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Policy integration by implementation: Lessons from frontline staff policy practices around small-scale gold mining in Liberia

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Abstract

Environmental policy integration is needed to ensure environmental policy goals are being realized, given their cross-sectoral nature. Most of the published research has focused on integration and coherence of (inter)national policies, plans, and programs. The implementation practices for these policies, however, are at least as important. This paper therefore looks at policy implementation for the case of artisanal gold mining in Liberia. This is studied through a lens of frontline staff (street-level bureaucrats) who operate in networks of local government agencies, civil society organizations, and communities. Results of interviews and field observations in Grand Gedeh county show how the policy context and local realities create specific dilemmas, resulting from the combination of limited resources of local frontline staff, low-income security for local communities and traditional local practices around protected forest areas. In response local frontline bureaucrats use their discretionary power and network to mobilize support, pool resources, combine mandates, and find creative solutions to both regulate and support community residents. Although these implementation strategies are neither necessarily sufficient to realize the official policy goals, nor are guaranteed to have the desired effects, they do show how local frontline staff act as de facto policymakers. Recognizing frontline staff as environmental policy integrators therefore is a crucial element toward more successful policies for sustainable development.

KEYWORDS
artisanal mining, environmental policy integration, Liberia, policy implementation, policy networks, street-level bureaucracy

1 | INTRODUCTION

To overcome policy ineffectiveness and inefficiencies due to fragmentation, many policy scholars——studying various policy domains——have come to argue the need for policy integration, with environmental policy integration being a topic of its own (Jordan & Lenschow, 2010; Kissinger et al., 2021; Lafferty & Hovden, 2003; Persson et al., 2018; Rayner & Howlett, 2009; Runhaar et al., 2014; Tosun & Lang, 2017). Environmental policy integration focuses on integrating environmental and sustainability considerations into other policy domains (Nilsson & Eckerberg, 2009), for example, in the artisanal mining domain (Spiegel, 2009; Zinngrebe, 2018). One prominent result of

mainstreaming and integrating environmental and sustainability aspects in other policy domains is the 2030 Agenda with the 17 Sustainable Development Goals, which integrates social and economic aspects in dealing with environmental issues. It is widely accepted that governments must pursue integrated (environmental) policymaking to achieve sustainable development (Nilsson & Eckerberg, 2009; Nilsson & Persson, 2017).

One of the challenges in environmental policy integration, is to ensure that integration is also practiced beyond the policy development stage and that it is translated into administrative implementation practices with ongoing coordination, commitment and learning (Cejudo & Michel, 2017; Jordan & Lenschow, 2010). Although this

challenge is recognized, current scholarship does not feature many articles that really focus on this implementation challenge for policy integration. A study that does focus on the implementation of integrated policies, points to practical limitations in capacity (Ross & Dovers, 2008). Therefore, there remains a need for more insights into the question of how integration does happen in implementation.

In this paper, we are interested in studying policy integration in implementation, using an in-depth case study approach. For this, we study environmental integration in implementing policy in and around artisanal gold mining in Liberia. We are understanding implementation in a broad sense; the practices of government frontline staff[1] to getting things done in interaction with their environment, rather than looking at specific policies (formalized goals, instruments, tasks, and responsibilities), and in how far the policy goals are achieved and prescribed processes and procedures are followed. Environmental policy integration is of particular importance in the mining sector, with its clear mix of economic, energy, development, social, and environmental interests. Furthermore, we are interested to learn how limitations created by context and limited capacity create dilemmas for the frontline staff responsible for local policy implementation, but also how these frontline staff use their discretionary power to develop implementation strategies. How do they work with their professional network of other frontline bureaucrats from other organizations and community members, to realize their policy goals as well as possible? In other terms, we think further about the role of frontline staff as environmental policy integrators: What are the implementation practices of these frontline officers, and how do these practices influence and create environmental policy integration? Studying these integration practices in a relatively resource-scarce implementation setting, as for artisanal gold mining in Liberia, may offer interesting insights to improving implementability of more integrated policy.

To answer this question, we first go back to the literature on (environmental) policy integration. We then link this to the street-level bureaucracy concepts and networks to develop a conceptual framework for understanding and describing how policy integration happens in implementation. This framework explains integrated policy implementation as a result of interactions and networks of frontline staff, their discretionary power, and the policy context within which they operate. Using this framework, we explore the practices of local policy implementing frontline bureaucrats in and around small-scale gold mining in Liberia. Finally, after our analysis, we share our lessons learned and their implications for environmental policy integration and sustainable development.

2 | ENVIRONMENTAL POLICY INTEGRATION: FROM DECISION-MAKING AND PLANNING TO IMPLEMENTATION

2.1 | Environmental policy integration in theory and practice

With the growing awareness that many policy challenges are a complex result of issues in various policy domains, *policy integration* has become a popular notion among policymakers at national and global levels (Ugland & Veggeland, 2006). The term *environmental* policy integration (EPI) became popular in the 1990s to refer to policy integration in the context of sustainable development (Bennett, 1991; Candel & Biesbroek, 2016; Hertin & Berkhout, 2003; Jordan & Lenschow, 2010).[2] Environmental policy integration is integrating environmental issues into non-environmental policy areas (Runhaar et al., 2014) to improve environmental policy outcomes (Candel & Biesbroek, 2016). Following the adoption of the United Nations' Agenda 2030 for Sustainable Development, the subject of policy integration has received fresh intellectual and political interest worldwide (e.g., Nilsson & Persson, 2017).

Policy integration was used by Underdal (1980) as a term to describe how policies are linked together. In the policy scholarship since, (environmental) policy integration has been typically concerned with policymaking or planning activities, where different policy actors try to integrate different policies across multiple sectors into coherent sets of plans and policies (Biermann et al., 2009; Geerlings & Stead, 2003; Gore, 2014; Hovik & Stokke, 2007; Meijers & Stead, 2004; Rayner & Howlett, 2009).

More than four decades after the introduction of the concept of policy integration and despite a steadily growing recognition of its importance, many challenges remain both for the theory and practice of environmental policy integration (Cejudo & Michel, 2017; Domorenok et al., 2021; Dovers, 2005; Lafferty & Hovden, 2003; Nilsson & Persson, 2017; Persson et al., 2018). A particular set of challenges is related to better understanding of implementation feasibility and more generally, effective implementation of integrated policies (Briassoulis, 2004; Jordan & Lenschow, 2010). The implementation of integrated policies requires coordinating administrative arrangements, changing mindsets and ensuring continued commitment at various levels (Cejudo & Michel, 2017; Jordan & Lenschow, 2010). Overall, it is recognized that environmental policy integration must be understood as a political process that requires vertical and horizontal interaction of various policy actors (Cejudo & Trein, 2023; Howlett et al., 2017). Nevertheless, the dominant perspective is a top-down, policy design-oriented perspective, rather than a focus on the processes of policy integration which are a resultant of interactions of policy actors and which are reshaped in the implementation process (Cejudo & Trein, 2023).

