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## Chapter 22

# Measuring the Impact of the Extractive Industry's Development Projects

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**Abstract.** *In the past decade and a half, increasing pressure has been put on big corporations and, in particular, on the extractive industries—mining, oil and gas, and forestry—to go beyond philanthropy, and to make social contributions that contribute directly to society's development, particularly in ways that help to achieve international development goals. At the same time, an increase in social unrest directly linked to mining operations has led to an increased realization that contributing to the development of affected communities is an important risk-avoidance strategy. While many community development projects have been implemented over several years, impact assessments were not seen as necessary; and it has only been where there has been increased pressure from governments, such as Ghana's, that impact assessments of these projects have been done. This chapter discusses the impact of evaluation methods used by a mining company in Ghana to measure the impact of their community/societal development program. The chapter concludes with an exploration of the way forward for impact evaluations of the development activities of big corporations.*

The term “extractive industry” refers to any industry that extracts resources from the Earth: it mainly refers to mining, oil and gas, and to a lesser degree, forestry. The extractive industry is enormous and occupies a significant space in the economies of many resource-rich countries. This sector accounts for at least 20 percent of total exports, and at least 20 percent of government revenue, in 29 low-income and lower-middle-income countries (Smith 2012). In eight of these countries, the sector accounts for more than 90 percent of total exports, and 60 percent of total government revenue. Three of the world’s largest companies are extractive companies.

Although the sector is not necessarily more complex than other industrial or economic sectors, it carries with it significant and diverse economic, societal, and environmental implications and challenges. Over the past five decades at least, the economic and environmental implications have been tackled, and their mitigation has been legislated for the most part. The social implications have taken somewhat longer to raise hackles, perhaps because they are less visible than environmental degradation: it is only since 2002 that the extractive industry (primarily mining) has begun to mitigate some of these effects. Social implications refer to the socioeconomic circumstances and health of populations living in the vicinity of the mines. Reserves are often found in remote areas with limited economic activity and major social needs, and the industry has long-term horizons, with reserves depleted over several decades, which means that the mines or oil fields, and their cumulative social impacts, will be there for just as long.

The first section of this chapter reports on the use of monitoring and evaluation (M&E) in the extractive industry’s community development projects in West and East Africa, as observed during the period 2002–12: the second section deals with the assessment of the impact of community development initiatives implemented by a mining company operating in Ghana, West Africa. The third section explores the way forward for impact evaluations of the development activities of big corporations.

## **M&E IN EXTRACTIVE INDUSTRY DEVELOPMENT PROJECTS**

The community development projects referred to in this section were implemented by mining, and oil and gas, companies in West and East Africa. These development projects were implemented by 10 operational mines and 3 exploration projects, which were owned by 5 multinational companies. The author worked for these companies in the role of independent contractor, and as such was involved in the development, implementation, and/or evaluation of the community development projects. As is the norm, nondisclosure agreements were signed with the companies before work could commence, and these agreements prevent the naming of the companies and/or the relevant projects discussed in this chapter. The development projects discussed were spread over four different countries, and were implemented during the period 2002–12.

## 2002–03

In the initial period (2002–03), the companies gave much more attention to environmental issues and impact on the environment, primarily because pressure from environmental advocates had started in the 1970s, and environmental issues were included in the mining codes of various countries in the decades that followed. Relationships with directly affected communities were not high on the priority list of most companies, and government officials and local traditional chiefs were the only persons considered to be local stakeholders. Community development was not on the priority list. Any infrastructure project that the company initiated was directly linked to the needs of the extractive project. These projects mostly involved the construction of roads, and the provision of electricity and potable water.

Toward the end of 2003, a few projects experienced social unrest as traditional environmentally focused nongovernmental organizations (NGOs) started to highlight the social impact of the projects, and stakeholders became more aware of their rights. The reputable extractive companies recognized that in order to be responsible corporate citizens, they had to address socioeconomic development issues at their operations. It was during this time that development initiatives within communities started to shift away from pure infrastructure to also include community capacity building, and local economic (livelihood) projects. At this time, none of the projects included any M&E. Infrastructure projects were monitored by engineers, and capacity-building and livelihood projects were monitored against a budgeted amount. There was no tracking of the number of beneficiaries, nor of the effectiveness or the impact of the project. Once the money was spent, the project was considered to have been implemented successfully by both the staff and the management of the companies.

