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# REVIEW ARTICLE

# DRINKING WATER SUPPLY PROJECTS AND THE RISKS OF FAILURE IN RURAL AREAS IN BURKINA FASO: THE CASE OF THE CHARITY WATER PROGRAM OF THE NGO EAU VIVE INTERNATIONALE

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## ABSTRACT

Access to safe drinking water remains a major challenge in rural Burkina Faso, despite numerous interventions over the past decades. This study examines the risks of failure in drinking water supply (DWS) projects, focusing on the Charity Water program implemented by the NGO Eau ViveInternationale (EVI) between 2019 and 2023 in the provinces of Ganzourgou and Zoundwéogo. Using a combination of lessons learned from previous projects, consultations with administrative authorities and NGOs, and focus groups with beneficiaries, six potential risks were identified, including conflicts over site selection, non-involvement of beneficiaries, poor communication, non-payment of contributions, provision of non-potable water, and inappropriate choice of structure. Each risk was assessed for probability and severity, resulting in a criticality ranking that guided the design of a risk mitigation plan. The plan included measures such as public consultations, community participation processes, strengthened Water Users' Associations, and the use of social networks for communication. Follow-up surveys conducted during the BF 491 project demonstrated high beneficiary satisfaction, with significant improvements in site selection consensus, stakeholder involvement, communication, and collection of contributions. Minor risks related to water quality and structure type were effectively controlled through routine monitoring and training. The findings highlight the importance of systematic risk assessment and targeted mitigation strategies in ensuring the sustainability and effectiveness of rural drinking water supply projects.



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# INTRODUCTION

The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet, and improve the lives of people everywhere, while providing opportunities for a better future by 2030. Among the 17 Goals adopted in 2015, Goal 6 seeks to guarantee universal access to water and sanitation, alongside the sustainable management of water resources by 2030 (Unicef, (2016)). Despite the efforts already made, the global state of the water sector raises concerns about its trajectory. Indeed, more than two billion people worldwide, representing 30% of the global population, still lack access to safe drinking water (WHO, 2019). This situation reflects the reality of Sahelian countries, particularly Burkina Faso in West Africa, where about 28.7% of the rural population still lacks access to drinking water (MEEA/INO 2023). To improve access to drinking water in Burkina Faso, several drinking water supply (DWS) programs are being implemented by the State and its partners, including Non-Governmental Organizations (NGOs). Since 2019, the NGO Eau Vive Internationale (EVI) has been implementing the Charity Water program, which carries out annual water supply projects in several municipalities and is expected to last at least ten years. Between 2019 and 2023, it successively implemented projects known as BF 303, BF 333, BF 433, BF 491, and BF 550. All these projects focus on the construction and rehabilitation of water supply facilities aimed at improving access to drinking water in the targeted localities. The commune of Béré, in the province of Zoundwéogo, was the first municipality to benefit fully from the activities of the BF 303 project. To ensure the success of its ambitious program, the NGO EVI sought, from the very first year of implementation, to identify and assess the risks that could hinder the achievement of its objectives. Several factors justify the importance of this preliminary risk assessment. Indeed, many drinking water supply projects in rural Burkina Faso are currently facing difficulties that prevent them from achieving the expected results (Sally, H., Lévite, H., & Cour, J. (2011)). For example, there are cases of facilities built but not used by beneficiaries, disagreements over the choice of construction sites leading to boycotts, facilities providing unsafe water, or facilities that regularly break down, among others (Savadogo, B., Kaboré, A.,

Zongo, D., Poda, J. N., Bado, H., Rosillon, F., & Dianou, D. (2013)). All these situations constitute failures of water supply projects, which could explain why, despite more than fifty (50) years of such interventions, Burkina Faso has still not been able to meet the water needs of its population (Douxchamps, S., Ayantunde, A., & Barron, J. (2014)). It is therefore necessary, with a view to ensuring success, to work on mitigating the risks of failure (Krus, D., & Grantham, K. (2013)). This study therefore aims to enhance the success of drinking water supply projects in rural Burkina Faso. The case study thus helps to define the scope and to evaluate the effectiveness of the actions implemented in order to effectively address the identified risks.

# MATERIALS AND METHODS

### Presentation of the study area and the Charity Water program of the NGO EVI

**Presentation of the study area:** The study area covers several rural communes located in the provinces of Ganzourgou (Salogo, Boudry, Mogtedo, Zoungou, Zam, Meguet, Kogho) and Zoundwéogo (Béré, Bindé, Guiba, Nobéré, Gogo, Gon-Boussougou) (Figure 1). These two provinces belong to the Plateau-Central and Centre-Sud regions respectively, and are characterized by high rural population densities: 3,438,804 inhabitants in Ganzourgou and 267,958 in Zoundwéogo (INSD, 2019). The communes rely heavily on rain-fed agriculture and traditional livestock farming as their main activities, within a Sudano-Sahelian climate marked by low and irregular rainfall. Such climatic vulnerability directly affects sustainable access to water, an essential resource for human consumption, agro-pastoral activities, and domestic use. In rural areas of the provinces of Ganzourgou and Zoundwéogo, the rate of access to drinking water rose from 79.7% and 84.7% respectively in 2019, at the launch of the Charity program, to 91.2% and 81% in 2024. This reflects a positive but still incomplete trend, highlighting the need to ensure the full success of the various projects implemented under the Charity program.

