

BUSINESS MODEL 22

Corporate Social Responsibility (CSR) as driver of change

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Key Characteristics



	Model name	Corporate Social Responsibility as driver of change
	Location of supporting cases	Ghana (with additional input from other countries)
	Waste stream	Wastewater, partially treated or untreated but often diluted
	Value offer	Safe food at point of consumption (target)
	Geography	Informal irrigation sector in the global south using unsafe wastewater in semi-arid to humid regions
	Scale of production	Small to Medium (at farm level: 100 to 1,000+ farmers per city irrigating usually raw eaten leafy greens)
	Supporting cases in the book	This model is in its presentation a hybrid of case and model, and builds on observation in particular in Ghana and Pakistan, but also southern Africa and India
	Objective of intervention	Cost savings []; Cost-recovery []; For profit [X]; Social enterprise [X]
	Investment cost range	USD 900,000 (for 2,000 farmers), USD 1,400,000 (for 5,000 street kitchens) in the example Ghana's top 5 cities
	Organization type	Private sector
	Major partners in the case example	Stakeholders along the farm to fork value chain, local and international private sector
	Socio-economic impact	Each USD invested in on- and off-farm risk reduction saves USD 4.9 in public health costs
Gender equity	CSR interventions strongly support women and inclusiveness	

Business value chain

A major social challenge are public health risks from the very common use of untreated wastewater in the informal irrigation sector of most low- and middle-income countries (Box 12). Many success stories on the trajectory from informal to formal reuse come from countries which succeeded in enhancing their treatment capacities and enforcing crop restriction, either as a result of epidemics or supported by high public risk awareness, such as in Israel, Chile, Jordan, Tunisia or Mauritius (Saldias, 2016). However, where capacities for wastewater treatment or the enforcements of crop restrictions are

missing or only emerging, and also public risk perceptions are low, alternative strategies are needed for successful interventions in the usually highly profitable (wastewater) irrigation business.

In this situation, where the public sector is facing its limits, private sector driven corporate responsibility models can play an important role, and support occupational and consumer safety.

As discussed in Chapter 1, corporate responsibility can have different levels of buy-in, and even where environment values have been adopted, CSR drivers can range between ‘selfish’ investments in resource and cost efficiency to investments in longevity of the business in its protected environment:

Corporate social responsibility (CSR) refers to business practices involving initiatives that benefit society. A business’s CSR can encompass a wide variety of tactics, from giving away a portion of a company’s proceeds to charity, to implementing “greener” business operations.¹

The here presented model for improved water quality and food safety remains in large still hypothetical but is based on promising examples found in Western and Southern Africa as well as Pakistan. The model is highly compatible with the multi-barrier approach promoted by WHO in its 2006 wastewater reuse guidelines and further developed in the *Sanitation Safety Planning Manual* (WHO, 2006, 2015). However, the model is not an end in itself as it largely depends on behavior change and has to be supported by educational and regulatory measures to achieve its potential.

Box 12. The challenge of informal wastewater use

Reuse of raw or diluted wastewater for irrigation of field crops is practiced around most cities of the global South on a total area of up to 35 million hectares (Raschid-Sally and Jayakody, 2008; Thebo et al., 2017). Most of this irrigation is using untreated or at best partially treated wastewater, at a thirty times larger scale than the known areas using treated wastewater (Scott et al., 2010; Thebo et al., 2017).