## 2004–07

As governments in resource-rich countries matured, improved access to education and the Internet resulted in better-informed stakeholders, and as the International Finance Corporation's approach evolved to include promoting environmentally and socially sustainable growth in developing countries,<sup>1</sup> more countries started to legislate the mandatory implementation of community development projects by the extractive companies operating within their borders (IEG 2011). In 2005, the International Council on Mining and Metals (ICMM) released its *Community Development Toolkit*, to be used as a guide to implementing community investment by its member companies

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<sup>1</sup> The International Finance Corporation (IFC) is the world's largest multilateral development bank, providing financial support and technical advice to private firms in developing countries. Although only one of the companies discussed here is an IFC client, all the companies adhere to IFC guidelines (referred to as IPs—performance standards for best practice).

globally.<sup>2</sup> This toolkit did contain a section on M&E, but it was very basic; and even though the ICMM released an updated toolkit in 2012, the M&E section was not updated, and the assessment or evaluation of the impact of community development projects was not covered.

By 2007, most mining companies had moved away from seeing community development projects as philanthropy, and had begun to see them more as an essential part of their risk-avoidance activities. Companies started to spend hundreds of thousands of dollars on identifying social risks and implementing community development projects, but barely a thousand dollars to measure the impact of their development projects. Similarly, including community development projects as a means for avoiding social unrest did not change the methods of resource extraction activities, which remain governed by cost effectiveness and return on investment (ROI) considerations.

In Ghana, three of the companies decided to outsource community development projects to professionals, and appointed international NGOs to implement them.<sup>3</sup> These community development projects focused on the education, health, and local economic development sectors, and were similar across all three companies. The NGOs introduced M&E, but it was limited to preset indicators developed by the NGOs without input from either the affected community members or the company. The tools used were standardized M&E procedures and tools.

## 2008–12

After the initial four-year contract ended, the companies decided not to outsource this function anymore, but rather to employ development professionals. As the external evaluations conducted on the programs implemented during 2004–07 indicated that there was a need for more engagement with community members when choosing and designing development projects, this became a priority. Most of the development professionals employed were trained in community liaison and external engagement: thus there remained a dearth of M&E skills across the board. The companies required data about only these indicators: number of beneficiaries; amount expended; number of social complaints directly related to the company's operations; and number of social unrest incidents, irrespective of cause. This was the full extent of any M&E.

In 2012, the government of Ghana, as part of the Ghana Environmental Protection Agency's (EPA's) Akoben Programme,<sup>4</sup> for the first time ever demanded a report on the impact of community development initiatives on affected communities. The Akoben Programme used a rating system

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<sup>2</sup> All the mining companies referred to in this chapter belonged to the ICMM between 2002 and 2014.

<sup>3</sup> One international NGO was contracted by several gold mining companies to provide this service.

<sup>4</sup> <http://www.epaghanaakoben.org/>.

(figure 22.1) to assess the environmental standing of an operating mine or mining project (e.g., the development of, or expansion of, a mine).<sup>5</sup> The results were published in all the leading newspapers, and the competition for praise (and/or shame) among the companies was strong.

FIGURE 22.1 **Akobon Programme rating system**

Rating level	Performance	Implications
Red	Poor	Serious risks
Orange	Unsatisfactory	Not in compliance
Blue	Good	In compliance
Green	Very good	Applies best practices
Gold	Excellent	Committed to social performance

## IMPACT ASSESSMENT IN GHANA

### Mining in Ghana

The second-largest gold deposit in Africa is located in Ghana, and the historical importance of gold mining in the economic development of the country is considerable and well documented.<sup>6</sup> Large-scale industrial gold mining in Ghana dates back to the last quarter of the 19th century. It was restructured and modernized under the post-1983 Economic Recovery Programme, after a period of decline under government control in the nationalist era in the two decades since the early 1960s (Hilson 2002, 2004). Some of these changes included a revised mining code (the Minerals and Mining Law [PNDC 153] of 1986), and resulted in the sector seeing sustained increases in foreign investment, output, and export volumes. Investment increased substantially between 2006 and 2009, facilitated by a further revised mining code, which was consolidated in the 2006 Minerals and Mining Act 703. Under this law, all minerals are owned by the state, and the holder of the mining lease must pay a royalty to the state of not less than 3 percent and not more than 6 percent of their gross revenues. In addition to paying royalties, mining companies also contribute to taxes, employment, contracting, and investing in community development.

