




Supplement to the 2012 Annual Statistical Report
on United Nations Procurement

Balancing social, environmental and economic considerations in procurement



- A collection of articles from academia, the public and private sectors, and the United Nations
- Providing an overview of the current debate on sustainable procurement



Supplement to the 2012 Annual Statistical Report on United Nations Procurement

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Foreword

The United Nations is now in the midst of a major push to achieve the Millennium Development Goals by 2015 while shaping a vision for a universal development agenda beyond that date. Procurement can help advance these twin objectives by balancing social, environmental and economic considerations.

This report details numerous instances of governments, the private sector, donors and international organizations adopting sustainability in their supply chains. Examples across a range of sectors, organizations and countries show how sustainable procurement can benefit society by creating jobs while saving natural and financial resources.

At the Rio+20 United Nations Conference on Sustainable Development, participants committed to promote sustainable consumption and production patterns.

This is critical to ushering in the future we want. But many challenges remain. By 2030, the global population could rise to 8 billion people. We will require at least 50 per cent more food, 45 per cent more energy and 30 per cent more water. We will also need to create some 470 million new jobs between 2015 and 2030.

Sustainable procurement is an important aspect of corporate management that can enable organizations to advance their stated goals. The United Nations is committed to making the most of our resources while leaving the lightest possible footprint on our planet. With greater attention to the supply chains we use for our own operations, we can help usher in a more sustainable future as we encourage countries to join our global campaign to achieve this goal.

I commend this report to all those interested in optimizing the power of procurement to promote a more sustainable future.



Secretary-General Ban Ki-moon speaks at a side event for the Rio+20 United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil, 21 June 2012. At the conference, United Nations Member States reaffirmed their commitment to change unsustainable consumption and production patterns. **Photo:** UN Photo/Eskinder Debebe

A handwritten signature in black ink that reads 'Ki Moon Ban'.

Ban Ki-moon
Secretary-General of the United Nations
26 July 2013



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Lead article

Sustainable procurement

by Achim Steiner, Executive Director, United Nations Environment Programme (UNEP)

Examples from around the world show that sustainable public procurement has the potential to transform markets, boost the competitiveness of eco-industries, save money, conserve natural resources and foster job creation:

- Japan's Green Purchasing Policy, has contributed to the growth of the country's eco-industries, estimated to be worth about €430 billion in 2010.¹
- The city of Vienna saved €44.4 million and more than 100,000 tons of CO₂ between 2001 and 2007 through its EcoBuy programme.²
- In Brazil, the Foundation for Education Development succeeded in saving 8,800 m³ of water, 1,750 tons of waste and 250 kg of organohalogen compounds, providing the equivalent of one month economic activity of 454 waste pickers, through its decision to replace regular notebooks with others made from recycled paper in 2010.³

While sustainable procurement examples still come mainly from developed economies, they show after just a few years of practice what the potential of sustainable procurement could be if consistently applied.

Sustainable procurement is clearly not about 'burdening' the market with extra requirements; rather it is a well-defined strategy that gradually phases in sustainable requirements in bids, and promotes support measures, dialogue and open communication between the suppliers and

procurers. Only if its requirements are clear, fair and measurable, can its potential be realized as a mechanism to encourage producers – especially in the developing world – to become more efficient and competitive in larger markets.

A recent study undertaken by UNEP shows that in recent years many of the known leaders in sustainable/green public procurement have deepened their commitment to implementation, extended the scope of product categories under review, and increased the environmental and social attributes being considered⁴. The study found that at least 40 countries have adopted sustainable/green public procurement policy measures, including many developing countries. In Brazil, the Central Purchasing System already contains more than 550 sustainable products. At the same time, the value of procurement contracts that integrate sustainability criteria increased by 94 per cent from 2010 to 2011.

In India, public procurement legislation is being revised and a provision for green public procurement accompanied by guidelines is foreseen. In South Africa, procurement is used as an environmental policy tool to contribute to sustainable development while also addressing past discriminatory policies and practices. The European Union adopted an objective of 50 per cent green public procurement for a list of 20 product groups while in the United States, President Obama signed an Executive order in 2009, requiring that 95 per cent of all applicable procurement contracts at the Federal level must meet sustainability requirements.



Eco-labels, such as those used by this company, are a key feature of sustainable procurement.
Photo: ebm-papst

UNEP is also actively involved in sustainable public procurement promotion. At the Rio+20 summit on sustainable development last year, heads of state adopted the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, and sustainable public procurement was identified as a priority for a shift towards sustainable consumption and production. On that occasion UNEP and more than 40 partners established an international Sustainable Public Procurement Initiative, which will support the worldwide implementation of sustainable public procurement by promoting a better understanding of its potential benefits and impacts and by facilitating increased cooperation between key stakeholders. The initiative aims also to push the process forward towards the creation of robust regulatory and collaboration frameworks between the North and South, public institutions and the business sector.

Sustainable procurement in the UN system

In 2011, the UN procured \$14.3 billion worth of goods and services⁵. In recent years, procurement in the UN has moved from being a back-office function to becoming a critical and strategic component of corporate management. The underlying belief is that through well-designed procurement actions UN procurement can be instrumental in reaching the core goals of the organizations it is serving, including facilitating the development of sustainable markets.

Several UN entities are making an effort to include sustainability criteria in a fair and reasoned manner

in their procurement. The UNEP-hosted Sustainable UN initiative and UNOPS drive this effort with a number of other UN agencies to develop guidance materials, and offer helpdesk services and capacity building to UN requisitioners and procurers⁶.

More than 300 UN personnel have been trained in sustainable procurement, and an online training course was launched early this year⁷. Individual UN entities are also taking action by developing policies, strategies and internal guidance, integrating criteria, specifications and requirements in tender documents, and conducting capacity building and awareness raising activities. Since 2011, the Annual Statistical Report on UN Procurement has published information about the uptake of sustainable procurement in the UN system.

These efforts build on several other UN-wide mandates and initiatives, including the UN Climate Neutral initiative launched in 2007 and a recent decision by the Chief Executives Board for Coordination to implement environmental management systems on a voluntary basis in individual UN entities. Member States, through the Rio+20 outcome document, 'The Future We Want'⁸, have also asked the UN system to integrate sustainability in the management of facilities and operations.

Conclusion

Over the years, the concept and the implementation of sustainable procurement has evolved, and so have the opportunities for capacity building, and



Sustainable procurement can provide a range of much-needed opportunities for local people, such as these women sorting pistachios by hand in Herat, Afghanistan. **Photo:** UN Photo/Eric Kanalestein

“Sustainable procurement is clearly not about ‘burdening’ the market with extra requirements; rather it is a well-defined strategy that gradually phases in sustainable requirements in bids, and promotes support measures, dialogue and open communication between the suppliers and procurers.”

the methodologies and mechanisms set up for coordination and sharing of experiences to help new entrants. Several barriers remain, the most important being the perception that sustainable products are more expensive, or still too scarce. Without clear mandates, an enabling legal and policy environment and a whole life-cycle perspective, it might be

difficult for procurers to overcome the pressure to choose low-cost items, especially in a depressed economic environment. In spite of this, the prognosis for sustainable procurement is very positive and UNEP is committed to supporting efforts to remove these barriers in collaboration with UNOPS and other partners.

