GSDR 2015 Brief

Beyond Fair Trade

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Related Sustainability Development Goals

Goal 08	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 10	Reduce inequality within and among countries
Goal 12	Ensure sustainable consumption and production patterns
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development

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Introduction

Developing nations provide enormous natural resources to the global market, and yet production often occurs against a backdrop of social inequality and ecological degradation. Since the Brundtland Report and the Rio 1992 Earth Summit, programs that attempt to integrate conservation and development goals have gained popularity and international traction.[1] Over twenty years into the legacy of the Brundtland commission, case studies in the global-historical context have emerged that let us recognize and confront what may be hard choices or difficult trade-offs between conservation and development.[2]

In today's global market, there is a surging demand to safeguard the Earth's capacity to provide natural resources while promoting inclusive economic growth and social development.[3] Our investigation is in the financial options and integrative frameworks to meet this demand. One such framework—value chains—warrants special attention, because it holds the promise of promoting sustainable development goals, while at the same time answering the call for governance in the global context of incomplete trade regulations. However, the potential of select options and frameworks to promote sustainable development goals must be assessed relative to the specific sectors in which they operate. We illustrate this point in two briefs on distinct sectors—forestry and electronics—conceived under a common line of investigation.

Timber

Sector-Specific issues

Within the timber sector, there are a number of challenges that frame our inventory and assessment of market-based schemes. First, sustainable forestry may not have the comparative advantage over other land uses, especially in situations of illegal logging. Furthermore, smallholder forest producers, who are typically self-financed, may lack access to markets, or they may not have the means to maintain operations over the long term in between rotation periods (logging cycles).

Where there are sufficient incentives to manage for forest products, industrial, plantation management is often the default model. Plantation forests can grow at a rate of up to 15 times that of natural forests and produce a relatively constant and homogenous timber supply.[4] Furthermore, well-managed plantations can keep the logging pressure off natural forests that have greater conservation value.[5]

The concern is with natural forest encroachment, due to global demand for forest products and unsustainable plantation management. Some have argued that in tropical forests the demand for wood will eventually exceed the supply, since rotation times are typically only 30-40 years, and regeneration times are much longer (anywhere from 45-500 years or

more, depending on the species). This phenomenon has been dubbed "peak timber."[6]

Market-based Mechanisms

Against these challenges, many organizations have sought solution in three market-based mechanisms for integrating conservation and development: certification schemes, outgrower schemes, and payments for environmental services.[7]

Certification

Certification is the principal means of governing value chains, and the Forest Stewardship Council is the dominant certifying organization. In order for a supply chain to receive Chain-of-Custody certification from FSC, every component of the supply chain—from the forest, to the mill, to the wholesaler to the millwork company—must be certified.[8] The FSC trademark is meant to guarantee that products thus branded have been harvested and processed legally and sustainably. With FSC certified products, social and environmental value is built into the cost. Producers demonstrate compliance to standards through a periodic auditing process, and with their annual certification dues, they buy the right to use the FSC trademark. Insofar as the trademark is credible, producers are then able to access green markets.

Outgrower Schemes

Outgrower schemes are contractual partnerships between corporations committed to social responsibility and smallholder plantation growers. Companies look to small producers in developing countries for land and raw timber in exchange for a fair cut of the commercial benefits that come from wood products. The partner companies are able to ensure access to markets and bear the costs and risks of management that would otherwise constrain local communities.

Payments for Environmental Services

A payments for environmental services scheme is an agreement between a seller and buyer governing a definite environmental service or land use that is supposed to produce the service in question. For example, carbon sequestration is an environmental service, while biodiversity protection and watershed protection are examples of land-use prescriptions that are supposed to produce services. Well known examples of PES include REDD+ and conservation easements. Beneficiaries of environmental services make conditional payments to landowners, who, in turn, undertake land use practices that ensure ecosystem conservation.

Opportunities and Risks

Certification

Certification offers a voluntary, market-based way of monitoring value chains for environmental and social sustainability. FSC certification is applicable across multiple countries, forest types and firm sizes. Though many believe that FSC certification standards have outperformed other certification schemes, over the years since its inception in the 1990s, some limitations have surfaced (see Appendix 3). FSC does not have an exemplary record in communicating procedures for standard setting and certification. Nor have FSC standards excelled in limiting the conversion of natural forests to plantations and minimizing site disturbance.[9] Thus, despite certification, natural forest encroachment and peak timber remain an issue.