The gold mining sector contributes significant amounts to the global economy through their production activities and expenditure on goods and services, but the socioeconomic impacts of this sector are not well understood. The direct economic contribution of the gold mining industry to the world economy during 2013 was over \$171.6 billion, which is almost seven

<sup>5</sup> Each mine or mining project was assessed individually, irrespective of how many mining projects a company owned.

<sup>6</sup> See Agbesinyale (2003); Akabzaa, Seyire, and Afriyie (2007); Hilson (2002, 2004); and Kesse (1985).

times its contribution in 2000.<sup>7</sup> The biggest in-country expenditures are for suppliers and employee wages.

The gold mining sector in Ghana contributes a significant amount of funding toward supporting development, and it is useful at this point to highlight both the sector's contribution and that of international aid to the country between 2000 and 2012. Official international aid received by Ghana increased by 202 percent during the period 2000–12, rising from \$598.2 million to \$1,807.9 million (Stamp 2015). In contrast, direct gross value added amounts during the same period increased by 1,174 percent: from \$273 million in 2000 to \$3,476.4 million in 2012 (Stamp 2015).<sup>8</sup>

## Two Mines and Their Community Investment

The mines that are the subject of this chapter, and which belong to one company, are located in the Birimian and Tarkwaian gold belts, which characterize the western half of Ghana.<sup>9</sup> Although nowadays companies have large community relations departments and sophisticated manuals for stakeholder engagement, community development, and impact mitigation, in Ghana in 2002, on one of Africa's biggest and most productive mines, none of this existed. It can be correctly assumed that this was the case at most mines in West Africa, if not in the world.

However, as discussed above, local and international events, and especially increased social risks, left the companies no other alternative than to start addressing social issues. The initial corporate social responsibility projects were primarily community-level infrastructure projects: hospitals, communal toilets, schools, and roads. There was very little understanding that these buildings meant nothing if people were not using them and benefiting from them. There was confusion as to why the recipients were not grateful to the companies for providing them with these buildings, and specifically in Ghana, some meetings were held among mining companies to address this shared problem. It became clear that miners are best at mining, not at development work, and that they needed people with expertise in development. At this time, any monitoring of any social project was being done by the engineers, and was related to the building of the buildings or roads, and the amount of money being expended: there was no measurement dealing with the number

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<sup>7</sup>The contribution can be assessed by calculating the gross value added (GVA), which is a calculation that estimates the contribution of industrial activity to a nation's gross domestic product (GDP). It is important to note that GVA does not refer to production, but rather economic value, nor does it refer to profit.

<sup>8</sup>Direct gross value added (GVA) estimates the economic value of the gold mining industry's production to the Ghanaian economy. Indirect GVA estimates the value of economic production resulting of the industry's expenditures on raw materials, good and services.

<sup>9</sup>While the company has provided permission to use the data presented in this study, permission is granted on the basis that the company and the mines will remain anonymous.

of beneficiaries, and there was definitely no thought given to social impact, whether positive or negative.

The company that is the subject of this chapter began by implementing infrastructure projects in the communities that had been most affected by its mining activities since 1999. Initially, it adopted an ad hoc approach by simply responding to requests made by the communities. This approach changed when in 2002 a trust fund, which two years later became a foundation, was set up in the names of the affected communities to ensure that sufficient funds were set aside annually for the development of these communities. One of the first tasks of the foundation was to develop a five-year community development plan to ensure a coherent approach to the provision of infrastructure to the affected communities.