2.2 | The implementation challenge: Frontline staff as environmental policy integrators

In the literature on environmental policy integration, the implementation challenges are recognized but not often studied, with some notable exceptions (e.g., Ross & Dovers, 2008). However, implementation challenges and practice have been studied in policy sciences more generally for a long time (e.g., Bardach, 1977; Brinkerhoff, 1996; Imperial, 2021; Pressman & Wildavksy, 1984). These studies have highlighted how policy implementation cannot be expected to occur in a mechanical or semi-automated fashion, as the translation from

abstract policy goals and ambitions into practical actions at operational level involves numerous further decisions by several teams and professionals, influenced by the network in which they operate, and in response to sometimes unexpected local realities or emerging developments.

Of particular interest here, are studies on environmental policy implementation, for instance by Sevä and Jagers (2013), Funder and Marani (2015), Funder and Mweemba (2019). The three cited studies all focus on the role of street-level bureaucrats in the implementation of environmental policy. Following these studies, practices of environmental policy implementation can be understood by focusing on activities of policy making by local implementation officers in interaction with their environment. This follows the concept of street-level bureaucracy that was introduced by Michael Lipsky in 1969 and became widely recognized by his work in 1980 (Lipsky, 1969, 2010). It gives attention to the work of front-line public-sector workers, their working beliefs, their challenges, and dilemmas, how they use the discretionary power to make autonomous decisions, and how they create professionalism in their practice to implement public policy in relation to the policy target group. It sheds light on the work context of frontline staff regarding the structural and practical difficulties they must overcome while providing public services and getting things done.

Frontline staff, especially when they have great autonomy to make decisions, exert significant influence over policy outcomes (Sevä & Jagers, 2013). They are operating at the interface of state and public, where they are representing the state in immediate interaction with citizens (Funder & Mweemba, 2019). And although most works on street-level bureaucracy are based in the global north, the studies in all parts of the world emphasize the role of limited resources for implementation as a source for dilemmas in the daily practice of the local frontline staff. Next, many frontline staff are dealing with various demands from their diverse target groups. They need to tailor their activities to the client's needs or the circumstances in which the issue needs to be addressed (Bergen & While, 2005; Gilson, 2015). At the same time, some frontline officers, in order to get things done in resource-limited situations, coordinate or even delegate tasks to other actors in their implementation network. For example Funder and Marani (2015) describe how local environmental officers in Kenya coordinated agreements between fisherman and farmers, and delegated the monitoring of the agreement to local CBOs.

Studying the role of frontline staff as policy integrators can thus support a further theoretical understanding of environmental policy integration. At the same time, the more recent developments around environmental policy integration and sustainable development ambitions in practice, may change the existing patterns of interactions among street-level bureaucrats. Hence, we elaborate a conceptual framework to understand the role of frontline staff as environmental policy integrators.

3 | CONCEPTUAL FRAMEWORK FOR THIS STUDY

In order to describe the roles of street-level bureaucrats as environmental policy integrators, we have developed a conceptual

framework, combining the insights from literature and some of our own observations on environmental policy integration. Our conceptual framework recognizes five types of elements that describe three key "stages" in policy integration in implementation:

1. The policy context influences the resources, goals, beliefs, and ambitions of frontline bureaucrat. Together these external and internal factors shape the dilemmas and challenges of the frontline staff;
2. Against this setting, frontline staff exercise their discretionary power and develop autonomous decisions and implementation strategies;
3. Both discretionary and autonomous decisions are made within the network of local frontline staff (of various government organizations) and in interaction with the community members and policy target group. Combined, this results in policy integration by implementation.

These main elements, shown in Figure 1, are further described in the next section.

3.1 | Policy context; dilemmas, and challenges for frontline staff

Frontline staff in environmental policy domains, such as local inspectors, regulators, and support officers, work in a complex environment. They need to follow up higher-level policies, deal with community members that might have all kinds of needs, and at the same time, other implementing agencies are also working in and around the same policy domain. In this setting, institutional incentives and resources are critical in defining the parameters within which frontline staff can function, as, without resources, nothing can be done (Thomann, 2015). The lack of adequate resources will lead to implementation deficiencies (not per se complete failure), but at the same time, implementation failures can also happen when frontline staff exceed budgets and resources allocated for policy implementation. Furthermore, in a context of rather weak government institutions, frontline staff can work under precarious conditions (Peeters & Campos, 2022).