1. Source: European Commission. http://europa.eu/rapid/press-release_MEMO-11-43_en.htm?locale=en
2. Source: City of Vienna. <http://www.wien.gv.at/english/environment/protection/oekokauf/>
3. Source: UNEP. <http://www.unep.org/resourceefficiency/Portals/24147/scp/procurement/docsres/ProjectInfo/StudyonImpactsofSPP.pdf>
4. Sustainable Public Procurement: A 2012 Global Review. UNEP, 2013.
5. 2011 Annual Statistical Report on United Nations Procurement. UNOPS, 2012
6. UNEP, UNOPS, ILO, ITC/ILO Buying for a better world sustainable procurement guide for the UN system www.greeningtheblue.org/resources/procurement
7. www.globalmarketplace.org/sustainableprocurement
8. The Future We Want. UN General Assembly Resolution 66/288



Sustainable procurement has the potential to transform markets, boost the competitiveness of eco-industries, save money, conserve natural resources and foster job creation. **Photo:** Bill & Melinda Gates Foundation



Achim Steiner is the Executive Director of UNEP and an Under-Secretary-General of the United Nations. Mr. Steiner's professional career has included assignments with governmental, non-governmental and international organizations in different parts of the world including Germany, India, Kenya, Pakistan, South Africa, Switzerland, USA, Viet Nam and Zimbabwe. He has worked both at the grassroots level as well as at the highest levels of international policy-making to address the interface between environmental sustainability, social equity and economic development.

He also chairs two UN system wide entities: the High-level Committee on Programmes of the United Nations System Chief Executives Board for Coordination and the United Nations Environment Management Group. Mr. Steiner, a German and Brazilian national, was born in Brazil in 1961.

An overview of sustainable public procurement research

by Helen Walker, Anthony Alexander and Anne Touboulis

Introduction

In order to effectively address social and environmental impacts, organizations must look across their entire supply chains. Sustainable supply chain management (SSCM) is therefore on the agenda for many organizations across the globe, from international institutions such as the United Nations, to governments and commercial organizations, among others. To improve understanding of SSCM, a number of international academics and leading practitioners were surveyed, with the key objective of identifying gaps between research and practice. Before turning to the survey's findings, it is worthwhile to review the general state of sustainable procurement research.

The status of sustainable procurement research

Several indicators support the notion that sustainable procurement is a burgeoning academic field. An analysis of 35 journals in the field of operations management from 1998 to 2010 shows a steady increase in the number of papers dealing with sustainable procurement. From 2009 to 2010, the number of sustainable procurement papers more than doubled from approximately 40 to 100. We have also seen a marked increase in interest in the subject from 2010 onwards, due to the growing number of sustainable procurement papers published at annual conferences over the years.

We can only welcome this recent surge in interest, as it underscores the relevance and importance of sustainable procurement to organizational and

operations management in today's world. However, there is still some way to go before this field reaches maturity. Three methodological challenges are currently noteworthy:

1. **Social desirability bias:** when asking respondents to report on inherently positive topics such as sustainable procurement through interviews or surveys, they may feel pressured to give socially acceptable opinions.
2. **Level of analytical focus:** sustainable procurement can be studied at various levels such as at the individual or organizational level, along supply chains, etc. Researchers need to be clear about which level they are engaging.
3. **Cultural relativism:** views and definitions of sustainability and sustainable procurement vary across individuals, organizations and countries.

Adding to these methodological challenges is a key thematic challenge: articles on the environmental aspects of sustainable procurement outnumber those concerning the social aspects by more than two-to-one. Table 1 summarizes the findings of a literature review covering the year 2000 to 2010, which shows the proportion of categories and subcategories in sustainable procurement research (see next page).

From this preliminary overview, a number of recommendations can be provided to drive research forward. Firstly, private sector manufacturing research in developed countries is well covered. More research related to the public sector, services and developing countries is needed. Secondly, we call more investigations into how organizations and



A key theme in sustainable procurement research is supporting disadvantaged sections of society, such as local hill tribes who own these rice fields in Sapa, Viet Nam.
Photo: UN Photo/Kibae Park

decision-makers balance the different aspects of sustainable procurement, as well as the trade-offs between them. Third, it would be helpful to understand how individual values influence sustainability decisions, linking this to psychological and behavioural perspectives. Fourth, there is a

need for a better understanding of the factors affecting how organizations engage in sustainable procurement. Finally, there is a lack of research on the effect of sustainable procurement on organizational performance.

Table 1: Categories and subcategories of sustainable procurement research (2000-2010)

Environmental/green measures		69%	Social measures		31%
Subcategories		%	Subcategories		%
Internal procurement and supply organizational processes		33	Conflict of interest issues		24
Material, waste, recycling		26	Social equity in the supply base		19
Pollution prevention or management		9	Unethical behaviour		18
Cost reduction through green actions		8	Community involvement		12
Compliance and standards		8	Compliance and standards		9
Design for the environment		4	Health and safety initiatives		7
Energy, CO ₂ , greenhouse gases		3	Codes of practice & conduct		6
Life cycle assessment		3	Internal procurement and supply organizational processes		3
Strategy formulation/development		1			100
Monitoring of the supply base		1			
Other product-related actions		1			
Risk management		<1			
		100			

Organizing sustainable procurement research

With the field of SSCM research experiencing significant growth in recent years, it is useful to establish a framework for organizing the different contributions. One way to organize this growing body of research is to think of the field as oriented along two different axes: one dealing with the dimensions of sustainability, and the other dealing with the level of analytical focus.

Along the dimensions of sustainability axis, one finds the social, environmental and economic factors that make up the triple bottom line. On the other hand, the analytical focus axis is comprised of a range of focus levels: individual, organizational, buyer-supplier dyad, supply chain/network, and market/society/stakeholder. Combining these two axes can generate a sustainable procurement framework as depicted in Table 2.

Table 2: A sustainable procurement framework

Dimensions of sustainability	Level of focus				
	Individual	Organizational	Buyer-supplier dyad	Supply chain/network	Market/society/stakeholder
Social	Impact of fair trade/eco labels on end user buying behaviour	Integration of sustainability criteria in calls for tender	Supplier selection and qualification criteria (acceptable labour practices, etc.) Supplier training in sustainable practices	Managing/balancing the supplier portfolio	Non-governmental organization (NGO) practices and impact on fair trade
		Corporate social responsibility (CSR) purchasing policies		Child labour	Government policy and standards for sustainable purchasing
		CSR functions are integrated with purchasing		Underpaid employees working for sub-tier suppliers	
Environmental	Changing end user consumption patterns	Management of the purchasing interface with other functions	Buyer-supplier collaboration to reduce packaging, CO ₂ emissions, energy/water consumption, etc.	Pollution from sub-tier suppliers	NGO impact on scarce raw materials
	Consumer awareness of environmental issues	Policy and practices relative to sourcing/use of restricted products		CO ₂ effects across supply chains	Carbon trading practices Regulatory impacts and government lobbying
Economic	Reduction in fuel consumption	Development of the sustainable purchasing function	Buyer-supplier cooperation for cost reduction	Innovation via design and management of the supply network	Supporting disadvantaged sections of society by buying from small and medium enterprises, minority owned firms, etc.
	Qualities and characteristics of the individual members of the purchasing function	Purchase vs. rent strategies	Bribery and corruption		
		Purchasing staff skills development, awareness and training	Fair profit issues	Fair price practices down the supply chain	

Source adapted from Walker et al., 2012



Purchasing products and services from small and medium local enterprises, such as this garment factory in Port-au-Prince, Haiti, is a key economic theme in sustainable procurement research.
Photo: UN Photo/Eskinder Debebe

Specific sections of the framework contain a few themes that emerge from combining each sustainability dimension with a specific focus level. For example, the impact of fair trade labels on consumer buying behaviour is linked to the social dimension on the individual level, while purchasing products and services from small and medium enterprises to support disadvantaged sections of society is linked to the economic dimension on the market/society level.