**Presentation of the Charity Water program of the NGO EVI:** The Charity Water (CW) program is implemented annually and is funded by the American organization Charity Water. Between 2019 and 2023, the projects BF 303 EVI-CW, BF 333 EVI-CW, BF 383 EVI-CW, BF 433 EVI-CW, and BF 491 EVI-CW were completed. In 2019, the BF 303 project enabled the construction of 28 boreholes and 70 latrines in the commune of Béré (Zoundwéogo province). The BF 333 project in 2020 was carried out in the commune of Boudry (Ganzourgou province), resulting in 43 new boreholes, the rehabilitation of 5 old boreholes, and the provision of 1,020 hand-washing stations. In 2021, as part of the BF 383 project, 40 new boreholes were drilled and 12 old boreholes rehabilitated, again in the commune of Boudry. The BF 433 project, implemented in 2022 across all rural communes of the two provinces, achieved the construction of 30 new boreholes, the rehabilitation of 47 old boreholes, the construction of 5 Autonomous Water Stations (PEA), the rehabilitation of 2 Simplified Drinking Water Supply systems (SDWS), and the construction of 420 latrines. In 2023, the BF 491 EVI-CW project enabled the drilling of 54 new boreholes and the rehabilitation of 35 old boreholes, once again in all rural communes of Ganzourgou and Zoundwéogo provinces. Overall, between 2019 and 2023, the Charity Water program facilitated the construction and rehabilitation of 304 water supply structures in Ganzourgou and Zoundwéogo provinces, benefiting nearly 91,200 people (EVI-CW 2024).

**Overall study methodology:** The risks were identified and assessed during the implementation of the BF 303 EVI-CW and BF 333 EVI-CW projects, which corresponded to the first two years of the program's intervention. The difficulties encountered and the lessons learned from these projects allowed for a summary of the risks and an assessment of their level of criticality, also taking into account the various projects previously carried out in the area by other partners. Based on the identified and assessed risks, the project team proposed a risk mitigation plan, including mitigation measures to ensure that future projects can achieve greater success. These mitigation measures were implemented over two years during the BF 383 EVI-CW and BF 433 EVI-CW projects.