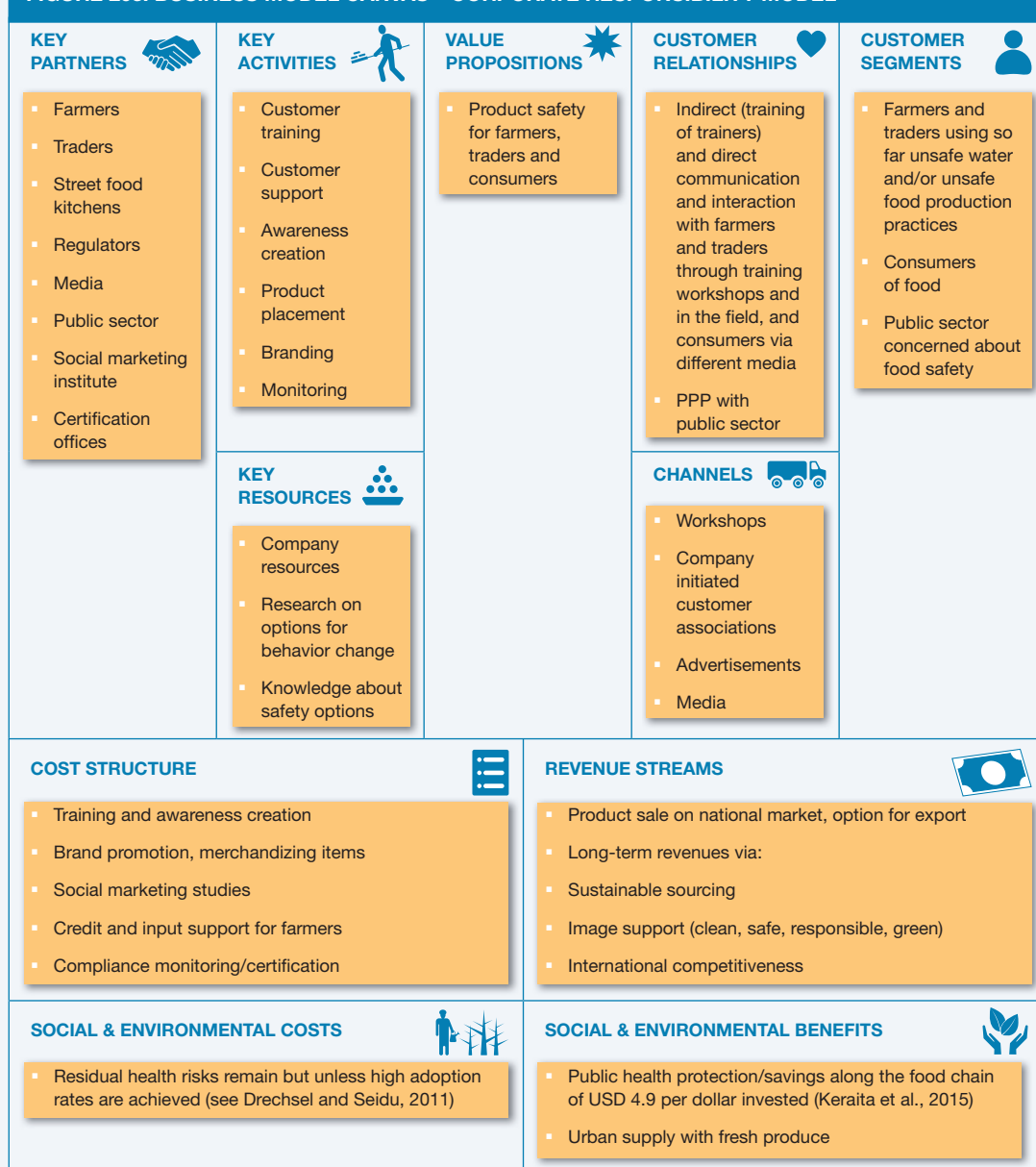
This informal wastewater use is probably the most common ‘business model’ of resource recovery and reuse where waste is turned directly into an asset, however, without the required treatment to assure occupational safety or protect consumers of irrigated produce. The practice spreads without facilitation, driven by a reliable water supply and high demand for irrigated cash crops from growing urban markets, a demand which can lift farmers out of poverty (Drechsel et al., 2006). Where the wastewater is raw, farmers might also appreciate its nutrient content; while in those locations where it is diluted, farmers might not know about the invisible risks of their water source for human health and the environment (WHO, 2006).

As informal wastewater reuse flourishes especially in low-income countries where not only wastewater treatment capacities are limited, but also regulations weak and banning of wastewater irrigation neither practical nor feasible, the challenge is how to implement safety measures in this situation. From a technical perspective, there are many low-cost options available for on-farm and post-harvest risk reduction which can on their own or ideally in combination (multi-barrier approach) significantly reduce health risks for farmers and consumers, especially from pathogens. However, due to low risk awareness in the population there is limited market demand and financial incentive for safety measures. A high adoption rate is however required for any larger impact and cost-effectiveness (Drechsel and Seidu, 2011).