Research need not constrain itself to just one of the sections in the framework. Researching the triple bottom line, for instance, normally requires analysis of all three sustainability dimensions. Although the framework does not encompass all possible research themes, it can be a useful tool for conceptualizing sustainable procurement.

The numerous themes emerging from this framework leave us with two lessons. Firstly, we are reminded of the complexity of sustainable procurement, which encompasses issues ranging from fuel consumption to child labour to supplier training.

Sustainability efforts thus require an ambitious and broad approach, coupled with an awareness that spans several levels of focus. Secondly, the framework gives us some much-needed clarity when communicating and discussing sustainable procurement. Economic sustainability means different things depending on whether you are talking about individuals, organizations, or entire supply chains. By understanding the level of focus, we can avoid unnecessary confusion or contradiction.

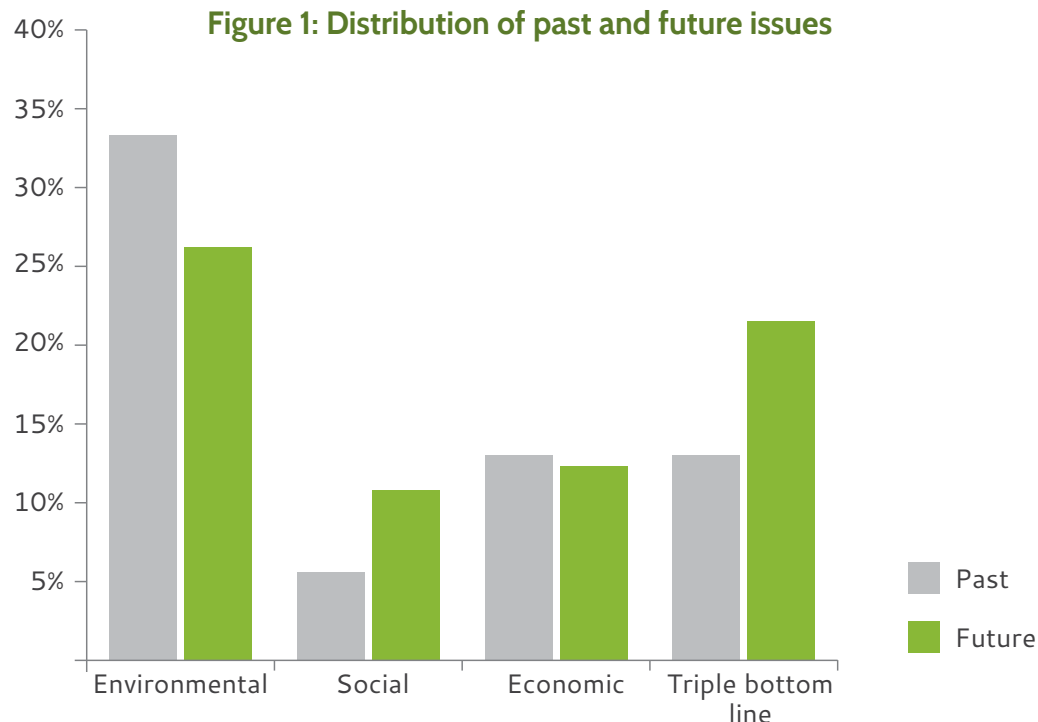
Future directions for sustainable procurement research

Looking forward, what does the future hold for SSCM research? We asked academics and experts to identify key past and future issues. They classified the issues according to the dimensions of the triple bottom line that they represented. Our resulting analysis in Table 3 and Figure 1 (on page 12) distinguishes between standalone issues (one dimension) and those encompassing all three aspects of the triple bottom line.

Table 3: Past and future issues in the SSCM field

Most cited issues in past 10 years	#	Most cited issues in next 10 years	#
Carbon	5	Integrated/holistic sustainability	5
Climate change	4	Sustainability in emerging/developing countries	4
Linking sustainability to performance	4	Social sustainability	4

Figure 1: Distribution of past and future issues



In addition to the categories listed in Table 3, five additional categories were identified: organizational strategy and behaviour, supply chain governance, stakeholder influence, government and public sector, and considerations about the field of SSCM in general.

From the analysis, it is clear that future issues are more equally distributed over all three dimensions of the triple bottom line. Moreover, the future issues relate more to holistic sustainability, while past issues are more focused on the environmental dimension of the triple bottom line.

Another interesting finding is the rather bleak picture that respondents painted regarding the future of sustainable procurement. They specifically made references to austerity and social unrest as well as the potential emergence of wars over resources. They were also uncertain about the role governments and businesses can play in the future, given current government inaction and the organizational culture.

Conclusions

Our analysis of SSCM research has identified the following areas for improvement:

Knowledge transfer

There needs to be greater communication between academic researchers and practitioners on research outputs, as well as improved education and training.

Getting better, rather than less bad

We need to address transformation beyond efficiency

gains. Government and cross-sector collaboration is important for creating real progress.

Trade-offs

There needs to be greater development of decision analysis tools that help managers decide on competing criteria in sustainability.

Innovation in research methods

There is a need for new methodological approaches. Respondents revealed that the action inquiry approach is becoming more popular among many practitioners.

Behavioural and psychological research

How do personal values influence SSCM?

Integrating marketing and supply

Demand management and supply management can suffer from being disconnected. How can organizational structure and relationship management support SSCM?

Improving understanding of terminology

A lack of common terms can limit collaboration between research disciplines, while ambiguous terms used in practice can undermine the effectiveness of SSCM strategies.

Two conclusions can be drawn from our analysis. One is that the field of SSCM is clearly growing in stature. The increase in the number of articles and conferences that deal with the issue are a testament to this fact. Secondly, SSCM as a concept is maturing and diversifying. Although the environmental aspects

are still the most studied, we are moving towards more holistic and integrated analysis that better balances all three dimensions. At the same time, we are starting to appreciate the complexity of the topic by becoming more aware of the various levels, from individual to societal, on which SSCM should

be considered. Taking all this into consideration, we are left with the impression that the future of this field looks vibrant, and it will indeed be worthwhile to continue to follow the development SSCM in research and practice.



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Anne Touboullic is a final year doctoral researcher at Cardiff Business School. Her research focuses on exploring the dynamics of change for sustainability in supply chain relationships between PepsiCo and its agricultural suppliers.

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Walker, H., Alexander A., Touboullic A. and Adams, E., 2012. Sustainable supply chain management workshop for academics and practitioners: a summary of key issues. Sustainable supply chain management workshop for academics and practitioners, Cardiff Business School, 26 June 2012.