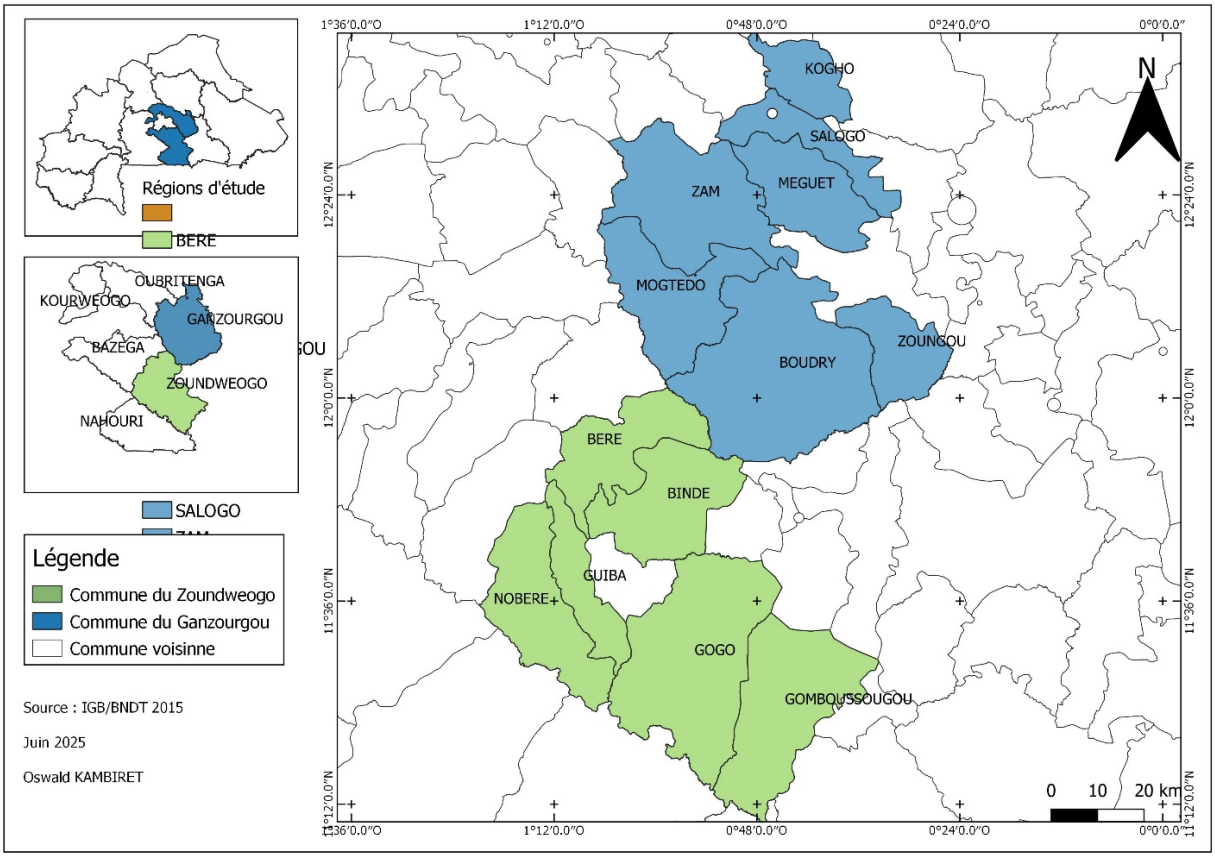


**Figure 1. Presentation map of the study area**

During the implementation of the BF 491 EVI-CW project, a beneficiary satisfaction survey was conducted to evaluate the effectiveness of the solutions implemented to minimize risks, particularly those related to the social acceptability of the project.

**Hazard identification:** The identification of potential failure risks for EAF projects was based on a three-pronged data collection strategy: first, by leveraging lessons learned from previous EVI projects (2013–2018) to identify pitfalls and weaknesses; second, through consultations with administrative authorities (DREA and communes) and other NGOs to gather information on the critical factors influencing the success or failure of water supply projects in the area; and third, by organizing focus groups with beneficiaries of the BF 303 EVI-CW and BF 333 EVI-CW projects to collect their perceptions of the shortcomings of the current approach and their suggestions for improvement. This comprehensive approach allowed for the creation of an inventory of difficulties, highlighting the most frequent ones and translating them into potential risks for the project.

**Risk assessment:** Risk assessment involves determining the criticality of a risk, which is calculated by multiplying its severity by its probability of occurrence (Pasquini, A., Pozzi, S., & Save, L. ; 2011). The probability of occurrence is determined through the analysis of data collected from beneficiaries and administrative structures. A score is assigned to each probability of occurrence, expressed as a percentage, after processing the collected data (Mosteller, F., & Youtz, C. ; 1990). Table 1 presents the scores, ranging from 1 to 5, for the probability intervals used in this study. The severity score is also rated from 1 to 5 and is derived from the analysis of the collected data, taking into account the feasibility of continuing the project if the risk occurs.

**Table 1. Score based on probability of occurrence**

| Probability of occurrence of identified risks | Score |
|---|---|
| **0 – 20%** | 1 |
| **20% - 40%** | 2 |
| **40% - 60%** | 3 |
| **60% - 80%** | 4 |
| **80% - 100%** | 5 |

**Risk Mitigation Plan Assessment:** This evaluation was conducted after two years of implementing the plan across two successive projects (BF 383 EVI-CW and BF 433 EVI-CW). A satisfaction survey regarding the project, specifically focusing on risk events, was carried out among beneficiaries as well as with the administrative structures that are key stakeholders in the various projects. Data collection from beneficiaries was conducted through focus groups of ten (10) participants, representing all social strata of the locality (Lupilya, G. S. ; 2007). The survey covered all villages where a structure was constructed or rehabilitated during the last two projects.

# RESULTS AND DISCUSSION

### Identified risks and their assessment

**Risk of conflict in the choice of the site for the construction of the work:** The choice of site is a critical factor in the construction of drinking water supply structures. If not handled with the utmost care, it can lead to the rejection or cancellation of a project (Takele, A. 2020). One of the main causes is the non-involvement of all stakeholders in this decision. Additionally, the opinions and suggestions of all actors are often overlooked. In discussions with local communities, examples were given of structures built on sites considered sacred, resulting in residents refusing to use the water for consumption. Some village officials have often pressured, against the will of the people, for structures to be placed near their own households to reduce the effort of fetching water for their families, which has frequently caused serious conflicts. Partners supporting the municipalities have consistently emphasized the need to locate structures where the need is greatest (other authors report similar difficulties). It is therefore essential to reach a consensus that incorporates the opinions of all local actors through meetings and discussions (Warner, M. 1997). Surveys of both the population and administrative structures have shown that this risk has occurred in 65% of previously implemented water supply projects in the municipality. Its probability score is therefore 4, according to Table 1. Moreover, the impact of such a risk on the project is very significant, as communities may oppose the construction of the structure. The severity score for this risk is 5, since the project may not proceed if it occurs.