Business model

Among different drivers of CSR, the here presented canvas has the focus on increasing product safety as value proposition (Figure 263). Protecting public health within and beyond the food chain can take place at different risk barriers, like (a) wastewater treatment, (b) on-farm, and (c) in the post-harvest and food processing sector as supported internationally by the Hazard Analysis and Critical Control Points (HACCP) concept. Some options related to the interface of water quality and reuse are illustrated below.

FIGURE 263. BUSINESS MODEL CANVAS – CORPORATE RESPONSIBILITY MODEL



Support of wastewater treatment

Companies, e.g. Nestle, are using wherever possible municipal wastewater treatment facilities, but where these are non-existent or not efficient enough, the company invests in own facilities, returning treated water to the environment according to local legislation or their internal standards, *whichever is more stringent*.² The corporate responsibly model has thus the potential that it can catalyze treatment development also where public sector capacities or existing legislations are still in development. Moreover, many companies invest in the reuse of their own wastewater as part of their corporate social responsibility program. Box 13 shows the strong motivation of the textile sector in Pakistan to comply with international safety standards, independently of national demands and regulations.

A similar benchmarking peer-pressure can also be applied to public utility providers or their operational partners including those responsible for wastewater treatment (Danilenko et al., 2014) and their international suppliers, which gives the WHO supported *Sanitation Safety Plan* entry points for its institutionalization if it can become an internationally accepted tool for compliance monitoring.

Box 13. Corporate responsibility as driver for change

There is a common and natural overlap between “corporate responsibility” and “business interests” and while for some companies CSR might be more a marketing factor, it becomes essential for company growth or even survival for others, especially in the highly competitive supply sector. In Pakistan, for example, the textile industry tries to double its USD 13 billion export volume through different initiatives of which a key one is to provide *environment friendly clothing* to the world, in particular the European market. This target requires that Pakistan’s cotton factories are fully compliant with international standards, including sound chemical management and wastewater treatment. Until now, many textile manufacturers use substandard or banned chemicals and dyes. However, international conventions signed by Pakistan strictly restrict the use of unapproved raw materials, including their disposal to environment without proper treatment. As European buyers increasingly demand compliance, such as the Sweden Textile Water Initiative³ or the Partnership for Sustainable Textiles⁴ which has brought together almost half of the German textile industry with policy-makers and civil society, this provides a strong incentive for the textile industry in Pakistan, Bangladesh, India, etc. to invest in responsible sourcing and water quality. To this effect, entrepreneurs associated with different sections of the textile chain offered for example financial assistance to the Pakistani government for establishment of combined industrial **wastewater treatment plants**. To reduce the use of harmful raw materials, training in resource use efficiency and alternative materials is being provided. Eventually, both, the compliance with safety standards and a more efficient resource use will be crucial components for company acceptance on international markets, or to meet the benchmarking targets for corporate environmental compliance performance. A first result of increased compliance among 44,000 licensed cotton farmers in Pakistan in 2011–2012 was a significantly reduced environmental footprint, like a 20% lower water use in irrigation, 38% less pesticide use and 33% less commercial fertilizer use while farmers’ profitability increased by 35% (Shaikh, 2013). Such as strong incentive as provided in this case by the European customer is needed as in general companies remain cautious, especially in view of in-house water reuse which is a common part of corporates’ ‘good water stewardship’ but has often trade-offs between water and energy savings (Newborne and Dalton, 2016).

Support of farm-based interventions

Supermarket chains are subscribing increasingly to international codes of conduct, like the Global Social Compliance Programme (GSCP) supported by the Foreign Trade Association (FTA) and its Business Environmental Performance Initiative (BEPI), the latter serving retailers, importers and brands committed to improving environmental performance in supplying factories and farms worldwide. Supermarkets or wholesale companies engaging out-grower schemes can opt for compliances with a 'responsible sourcing policy' or other best practices or codes of conduct to meet international quality and sustainability standards, and to remain internationally competitive. For instance, in Botswana and South Africa industries, bulk buyers and supermarket chains (Figure 264) are directly sourcing their crops from urban and peri-urban vegetable, grapevine or olive farmers to secure a continuous year-round supply, guaranteed by the use of (partially) treated wastewater for irrigation (Hanjra et al., 2017).