Sustainability

Fad, moral quest, or donor requirement?

by Ira Haavisto and Gyöngyi Kovács

Introduction

The very raison d'être of humanitarian aid, to help populations in need, underscores the contribution of aid to society. Humanitarianism has therefore long been considered socially responsible. Other aspects of sustainability, such as environmental responsibility, ethics, and longevity, have however been less emphasized in the humanitarian context. This is notwithstanding the fact that green procurement was a prominent topic in the supplement to the 2008 Annual Statistical Report on United Nations Procurement, the United Nations Development Programme pioneered a climate change adaptation agenda, the World Food Programme set green trends in shipping in time for the United Nations 2009 Climate Change Conference in Copenhagen, and UNEP's 'resource centre' includes many guidelines, tools, and case studies for greening humanitarian supply chains.

Common to all these endeavours is their quest to make humanitarian supply chains more sustainable. Yet as supply chain management emphasizes, it is the demand for sustainability that has the most impact on actual change. Such demand should be visible in donor requirements. The aim of this paper is to therefore evaluate how sustainability is considered in donor requirements and how this shapes the humanitarian supply chain.

Sustainable humanitarian supply chains

There is very little research on sustainability in humanitarian supply chains, though some aspects have been covered. Regional and local sourcing

and even community based approaches have been considered in supply chain design. But other issues, such as environmental design in product development and social entrepreneurship as part of humanitarian supply chains have not yet been dealt with in this context. In the development of vendor selection criteria, socio-economic aspects, such as how the origin of aid items impacts on the local economy, have received some attention, but the environmental dimension of sustainability has rarely been touched upon. Neither has, interestingly enough, electricity usage, fuel consumption and child labour.

Indeed, sustainable supply chain management research is very complex, and more so if applied to the humanitarian context. Not only are there many different dimensions of sustainability to consider – of which perhaps the triple bottom line model is the most renowned – but there are also multiple perspectives on how to assess sustainability in the humanitarian context. This includes perspectives from society, beneficiaries, the programme and the supply chain.

Each donor creates its own framework of environmental indicators. This helps them determine how much funding should be used for a particular programme, for what purpose and under what conditions. Striving to understand how sustainability is considered in donor requirements within the humanitarian supply chain, we analysed the relevant documentation of four major donors: the World Bank, the United States Agency for International Development (USAID), the Directorate-General for Humanitarian Aid and Civil Protection of the



Donor requirements and policies, such as those outlined by various United Nations Member States, play a prominent role in shaping progress in sustainable procurement. **Photo:** UN Photo/Paulo Filgueiras

European Commission (ECHO) and the Development and Cooperation – EuropeAid Directorate-General (EuropeAid). We carried out a keyword-based content analysis on the procurement and contract guidelines of these donors in 2011/12 (with the keywords 'sustainab*', 'green', 'climate change' and 'procur*').

Sustainability in donor requirements

The term 'sustainability' is mentioned at least once in all of the examined donor requirements. The World Bank discusses sustainability in their procurement guidelines; USAID in their evaluation policy; ECHO in their legal framework for partnerships, factsheets and in general conditions for grant agreements; and

Table 1: Sustainability mentions in donor requirements

Donor	Document	'sustainab*'	'climate change'	'green'	'local procurement'
World Bank	Good practice guidelines (2011)	--	--	--	--
	Procurement guidelines (2011)	1	--	--	--
USAID	Evaluation policy (2011)	1	--	--	--
	Compliance, oversight and performance (2012)	--	--	--	--
	US Code of Federal Regulations (2011)	--	--	--	--
ECHO	Partnership with DG ECHO: Legal Framework (2010)	5	--	--	--
	Fact sheets (2010)	3	--	--	1
	Framework partnership agreement (2009)	--	--	--	--
	General conditions for grant agreements (2009)	1	--	--	1
	Rules and procedures (2009)	--	--	--	1
EuropeAid	PRAG Practical Guide (2012)	2	--	--	--



Incorporating sustainability in donor requirements includes activities combating climate change and procuring local labour in supply chains, such as in this project to reduce the vulnerability of urban areas to natural disasters in El Salvador.
Photo: UNOPS/Aida Ariño Fernández

“...as supply chain management emphasizes, it is the demand for sustainability that has the most impact on actual change. Such demand should be visible in donor requirements.”

EuropeAid in their practical guide. Table 1 (on page 15) indicates the number of times sustainability-related keywords appear in these donor requirements. Strikingly, neither ‘climate change’ nor ‘green’ is ever mentioned.

So how is sustainability then understood by donors? The World Bank comments on sustainability only from a programme perspective. USAID views sustainability as community development, stating that “USAID stewards public resources to promote sustainable development in countries around the world”.

Community development is indeed one of the ways the impact of aid can be assessed. But neither The World Bank nor USAID impose any kind of requirement on their implementing partners regarding how to address the concept of sustainability in their operations.

European donors are slightly more precise in their understanding of and directives on sustainability. EuropeAid mentions sustainability twice in their practical guide, first stating that, “The aim is to ensure that all issues are covered systematically and that key factors related to clarity of objectives and sustainability are thoroughly examined”, and later stating more precisely that, “the expected impact

and sustainability of the action” is an award criterion when grant proposals are evaluated.

ECHO has a broad set of documentation with over 260 pages of rules, regulations and guidelines for implementing partners. Some of this documentation incorporates sustainability through the following decree: “The basic elements of the Action include the Action’s objective and the related indicators, results, beneficiaries, area of implementation and, when relevant, sustainability.” This statement does not clarify when and where sustainability is relevant, nor does it reveal ECHO’s perception of sustainability.

Conversely, an ECHO factsheet discusses sustainability in terms of asset disposal, stating that the proceeds or results from the sale of items produced with ECHO-funded equipment should remain with the intermediate beneficiary in order to guarantee the sustainability of the action. Sustainability is consequently addressed from a programme perspective. In their legal framework for partnerships, ECHO further clarifies their long-term perspective on sustainability in a footnote: “Sustainability and connectedness are similar concepts used to ensure that activities are carried out in a context that takes longer-term and interconnected problems into account.”

Our analysis also revealed that out of all those analysed, the European Union is the only donor that strongly encourages local procurement in humanitarian supply chains.

ECHO requirements consider local procurement as an option, in order to decrease emissions through shorter transportation times and contribute to local economic development. The latter point though, is not clear-cut. Local procurement can boost local employment but can also distort prices in the local market.

ECHO's Rules and Procedures state: "Priority shall be given, whenever it is possible and advisable having due regard to the context in which the Action is implemented and not disturbing deeply the local beneficiary markets, to purchases in the country of operation or neighbouring countries."

However, it is worth noting that while ECHO clearly encourages local procurement, EuropeAid requires implementing partners to purchase from a list of specified countries, including those in the EU.

Conclusions

Sustainable supply chain management begins with demand. Donor requirements have a prominent role in shaping delivery, if not demand, within

humanitarian supply chains. After all, donors set the incentive systems humanitarian organizations need to consider in their supply chain.

Sustainability is becoming more embodied in humanitarian aid – it is an important element of the 'do no harm' principle of humanitarianism, a key aspect of the internationally recognized Good Humanitarian Donorship initiative. Moreover, the climate change debate has also entered the humanitarian arena, bringing with it specific climate change agendas and discourse on adaptation, mitigation, green growth indicators, and so forth. However, we were unable to find any climate change related guidelines in the donor requirements.

Only a few aspects of sustainability are mentioned in the donor requirements we examined, and even fewer measured. Local procurement is the only aspect considered in some detail, indicating an awareness of the impact of aid on the local economy.