**Risk of Providing Non-Potable Water:** Water quality is a key concern for beneficiaries (Ananga, E. O., Agong', S. G., Acheampong, M., Njoh, A. J., &Hayombe, P. (2020)). Certain human activities, particularly gold panning in the program's intervention area, pose a risk of water resource degradation (Sodoré et al., 2022). Data collected from the population and technical drinking water services have shown that, in recent water supply projects, 3% of boreholes were declared unsuitable due to the presence of trace metals such as arsenic, fluorine, zinc, and others. The probability of such a risk is therefore low and is assigned a score of 1. If this risk were to occur—i.e., the provision of non-potable water—the consequences would be significant, as it could seriously impact the health of the population. The severity score for this risk is 5.

**Risk of non-involvement of beneficiaries:** Two types of beneficiaries can be identified: direct beneficiaries, who are the users of the structures, and indirect beneficiaries, including administrative authorities (water directorates, prefects, mayors, village development committees (CVD)), customary authorities (village chiefs, notables), and religious leaders (imams, priests, pastors). Although the latter are not direct users, they are involved in the project process from start to finish (Kujala, S., Kauppinen, M., Lehtola, L., & Kojo, T. (2005, August)). Their positions and recommendations are important due to the authority they hold. It is therefore necessary to seek and obtain their approval to facilitate the implementation of activities in the field (O'Toole Jr, L. J. (1986)). However, they can also become a bottleneck, as they often attempt to impose their decisions at the expense of achieving consensus (Roberto, M. A. (2004)). Direct beneficiaries are key actors in the successful completion of a project, as they are best placed to facilitate and guide it toward the expected outcomes. However, achieving unanimity in decisions at all times is challenging. Data collection has shown that in approximately 43% of EAF projects implemented in recent years, the population reported limited involvement, indicating a probability score of 3 for the risk of beneficiary non-involvement. The consequences of such a risk can be severe, potentially leading to project suspension, which results in a severity score of 5.

**Risk related to the type of work:** If the type of structure implemented does not meet the expectations of the population, it will not be used. Socio-economic realities as well as the specific needs of the communities must be taken into account when selecting the type of structure. Current regulations are also an important factor in determining this choice. For example, since 2019 in Burkina Faso, it is no longer recommended to build wells for drinking water supply; at least one forum equipped with HP must be provided (MEA, 2019). Awareness of these regulations and the types of structures commonly used in the locality makes it unlikely that risks related to the choice of structure will occur, and thus it is assigned a probability score of 1. The severity of such a risk is rated at 3, since creating structures that do not meet community expectations or fail to align with the socio-cultural context may result in non-use.

**Risk of non-payment of contributions:** To ensure periodic maintenance of the structures and repairs in case of breakdowns, a contribution has been introduced for each household using a water point (MEA, framework document). Analysis of the data shows that nearly 58.9% of villages are unable to collect these household contributions. Therefore, the risk associated with non-payment of contributions has a probability score of 3. This risk may arise when there are disagreements among the population regarding the price to

be set (Skaperdas, S. (1991)). Additionally, people are often reluctant to pay due to a lack of trust in the management of the collected funds (Fjeldstad, O. H. (2004)). This crisis of confidence is a consequence of both past and current mismanagement by the EUEA Executive Board. The severity of this risk is also assigned a score of 3, as mitigating it requires a high level of awareness-raising.

**Risk of Lack of Communication:** In the context of development projects, communication serves to inform stakeholders about the project promoter and provides an overview of its objectives (Onusi, A. A. (2024)). It is also a channel through which exchanges occur during consultations with stakeholders, allowing the collection of opinions from all concerned. Therefore, communication must be carefully tailored to the project and its scope (Butt, A., Naaranoja, M., & Savolainen, J. (2016)). Poor communication carries significant risks, potentially even leading to project rejection (Reed, A. H., & Knight, L. V. (2010)). Effective communication is a prerequisite for stakeholder involvement. The information conveyed within the community is crucial for collaboration among stakeholders. If the information is incomplete or perceived as unfavorable to the project promoter, issues of social acceptability may arise, creating a sense of mistrust that can affect all stakeholders. Communication must be adapted to the context, taking into account the environment and the human capital involved in the project (Suhonen, M., & Paasivaara, L. (2011)). It goes without saying that poor communication can have serious repercussions on project progress and may even compromise it. The reference field survey showed that 40.2% of projects carried out in the area experienced problems related to communication shortcomings. This supports a probability score of 3 for this risk. The potential consequences are critical: for example, they could result in structures that do not meet community needs or that are difficult to maintain within their context. In the worst case, this could lead to a breakdown in collaboration between project leaders and local communities, justifying the severity score of 4 assigned to this risk.