Implementation is about making well-considered choices to deal with the dilemmas resulting from what frontline officers want to do (based on policy goals, the organizations, and personal beliefs) and what they can do in interaction with their context. Following Le Quesne et al. (2010), we recognize three main origins, which create dilemmas and challenges for the frontline staff. The first is the (higher level) policy itself. This factor sets the policy goals and provides the (often limited) resources and instruments for implementation. Second, the community and policy target groups. The community and target groups consist of a diverse collection of people with- different needs and operating in different environments. For example, we saw 15-year-old migrant youngsters working in remote areas mining illegally, but also miners
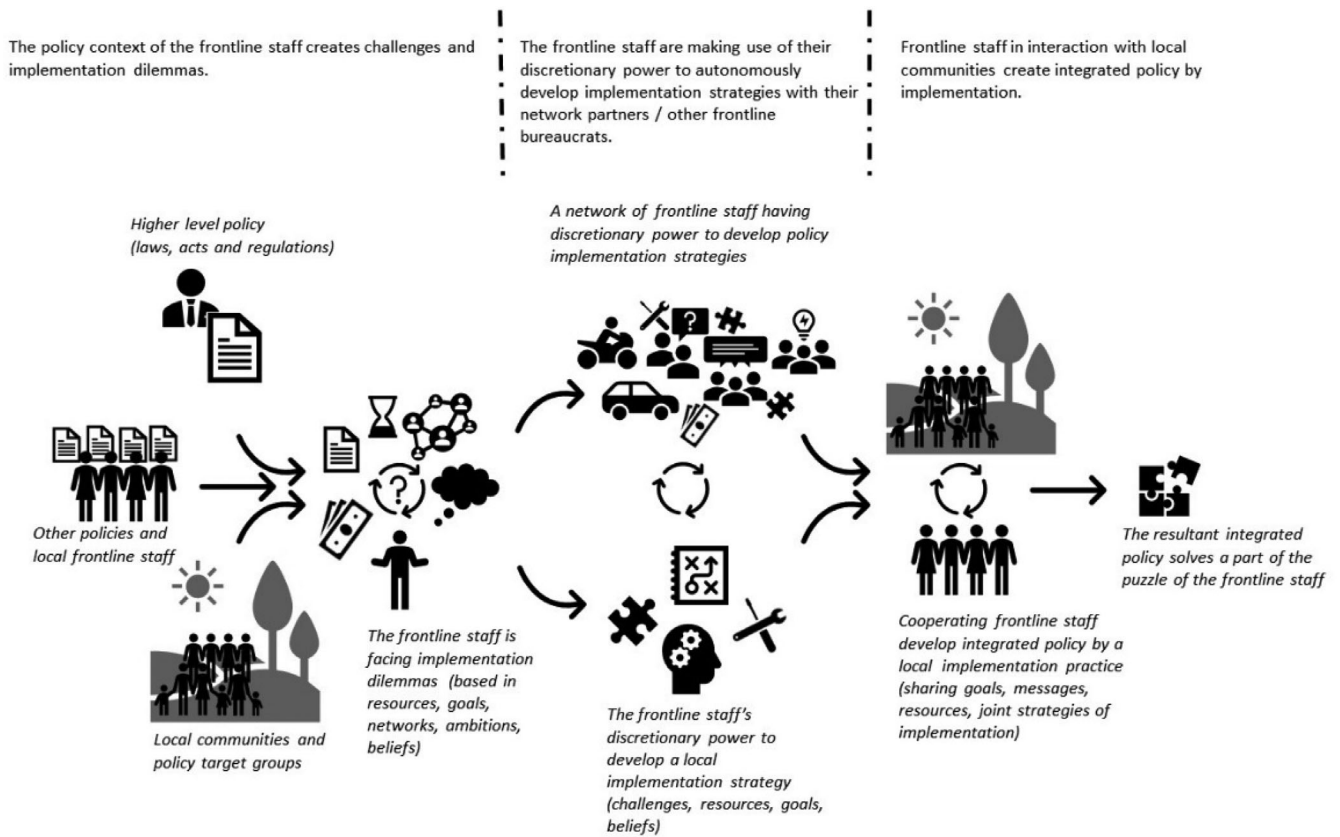
The policy context of the frontline staff creates challenges and implementation dilemmas.

The frontline staff are making use of their discretionary power to autonomously develop implementation strategies with their network partners / other frontline bureaucrats.

Frontline staff in interaction with local communities create integrated policy by implementation.

Higher level policy
(laws, acts and regulations)

A network of frontline staff having discretionary power to develop policy implementation strategies

Other policies and local frontline staff

Local communities and policy target groups

The frontline staff is facing implementation dilemmas (based in resources, goals, networks, ambitions, beliefs)

The frontline staff's discretionary power to develop a local implementation strategy (challenges, resources, goals, beliefs)

Cooperating frontline staff develop integrated policy by a local implementation practice (sharing goals, messages, resources, joint strategies of implementation)

The resultant integrated policy solves a part of the puzzle of the frontline staff

FIGURE 1 Conceptual framework of policy integration by implementation through the interactions of frontline bureaucrats.

operating with a license. As illegal mining and corruption are profound (Farr, 2023; Kamara, 2022), there are miners, and other powerful players, who are putting pressure (incl. bribery and violence) on frontline staff to not enforce policy, influencing the officers' motivations to implement policy Third, there is a multiplicity of policies to be implemented in and around artisanal mining (by other frontline staff of other departments), and the implementation of some of these can be overlapping, creating gaps, or can be conflicting. For example, the Ministry of Mining may offer mining licenses in locations that are protected by the Forestry Authority under national forestry policy.

In our framework we focus on how frontline staff aim to getting things done and focus on overcoming challenges in limitations of implementation capacity. With this, we focus on behavior motivated toward implementation of policy goals. However, we acknowledge that some officers will disagree with policy intentions or that different officers will have different personal inclinations toward or against corrupt behavior as a means to benefit their personal interest (which can be systemic). Still, as we are looking into the role of frontline staff in policy integration by implementation, we assume, also for such cases, a certain motivation toward implementation of policy intended outcomes. This also matches with the expressed motivations and actions by the frontline staff interviewed; a high motivation to get things done for the public good.

3.2 | Discretionary power to develop local implementation strategies

Discretionary power is the ability of street-level bureaucrats to make decisions (or make policy) by determining the nature, amount, and quality of the service offered to the client (Lipsky, 2010). Especially when there is limited control from higher levels (within the organization structure of the agency and/or from higher levels of the line agency) on how to implement a policy, street-level bureaucrats can have much autonomy and power over their organizations' types, amounts, and degrees of perks and sanctions (Lipsky, 2010). These frontline staff with immediate contact with clients thus play a critical role in the result of policies because they have the ability to shape the policy in practice.

Differentiation and deviation in implementation strategy is often a necessity for getting things done, as the higher-level policy is about general issues and the average or typical target group member. Yet offering solutions in implementation is to be done in response to the variety of needs of the various clients (the outliers and surprising cases) or the circumstances within which something needs to be done (Sevä, 2015). And although the limited availability of resources constrains frontline staff from implementing environmental management and sustainability policies, they do develop strategies to cope with these constraints. Frontline staff in order to get things done, act as policy bricoleurs, making use of the available resources in the work environment, by coordinating tasks with other frontline staff, sharing resources, up to

delegating tasks to community members (Funder & Marani, 2015; Funder & Mweemba, 2019; Vedung, 2015; Zhang et al., 2021).

Frontline staff cannot escape exercising this discretionary power in their jobs. This can result in appreciation and respect from communities and target groups, if they recognize the balancing act required from frontline staff, and perceive government officers' actions as a result of fair and balanced judgment. However, the use of discretionary power can also result in arbitrary decisions, preferential treatment to certain groups or regions, and it may leave room for rent-seeking and corruption by frontline staff. If this is perceived as such by the public, this may undermine the legitimacy and acceptance of government action, which in turn may trigger a negative cycle, making the work environment of frontline staff more hostile and demanding.

3.3 | Frontline staff operate in professional networks

When focusing on the dilemmas and practices of street-level bureaucrats, most research focuses on the direct relations and interactions between them and their clients. At the same time, it has been recognized that street-level bureaucrats operate within a professional network (O'Toole, 1997) and progressively work in interdisciplinary teams, comprising internal and external colleagues (Loyens, 2019). Think for example, of how a teacher would work with a social work officer to deal with a student's needs. The professional social networks of street-level bureaucrats influence what they can do. This bureaucratic network consists of different agencies with relationships or is linked to a particular sector; they cooperate, communicate, and coordinate policy implementation, vertically and horizontally through various organizations and layers (Keiser, 2010).