The vision of the five-year plan was to be a high-impact, results-focused, sustainable, and integrated community development program that focused on economic growth, quality of life improvement, and empowerment through infrastructure development and capacity building. Its immediate goal was to improve the quality of life for 30,000 people in the 16 primary stakeholder communities by 2010. An international NGO was contracted to develop the five-year plan and to implement it.

Each of the individual projects that formed part of the five-year program had its own M&E logical framework (logframe). The M&E involved preset indicators developed without input from either the affected communities (the beneficiaries) or the client (the company). The NGO was using standardized procedures and tools. With the passing years, however, and with the realization that the clients were primarily interested in being able to report on the amount of U.S. dollars being spent, and how many people were being directly assisted, those two indicators became the main measurements used by the implementer.

The evaluations involved external experts coming in to measure performance against preset indicators, using standardized procedures and tools: there was no focus on the impacts (whether intended or unintended, positive or negative) of any of the projects. The evaluation reports of six community development programs implemented by various mining companies in the country indicated that the M&E of the projects, as reflected in the logframe, appeared to be an afterthought. Although the logframes were well executed, with the objectives, objectively verifiable indicators, means of verification, and assumptions well laid out, one got the sense that this was done merely in order to tick a box, and that the logframe was never again looked at until it was studied by the external evaluator. Three of the five-year program's project planning documents contained no logframes, and there was only a brief paragraph referring to M&E.

## The Impact Assessment

Two years after the completion of the implementation of the community development program, this company, like many others in Ghana, was obligated to report on the impact of its community investment projects as part of the Ghana EPA's Akoben Programme. It therefore wanted to measure

not only the impact of the five-year program, but also the company's earlier infrastructure development projects. It was at this time that the lack of any baseline data was discovered. While each of the projects had an M&E plan, there had been none for the overall program, and no baseline data had been collected before the program was initiated.

As there were only limited other resources that could be used to create a baseline against which the program's impact could be assessed, the impact assessment had to adopt a "before" and "after" methodology that was designed to quantitatively and qualitatively determine the program's outputs and impacts on the communities.

Four impact assessment criteria were used:

- Individual project relevance and appropriateness
- Status of individual project implementation
- Changes in the community's access to education, water and sanitation and health care
- Individual project impact and its sustainability

Structured questionnaires were used to collect data from a sample of 990 households randomly selected across 16 communities from a total number of 11,677 households. In an attempt to also gather qualitative data by using the most significant change approach, other data collection techniques included focus group discussions and key informant interviews (Davies and Dart 2005; Serrat 2009). Data gathered were validated with available information from the local government.

## Results

The results of the assessment were as follows:

- **Appropriateness and relevance of projects.** All of the different types of infrastructure projects implemented in the communities were found to reflect the felt needs of the beneficiary communities. They also reflected the policy objectives of the Tarkwa Nsuaem Municipality, the Prestea Huni Valley District Assembly, and the central government, as well as the United Nations' Millennium Development Goals (MDGs).
- **Status of implementation.** All of the projects had been completed at the time of the assessment.
- **Changes in community access.** All of the communities' access to education, health, and water and sanitation services were significantly improved.
- **Impacts and sustainability.** There was a general consensus among stakeholders interviewed within the communities as well as at the district level that the company's interventions had led to significant improvements in the provision of quality infrastructure to the communities.

Significant improvements are reflected in increased access to basic education, health care, water and sanitation services, road transportation, and other socioeconomic facilities in the beneficiary communities. This increased access has had a positive impact on the living conditions of residents in terms of improved enrollment in schools, standard of educational achievement among pupils, a reduction in morbidity, an enhanced image of the communities, and increased productivity. These results from the household survey were validated using supplementary information supplied by the government agencies responsible for health, education, and water and sanitation. For instance, the Bompieso Junior High School recorded a pass rate of 86 percent of the students in 2002, which had improved to a 100 percent pass rate in 2011. Similarly, the 2002 pass rate at the Damang Junior High School was only 24.5 percent, which had improved significantly in 2011, with a 95 percent pass rate.

Participant perceptions of changes in access to education are shown in table 22.1; their perceptions of the impacts of educational infrastructure are shown in table 22.2.