For risk reduction, farmers use drip irrigation and the companies put post-harvest measures in place to clean the crops from possible pathogenic contamination. This is in line with WHO's emphasis on health-based targets, where the irrigation water quality is less critical as long as measures to minimize exposure of crops and consumers are put in place (WHO, 2006). Thinking beyond the farm is also important, as even where irrigation water is safe, post-harvest contamination can be severe. Food safety interventions in markets, street restaurants and households are therefore of equal, if not higher importance, to safeguard consumers. This is even truer from an impact perspective, as the relationship between the supermarket and its farmers might only benefit the (middle and upper class) consumers of the supermarket and not the general public buying crops via traditional market chains.

Support of post-harvest interventions

Social responsibility programs can be very powerful change agents in the post-harvest sector. In Ghana, for example, about 90% of the wastewater irrigated vegetables are sold raw as supplement to popular fast food dishes in the urban street food sector. For authorities and NGOs it is a challenge to enter or control this informal sector. However, the situation can be different for the private sector. Nestle, for example, supplies the street restaurant sector across West Africa with ingredients, like Maggi™ bouillon cubes, and uses its branding power to (i) maintain close links within the sector; and (ii) use it to advertise its brand. As part of Nestle's consumer service program, the company initiated in Ghana the formation of trader associations, the Maggi™ Fast Food (Seller) Association (MAFFAG) which is today the strongest association in Ghana's street food sector. MAFFAG regularly provides training in food preparation, cooking, environmental hygiene and food safety throughout the country, which combining elements of corporate responsibility with branding, free merchandise and product promotion. Compared with governmental workshops, the MAFFAG events attract large crowds, and their training programs are very well positioned for addressing food-safety concerns across the sector (Figure 265).

As the Maggi™ colors are today prominent in West Africa's street food sector, the high degree of brand recognition also implies responsibility to maintain the company's quality image. This motivation facilitated in Ghana the strong interest of MAFFAG in training in safe vegetable washing to minimize any food-related risk including those from vegetable irrigation (Amoah et al., 2009).

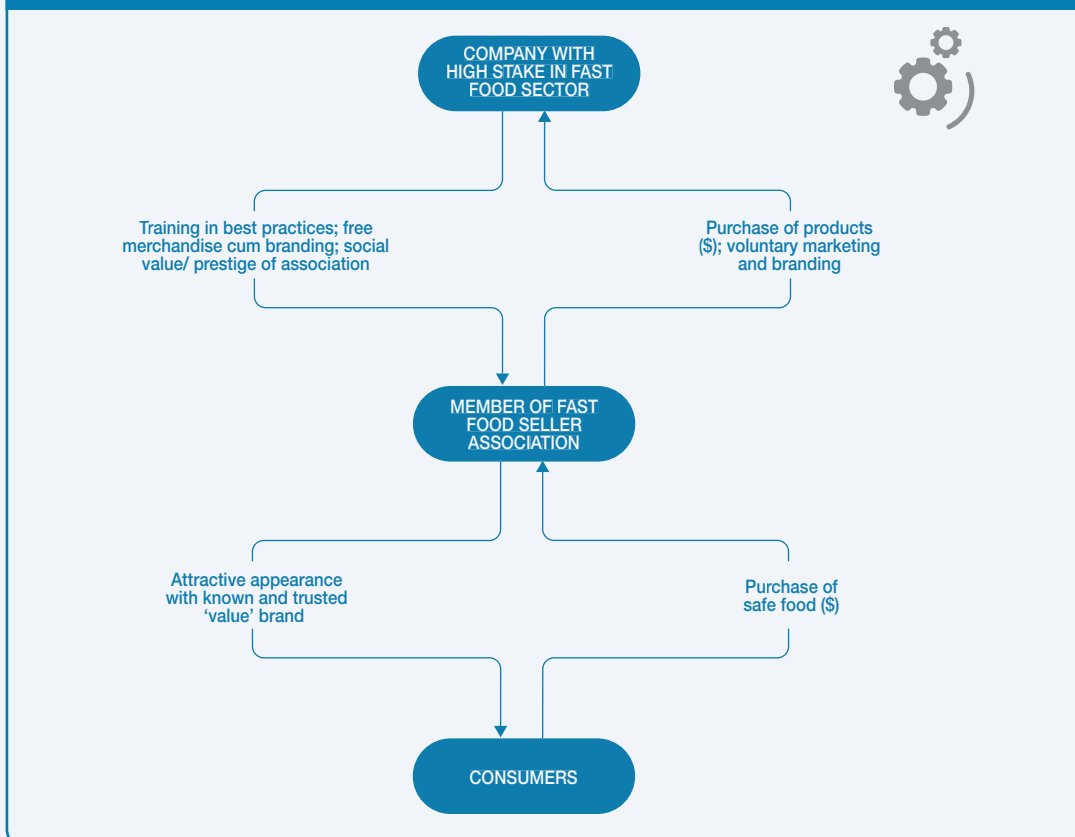
Based on the degree of educational efforts and risk awareness creation through public and private sector activities, the hope is that market demand for safe produce will slowly increase and catalyze further demand driven change. Wholesaler, trader or supermarkets can support this process through contracts with farmer cooperatives which allow them to secure a reliable crop supply while offering