When looking from the perspective of one local officer (e.g., an officer working for the Ministry of Mining), it gives the impression that the other frontline officers are available resources to the first. It would miss the point that the other frontline officers in the network are also confronted with dilemmas, limited resources, and thinking of ways to get their job done. For example, we saw in our case that officers of various departments organize field work together. For several of these officers this was a strategy to get transportation (as they do not have access to a car, resource limitation), but for all of them it is also a means of increasing their own security. Not just because they are then with a group, but also as it enables them to arrange the support of police officers to join. The police department is understaffed and cannot send an officer with all field inspections if officers would apply individually.

4 | RESEARCH METHODS

In this section we first present the case where fieldwork was done for this study. In the second part of the section we present how the case study was implemented and analyzed.

In total 24 people were interviewed, either in their office or in the case area. These included: mine inspectors, mining agents, regional coordinators, regional gold officers, environmental inspectors, district education officers, (high) school teachers, regional management officers, natural resource managers, field inspectors, and monitoring officers. These people were working for: the Ministry of Lands Mines and Energy (further called Ministry of Mining), the Environmental Protection Agency, the Forestry Development Authority (further called Forestry Authority), the Ministry Of Gender Children And Social Protection (further called Ministry of Gender), and the Ministry of Education (MOE). In the Liberian case all these people working at the local offices at county level are employed by the national government. Table 1 gives an overview of local bureaucrats' responsibilities and related policy documents influencing the artisanal gold mining sector.

TABLE 1 Overview of institutions and policy tools in the artisanal mining sector of Liberia.

Name of institutions	Local bureaucrats/frontline staff	Responsibilities	Policy document (reference)
Ministry of Lands, Mines and Energy	Inspector generals Regional coordinators Mining agents Patrolman Regional gold officers	Ensure mining license and enforce mining laws and regulations	Liberia minerals and mining law (MLME, 2010a)
Environmental Protection Agency	Environmental inspectors	Enforce laws and regulations for environmental protection and management	Environment Protection and Management Law of Liberia (RoL, 2002)
Forestry Development Authority	Field inspectors Natural resource managers	Protection of forest areas and related natural resources	National forestry reform law of 2006 (RoL, 2006)
Ministry of Gender Children and Social protection	Monitoring and sensitization officers	Promote, empower, and protect women, girls, and children in all sectors	National gender policy (MoGD, 2009)
Ministry of Education	District education officers Principles Teachers	Provide quality education for all Liberians	New education reform act of 2011 (RoL, 2011)

The semi-structured interviews were done to perform a formative assessment with key frontline workers one-on-one to explore the interviewees' perspectives, opinions and ideas (Adams, 2015; Gill et al., 2008). The semi-structured interviews were structured along the elements of the conceptual framework: context, dilemmas and challenges, discretionary power, implementation strategies, networks and relations, impacts of the policy practice on miners, and impacts of the policy practice on the environment. Next to the interviews and observations, secondary information sources were collected by desk study of scientific journals, newspapers, and reports.

To investigate the social network of the frontline officers, social network analysis was used (De Reuver, 2018; Goldenberg, 2021). The Gephi software (Bastian et al., 2009) was used to show the actors in the network and to analyze the relations between them.[3]

In the following sections we summarize the main results. Details and more examples can be found in Fallah (2022), which report the complete research findings on which this article is based.

5 | THE CASE OF ARTISANAL GOLD MINING IN GRAND GEDEH COUNTY, LIBERIA

Liberia is a mineral-rich country and mining ore, gold, and diamonds have historically been an important source of revenue for the country. Gold is mostly produced by small-scale artisanal miners along rivers, where it plays an important role in the informal economy. After the end of the wars in 1990s, the government of Liberia made revival of the mining industry an explicit objective. It has attracted much foreign investment and created tens of thousands of jobs (Wilson et al., 2017). However, environmental protection instruments, like Environmental Impact Assessment and stimulating best practices from local knowledge, are lacking (Wilson et al., 2017). And although the mining industry is very important for the economy, it is recognized that it continues to deteriorate the environment.

Table 1 offers an overview of various ministries and agencies involved and the related main policy regulations. The Ministry of Mining is responsible for granting mining licenses. It is regulated in the Mining and Minerals Law of 2000, which is further detailed in the Mineral Policy of 2010 (MMLE, 2010b). This policy envisions "Equitable and optimal exploitation of Liberia's mineral resources to underpin broad-based sustainable growth and socio-economic development" (MMLE, 2010b, p. 3).

The Environmental Protection Agency is mandated to coordinate, monitor, and supervise all activities in the field of environmental protection. Environmental Impact Assessment and Environmental Impacts Statement are needed to gain governmental approval before initiating new mining activities. However, these policies have appeared not very effective and there are overlapping and conflicting policies and responsibilities regulating the sector (Wilson et al., 2017).

The Forestry Authority is responsible for conservation, protection, and sustainable development of forest areas. In relation to artisanal gold mining the Forestry Authority is responsible for controlling and monitoring mining concession operations within forestry areas under their responsibility. Their activities have the goal to ensure that miners carry out activities in line with the prescribed regulations (FDA, 2023). In essence they control if miners are allowed to mine in the area, or if miners are active in restricted areas, and if these miners are using accepted practices.

The Ministry of Gender is mandated to improve equality and well-being of vulnerable groups. Its main objective is to promote gender mainstreaming in Liberia's policies and practices (MoG, 2023). Gender related issues in the artisanal gold mining sector are: women have no voice in decision-making and mining companies acquire their without negotiation and compensation, women are victims of sexual assault, women (and men) farmers and fishers are impacted by pollution of their water resources, compensations for land rights are channeled through their husbands, brothers, sons or fathers (Green Advocates International, 2017).

The MOE has the responsibility of providing education to all children. Children between 6 and 18 years of age. are legally required to attend school. Their parents, or guardians, are responsible for ensuring their children are enrolled and attending school (RoL, 2011).

This study focuses on the Clearance Valmont International mining community in Konobo District of Grand Gedeh County. The Clearance Valmont International mining community employs over 10,000 people. Due to environmental polluting practices exacerbated by illegal gold mining by miners from all aspects of life, Konobo is currently experiencing environmental degradation, water pollution, and health risks (KNewsOnline, 2020). Residents living in and around the Clearance Valmont gold mine lack basic needs like access to public health centers, education, and clean water. The gold mines are attracting young people who should be in school. These youngsters like the "fast cash" they receive from (illegal) mining. And although many people believe the state should address this issue to save the youth's future, it remains difficult to keep them in school rather than the gold mines (Rancy, 2019). Figure 2 gives an impression of the situation around the mining sites.