**Criticality of the Identified Risks:** Figure 2 presents a matrix of the identified risks. It maps the risks according to their probability and severity scores, using a color code ranging from green for minor risks to red for critical risks. Based on Picand's (2010) analysis, we proposed a scale from 1 to 25 to assess the criticality of risks in our case study (Table 2). This scale is also linked to the color coding used in the risk mapping in Figure 2. Table 3 complements the matrix by indicating the criticality level of each risk, assessed through the analysis of collected data on severity and probability of occurrence. This systematic and structured approach to risk assessment and treatment, adopted with reference to ISO 31000, is also applied by Aby-Salami (2017). It relies on the use of criticality scales (Probability × Severity) to quantify risks. The criticality analysis shows that there are two (02) significant risks (criticality between 11 and 15) and one (01) critical risk (criticality between 16 and 20). These three risks must be continuously monitored, with urgent and ongoing actions taken throughout the duration of the programme to prevent their occurrence. For the moderate risk (criticality between 6 and 9) and the two (02) minor risks (criticality between 1 and 5), periodic actions should be undertaken to monitor them and avoid their occurrence or escalation. Following the risk assessment, a mitigation plan was proposed, implemented, and monitored in order to evaluate the relevance of the actions undertaken to reduce the identified risks.

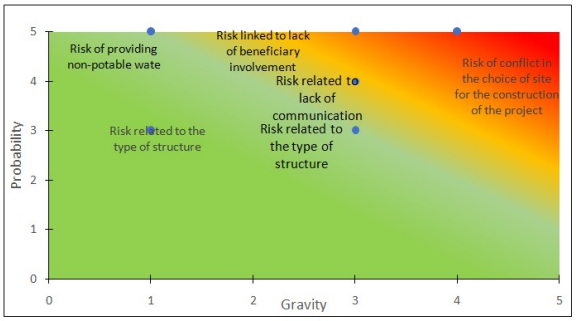


**Figure 2. Risk Mapping**

**Table 2. Ranking of risk criticalities**

| Criticalityscale | Risk assessment | Observations |
|---|---|---|
| 1 to 5 | Minor risk | Low to moderate likelihood, minor to moderate severity |
| 6 to 10 | Moderate risk | Moderate Probability, Moderate Severity |
| 11 to 15 | Significant risk | Moderate to high likelihood, high severity |
| 16 to 20 | Critical risk | High probability, major severity |
| 21 to 25 | Catastrophic risk | Very high probability, extreme severity |

**Table 3. Criticality Assessment of Each Risk**

| No. | Potential risks | Probability Score | Severity Score | Criticality |
|---|---|---|---|---|
| **R1** | Risk of conflict in the choice of the site for the construction of the structure | 4 | 5 | 20 |
| **R2** | Risk related to the non-involvement of beneficiaries | 3 | 5 | 15 |
| **R3** | Risk of Lack of Communication | 3 | 4 | 12 |
| **R4** | Risk of non-payment of contributions | 3 | 3 | 9 |
| **R5** | Risk of providing non-potable water | 1 | 5 | 5 |
| **R6** | Risk related to the type of structure | 1 | 3 | 3 |

**Proposal for an action plan to mitigate risks**

**Actions to mitigate the risk of conflict in the choice of the drilling site:** This risk is classified as critical, requiring urgent action and continuous monitoring. To mitigate it, the actions undertaken must aim to secure a consensus on the choice of site before drilling begins. For the BF 383 and BF 433 EVI-CW projects, two main measures were adopted. First, the use of national statistical data combined with a field visit. Based on national data on access to drinking water, the project prioritized villages with low coverage rates. Once the villages were selected, surveys were carried out to map existing boreholes and identify neighborhoods without boreholes or with large populations served by an insufficient number of boreholes. This initial work was conducted with the involvement of State administrations and local authorities. Second, the organization of a public consultation. This took the form of social mobilization in each village identified to receive a water point. At least 75 people per village were gathered, including customary chiefs, members of the Village Development Committee (CVD), representatives of the Water Users' Association (AUE), the Communal Water and Sanitation Technician (TCEA) representing the town hall, and the project team's technicians (as also noted in similar studies). The consultation concluded with signed minutes specifying the site chosen by consensus for the installation of the water point in the village.