[illegible]

inputs, training or credit. To qualify for such contracts best practices like safety measures could be made mandatory.

'Safe produce' branding could be an additional incentive mechanism for farmers and traders and support premium pricing. This could offer opportunities for third parties with capacities to perform compliance and quality monitoring to issue **quality certificates** as it is well established in the 'organic food' sector (Keraita and Drechsel, 2015).

FIGURE 265. SOCIAL RESPONSIBILITY CUM MARKETING STRATEGY MODEL FOR INCREASING FOOD SAFETY IN THE FAST FOOD SECTOR



Private sector support is not only important where the public sector struggles but also where initially only a minority of consumers with better education will support a safe food niche market. Although it can be anticipated that consumer demand will continuously increase through awareness creation, market based incentives might not be sufficient for success at scale and have to be complemented with other triggers for the adoption of safety practices to achieve compliance, e.g. with WHO Sanitation Safety Plans (Box 14).

Box 14. Triggering behavior change

Where health risk awareness is low and stakeholders along the food chain do not see a reason for engaging in safety practices, they might however change their behavior for other values or benefits which can contractually be agreed on. Examples are:

Tenure security: Many users of wastewater farm along streams on public land with limited tenure security if any, and constant fear of eviction. Land release, zoning and tenure security are thus

powerful incentives when demanding the implementation, e.g. of best practices, especially those which require farm-based infrastructure (Keraita et al., 2014).

Credit on condition: As similar incentive is the provision of low-interest credit to farmers who are applying safe irrigation methods.

In both cases, it remains the duty of the authorities to monitor farmers' compliance with their contractual obligations.

Fear of exposure: Where safety regulations cannot be monitored by authorities, media exposure (naming and shaming) can be a powerful alternative to steer compliance. Urban farmers and food restaurants in Ghana feared media exposure as it can trigger ad hoc policy response like eviction from the land or business closure.

Social values: Households might embark on safety measures if the right triggers and drivers can be identified and promoted through social marketing as it was successfully demonstrated in handwash and end-open-defecation campaigns. This might not be 'health' per se, but feeling of 'comfort', 'status', 'disgust', etc. Like in handwash campaigns, women in charge of food preparation should be a key target group.

Social marketing offers particular opportunities as it is only a relatively small step from the promotion of hand washing to salad washing (Drechsel and Karg, 2013). Also here private sector participation can be powerful as for example the Public-Private Partnership to Promote Handwashing between UNICEF and UNILEVER in West Africa has shown (see www.unicef.org/wcaro/overview_2765.html).