Outgrower Schemes

The partnerships that constitute outgrower schemes are based on mutual economic interest and provide a strong incentive for smallholders to enter a contractual agreement with a corporation committed to fairness. Outgrowers stand to gain a fair price for their products in addition to various social services.[10] What should be underscored here is the contractual nature of the partnership. That is, the particular terms within the negotiated contract are all-important regarding issues of conservation and fairness. Corporations need to provide the assurance, both to the international community and their outgrowers, that they are socially responsible.[11]

Payments for Environmental Services

PES schemes aim to provide conservation funds, so that service-selling communities can improve their livelihoods. Despite their appeal, PES schemes are not without their obstacles. On the demand side, there may be an insufficient willingness to pay for environmental services.[12] On the supply side, what is purchased needs to be well-defined and appropriately valued, factually based and measurable, and yet PES schemes may in practice rely on perceived services.[13] Furthermore, poor people in local communities may not benefit from payments if they lack land tenure,

access and control of forests.[14] Finally, the PES scheme is dependent upon the provision of the service in question; that is, buyers demand compliance. In developed countries, these conditional exchanges can be enforced by law, but in developing countries with weak governance, there is no such option.[15]

Toward a Sustainable and Fair Future

What can be observed about the three inventoried market-based schemes is that they can be implemented virtually anywhere, wherever there are willing buyers and sellers. Generally speaking, these mechanisms are flexible and allow for incremental institutional changes with minimal economic disruption, because they are contingent upon consumer behaviors or market trends. Yet, the contingent character of such mechanisms also means that their efficacy is uncertain. For this reason, these market-based schemes may work best when coupled with other regulatory policy instruments (e.g. public procurement policies, forest tax laws or seedling subsidies) that help create strong incentives and green markets.

It is important to note that these schemes are not exclusive alternatives. Rather, they complement each other, and different combinations of them can be implemented in different contexts in order to minimize the risks associated with a single scheme. The risk that comes with certification, for example, that smallholders may not understand the certification process, can be diminished when responsible corporate partners in outgrower schemes teach outgrowers about certification. Inversely, the risks associated with outgrower schemes, that social and environmental responsibility have not been demonstrated, are lessened when certification is a condition of the contractual partnership. PES schemes may be adopted with either of the other schemes in order to ensure that best management practices are followed while harvesting timber. There is no ecological reason, for example, why a forest cannot provide the service of carbon sequestration while at the same time providing timber products. [16] Sustainable forest managers may thereby blend income from service provision with income from timber supply. Of course these possibilities are not without their own challenges. For example, the status of forestry concerning "additionality"(what is added by PES) is controversial. Nonetheless, there remains a grounded hope that creative and responsible utilization of these schemes may promote inclusive and fair development at the same time as environmental sustainability.

Electronics

Sector-Specific Issues

The electronics industry is one of the fastest growing sectors on Earth, typified by a complex and highly interconnected supply chain. While the importance of electronics to modern society is clear, the related socio-economic and environmental effects are less than apparent. There are various issues associated with the complexity of manufacturing electronics, including: consumption, toxic chemicals, perceived versus actual obsolescence, and high replacement rates alongside low lifespans.[17] However, it would not be viable for our global society to limit future development and investment in this sector, because manufacturing in this industry has the potential to promote inclusive growth in developing nations.

Electronic waste is a highly complex and costly issue. Currently, estimates show that only approximately 17% of global electronic waste is actually recycled.[18] Moreover, this state of affairs has led to the emergence of unofficial treatment facilities in Asia and Africa, leading to widespread environmental contamination.[19] A large fraction of this waste is illegally exported to developing countries, where poor waste treatment causes drastic local emissions and harmful effects to the environment and human health. [20] Further, there remains inadequate documentation by manufacturers and distributors regarding electronic waste streams that would allow for reliable estimates of unaccounted electronic waste.[21]

With respect to the energy use of electronics, the electricity that is consumed during the actual operational lifespan of an electronic product represents only a small proportion of the total energy required for its entire life cycle. [22] Additionally, recycling electronic components can prove very difficult due to differential voltage requirements, competing conformity standards, and the physical capacity of circuits.[23] Overall, within this industry, movement toward more sustainable practices is still

overlooked due to concerns with the growth of consumption and carelessness concerning supply chain governance.