6 | DILEMMAS AND CHALLENGES OF FRONTLINE STAFF WORKING IN GRAND GEDEH COUNTY

The Liberian bureaucracy is characterized as a central hierarchical organization. Frontline staff working in and around artisanal gold mining are (mostly) employed by a ministry directly, and not at lower tiers of provincial and county administrations. This central hierarchical organization creates clear chains of command, but is also known to have challenges in responsiveness, coordination, and efficiency. Their day-to-day work is thus characterized by the hierarchy that is setting out goals and responsibilities and provides (limited) resources, but at the same time frontline officers have quite some leeway to shape their own work as there is limited control and monitoring from higher levels. When talking with frontline staff working in and around the Clearance Valmont International gold mine community, many challenges arise in their daily work to get policy implemented.
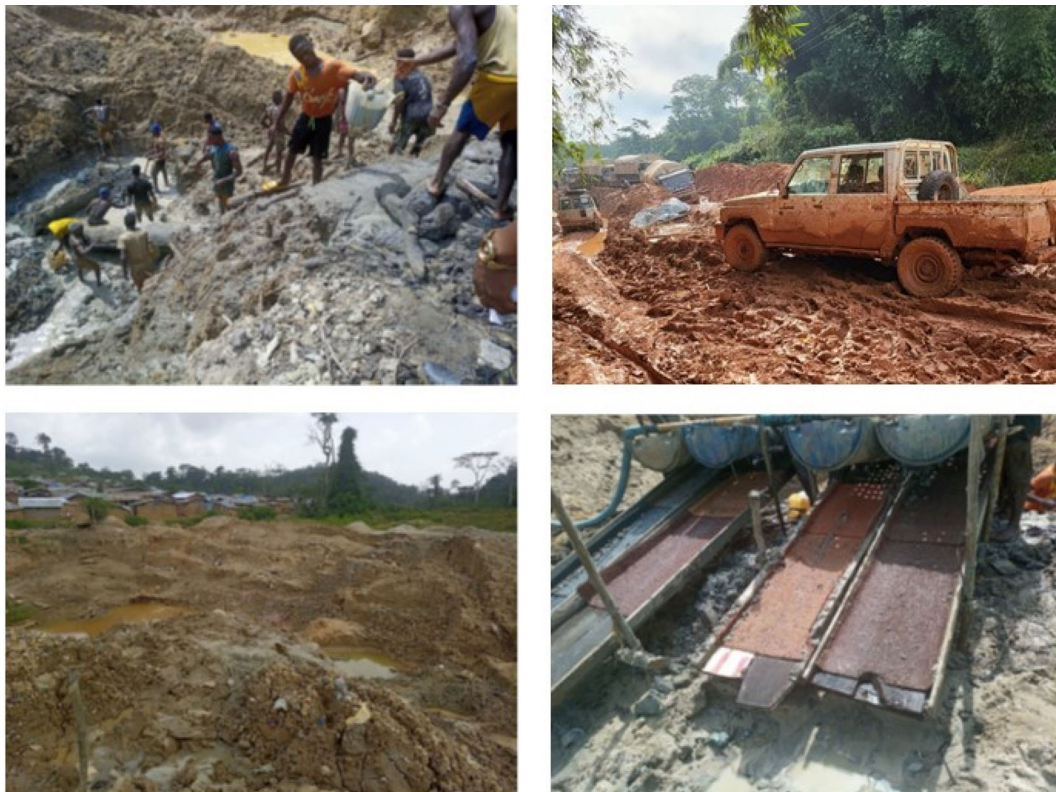
FIGURE 2 Grand Gedeh Clearance Valmont International mining site. Clockwise: (1) Adolescents forming a bucket-line while digging a mining pit, (2) poor road conditions; trucks in the background got stuck in the mud, (3) gold washing machine, which is also used to cover pits, (4) open pits next to village (photo credit: first author, December 2021).

In the following paragraphs, we highlight some of these, ordered on the basis of three different contextual origins of these challenges and dilemmas. First are the sectoral policies developed at higher (national) levels of government for the same sector——such as national mining policy and regulations for frontline staff of the Ministry of Mining. Second are influences from other policy domains and frontlines staff, outside the frontline staff's own sector but direct interactions with it, such as forestry policy and local forestry officers for frontline staff of the Ministry of Mining. Third are the local community and target groups, including children and adolescents working in mines.

6.1 | Higher level policy

Liberia is a centrally organized and policy is directly administered to all regions. The challenges and dilemmas of the frontline bureaucrat results from interpreting higher-level policy (goals, tasks and responsibilities, instruments, strategies, timeframes) into locally implementation practices while having insufficient resources (including authority) to do all the prescribed activities.

The first challenge described is straightforward, frontline staff working in Grand Gedeh county do not have sufficient means to do their daily work as they would wish to do. Frontline staff of the Ministry of Mining mentioned they should do field inspections on a weekly

basis, however due to limited resources they are happy if they are able to (inspections every other week). Also, the other interviewed frontline officers (Environment, Gender, Forestry, and Education) mentioned a lack of resources in general, and having insufficient means of transportation in particular, as their main challenge to implement what is prescribed. "We don't have the means of getting to the field to do our work." Interviewees either did not have proper vehicles (cars and/or motorbikes), or were dealing with insufficient fuel, or finances to buy fuel, to do all the fieldwork. Also, some field locations are only reachable by motorbikes because the condition of the roads, dirt roads, and small single tracks is too poor for larger vehicles to cross (especially during the rainy season, see Figure 2).

In combination with a limited number of staff, the lack of means of transportation creates dilemmas of not being able to travel to all the locations at all planned times. This seriously impacts the ability of the frontline staff to do field inspections and control illegal and unsustainable mining activities. The scant staff means that frontline officers cannot visit the mining areas regularly and cannot, in practice, conduct the daily or weekly monitoring and management of environmental activities they are responsible for. Dilemmas resulting from this challenge are: how often will I visit the site location, will I use my private car or motorbike for field inspection, am I able to travel with somebody else, and or can I delegate my responsibilities to others?

Another challenge results from limited security resources and legal authority in the field. Several officers mentioned they have had

to deal with miners' retaliation. As one of the interviewees said, "…we can get attacked by these miners, especially when we try to stop them from doing the wrong thing, and it's because we are limited in number." In a scenario where one or two frontline officers encountered more than 15–20 illegal artisanal miners, officers mentioned to be afraid to get killed if they try to stop the practice. This creates a serious dilemma, due number of staff and legal authority in the field: How can I guarantee my safety at the job? To which the answer of our interviewees was: "safety first." This means that frontline officers will not go alone into the field and not without support of police officers when expecting potential violent situations.