In terms of health care, the awareness and practice of family planning was very low in the communities prior to the introduction of the health interventions. Records from the health directorates confirmed an increase in acceptance of family planning. The Prestea Huni Valley Health Directorate reported that family planning acceptors increased by 6 percent between 2008 and 2010, and the Tarkwa Nsuaem Health Directorate reported an increase in family planning in the community of New Atuabo from 1007 patients in 2009 to 1225 in 2010. The research respondents indicated that the quality of health care has improved after the company's health interventions, and that as a result community members are healthier.

Table 22.3 indicates the perception of respondents as to how the interventions have translated into improving health care facilities in the communities, and the overall effect on the communities' well-being.

It is expected that the provision of health care facilities will to some degree impact on health education. The assessment therefore examined the level of knowledge of participants in relation to health care. Results indicate that whereas 27.7 percent of the respondents reported some basic knowledge about health care prior to the company's intervention, the situation has improved significantly, to 80.4 percent after the intervention. The percentage of respondents who reported that health education was bad in their communities decreased from 72.3 percent prior to intervention, to 19.6 percent post-intervention.

It is, however, important to note that the increase in health education cannot be attributed solely to the company's intervention, since Ghana Health Services had also been involved in health programs in the area at the same time.

Access to health care facilities, medications, and health education is expected to have a positive impact on the incidence of diseases in an area. The director of health services at Prestea Huni Valley reported that disease incidence had been reduced by approximately 65 percent in the district, while

TABLE 22.1 Perception of improvements before project implementation and after project completion

Indicator	% of respondents reporting (before)					% of respondents reporting (after)				
	Very good	Good	Bad	Very bad	Total	Very good	Good	Bad	Very bad	Total
Classroom condition	1.0	25.0	64.5	9.5	100.0	34.6	56.5	1.5	7.4	100.0
Maintenance	0.6	28.2	63.4	7.8	100.0	23.9	69.0	6.3	0.8	100.0
Building quality	0.5	26.2	61.8	11.5	100.0	39.5	58.3	2.0	0.2	100.0
Teacher numbers	1.1	35.6	55.5	7.8	100.0	25.2	66.5	7.9	0.4	100.0
Distance	6.4	21.9	63.2	8.5	100.0	1.3	7.4	74.1	17.2	100.0
	<b>Very far</b>	<b>Far</b>	<b>Close</b>	<b>Very close</b>		<b>Very far</b>	<b>Far</b>	<b>Close</b>	<b>Very close</b>	

SOURCE: Field Survey, 2012.

TABLE 22.2 Impacts of educational infrastructure

Indicator	% of respondents reporting (before)					% of respondents reporting (after)				
	Very good	Good	Bad	Very bad	Total	Very good	Good	Bad	Very bad	Total
Enrollment	1.1	32.0	59.3	7.6	100.0	32.7	53.8	12.2	1.3	100.0
Performance	1.8	34.1	57.3	6.8	100.0	32.2	64.8	2.7	0.3	100.0
Aesthetics	1.0	30.4	60.5	8.1	100.0	31.7	65.3	3.0	0.0	100.0
Interest	1.2	34.0	56.1	8.7	100.0	30.2	64.9	4.7	0.2	100.0
Community image	1.2	35.3	57.8	5.7	100.0	29.6	64.9	5.0	0.5	100.0

SOURCE: Field Survey, 2012.

health care managers at the community level all indicated that there had been no outbreaks of epidemics in the communities in recent years.

There is a positive correlation between morbidity and mortality: so with a decline in morbidity, mortality was expected to fall, and records from Prestea Huni Valley Health Directorate confirmed that they did. Records from the directorate indicate that maternal mortality in the district had dropped from 57 per 100,000 live births in 2000 to 43.3 per 100,000 live births in 2009.

Many institutions contribute toward the development of health care delivery, so it was important to determine the perception of the respondents in terms of which institutions were responsible for the improvement in health care delivery in the area. According to respondents, the improvement in health conditions could be associated with many institutions: the municipalities (the assemblies); the company; other mining companies; the community; the central government; and private health care providers. However, the greatest recognition was given to the company. As many as 414 of 990 respondents believed that the improvement in health conditions in their community is as a result of the company's interventions, followed by the Assembly, the central government, private health care providers, and other mining companies, in that order.