Market-based Mechanisms

There are currently several established financial mechanisms in place to promote a sustainable and environmentally conscious electronics industry. These mechanisms include, but are not limited to, sustainable supply chain management, Extended Producer Responsibility, and green marketing.

Sustainable Supply Chain Management

To avoid intervention from the government in aligning environmental goals, while simultaneously creating a competitive advantage, many businesses have turned to green supply chain management.[24] Studies show that many businesses now recognize the importance and necessity of upgrading logistics and supply chain management from a purely functional and strategic standpoint. Utilizing sustainable supply chain management techniques is a viable solution for individual companies to implement and finance their own goals and sustainable solutions, while taking responsibility for their own production and management schemes.

Extended Producer Responsibility

EPR includes instruments such as national deposit refund systems and corporate take-back schemes for post-consumer electronic waste.[25] EPR is an attractive mechanism within this sector, as it offers a solution by delegating economic responsibility to the producer, who is expected to respond in the designing stages of the product, by reducing waste management costs, which are thereby incorporated in the overall costs of production and distribution.[26] Furthermore, EPR is in accordance with the Polluter Pays Principle, expands the responsibilities of the producer beyond mere production and sale, and includes the product's entire life cycle, while concurrently allowing public and private funding sources to implement concrete changes within electronics manufacturing, consumption, and waste.[27]

Green Marketing

Green marketing has gained increasing predominance in global markets, as consumers have become more concerned and aware of the potentially harmful environmental externalities that occur through the consumption of the products and services that they utilize.[28] In a recent international survey, the most interested consumers in green marketing were localized in the developing nations of China, India, and Brazil, while industrialized countries ranked at the bottom.[29] However, the largest increases in green marketing have occurred in Russia and the United States.[30]

Opportunities and Risks

Sustainable Supply Chain Management

Sustainable supply chain management as a finance vehicle has thus emerged "as an important new archetype for enterprises to achieve profit and market share objectives by lowering their environmental risks and impacts while raising their ecological efficiency."[31] Also, this initiative keeps the freedom and responsibility away from the government and in the hands of the businesses, allowing for increased innovation in terms of production, distribution, marketing, and reutilization of waste products. However, in order for effective management of a sustainable supply chain, companies need to have systems in place to monitor the compliance with their electronics suppliers. Site audits of component suppliers are quite common, however, in reality a large part of these supply chains are uncontrolled, since audits are conducted only on suppliers closest to them, on the "first and second tier suppliers."[32] In order to increase effective monitoring of these supply chains, criteria need to be developed for verifying supplier policies.[33]

Extended Producer Responsibility (EPR)

This finance mechanism opens to the door to a blend of public and private investment vehicles that can capitalize on creating sustainable and environmentally sound post-consumer use of electronic waste. While manufacturers will need to initially invest in systems capable of maintaining efficient electronic waste deposit systems and take back schemes, a much cited study concludes that EPR in Japan's electronics sector has in fact increased innovation.[34] Another Dutch case study based on various EPR initiatives shows a significant increase in the collection and recovery of waste streams.[35] While there remains a need for further case studies in the application of EPR in different sectors, EPR has gained a prominent position in the electronics industry as an investment and policy

instrument that can support sustainable innovation, from the perspective of both the OECD and the EU.[36]

Green Marketing

Green marketing provides distributors with various financial vehicles that can meet changing consumer demands, while addressing environmental concerns, and all the while achieving a competitive advantage and a stronger customer base. [37] Individual corporations have reported diverse sustainability initiatives, in connection with green marketing, and consumer associations have repeatedly observed that manufacturers are sensitive to low environmental ratings in comparable product tests.[38] Ignoring the demands of and not responding to their consumers' changing preferences can result in the loss of customer loyalty, creating a competitive disadvantage for producers who do not employ green marketing, leaving them behind the electronics industry overall.