6.2 | Other policy domains and frontline staff

When in the field, frontline officers are also confronted with the goals and practices in other policy domains than their own. Frontline staff of the Forestry Authority mentioned that they were dealing with miners who received permits of the Ministry of Mining in protected areas. Policy does prescribe coordination between the Ministry of Mining and Forestry Authority. It is the responsibility of Ministry of Mining to give out mining licenses. In doing so, they should consider those protected areas under the Forestry Authority jurisdiction. However, officers of the Forestry Authority are confronted with miners in protected areas who are having licenses issued by the Ministry of Mining. When they go for their inspection and contact these miners, the miners show them a legal document that gives them the right to carry on their mining activities. One of the interviewees said, "…the issuing of license in Forestry Authority protected areas shows a lack of coordination between Ministry of Mining and Forestry Authority."

This indicates the lack of coordination between the two ministries and creates a dilemma for the local forestry officer: to stop or not stop this legal/illegal miner——and at what cost? And although the frontline staff we interviewed also mention to not have a relation with each other (see the next section on network analysis), it is also not the responsibility of the local Ministry of Mining frontline bureaucrat to issue mining licenses. To get a mining license, miners need to go to the central office of the Ministry of Mining in the capital Monrovia to get their license issued (more than 400 km distance from Grand Gedeh county).

6.3 | Local community and target groups

Frontline staff working in and around artisanal small-scale gold mining are faced with dealing with children and adolescents working in the mines. The Education Law (1973) makes education compulsory for all children between the ages of 6 and 16. However, it is estimated that 15%–20% of the children between 6 and 14 years old are not attending school (UNICEF Liberia, 2022). Frontline officers of the MOE are to ensure that children and adolescents acquire their primary and secondary education. Nevertheless, these children are found in the

mines, instead of being at school. Frontline officers of the MOE elaborated: "Children working in the artisanal sector are against the policy governing the sector, yet they are there, and parents justify it as their means of earning a livelihood." These officers are dealing with the dilemma: taking a source of income from these poor families by taking the kids out of the mine, reporting them, and get them into school.

The governance of rural societies in Liberia is characterized by traditional ritual practices, carried out (under the auspice of) traditional leaders. For the frontline officers, who are not members of these communities, it appears there are no specific times, dates, or days of the week for these practices. Also, specific bushlands are referred to as "traditional." Only members of the traditional community are allowed access with permission from the traditional council. The national law recognizes this traditional authority. In practice the frontline officers are faced with a dilemma: what can I do to inspect mining activities in these areas where I cannot enter according to local traditional institutions?

7 | A NETWORK ANALYSIS OF FRONTLINE STAFF WORKING IN GRAND GEDEH COUNTY

Many frontline staff working in and around artisanal gold mining in Grand Gedeh county know each other. They are using their professional networks with other officers, NGO staff, community based organizations (e.g., schools and churches), and community leaders to improve their ability to achieve their policy goals. Figure 3 presents the professional network of frontline officers that were interviewed for this research. The colors on the map represent ministries or agencies with similar policy interest or goals in relation to the issue. For instance, the Environmental Protection Agency and the Ministry of Lands, Mines and Energy are both purple, as both mentioned to ambition environmentally safe mining practices. The arrows between the actors describe the stated relationship between the frontline staff we interviewed and their wider networks. A unidirectional arrow presents a stated dependence relation, where the first needs the support of the second. A bidirectional arrow shows an interdependent relation. The weight of the arrow indicates how strong the relationship is, according to the interviewees (a thicker line is a stronger relation). We have merged results of direct colleagues (e.g., we interviewed two direct colleagues of the county level office of the MOE) into one actor in the network analysis. This on the one hand reduces visibility of the plurality of frontline bureaucrats operating and which county level offices have more staff than others, but it highlights the working relations between the organizations they are working for and the related policy domains that find integration in implementation.

When the interviewees mentioned other actors as partners that the first author was not able to meet in the field, like for several NGOs, the relation between them was assessed from the websites of the mentioned actor. For example, the Forestry Authority interviewee mentioned PADEV as a partner, but no PADEV staff was available in the field during the field research work. PADEV mentioned on its
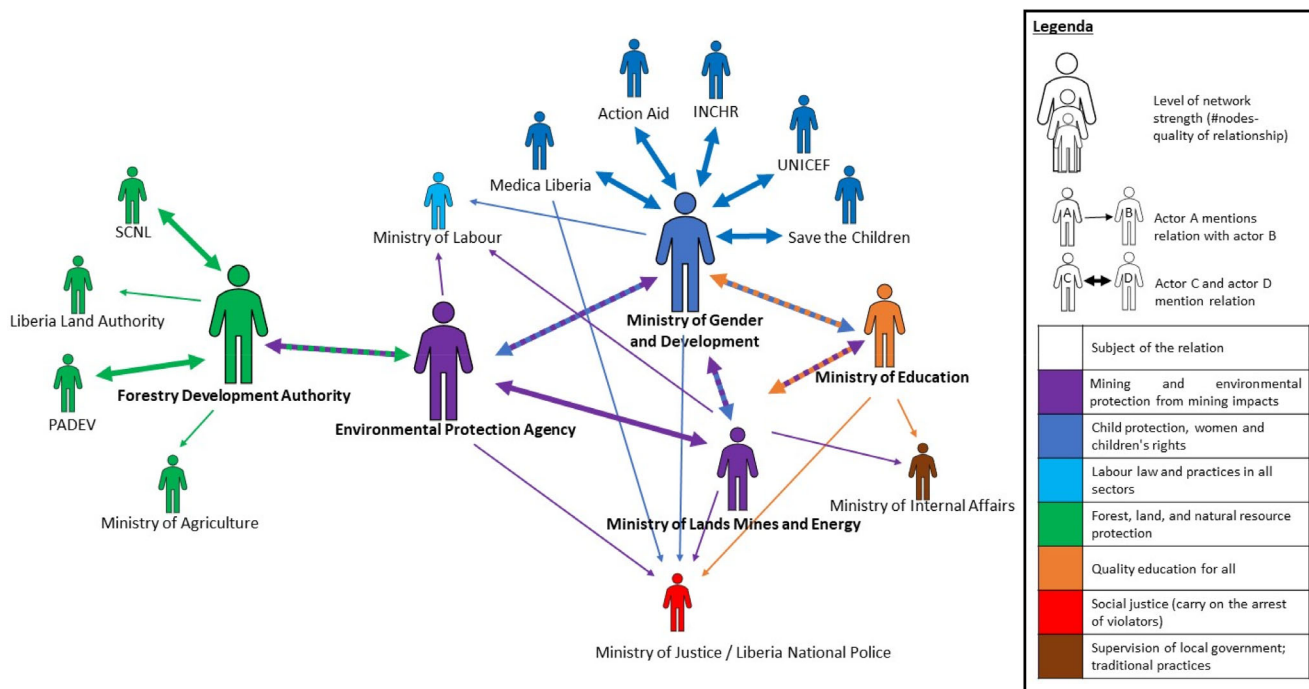
FIGURE 3 Social network analysis of frontline staff in Grand Gedeh county.

website to be a partner of the Forestry Authority. The combined information from the Forestry Authority interviewee and the information on the cooperation between Forestry Authority and PADEV on the latter's website results in a thick bidirectional arrow, in other words, a strong interdependent relationship. The size of the people in the network represents their network strength,[4] the stronger the actor the larger the size.