One of the key indicators of access to water is proximity (or distance) to a safe, potable water source. Results of the study show that the company-funded water projects had led to significant improvements in this respect. During the household survey, respondents were asked to describe the distance they covered to reach a water source both before and after the company constructed a water facility in their community (figure 22.2).

In addition to distance, household respondents were also asked to assess the adequacy and reliability of the water supply in their community before and after the intervention (table 22.5).

Until the company provided them with potable water sources, most of the communities relied on water collected from streams and rivers, rendering them susceptible to water-borne diseases (figure 22.3).

Approximately 49 percent of respondents said that prior to the company's intervention, the distance to their toilet facility was either "close" or "very close," while the remaining 51 percent described it as either "far" or "very far." After the intervention 88 percent of respondents indicated that their toilet facility was either "close" or "very close" (figure 22.4).

Respondents' assessment of the level of access, adequacy, and reliability of toilet facilities in their community before and after the company's intervention produced results similar to those described above (table 22.6).

## WHAT IS THE WAY FORWARD?

Despite the lack of baseline data, and complicating factors such as the implementation of similar projects by other companies, aid agencies, and the government in the same communities at the same time, one could draw the conclusion that the development projects implemented by the company did

TABLE 22.3 Health indicators

Indicator	% of respondents reporting (before)					% of respondents reporting (after)				
	Very good	Good	Bad	Very bad	Total	Very good	Good	Bad	Very bad	Total
Health education	0.7	27.0	61.1	11.2	100.0	15.7	64.7	17.4	2.2	100.0
Family planning	2.0	27.3	61.3	9.4	100.0	17.0	57.9	22.9	2.2	100.0
Disease incidence	1.8	24.5	64.1	9.6	100.0	14.8	65.4	17.6	2.2	100.0

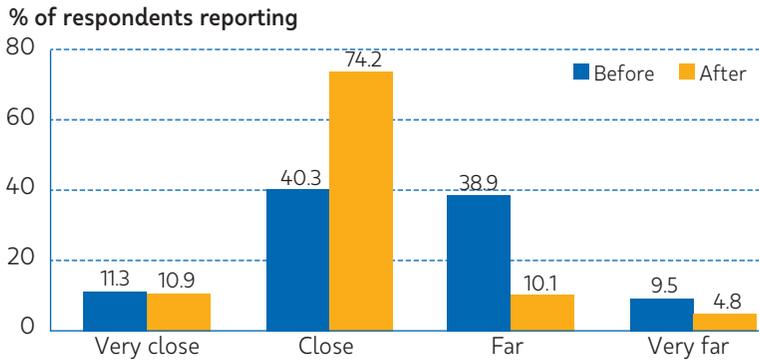
SOURCE: Field Survey, 2012.

TABLE 22.4 Entity responsible for overall improvement of the health conditions

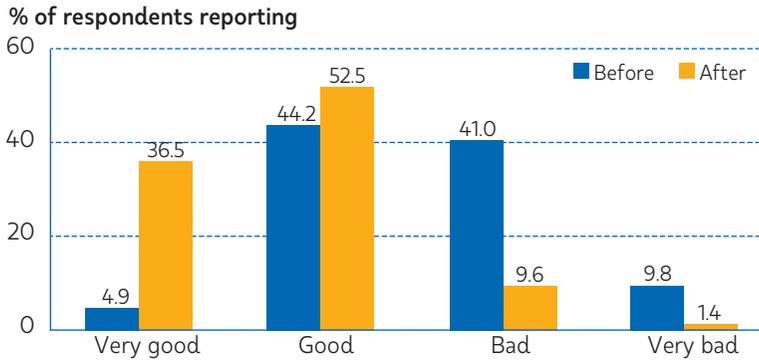
Condition	Company		Community		Municipal assembly		Another mining company		Private health care provider		Central government	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Improvement	414	70.2	288	69.2	272	63.1	26	70.3	96	64.9	265	66.3
Deterioration	176	29.8	128	30.8	159	36.9	11	29.7	52	35.1	135	33.7
Total	590	100.0	416	100.0	431	100.0	37	100.0	148	100.0	400	100.0

SOURCE: Field Survey, 2012.