Towards a Fair and Sustainable Future

Ultimately, the greatest difficulties for this sector lay in generating equitable revenue streams for developing nations. To this end, the integration of sustainable supply chain principles, green marketing, and extended producer responsibility has the capacity to address the interconnected set of complex social and technical elements, institutions, and consumption practices, which currently form a barrier against supporting a truly integrative global framework for sustainable electronics industries. [39] EPR is often described as the policy that is most likely to create continuous environmental innovation within private companies and address the core concern of innovation, since "…EPR generally changes the time-frame and range of factors that appear in the design space of an engineer."[40] While the effects of EPR initiatives are currently sector-specific, EPR is more generally effective in diversified sectors with complex manufacturing, such as electronics, where firms can realize the benefits from related innovation. [41] Regarding value chains, the most effective green supply chain management will occur through the use of unbiased third party auditors, alongside the need to have a complaint mechanism for stakeholders along the supply chain and criteria for verifying the achievement of supplier policies. Finally, green marketing provides distributors with various financial vehicles that can meet changing consumer demands, while addressing environmental concerns, and all the while achieving a competitive advantage and a stronger consumer base. [Please see Appendix 4: The Supposed Green Mobile Phone Industry – A Commodity Case Study].

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Appendix 1: Research methodology

The two subsections of Beyond Fair Trade, timber and electronics, can be read as independent briefs. Each subsection covers a single sector, which has its own unique challenges, market-based mechanisms, and opportunities and risks. We chose to unite them under a common introduction, because they share the common aim to utilize market-based and integrative mechanisms—notably value chains—to promote the same SDGs.

The timber section was shared with four experts in order to elicit comments. Each reviewer was asked to provide comments as to whether the topic is of global significance, whether it receives a balanced and accurate treatment, and so on. Experts were chosen from within and without academia, at various career stages, and in slightly different fields, owing to the multi-disciplinary character of the topic. All four experts were able to provide comments before the submission of this report, and those were taken into account through the revision phase of this report. Although effort was made to carefully respond to the critical comments of each reviewer, it should be noted that the reviewers do not necessary endorse all views presented herein.

Appendices 2 and 3 provide the documentation for many of the claims in the timber section. Appendix 2

below lists the indicators that correspond to criteria. The criteria are associated with SDGs, and the indicators appear in the literature on timber found in the source list/endnotes. Appendix 3 uses the same indicators but applies them to the three market-based mechanisms with reference to the sources. The idea is that if a mechanism displays an indicator according to the sources, then that mechanism promotes the corresponding SDG.

Appendix 2: Timber sector criteria and indicators

Criteria	Indicators
Economic development (SDG 8)	• Revenue sharing • Capacity building
Ecosystem protection (SDG 15)	• Protection soil & water • Protection of wildlife (rare, threatened & endangered species) • Tree regeneration • Prohibition of conversion of natural forests to plantations
Social development (SDG 10)	• Protection of worker's rights • Protection of the rights of local communities
Applicability (SDG 17)	• Variety of tenure ownership • Variety of forest types • Variety of firm sizes • Variety of geographic scales
Transparency	• Standards are freely available • Schematic function is freely available
Stakeholder participation	• Balanced stakeholder participation in standard setting
Clarity & access	• Schematic procedures are comprehensible and easy to follow

Appendix 3: Timber sector opportunities and risks

Market-based scheme	Opportunities	Risks
Certification	Capacity building[42] Soil, water & wildlife protection Tree regeneration Worker's rights/rights of local communities Transparent standards & scheme Wide applicability to variety of tenure ownership, forest types, sizes of firms & geographic scales	Conversion of natural forests to plantations Unbalanced stakeholder participation Unclear procedures for certification and auditing
Outgrower	Revenue sharing[43] Capacity building	No transparency of standards or scheme
PES	Natural forest conservation[44]	Limited applicability due to insufficient willingness to pay, inadequate valuation methods & lack of enforcement of conditions of exchange Insecure land tenure[45]

Appendix 4: The Supposed Green Mobile Phone Industry

Sector Specific Issues

Since the dawn of the new millennium, the greatest growth in the global information communication technology (ICT) sector relates to mobile phones. Between 2005 and 2013, the developing world's mobile subscriptions per 100 inhabitants has grown from 22.9 to 87.6, while the developed world grew from 82.1 to 119.2, during these same years.[46] From a regional perspective, this staggering growth derives largely from Africa and the Asian Pacific, as the communication revolution continues to penetrate this technology throughout the world.[47] Further, mobile phones have the highest replacement rate in industrial history.[48]