To conclude, as long as donors do not use explicit sustainability performance measurements for humanitarian aid projects, it is unrealistic to expect a radical change in humanitarian supply chains. Specifically, greening needs stronger enforcement, as climate change becomes increasingly incorporated into the requirements and measurements of development programmes.



Ira Haavisto is a PhD student at the Hanken School of Economics in Helsinki, Finland, where she has also obtained a master's degree in Supply Chain Management and Corporate Geography. She is a member of the Humanitarian Logistics and Supply Chain Research Institute (HUMLOG Institute) and has worked on development and environmental responsibility projects for a commercial logistics service provider. Her research is focused on humanitarian logistics, with a particular interest in the performance of humanitarian organizations as well as sustainability and quality in humanitarian supply chains.



Gyöngyi Kovács is the Erkkö Professor in Humanitarian Logistics at the Hanken School of Economics and the Director of the HUMLOG Institute. Dr Kovács has co-edited a book on Relief Supply Chain Management for Disasters, serves as a European regional editor for the International Journal of Physical Distribution and Logistics Management and is Co-Editor-in-Chief of the Journal of Humanitarian Logistics and Supply Chain Management. She received her PhD from the Hanken School of Economics.

Investigating the barriers to sustainable procurement in the United Nations

by Jacob Hasselbalch, Nives Costa and Alexander Blecken

Introduction

With a total procurement volume of \$14.3 billion (in 2011), the United Nations holds significant purchasing power that substantially influences the markets in which it participates. United Nations organizations and projects are thus in an ideal position to successfully implement sustainable procurement, which involves procurement practices that favour the environment, social progress, and

economic development while optimizing costs. The purpose of this paper is to assess the extent to which the UN is effectively implementing sustainable procurement.

This leaves us with the following research question: **What are the main barriers to effectively implementing sustainable procurement practices in the UN system?**

Table 1: Interviewed organizations

Agency	Abbreviation	Total procurement volume 2011 (\$ million)
UN Procurement Division	UN/PD	3,173.75
UN Development Programme	UNDP	2,691.97
World Food Programme	WFP	2,532.34
UN Children's Fund	UNICEF	2,153.57
UN Office for Project Services	UNOPS	778.25
Pan-American Health Organization	PAHO	606.67
UN High Commissioner for Refugees	UNHCR	535.10
UN Relief and Works Agency	UNRWA	281.97
UN Environment Programme	UNEP	n/a
International Labour Organization	ILO	93.49
UN Population Fund	UNFPA	362.36
Total procurement volume of agencies in sample		13,209.47
Total procurement volume of all UN procurement		14,276.04



Organizations can overcome market barriers to suppliers in developing countries by developing the capacity of local suppliers, such as in this brick factory in Sri Lanka.
Photo: UNOPS

In order to address this question, we conducted interviews with a number of UN organizations, which are listed in Table 1 along with their total procurement volume in 2011. We selected the eight largest procuring bodies in the UN as well as three organizations that are recognized for their sustainability knowledge or recent sustainability initiatives (UNEP, the International Labour Organization and the United Nations Population Fund). By selecting these organizations, our sample covers not only more than 90 per cent of the UN's total procurement volume, but also the agencies that are knowledge leaders in the area of sustainability.

Approaching practitioners and policymakers

Acting on the assumption that the barriers stem from a disconnect between how sustainable procurement is treated at the policy level and at the operational level, we identified two groups of UN professionals for interviews: a group of procurement policymakers and a group of procurement practitioners. We approached one policymaker and one practitioner at each organization, giving us a total of 22 potential interviewees.

The policymaker group consisted of senior level professionals and directors who were responsible for incorporating sustainable procurement into the work of their organizations. The practitioner group consisted of professionals who were actively implementing sustainable procurement in their daily work. The idea was to construct a comprehensive picture of how the UN is incorporating sustainable procurement.

Uncovering obstacles to sustainable procurement Table 2 (on page 20) displays our findings. The numbers represent the number of policymakers and practitioners that cited each of the barriers, the total number of mentions and the difference between the groups. We succeeded in interviewing 20 of the 22 professionals we initially targeted. Eight categories of barriers were identified: information, tools, policy/strategy, performance measurement, mandate/politics, supply, demand, and resources. The most cited barriers are highlighted in green, medium barriers in yellow, and the largest discrepancies in red.

In general, we find that the status of sustainable procurement in the UN has improved significantly in recent years. At that time, sustainable procurement was a very new concept, and the majority of organizations that were contacted for studies had a very vague understanding of the concept and often no immediate plans to implement sustainable procurement in their organizations. That picture differs considerably from what we discovered this time around. All organizations provided a definition of the concept, expressed a keen interest in the subject, and talked about recent and future plans and examples of sustainable procurement.

Although implementation has by no means progressed very far yet, it would be fair to say that the issue has gained a lot of traction in the UN. Our study focused on identifying the barriers to sustainable procurement in the UN, but during the interviews we developed a sense of the most commonly cited drivers as well. Generally, interviewees mentioned drivers such as senior

Table 2: Barrier framework

Category	Barriers	N policy	N practice	N total	N difference
Information	Need for more information on sustainable procurement	3	2	5	1
	Awareness-raising needs	2	2	4	0
	Difficulty with defining sustainability criteria	5	3	8	2
	Difficulty in addressing social issues	5	3	8	2
Tools	Lack of tools/guidelines/manuals	5	3	8	2
	Procurement procedures need updating	7	5	12	2
Policy/Strategy	Lack of sustainable procurement policies/strategies	7	6	13	1
	Lack of interagency collaboration	2	1	3	1
	Lack of top management commitment	4	1	5	3
	Policies focused on cost effectiveness	3	6	9	-3
Performance measurement	Lack of monitoring/auditing of sustainable procurement performance	3	4	7	-1
	Lack of goals/targets/incentives/sanctions	0	2	2	-2
Mandate/ Politics	Lack of mandate	7	5	12	2
	Risk of antagonizing developing countries	4	3	7	1
	Sustainable procurement distracts from carrying out primary tasks	2	2	4	0
Supply	Market barriers in programme countries	5	5	10	0
	Risk of limiting competition/supply base	5	4	9	1
Demand	Resistance to sustainable procurement by internal customers	2	4	6	-2
	Requires stronger cooperation with end users	1	1	2	0
	Local governments uninterested in sustainable procurement	2	2	4	0
	Resistance to organizational change	1	3	4	-2
Resources	Lack of staff to support sustainable procurement	2	4	6	-2
	Dealing with short-term cost increases	7	5	12	2
	Sustainable procurement is too time intensive	0	3	3	-3
	Training needs	4	1	5	3
	Funding issues	4	3	7	1

management commitment, personal commitment, cost savings, and a sense of common responsibility ("as the UN, this is what we should be doing").

All the contacted organizations are aware of the concept of sustainable procurement, but the organizations are at very different stages of implementation. According to the personal opinions of those interviewed, some have the mandate and the plans to move ahead with further implementation, perhaps having already carried out several examples

of sustainable procurement; some have the interest and capabilities, but do not believe they have a political mandate to proceed; some believe they have the mandate, but not the capabilities or resources necessary; and some think they have neither.