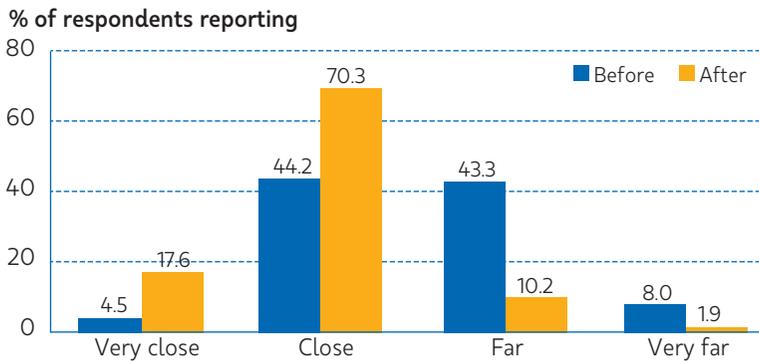
**FIGURE 22.2 Percentage of respondents reporting various distances to water source before and after company intervention**



**FIGURE 22.3 Percentage of respondents reporting various levels of water quality before and after company intervention**



**FIGURE 22.4 Percentage of respondents reporting various distances to toilet facility before and after company intervention**



**TABLE 22.5 Household respondents' assessment of access, adequacy, and reliability of water before and after company intervention**

Indicator	% of respondents reporting (before)				% of respondents reporting (after)					
	Very good	Good	Bad	Very bad	Total	Very good	Good	Bad	Very bad	Total
Access	6.0	49.3	37.1	7.6	100.0	35.5	55.0	8.6	0.9	100.0
Adequacy	6.3	50.2	38.8	4.7	100.0	25.8	49.5	21.0	3.7	100.0
Reliability	6.8	47.4	38.9	6.8	100.0	23.6	51.6	20.4	4.4	100.0

SOURCE: Field Survey, 2012.

**TABLE 22.6 Household respondents' assessment of access, adequacy, and reliability of toilet facilities before and after company intervention**

Indicator	% of respondents reporting (before)				% of respondents reporting (after)					
	Very good	Good	Bad	Very bad	Total	Very good	Good	Bad	Very bad	Total
Access	3.0	36.3	51.8	8.9	100.0	23.7	68.0	7.9	0.4	100.0
Adequacy	2.8	29.4	57.0	10.8	100.0	18.2	68.7	11.6	1.5	100.0
Reliability	2.5	29.2	57.9	10.4	100.0	17.8	71.0	9.6	1.6	100.0

SOURCE: Field Survey, 2012.

have a positive impact, and did contribute to the country's MDGs. Nevertheless, the situation does raise some concerns.

The challenge of a lack of baseline social and economic data against which the effectiveness of socioeconomic development initiatives can be measured, while not unique to the extractive industry, is one that needs to be addressed.

A critical issue for the extractive industry remains the need to secure social license to operate.<sup>10</sup> This often results in heavy investment in improving socioeconomic conditions of affected and/or host communities. It is also becoming the norm for companies to make targeted investments that focus on the same social and economic challenges that national governments are also seeking to address. More and more extractive companies are becoming aware of the unprecedented focus on the role of business in attaining the Sustainable Development Goals (SDGs), and there is also more and more pressure on companies to report on their impact on society, whether good or bad, through reporting platforms such as the Global Reporting Initiative.<sup>11</sup> At the same time, despite a history of sometimes antagonistic relationships, some governments have started to engage with extractive companies as potential partners in development, and this dialogue has opened up new possibilities for these companies to play an active development role in developing countries. Many of these countries are also heavily reliant on official aid from donor countries, although the rate of growth in the economic value of the extractive product is significantly higher than the aid received. In recent years, the Ghanaian government has opened a dialogue with the extractive industries operating within the country to see how development could be leveraged. While this initially took the form of requiring the companies to report only on their spending on aspects of the country's development priorities, in recent years there has been a demand that the company also report on the impact of their community development investments. This has in turn opened the question of how this can be measured, especially in a milieu where development initiatives come from several different mining companies operating in a small area (e.g., the Tarkwa Nsuaem Municipality<sup>12</sup>), and often initiate projects in the same communities, while government departments are