The network analysis offers us some interesting observations. First, there is a cooperative cluster between the frontline officers of the Ministry of Mines and Energy, the Environmental Protection Agency, the Ministry of Gender, and the MOE. These interviewees mention that they work as a team. An Environmental Protection Agency official said:

> We don't work alone; we work with people from the Ministry of Lands, Mines and Energy because they have details on the miners. They show us where mining activities are ongoing, thus making our work easier.

An Ministry of Mining officer said:

> We sometimes meet once or twice a month to discuss the importance of each ministry's roles as it relates to the sector; as to what should be done to regulate the sector and stop the environmental and social impacts that are happening in the sector.

The remarkable outsider here is the Forestry Development Authority, which only has a stated cooperative relationship with the

Environmental Protection Agency. It is not clear why this officer is not part of the network of the central four, but it is in line with the fragmented implementation and conflict in issuing mining licenses in protected forest areas mentioned in the previous section. The network graph also shows that the central four actors recognize dependence on the Ministry of Justice/Liberia National Police (further explained in the next section). Additionally, the judiciary system in Grand Gedeh county is also faced with many challenges (see also CDC, 2008).

The frontline officers also have connections with (local) NGOs, charities and international agencies with whom they cooperate in programs or get in contact with as they are working with the same local communities to improve local livelihoods. These organizations in the network of the frontline officers are aiding the work of frontline officers and are taking over tasks and responsibilities, for example, supplying schools with necessary materials (Brooks, 2021). It is remarkable that only two of the frontline officers in the network stated strong relations between their departments with NGOs, where the presence of NGOs is related to specific international concerns and their associated programs and financial flows. We have not analyzed the reason behind this further, but it can either be that the more resource and powerful (traditionally stronger) ministries, like the Ministry of Lands, Energy and Mining, do not need to cooperate with NGOs. Or, that NGOs, and the international donors financing them, are focusing on cooperation in policy domains with ministries that are less resourceful and work on topics that resonate with the international development agenda (gender, inclusive development, education). Nevertheless, it appears that the frontline staff of the Ministry of Gender has become important as they provide links to NGOs (and their resources).

8 | IMPLEMENTATION STRATEGIES: FRONTLINE OFFICERS IN GRAND GEDEH COUNTY AS ENVIRONMENTAL POLICY INTEGRATORS

Frontline staff working in Grand Gedeh county have quite a high a level of autonomy in shaping their strategies of implementation. The use of their discretionary power enables them to develop strategies with their network partners. In the following sections, we give some examples of how frontline officers act as policy integrators by combining goals and resources and or coordinating and delegating tasks to actors in their policy network. These strategies do often not result in perfect outcomes. For example, as shown in Figure 2 many mining pits are not covered after exploitation. Nevertheless, these examples do show how frontline staff makes smart use of their networks and work with communities in implementation, which results in an integrated policy practice.

8.1 | Joint inspections

The first strategy is sharing resources and working together during field inspections. Officers of the Environmental Protection Agency, Forestry Authority, and the Ministry of Mining mentioned carrying out unannounced joint inspections. They share a vehicle and combine staff, which gives them some additional aid in response to retaliation from miners. Having joint field inspections also helps in dealing with the impact of poor road infrastructure on organizing regular inspections. Frontline staff from the various ministries and agencies select a specific time to inspect the Clearance Valmont International gold camp. While moving from site to site, the officers perform their individual tasks. At the same time, this allows the Liberian National Police force to join, and, if necessary, arrest violators, rather than having police officers with every single officer to their individual site visits. As one interviewee said,

> we do a joint inspection at times to avoid being attacked by these miners. The police go along with us. But we also work with the community people in implementing our policy.

Although the officers work with the community leaders, they do not announce the joint inspection date. The officers are afraid that community leaders might inform illegal miners or miners practicing illegal activities (use of mercury mostly) in advance of the field visit.

8.2 | Spreading shared integrated policy messages

One of the main dilemmas any frontline officer faces in Grand Gedeh county is dealing with children working in the mines. Frontline staff of the MOE have the task of keeping kids in school instead of mining. Many kids start working as their families need the extra income.

However, the fast money that can be made in and around the mine prevents many from ever returning to school. One of the main strategies that frontline officers use to address this dilemma, is via counseling and awareness building. Officers from different ministries mention that they will engage the parents when children are spotted in the mines, a frontline officer of the Ministry of Mining mentioned to "tell them the importance of education and discourage them from sending their children to the mines."

This counseling on education is often combined with other awareness and education- activities. Officers of the MOE mentioned that they carry on awareness with community members and the miners on land degradation and other environmental pollution from mining activities. Meanwhile, staff of the Forestry Authority explained that they continuously do awareness with community residents and miners on forest management and the impact of destroying the forest, especially the protected or reserved forest. The Ministry of Gender mentioned that they do awareness for community residents on the danger and consequences of open pits and sexual-based violence in and around the mining sites. Lastly, interviewees from Ministry of Mining and Environmental Protection Agency mentioned that they do awareness with the miners via the mining corporation and the community residents on the impact of unsafe mining practices (mostly on the use of mercury).

These awareness practices are done during the joint inspections. By everybody sharing similar policy messages on sustainable mining practices and particularly the importance of education (this is a message that all interviewed frontline staff mentioned to share), the officers think they are making an impact and seeing some behavioral change.

8.3 | Delegating tasks to community leaders

As frontline staff cannot access areas recognized by traditional leaders as sacred, the officers involve community leaders and or community committees in monitoring and inspecting illegal mining practices in the sacred areas. In the absence of the mining agents, forestry, or environmental inspectors, the community leadership visits mining sites to ensure miners follow the environmental protocols. Additionally, the community leaders routinely check protected areas, ensuring those areas are void of mining activities. They report back to the officers if they encounter any ongoing mining activities in those areas. Because the officers cannot enter those sacred areas, the officers will discuss with the traditional leaders what to do next, when there are reports coming from these areas.

In conclusion, the frontline staff of the various agencies working in and around artisanal gold mining in Grand Gedeh county use various policy integration strategies in order to implement policy within their limited capacities. The main strategies are by coordinating and organizing joint field inspections, spreading shared policy messages, and delegating tasks to community members. We observed that the integration strategies of the officers are driven by motivations of realizing policy goals but are mostly a result of pragmatic choices to

resolve the challenges they are facing due to the limited availability of resources to implement. Environmental policy integration is thus not a goal for these frontline staff, but cooperation and coordination of activities and resources is a strategy to get things done.

