discussions (2)**

The second panel discussion of the workshop focused on the availability of clinical (meta)data from the ministry of health and public hygiene. Dr K. Paulin Somda, the scientific director of the national institute of public health (INSP), the focal point of ODIN project at the MoH, moderated this session. He ensured the participants that the clinical (meta)data are available in a database ENDOS since 2023. The access of these data is possible by a reasonable request to the statistic direction or through the scientific director of INSP, who is also the focal point of ODIN.

## **2.3. Panel discussions (3): Planning of the pilot phase of the project**

Prior to the pilot sample collection for ODIN, it was suggested to organize a training with all the stakeholders, mainly the technical (laboratory) team: DGPE-LAQE, ANSSEAT, DGEP, DGAEUE, DGRE, ONEA, DPV and the municipality of Ouagadougou (direction of public health and hygiene – DSPH). After the training, we can make sample collection team, which will include (according to the site) a representant of ONEA, a representant of DGRE, a representant of DGAEUE and a representant of DPV. To make easier the access to the sampling sites, ODIN investigators will, a priori, arrange to have the administrative agreements from the municipality of Ouagadougou, ONEA and DGAEUE.

To conclude the workshop, the participants suggested to have a dashboard for the project with the clear tasks for sample collection on the field. In addition, they asked to create a WhatsApp group for the follow-up of the project progress across time and make easier the communication among all the stakeholders because the formal communication track takes usually long to reach the contact persons. Dr Marc Christian Tahita sum-up the points discussed during this two-day workshop, and Dr Somda gave the closing speech.



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Annexes

Annex 1: participant list

<b>N°</b>	<b>Name of the participant</b>	<b>Institution</b>
1	Maminata Traoré/Coulibaly	IRSS/DRCO - CRUN
2	Ouédraogo Daouda	DREA-COS
3	Ouédraogo/Tapsoba Christine	DGRE
4	Belem A. C. A. Fayçal	DGPE-LAQE
5	Bawar Barthelemy	DGRE
6	Garba Zakaria	IRSS/DRCO - CRUN
7	Ilboudo Hamidou	IRSS/DRCO - CRUN
8	Lompo Palpouguini	IRSS/DRCO - CRUN
9	Somé K. Wilfried	Municipality of Ouagadougou – DSPH
10	Kaboré Boubakary	DGEP
11	Zongo K. Toussaint	ANSSEAT
12	Sinaré/Kaboré Thérèse	DPV
13	Guiguemdé Nourou	Municipality of Nanoro
14	Yameogo R. Danielle	IRSS/DRCO - CRUN
15	Samandoulougou Djibrila	IRSS/DRCO - CRUN
16	Yougbaré Sibidou	IRSS/DRCO - CRUN
17	Kaboré Bérenger	IRSS/DRCO - CRUN
18	Derra Karim	IRSS/DRCO - CRUN
19	Somda K. Paulin	INSP
20	Ouédraogo/Kargougou Zalissa	DGAEUE
21	Tahita Marc Christian	IRSS/DRCO - CRUN
22	Rouamba Eli	IRSS/DRCO - CRUN



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Annex 2: Group photo