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<sup>10</sup> "Social license to operate" generally refers to a local community's ongoing acceptance and approval of a company's project and/or the company's continued presence in the area. It is now internationally recognized as a prerequisite to development of any project. Conflict between extractive companies and local communities can result in operations being disrupted by protests, damage to property and other violent incidents. Franks et al. (2014) found that conflicts between mining companies and communities can cost the company around \$20 million per week as a result of production delays, and Henisz, Dorobantu, and Nartey (2011) found that between 1993 and 2008, the estimated value of two-thirds of the gold controlled by 26 gold mining companies, owned by 19 publicly traded companies, was related to the companies' management of external relationships with affected communities and host governments.

<sup>11</sup> Global Reporting Initiative: <https://www.globalreporting.org>.

<sup>12</sup> Both gold and manganese are mined in this municipality.

also continuing to do their normal development work. Although it is not the case in the Tarkwa Nsuaem Municipality, there are also often aid agencies and NGOs implementing similar development projects. How then does one measure the impact of a single company's community investments?

In the evaluation discussed in this chapter, the evaluators tried to assess the opinion of the respondents as to whom (i.e., a specific company or government agency) any specific improvement in their access to health care, education, and water and sanitation could be attributed. In all instances, the majority of the respondents attributed the changes to the company that was conducting the research, but in "shared" communities (i.e., communities where more than one mining company was affecting the community), the results were a mixed bag of different companies. Very few respondents indicated that government initiatives were responsible for their improved quality of life.

As we venture into the future with much more emphasis on the role of business in development, and business's contribution to the SDGs, and with more pressure than ever for companies to report on their community impact to shareholders, stakeholders, and the public in general, more precise measuring and evaluating tools will be required. A good start would be a reliable and accurate baseline: if that is not possible, the natural experiment study methodology could work. While companies cannot take responsibility for a lack of national or regional data, they can work in partnership with communities and other stakeholders, such as local universities, to support systematic data collection to either build or update existing data sets, and the analysis thereof.

Companies should also endeavor to employ not only development professionals, but also M&E professionals. These professionals will have a difficult task, as the M&E currently being implemented in the extractive industry's development projects only monitors the implementation of the project, not its impact. Evaluation has asked only one question: "Has the project been implemented successfully?" It is impossible to effectively measure impact without asking the right questions, and without taking the increasing unpredictability of results due to social volatility and climate change into account, and developing a more flexible and dynamic approach.

The main question, however, is whether evaluation practices are equipped to take on the issues that the extractive industry will encounter, such as weaknesses in governance, extreme poverty, inequality, economic disparities, and social exclusion. How does one accurately measure human well-being (or improved well-being) as an outcome of a community development investment? How many companies, even those that employ development professionals, would be aware of McGregor and Sumner's three-dimensional model, based on Sen's concept of development, as the freedom to realize human capabilities (McGregor and Sumner 2010; Sen 1999, 2009)? How many evaluators would know how to apply it?

In terms of independent evaluations, which are still being paid for by the companies, how does one go beyond client-controlled guidelines that do not really allow for much independence, nor allow divergence from evaluating projects or programs against predetermined goals, goals which might have been formulated in an era of less awareness of the social justice issues

pertaining to the industry and its operations? Similarly, how does one do a completely independent evaluation in what can sometimes be a hostile environment?

Picciotto calls very strongly for progressive and adaptive evaluation, which is “based on values and geared to public interest and combines the vision of democratic, committed, morally engaged evaluation with an emphasis on results that serve the public interest” (Picciotto 2016, 274). The extractive industry’s development initiatives must be evaluated using these concepts in order to report in a realistic way the companies’ enormous impact on communities, and their contributions to the global and host country SDGs.

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