**Actions to mitigate the risk of non-involvement of beneficiaries:** According to the risk mapping, this is a significant risk that also requires urgent and sustained implementation of mitigation measures. The first action identified was the establishment of a community participation process. This involved organizing community meetings to discuss drinking water needs, as well as the benefits and costs of different types of hydraulic structures. During these meetings, the choice of the type of structure to be installed and the method of construction was discussed with the direct beneficiaries, who would be the end users of the facility. The role of the project team's technicians was to explain to the beneficiaries the advantages of each type of structure, along with its construction and maintenance costs, in order to guide their decision (see similar examples by other authors). The second action targeted local community leaders, including traditional chiefs, religious leaders, members of village

development committees (VDCs), leaders of water users' associations (AEUEs), and village elders. Their involvement was essential for community mobilization. Their authorization was required to hold meetings in the villages, and their presence encouraged and motivated participation. Their continued involvement after the completion of the works was also important, as they regularly reminded communities of the need for proper management of the facilities (see similar approaches by other authors).

**Actions to mitigate the risk of lack of communication:** This is also a significant risk that requires urgent and sustained actions for its management. Mitigation measures may include establishing clear and effective communication channels with local stakeholders, such as holding regular meetings with direct beneficiaries to discuss issues and concerns related to the provision of safe drinking water (Seppälä, O. T. (2002). Effective water and sanitation policy reform implementation: need for systemic approach and stakeholder participation. *Water Policy*, *4*(4), 367-388.). It may also be useful to set up feedback mechanisms to collect users' opinions on the quality of the water supplied and to respond promptly to their concerns. More concretely, for the BF 383 and BF 433 EVI-CW projects, the WhatsApp social network was used to create a group in each municipality bringing together representatives of all stakeholders. This made it possible to provide regular updates on project activities, maintain continuous exchanges, and anticipate potential difficulties (Jaafari, A. (2001)). In addition, a Facebook page was created to increase the visibility of project activities and to gather feedback from the population, including those living outside the municipalities where the projects were implemented.

**Actions to mitigate the risk of non-payment of contributions:** This is classified as a moderate risk. To mitigate it, periodic actions are recommended to prevent risk events from occurring. If water is provided free of charge, there will be no resources available to repair the structures when they break down. Conversely, if the water tariff is set too high, users will refuse to pay. It is therefore essential to establish consensual and inclusive pricing that enables all users to contribute effectively to the maintenance of the facilities (Whittington, D. (2003)). According to the national rural water management policy (MEA, framework document), each village must have a Water Users' Association (AEUE). Within the framework of the BF 383 and BF 433 EVI-CW projects, it was first necessary to revitalize these associations and strengthen their decision-making bodies so they could fully play their role. The treasurer of the AEUE is responsible for collecting contributions from users and managing them through an account opened in the name of the village association. Any mismanagement of these funds results in user reluctance to contribute (Khasiani, M. C. (2007)). Once these associations had been revitalized, a General Assembly was organized to decide on the water tariff. Each village determined its pricing independently, taking into account the socio-economic realities of households as well as the types of existing facilities, since maintenance and rehabilitation costs vary by type of structure. Once the tariff was agreed upon, it became the responsibility of the AEUE—supported by village resource persons (traditional chiefs, religious leaders, CVD, etc.)—to collect contributions from users, usually on a per-household basis. Regular updates must be provided to users, and proactive strategies should be implemented to encourage reluctant households to pay.

**Action to mitigate the risk of providing non-potable water:** This is considered a minor risk. Its probability of occurrence is very low, since water quality analyses are mandatory before a water point is commissioned. If these analyses reveal non-compliance with national or WHO standards, the borehole is declared unusable. However, during the operational phase, if proper precautions are not taken—particularly during maintenance and rehabilitation—contamination of the source may occur (Smith, S. A., &Comeskey, A. E. (2009)). To mitigate this risk, it is important to train local borehole repairers so they are fully competent to manage the hydraulic infrastructure within their jurisdiction. Another key measure is raising user awareness so that they adopt hygienic practices when drawing, transporting, storing, and consuming drinking water, in order to prevent contamination along the entire chain (Bedane, T. D., Agga, G. E., & Gutema, F. D. (2022)).

**Risk Mitigation Action Related to the Type of Work:** This is also considered a minor risk. The types of structures approved at the national level for the supply of drinking water are well established, as are the existing facilities in the target localities (MEA…). This makes it possible to propose the most appropriate structures at the project level. Moreover, when actions to mitigate the risk of non-involvement of beneficiaries are implemented, the choice of structure is automatically addressed. In other words, by applying the mitigation measures for critical and significant risks, the risk related to the type of structure is also effectively controlled (Menoni, S., Molinari, D., Parker, D., Ballio, F., & Tapsell, S. (2012)).

**Satisfaction survey on the implementation of the action plan:** After the deployment of the various risk mitigation measures during the implementation of the BF 433 project, a follow-up was conducted during the BF 491 EVI-CW project to verify their implementation and assess their effectiveness in containing the identified risks.