Potential risks and mitigation

In designing any business model, it is assumed that generic business risks are known and will be taken care of. However, some risks might be more model specific and will be acknowledged in the following:

Market risks: Household demand for the safer food is theoretically high, but does so far not translate in a different purchasing behavior (Keraita and Drechsel, 2015) although it can be influenced as the handwash campaign example (Box 14) shows. A larger risk is that the CSR company might not engage in the support of the farming communities using wastewater as long as they can source safer supply chains. Such (freshwater using) alternatives are however increasingly seldom in urban proximity.

Competition risks: Unsafe produce can have a price advantage. Awareness creation and social marketing flagging the difference between safe and unsafe produce can decrease the market demand/share of unsafe produce. Care has to be taken that safe and potentially still unsafe marketing channels are kept separate.

Technological risk: The involved technology for farmers, traders or restaurants is basic and in general affordable (Amoah et al., 2011).

Social equity related risks: Supporting women is a core element of many CSR programs. Social marketing campaigns, training, the formation of 'brand' association, etc. have a high potential to support women and gender inclusiveness. As urban vegetable farming on open spaces offers employment








opportunities for rural migrants, any support through the private sector would be an important step towards social integration and poverty alleviation.

Political and regulatory risks: Corporate responsibility models by definition comply with local regulations. As the public sector is partner in the model, compliance will be monitored depending on local capacity. However, a challenge can come from a regulatory framework which is not supporting, as suggested by WHO (2006), a step-wise and multi-barrier HACCP approach to move towards safer wastewater irrigation or food safety in general.

Safety, environmental and health risks: The model helps to reduce risks where treatment systems are lacking and farmers use directly or indirectly untreated, partially treated or diluted wastewater. It builds on safety measures as recommended by WHO (2006) for this situation. Although these best practices target first of all pathogenic risk, the model can also address chemical risks if the sources can be controlled by the participating private sector entities through source pre-treatment and a 'zero waste' policy. The model follows the WHO recommendation of a step-wise and stakeholder inclusive approach to risk mitigation which is an intermediate step until (a) more comprehensive wastewater collection and treatment systems are in place, and (b) stricter safety guidelines can be implemented and enforced.

As the model is based on incentivizing human behavior change and a high degree of compliance with risk mitigation measures, **risks will remain** and have to be addressed through conventional mitigation measures (Table 61) supported by further awareness creation, capacity development and incentive systems (Drechsel and Karg, 2013).

TABLE 61. POTENTIAL HEALTH AND ENVIRONMENTAL RISK AND SUGGESTED MITIGATION MEASURES FOR BUSINESS MODEL 22

RISK GROUP	EXPOSURE					REMARKS
	DIRECT CONTACT	AIR/ ODOR	INSECTS	WATER/ SOIL	FOOD	WHO Sanitation Safety Plans with multi-barrier approach recommended along food chain, complemented with risk mitigation measures by the corporate sector.
Farmer						
Community						
Consumer						
Mitigation measures				 Pb Hg Cd	   Pb Hg Cd	
Key <div><div></div> NOT APPLICABLE</div> <div><div></div> LOW RISK</div> <div><div></div> MEDIUM RISK</div> <div><div></div> HIGH RISK</div>						

SWOT analysis and business performance

The model is suggested for the common situation in sub-Saharan Africa, Asia and parts of Latin America where informal wastewater use is potentially threatening public health while local authorities have limited capacity to enforce restriction or change the situation, e.g. wastewater treatment is not available. The model builds on the rapidly growing opportunity of corporate social and environmental