9 | DISCUSSION AND CONCLUSION

9.1 | Drivers and stimuli for policy integration

Looking at the literature on (environmental) policy integration, we see that policy integration is mostly promoted as an idea to support sustainable development. The awareness that many policy domains are related requires holistic, integrated approaches to deal with complex issues like environmental pollution. Policy integration in the normative perspective is very much focused on a top-down approach in which higher-level policies are integrated to overcome implementation deficiencies due to fragmented policy implementation and is at the same critiqued to make implementation more complex. Top-down policy design-oriented perspectives dominate the field of understanding environmental policy integration (Cejudo & Trein, 2023). The case we presented here has only limited top-down environmental policy integration, mostly related to the integration of environmental impacts assessment in mining licenses, and the prohibition of specific polluting substances in mining.

The case highlights that integration of various policy domains already happens in local practices of implementation by a network of frontline staff of various ministries and target groups, not because of a top-down sustainability or integrated policy ideal, but out of pragmatism to overcome implementation challenges and getting (some) things done. The integration here links policy implementation across sectors, cooperating and coordinating the use of resources and combining activities, but also by recognizing the trade-offs that arise when different goals are translated to local level decisions, permits, and activities.

In our research we show how frontline staff in Grand Gedeh county shape policy integration strategies to overcome the challenges they face in their daily policy implementation practices. It is important to highlight that they do not have the explicit ambition to develop an integrated policy. Nevertheless, they are co-creating integration in their policy practices. Our notion of street-level policy integration relates much to the description of frontline staff as policy bricoleurs by Funder and Marani (2015). Both these lessons add to our understanding of street-level bureaucracy, in the sense of how frontline staff are explicitly using their networks as a source of resources (a vehicle, an extra person on inspection) and delegating tasks to community members (who are also driven by personal motivations and policy beliefs) in order to achieve their policy goals.

As mentioned, (environmental) policy integration at a higher level is stimulated by normative policy ideals (e.g., sustainability) to overcome fragmentation and policy gaps. At the same time, policy integration at the field level is stimulated by pragmatic problem solving, increasing one's resources. Integrated policies have not been able to

overcome policy failure (Rayner & Howlett, 2009), or worse, some integrated policy is too complex to implement (Howlett et al., 2017). We think, that in order to come to more feasible (higher-level) integrated policy, it is important to learn from and take the integration strategies of local implementation frontline bureaucrats into account. These strategies show how local implementation networks do work, what tasks and responsibilities have been successfully delegated to communities, which ways of cooperation can be strengthened, formalized even, where is investment in capacity needed, and what are the related policy domains at the street level (the four central players in our network in Figure 3). Knowledge of street-level policy integrators potentially helps to develop higher level integrated policy (vertical integration) that considers implementation practices and feasibility more.

9.2 | The role of networks in frontline integration strategies

Our network analysis shows, not surprisingly, that resources and cooperative network relationships are unevenly distributed among actors in the network. An interesting question, which we did not further investigate here, is to what extent the networks of frontline staff are shaped and formed by (historic) patterns of interaction of their parent ministries and agencies at higher levels. In our case study, we do see that especially the Ministry of Gender and Development to have many strong relations with (international) NGOs, showing how concerns of the international policy community have an impact at the field. These non-governmental actors provide resources to the frontline staff, strengthen their abilities, and legitimize their activities.

In addition, all frontline officers we interviewed, were very dependent on the support of the national police force's power and authority in dealing with the dangerous situations around illegal mining. The most important lesson here, is that these frontline staff realize that working together and developing——integrated——strategies supports policy implementation within all the limitations. These frontline officers recognize in practice that environmental issues are interconnected through social, political, economic, and cultural issues and that they can connect their actions and goals in their practice. At the same time our work also shows that one cannot understand implementation of mining policy, by just looking at mining laws and regulations and what frontline staff of the Ministry of Mining are doing in interaction with the artisanal miners. Our case confirms that integrated implementation can emerge in a bottom-up fashion, even though the starting point is very much sectoral policy making (Cejudo & Trein, 2023).

9.3 | Effectiveness of integration strategies and generalization of artisanal gold mining findings

The activities and strategies developed by frontline staff in Grand Gedeh do not necessarily achieve the desired outcomes. For example, delegating tasks to community leaders' risks creating areas where

illegal mining activities continue because the community leaders might (economically) benefit from it. Also, many mining pits are left uncovered after exploitation, and sharing resources has not resulted in doing weekly inspections as is required. The local frontline officers, however, do show that they can coordinate activities, make smart use of limited resources, co-manage resources with communities, and represent the goals and ambitions of the state in a very complex environment.

Artisanal gold mining in Liberia is of course an issue where many practices can be considered as extreme: illegal mining practices, illegal immigrants, high levels of sexual assault, child labor, and use environmental polluting substances, in combination with a government with very limited resources to act, particularly in remote areas. Yet, we think that the locally integrated policy practices that emerge in this complex context are not unique. There are many other instances where different frontline officers engage in a mix of both supporting and constraining activities, while facing serious resource constraints. The exact implementation strategies may differ, but are likely to show resemblance to our findings in coordinating and pooling resources, and recognizes local trade-offs and dilemmas.

9.4 | In conclusion

Like others, we recognize a continuous increase in needs for integrated policy, due to the realization of the complex nature of many policy issues. At the same time, integrated policy appears hard to implement. Lessons from the implementation practice, with all its limitations, contain valuable information to increase the potential implementation feasibility of higher-level integrated policy. Recognizing the role these local frontline staff play and need to play as street-level environmental policy integrators, is needed if more effective integrated policies are to come about for the benefit of sustainable development.

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ENDNOTES

[1] Throughout the paper we tend to use the term frontline staff as a general term to refer to government staff working in direct contact with the public, and use the term frontline officer/bureaucrat to highlight the individual characteristic of the job. We consider these terms similar to street-level bureaucrats by Lipsky (1969, 2010), interface bureaucrats (Funder & Mweemba, 2019), local bureaucrats (Funder & Marani, 2015), and frontline bureaucrats (Falanga, 2018).

[2] In essence the Environmental Impact Assessment family can also be regarded as environmental policy integration, however in its rise since the 1970s it was not connected with the term environmental policy integration, also the activity was regarded much more a standalone activity rather than an integrated approach to more sustainable planning and development.

[3] For the sake of aligning the graphic style of Figures 1 and 3, we re-created the Gephi output of dots and lines, by copying the network diagram replacing it with people icons similar as used in Figure 1.

[4] Strength here is depicted as network analysis measure of weighted degree centrality.

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