**Monitoring of actions to mitigate the risk of conflict in the choice of the site for the construction of the structure:** Taking into account national statistics, assessing the situation on the ground, and holding public consultations were the main actions carried out under the action plan to mitigate this critical risk. During the third year of programme implementation, no major conflicts arose regarding the choice of sites for the construction of hydraulic structures. The field survey revealed that 98.2% of respondents were satisfied with the location chosen for the installation or rehabilitation of water supply structures (Figure 3). It should be noted, however, that public consultations often involved heated discussions, since the number of neighborhoods facing urgent water shortages exceeded the number of works that could be carried out in a given year. Each district therefore sought to be prioritized. Nevertheless, thanks to the prevailing spirit of dialogue during these meetings, and especially the statistical data showing water access rates in each locality (INO 2020), consensus was always reached on the sites selected for new water points or for the rehabilitation of existing structures. As a result, 70 new boreholes equipped with HP were constructed, while 59 existing boreholes and 2 SDWS were rehabilitated without difficulty.

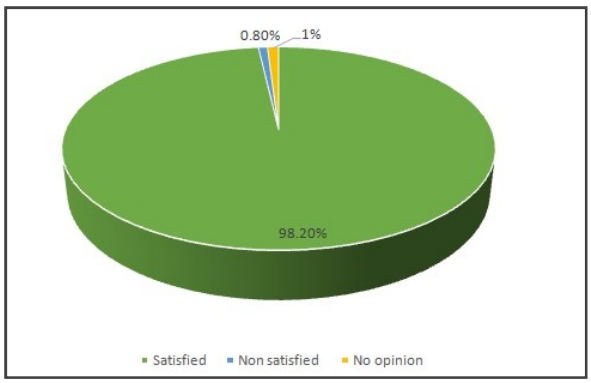


**Figure 3. Satisfaction of beneficiaries with the choice of site for the installation or rehabilitation of water supply structures**

**Monitoring of actions to mitigate the risk related to the non-involvement of beneficiaries:** Actions to mitigate this risk included periodic meetings with direct beneficiaries and community leaders. The satisfaction survey shows that 9% of respondents reported never having participated in a meeting within the programme framework, while 91% stated that they had attended one or more meetings and added that their suggestions had been taken into account to improve programme activities. The 9% who reported not attending may have been unavailable on the days when meetings were held. Among them, 4% indicated that members of their households regularly participated, and therefore their views were indirectly represented. This leaves only

5% who stated that they had never been involved in project decisions (Figure 4). It should also be noted that during the two years of implementing the action plan, no major difficulties were reported regarding the involvement of stakeholders.

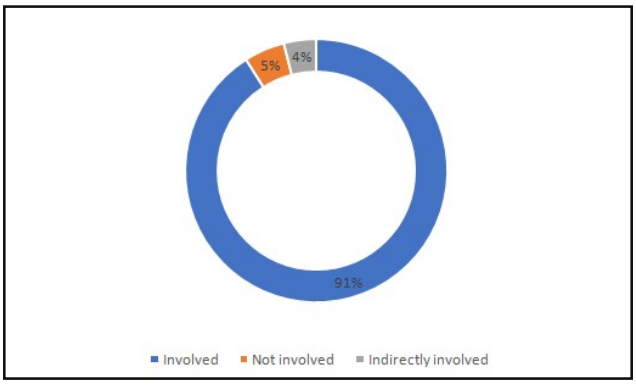


**Figure 4. Involvement of the population during the implementation of projects**

**Follow-up on actions to mitigate the risk of lack of communication:** The use of social networks such as WhatsApp and Facebook to inform stakeholders and gather their opinions and suggestions has been the main long-term action to mitigate this risk. The communication satisfaction survey revealed that no beneficiary reported being dissatisfied with the project's communication activities. Among those surveyed, 83% were very satisfied, 15% were satisfied, and only 2% expressed mixed satisfaction (Figure 5). This indicates that project information is being effectively disseminated and that beneficiaries' views are reaching project managers for consideration in implementation. The mitigation measures currently in place should therefore be maintained, and even strengthened, to further consolidate the programme's achievements.