The lack of an organizational sustainable procurement policy or strategy was found to be the most frequently cited barrier. Those interviewed argued that without a high-level strategy in place to deal with sustainable procurement, no



In 2011, the World Food Programme was the third largest procuring body in the United Nations. **Photo:** WFP/ Domenico Scalpelli

initiatives would be taken towards implementation. Furthermore, those initiatives that were taken without a solid policy or strategy in place often encountered problems such as a lack of staff or funds. Essentially, it was hard to make a case for allocating resources to sustainability initiatives that were not incorporated into the organization's formal strategy. As such, many of the barriers cited have the lack of a sustainable procurement policy or strategy as their root cause. This also helps explain why the lack of a political mandate was such a frequently cited issue.

Similarly, the barriers created by short-term cost increases and the need to update procurement procedures are linked. The core issue with these two barriers is the difficulty of balancing short-term costs and long-term savings, but several factors explain why this is very difficult for UN organizations. Often, sustainable procurement solutions require higher up-front costs, which can be recuperated over time. However, UN organizations typically receive core budget funding from member states, which is a lump sum of money that they have to put to best possible use. Under such circumstances, it is impossible to justify spending more money than allotted for sustainable procurement, because the long-term savings do not figure into any envisioned business plan or budgetary cycle.

Another key barrier, cited by half of those interviewed, concerns market barriers in countries where UN programmes are implemented. UN organizations typically operate in developing

countries, and when sourcing from local markets there will often not be any sustainable products available. These markets may have to mature further. Essentially, this barrier can be linked to appeals by developing country member states in the General Assembly, who argue that sustainability criteria in UN procurement risks cutting off a significant share of their suppliers.

From barriers to opportunities

It is clear from our findings that the core issue preventing further implementation of sustainable procurement in the UN is a need to formalize this practice within UN organizations, both in the form of a political mandate and an organizational strategy and policy.

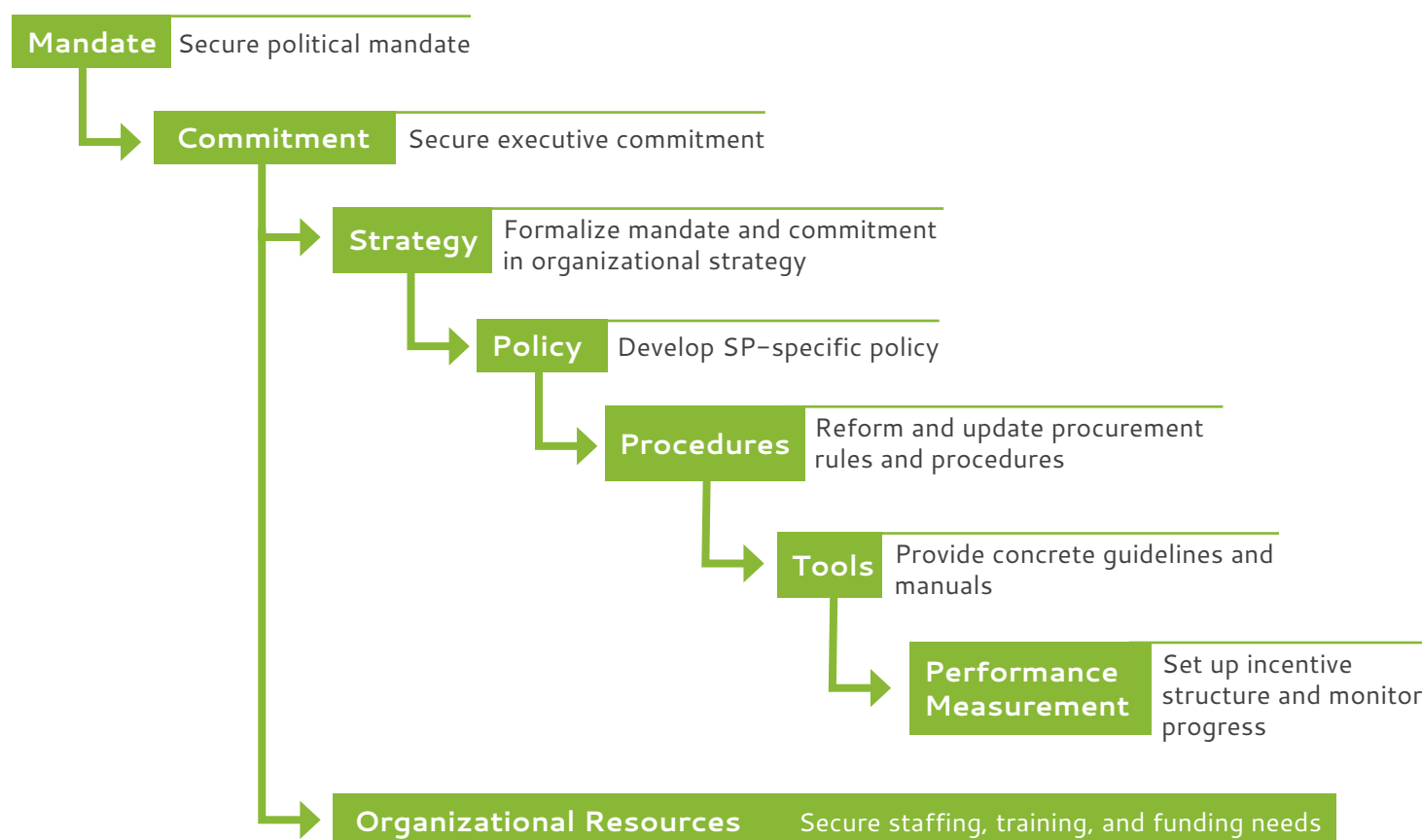
UN organizations are extremely rule-bound and have to demonstrate accountability to member states while also appearing responsible towards stakeholders in general. This sometimes becomes a very difficult balancing act, as in the case of sustainable procurement. On the one hand, the UN has to show leadership in sustainability and signal this to the market. They have to pursue sustainability to display social and environmental responsibility and appear legitimate to stakeholders such as the general public. When a UN body is accused of social or environmental transgressions, it creates a media scandal. On the other hand, the UN spends public money and therefore must be accountable to member states. This accountability is derived from the formal mandates given to the organizations through General Assembly resolutions, and there has been no formal

endorsement of sustainable procurement at this level yet.

UN organizations are thus caught between the demands of satisfying stakeholders by appearing sustainable and satisfying member states by being thrifty. Sometimes you can be thrifty and sustainable simultaneously, and sometimes sustainability carries a premium. This short explanation accounts for the current haphazard and ad hoc implementation of sustainable procurement. Organizations are picking the low-hanging fruits, i.e. implementing sustainable

procurement when it is easy and cheap. This is a natural way to go about sustainable procurement implementation, but to progress beyond the win-win issues and take on more ambitious and long-term sustainability, the formalized requirement for sustainable procurement (mandate and strategy/policy) has to be secured. The notion that sustainable procurement implementation progresses through several steps in sequence, i.e. that you must have the mandate, then policy, then manuals and tools, etc., is exemplified in the model in Figure 1:

Figure 1: Sequential implementation model for SP



This brings us to the most pertinent implication of our research: where should the UN direct its focus in order to make further progress on sustainable procurement implementation? The five most cited barriers represent two core issues, and they respectively represent different manifestations of these two issues.

The first issue can be summarized as follows: market barriers to suppliers in programme (developing) countries are the reason that political mandates have not been given by the General Assembly, which prevents many UN organizations from legitimizing

the practice of sustainable procurement. To address this issue, the focus should be on how to tear down these market barriers in the developing world.