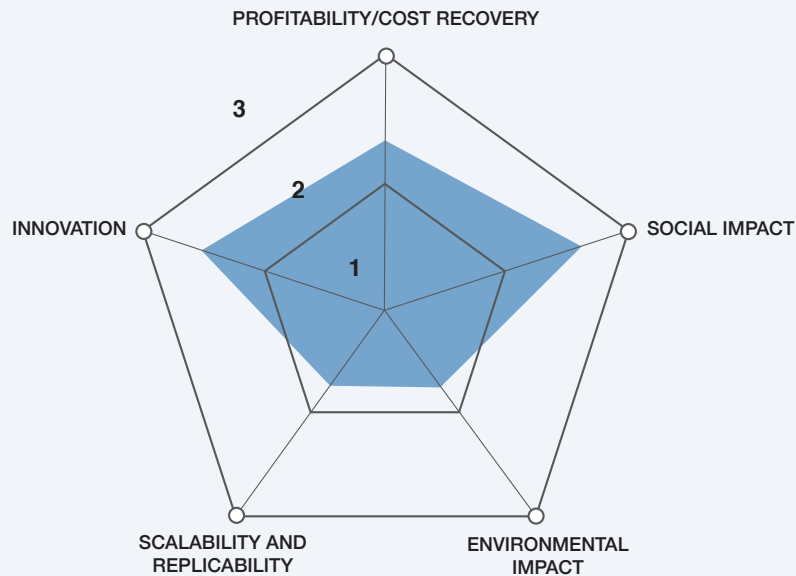
responsibility principles of the private sector (Figure 266) with related investments in the value chain. It argues for additional support to address key weaknesses of the model in particular in view of public awareness creation and the exploration of social marketing to catalyze behavior change and market demand. The model can support best practices on farm, but might have a wider outreach where it can target the post-harvest sector including consumers. The model offers possible incentives for making the crop value chain safer in the common situation where general risk awareness is still too low to rely on self-protection.

In comparison to other performance indicators the business model scores particularly high on social factors, via reduced expenditure on public health while supporting the informal irrigation sector which is often dominated by rural migrants or other social minorities looking for quick cash (Figure 267). Given the novelty of using CSR models to increase food safety, the model has certainly innovation potential. On the other hand, it requires more experience and practical examples before the scalability and replicability can be assessed. Given that social marketing requires context specific research, it is certainly not easily transferable. Also its environmental impact is limited as long as the focus is on human exposure and behavior change, and does not catalyze more wastewater treatment systems.

FIGURE 266. SWOT ANALYSIS OF THE CORPORATE RESPONSIBILITY MODEL TO IMPROVE FOOD SAFETY IN THE INFORMAL IRRIGATION SECTOR AND ITS VALUE CHAIN

	HELPFUL TO ACHIEVING THE OBJECTIVES	HARMFUL TO ACHIEVING THE OBJECTIVES
INTERNAL ORIGIN ATTRIBUTES OF THE ENTERPRISE	STRENGTHS <ul style="list-style-type: none"> CSR targets can catalyze change also where public sector policies and regulations are only emerging Irrigated farming in city vicinity is usually for the market, and not subsistence, thus private sector interest is likely Risk reducing options have been researched and translated into training materials, videos, etc. High social impact potential 	WEAKNESSES <ul style="list-style-type: none"> Risk reduction depends on degree of best practice adoption; missing adoption targets can result in backlash Awareness creation among consumer and thus overall demand will take time Local trading companies without international visibility might feel no need for CSR Capacities in social marketing research only emerging Safe produce might not reach the poor
EXTERNAL ORIGIN ATTRIBUTES OF THE ENVIRONMENT	OPPORTUNITIES <ul style="list-style-type: none"> Social and environmental responsibility commitments sharply increasing Existing PPPs (like global handwash campaign) could be expanded or at least provide lessons Piggy-backing on existing trader or farmer association with high market penetration 	THREATS <ul style="list-style-type: none"> Unsafe produce can have a price advantage until awareness creation and social marketing leverage this in a positive sense Company might source alternative farming communities using clean water sources Some authorities may see private sector engagement as an intrusion into their domain

FIGURE 267. BUSINESS PERFORMANCE OF THE CORPORATE RESPONSIBILITY MODEL



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Notes

- 1 www.businessnewsdaily.com/4679-corporate-social-responsibility.html (accessed 4 Nov. 2017).
- 2 www.nestle.com/csv (accessed 4 Nov. 2017).
- 3 <http://stwi.se/> (accessed 4 Nov. 2017).
- 4 www.textilbuendnis.com/en/ (accessed 4 Nov. 2017).