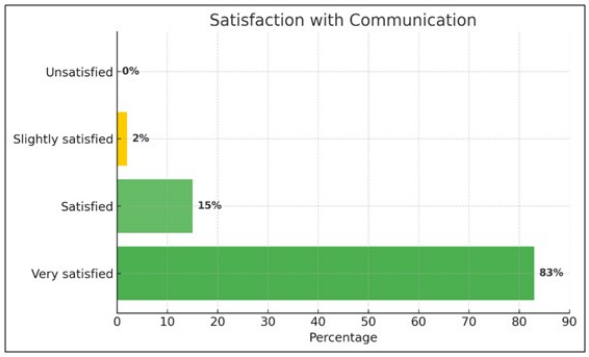


**Figure 5. Recipient satisfaction with communication**

**Monitoring actions to mitigate the risk of non-payment of contributions:** The evaluation of actions to mitigate this risk was based on the number of revitalized Water Users' Associations (WUAs) in each municipality, the number of villages that adopted a per-household pricing system for the maintenance of structures, and the number of households up to date with their contributions. The survey showed that all intervention villages across the rural communes had revitalized their AUEs through the election of a new executive board (BE) and the renewal of their registration with the state's administrative structures. Following the renewal of the BEs, each WUA was able to hold a general assembly, which allowed members to reach a consensual decision on the annual contribution required from each household for the maintenance of the village's water facilities. For the purposes of these contributions, the term *household* refers to a man married to one or more women. Each man contributes his share, while each wife also contributes her share. Table 4 presents the average contributions per household in each municipality within the intervention area. With the momentum generated by the new AUE offices, the percentage of villages able to collect contributions efficiently increased from 17% in 2019, to

**Table 4. Average contributions set by municipality per year**

| Common | Contributions (F CFA) | |
|---|---|---|
| | Man | Wife |
| **Béré** | 2000 | 1000 |
| **Guiba** | 2000 | 1000 |
| **Binded** | 2000 | 1000 |
| **Mug** | 2500 | 500 |
| **Gombousgou** | 2500 | 500 |
| **Nobéré** | 3500 | 500 |
| **Boudry** | 2500 | 500 |
| **Raise** | 2000 | 1000 |
| **Mogtédo** | 2500 | 2500 |
| **Kogho** | 3000 | 500 |
| **Meguet** | 2000 | 1000 |
| **Zoungou** | 2500 | 500 |
| **Salogo** | 2000 | 500 |

36.4% in 2021, and then to 66.8% in 2022. The solutions implemented through the mitigation plan have therefore proven effective in containing the risk of non-payment of contributions.

**Follow-up of actions to mitigate the risk of providing non-potable water and the risk related to the type of structure:** These are minor risks, and routine actions are sufficient to prevent their occurrence. Periodic analyses of borehole water, training of borehole repairers, and awareness-raising among users on hygiene in the supply of drinking water have been among the key mitigation measures adopted, and they have been effectively implemented. Survey results show that all respondents expressed satisfaction with the quality of water from the structures built or rehabilitated, as well as with the type of facilities implemented.

# CONCLUSION

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The case of the Charity Water program implemented by Eau Vive Internationale in Burkina Faso highlights both the opportunities and the challenges of improving rural access to safe drinking water. The identification, assessment, and mitigation of risks have proven crucial in ensuring the success and sustainability of water supply projects. Among the six main risks identified, the risk of conflict over site selection, the non-involvement of beneficiaries, and inadequate communication emerged as the most critical. By integrating participatory approaches, strengthening dialogue mechanisms, and creating transparent management structures, the program has significantly reduced tensions, fostered ownership, and improved the long-term viability of the infrastructures. The satisfaction surveys confirm that these mitigation measures were largely effective: communities expressed a high level of satisfaction with the choice of sites, the inclusiveness of decision-making, and the quality of communication. Furthermore, the revitalization of Water Users' Associations and the adoption of consensual contribution mechanisms have strengthened the financial sustainability of the infrastructures. Minor risks, such as non-potable water or inappropriate types of structures, were adequately managed through routine monitoring, training, and awareness-raising.

Overall, the study demonstrates that addressing social, institutional, and technical risks in a systematic manner can significantly enhance the outcomes of rural water supply interventions. However, the persistence of some challenges—such as disagreements during public consultations or difficulties in mobilizing contributions in certain villages—reminds us that risk management is an ongoing process requiring constant adaptation. Sustaining the positive trends observed will depend on continued stakeholder involvement, transparent governance, and the reinforcement of local capacities. This experience offers valuable lessons not only for Burkina Faso but also for other Sahelian countries striving to achieve Sustainable Development Goal 6 by 2030: access to safe, sustainable, and equitable drinking water for all.

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opinions, findings, and conclusions presented are those of the authors and do not necessarily reflect the views of any organization involved in the implementation of the Charity Water program.

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### Glossary

**BF Projects:** Refers to the annual projects under the Charity Water program, such as BF 303, BF 333, BF 383, BF 433, and BF 491.
**CVD:** Village Development Committee (Local committee involved in the planning, implementation, and monitoring of development projects).
**DREA**: Regional Directorate of Water and Sanitation
**EVI:** Eau Vive Internationale (NGO working for water supply and implementing the Charity Water program in Burkina Faso).
**HP:** Hand Pump (Type of manually operated pump installed on boreholes to provide safe drinking water).
**SDWS:** Simplified Drinking Water Supply system(Drinking water supply system typically used in rural communities).
**WUA:** Water Users' Association(Local community organization responsible for managing water points and collecting contributions for maintenance).

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