Accomplishing this successfully should lead the way towards General Assembly endorsement, by making sustainability requirements uncontroversial. Different strategies can be envisioned towards this end: First, UN organizations are already making efforts towards developing the capacity of local suppliers through their programme activities. These efforts can be enhanced and more focused on meeting sustainability requirements. Second, efforts must be

made to analyse and communicate the business case for sustainable procurement in UN operations. It is a widely held belief that sustainable procurement entails paying a premium in order to 'do good,' and many interview subjects voiced this exact concern. When done correctly, sustainable procurement ought to bring about long-term savings, and it is important to convince stakeholders that sustainable procurement is best management practice, and not philanthropy.

The other issue relates to the procedures and resource needs that guide and constrain procurement in the UN, and also touches on the notion of realizing long-term savings. As previously mentioned, procurement procedures in the UN are generally not well-equipped to balance the higher initial investments with long-term savings that you often find in examples of sustainable procurement. For private sector companies this is an easier exercise, because by presenting a compelling business case to banks or investors, higher initial investments can be justified. When relying on donor funding, there are limited possibilities for acting on long-term propositions. The culture of accountability in the UN presently dictates a demonstration of short-term cost-effectiveness. Donors need to be convinced that their money is put to good use, and results and impacts should be quickly achieved and measurable.

Different ideas to address this issue include revisiting the organizations' budgetary cycles and reporting requirements, as well as procurement procedures, to allow for better representation of long-term savings.

Conclusion

In general, we conclude that sustainable procurement implementation is in the early stages in the UN, but the practice has gained considerable traction in recent years. The most significant barriers have to do with a need for a formal endorsement of sustainable procurement on a UN-wide level; a need to institutionalize this mandate in the organizations' strategic plans and procurement policies; and a need to revisit procurement procedures to better allow for balancing short-term and long-term expenditures. Although the discrepancies in sustainable procurement barriers experienced by the two groups of interviewees were not as significant as we had expected, our focus on a policy and practice split resulted in the conception of a sequential model of sustainable procurement implementation. We propose that implementation of sustainable procurement in political organizations has to progress through a series of steps, beginning with a mandate and ending with concrete tools, in order to be effective.



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This article draws on independent research carried out by the three authors that is currently under peer review.

Sustainable procurement and innovation

The World Food Programme's Purchase for Progress initiative



Introduction

The World Food Programme's Purchase for Progress initiative works with a diverse range of partners to assist smallholder farmers. Purchase for Progress uses the World Food Programme's purchasing power and its expertise in logistics and food quality to offer smallholder farmers opportunities to access agricultural markets, become competitive players in those markets and thus improve their lives. This pilot initiative is being undertaken in 20 countries, of which 15 are in Africa, four in Central America and one in Asia.

Purchase for Progress: Connecting smallholder farmers to markets in 20 countries

In 2012, The World Food Programme (WFP) procured more than two million metric tons of food commodities in 93 countries, of which 77 per cent – worth more than \$800 million – were from developing countries. Such volumes are typical for WFP which supports tens of millions of food insecure people in over 70 countries each year. As the global focus on agriculture-led growth was renewed in 2008 following the food price crisis, WFP seized this opportunity to better understand how to maximize its significant purchasing power to connect smallholder farmers to markets. This led to the launch of the five year Purchase for Progress (P4P) pilot initiative in September 2008.

Working with more than 200 partners, over 312,000 metric tons of food commodities valued at \$121 million has been contracted for the initiative, of which almost 70 per cent has been delivered. Partner

engagement in the initiative has focused on technical support in agricultural production and productivity, agri-business management, post-harvest handling, financial services and institutional capacity building. Innovative procurement strategies have been used by WFP, including pro-smallholder competitive tendering, direct contracting, forward delivery contracts and commodity exchanges (see Malawi case study) and warehouse receipt systems.

Gaining the confidence and capacity to engage in these activities continues to be a challenge for smallholder farmers, but evidence of success is beginning to emerge, tempered by the knowledge that much remains to be done. Of particular interest is understanding how engagement with P4P has supported farmers in reaching quality markets beyond WFP. While data is still being collected on this, current figures show that P4P-supported farmers' organizations have sold 136,000 metric tons to buyers other than WFP. In many cases, these farmers' organizations had no previous experience in successfully carrying out collective sales before working with P4P (see Guatemala example).

Rwanda P4P stimulates public procurement from smallholder farmers

Common P4P (CP4P) is the name given to the national programme in Rwanda that has replicated the P4P development model. A key feature of CP4P is the well-coordinated institutional arrangements that the government has put in place to support its implementation. In addition to capacity building support provided by NGO partners and through the



The Purchase for Progress initiative is supporting poverty eradication and sustainable development by connecting smallholder farmers to markets, such as in Malawi.

Photo: WFP/Charles Hatch-Barnwell

government's own agricultural support service, a directive was issued by the Ministry of Agriculture requiring all public institutions to purchase up to 40 per cent of their staple requirements from smallholder farmer cooperatives. There are currently 54 cooperatives registered under CP4P, representing a total of 20,248 farmers. Procurement by the National Strategic Reserve from participating cooperatives under CP4P reached 3,166 metric tons between 2011 and 2012.

Malawi

Farmers sell their maize online

One of the approaches WFP is testing is to link smallholder farmers with commodity exchanges. In 2012, P4P Malawi worked with farmers' organizations to improve their business mindset and understanding of contract terms. Together with partners, P4P focused its training on improving the ability of organizations to plan and deliver.

In September 2012, P4P and the Malawi Agricultural Commodity Exchange (ACE) held a bid-volume-only (BVO) session for 568 metric tons of maize with six farmers' organizations. In a BVO tender, the buyer fixes the quantity he or she wants to purchase and receives price offers from interested sellers. For the session, representatives from six farmers' organizations were invited to place their bids on the ACE internet platform. Three of the twelve representatives were women, while female membership in their organizations makes up almost 40 per cent.

Connecting farmers

A year ago nobody, least of all the farmers themselves, would have imagined that they would be able to bid online. In the past, bidding would have been done by writing, placing the document in an envelope and posting it into a locked box. This method is easily understood by the P4P farmers and has been successfully carried out on several occasions. For the new procedure, the farmers' representatives were taken through exercises at the ACE offices that included setting realistic prices and profit margins and an introduction to how the ACE platform works. As none of the farmers present had used a computer before, ACE rural trade facilitators assisted each farmer organization present.

New skills

What stood out throughout the session was the amazement and excitement of everyone involved. Farmers, who until that moment had never even touched a computer, learned how to use a password, a mouse and a keyboard. These small instances of technological mastery mean much more than developing basic computer skills – they represent a new opportunity for farmers to independently decide, plan and participate in the formal market. Macdonald German, a member of the Chandawe cooperative said: "I am very happy, I am learning. This was the first time I had ever worked on a computer and I know it is going to help us make good business."

For WFP and its partners, this day showed that given resources, training, inputs and time, the goal of improving farmers' livelihoods through P4P is achievable in a very real and measurable way.



In Guatemala, Purchase for Progress has provided farmers with higher income options and alternative outlets for surplus production, through networking and training.
Photo: WFP/Elizabeth Sagastume

However, it takes more than just these things to achieve the goal of building the capacity of smallholder farmers to sell to institutional buyers and engage with the formal market. For P4P Programme Officer Leigh Hildyard, "It takes belief, teamwork and a leap of faith from everyone involved."