In addition to the above mentioned sector-specific issues for electronics in general, the mobile phone industry also includes the following issues. An ever-increasing proportion of consumer electronics is manufactured in developing or transitioning countries, with every second mobile phone made in China.[49] For example, between 1995 and 2006 the Asian Pacific's market share of global electronic production increased from 20% to 42%, while production in Europe, US, and Japan continues to decline.[50] In 2007, 30% of mobile phones worldwide were either designed or produced by contract manufacturers, obscuring the supply chain from the typical consumer.[51] To add to this complexity, various component producers make parts for the final product, and the entire industry relies on a high degree of outsourcing. [52]

With regard to raw materials, mobile phones require up to 30 metals to function, often sourced from mines in Africa and Asia in breach of international conventions.[53] These miners often work in dangerous conditions that contribute to substantial environmental damage, which also harms communities around the mines.[54] In the extreme, the mining of minerals for the electronics sector has contributed to the conflict in the Democratic Republic of Congo, with militias selling the minerals destined for electronics factories in order to buy arms.[55] Further, once minerals reach smelting facilities they become virtually untraceable to the original source.[56] Should the mobile phone industry truly achieve integrative frameworks through sustainable supply chains, in order to allow resource-rich developing nations to utilize mining profits to combat poverty and environmental degradation, it becomes imperative that these minerals are sourced and traded responsibly.[57]

Finance Mechanisms

Due to the limited examples of commercial scale 'green mobile phone' products, the only known viable finance vehicles are for network operators to require the trading in of used mobiles, or SIM-only contracts.

Requiring Trading in of Used Mobile Phones upon Subscription

Due to the interdependence of mobile phones and mobile networks, the network operators are important retailers to the industry, allowing these stakeholders to play a significant role in shaping their market.[58] However, while these operators occupy an important portion of the retail channel for mobile phones, their core business remains in the sale of network services, which offers them the opportunity to relinquish some of their control of the mobile phone supply chain.[59] To this end, network operators could require trading in of used mobile phones. Thus, decreases in mobile phone purchases could allow for reductions in mining and e-waste, and limit the pressure to maintain oppressive working conditions, without harming profits generated from network services.[60]

SIM-Only Contracts

SIM-only contracts are highly desirable to customers, as they can keep their same equipment, while transferring their service to a new network operator.[61] Such a finance vehicle attempts to counteract the trend of network operators to proliferate the market with free or discounted phones upon subscription, in order to command a larger market share.

Opportunities and Risks

Requiring Trading in of Used Mobile Phones upon Subscription

This approach combats the potential for informal and highly toxic e-waste centers in the developing world from offering customers money in exchange for their improper recycling services, which literally spew toxins into the earth and throughout local communities. To compliment this policy, network operators may

consider a joint awareness-raising campaign, or offer gift vouchers or subscriptions in exchange for old phones.[62]

SIM-Only Contracts

In particular, "mobile virtual network operators" (MVNO) that utilize the network operators' infrastructure in exchange for a fee, can increase their market share by focusing solely on the sale of SIM-only contracts.[63] MVNOs are able to achieve strong market shares by eliminating the need for maintaining highly costly network infrastructures, savings which they pass to their customers. Further, MVNOs simply do not have the economy of scale to competitively provide free or cheaper phones upon subscription, in comparison to their larger counterparts. Therefore, MVNOs would most benefit from a SIM-only contract policy, which in turn protects the environment by eliminating the vicious cycle of free or discounted phones upon renewal.

Toward a Green Mobile Phone Industry

This revolutionary technology has proliferated global markets at the highest rate in the ICT industry. While this vast growth has literally connected the world through this global communication platform, particularly for developing nations and remote regions, it is a sobering fact that mobile phones have the highest replacement rate in industrial history.[64] This fact highlights a set of interrelated issues that currently preclude a truly "'green' mobile phone" industry: mineral mining, e-waste, perceived versus actual obsolescence, contract manufacturers, outsourcing, illicit e-waste collection services, and oppressive and toxic working conditions. In order to combat these forces and stop the proliferation of free phones upon subscription, network operators can require the return of used phones. This policy will maintain profitable margins for network operators, whose core business will continue to thrive in selling network services. Finally, SIM-Only contracts through MVNOs offer global consumers the opportunity to reuse existing hardware and accrue cost savings through less expensive subscription options.

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