She continued: "Of all the successes we have had over the past year, watching Mr Katcherenkhwanya – a 60-year-old farmer from the farmers' organization Cheka – look on in stunned pride as his bid appeared on the main projector screen, is the most meaningful. I truly believe that in the very near future our farmers will bid from their own districts with minimal or no support from ourselves."

The results of the BVO session were that five of the six organizations won contracts to deliver a total of 340 metric tons of maize for an average value of \$232 per metric ton. WFP will distribute the maize as part of its School Meals programme.

Guatemala

Connecting to Markets Beyond WFP

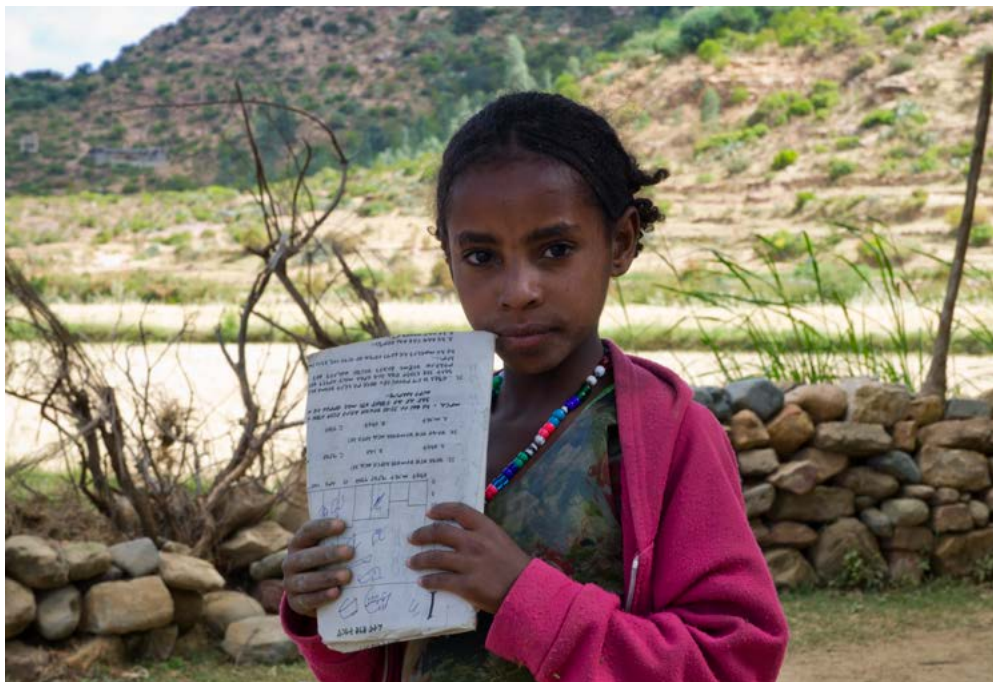
In Guatemala, P4P focuses on sales beyond WFP for two reasons: to promote long-term sustainability and to provide alternative outlets for farmers' surplus production.

P4P assisted farmers' organizations are located in northern and eastern regions of Guatemala as well as on the Pacific coastal plain. A market study examined potential alternative buyers for both bulked

and processed grain, including regional and national buyers such as the food industry, private traders, exporters, NGOs and the Government of Guatemala. According to information collected between 2008 and 2012, approximately one-third of the P4P supported farmers' organizations has sold maize or beans to buyers beyond WFP. Of the total 6,800 metric tons sold, 70 per cent was maize (4,800 metric tons) and the rest beans (2,000 metric tons).

A maize processor in Guatemala that produces tortilla flour purchased 59 per cent of the total volume of the maize. The second biggest buyer was Walmart, which purchased 918 metric tons of beans. Sales to other national supermarkets, large traders and exporters represent 11 per cent of the total (750 metric tons). Some 739 metric tons of maize and beans were sold in local markets (local grocery stores, municipal markets and traders). Small amounts were also purchased by NGOs, the Food and Agriculture Organization of the United Nations (FAO) and other P4P supported farmers' organizations.

With support from FAO, some farmers' organizations have developed the capacity to produce seed as well as grain. This represents 1.3 per cent of the volume sold, and 4.2 per cent of the income generated through collective sales beyond WFP. This successful focus on higher income options has motivated farmers' organizations to explore other markets such as retail packaging of beans, production of red beans specific to the El Salvador market, and fresh corn on the cob.



Ethiopian students have benefited from locally-grown meals, thanks to a partnership between WFP's School Meals programme and the Purchase for Progress initiative.
Photo: WFP/Rein Skullerud

“Providing food-insecure schoolchildren with meals grown within their own country is extremely important.”

Abdou Dieng, WFP Ethiopia Country Director

The P4P team works with farmers' organizations to encourage sales beyond WFP. Commercialization committees are formed in farmers' organizations and a roster of identified potential buyers in the market is shared with all. Training on effective negotiation techniques and the development of business plans also begins this year.

Potential buyers are invited to the field to see the production of the grains, post-harvest management and quality control. This also allows them to become familiar with the maturity of the organization, increasing the confidence of buyers in the capability of the farmers' organizations to establish commercial relations. This is complemented with tools such as the 'Blue Box', which is both a training and quality testing tool that separates produce that does not meet specifications. By partnering with P4P, farmers' organizations have gained the trust of the commercial sector and confidence in their own abilities to reach a broad range of markets.

Ethiopia

School meals supplied by local farmers: what did Markos and Elias have for lunch?

Markos and Elias have received school meals from WFP for the past two years, but the lunch they ate one day in November 2012 was special. The food

WFP distributed was not shipped from overseas, or even from other countries in the region. For the first time ever, the students enjoyed a meal made from crops grown just a few kilometres from their school – purchased by WFP directly from Ethiopian farmers.

These locally-grown meals are the result of a partnership between WFP's School Meals programme and its P4P initiative. School Meals promote student enrolment and attendance in chronically food insecure areas of Ethiopia, with a focus on promoting girls' education.

Since 2010, WFP has purchased nearly 55,000 metric tons of haricot beans and maize for use in all WFP programmes in Ethiopia from P4P-supported farmers' organizations, generating over \$16 million for Ethiopian smallholders as a result.

At Markos and Elias' school, Hanja Chafa Primary, and others like it, a nutritious porridge made of bean and maize flour, vegetable oil and salt is keeping students full and in school, and putting money in the pockets of P4P-supported Ethiopian smallholder farmers.

“It is very good that the students are eating meals purchased from farmers in our area,” said Hanja Chafa Primary director, Tomas Woldemichael. “Many



Inspired by Purchase for Progress, a project in Senegal is improving salt quality and providing training to women-led salt producing economic interest groups. **Photo:** WFP/Stephanie Savariaud

“P4P is empowering tens of thousands of rural poor to increase their incomes and create better lives for themselves.”

Abdou Dieng, WFP Ethiopia Country Director

parents send their children to school because they know they will get a meal here. Most of the students do not eat beans or any legumes at home, so at first a few were not used to the taste of the porridge, but over time they have started to like it. We are also educating them on nutrition, so that they will not only like the taste, but also appreciate what good nutrition can do for their minds and bodies.”

Although WFP has bought food locally for many years, P4P particularly supports smallholders, who typically tend to less than two hectares of land and make up 70 per cent of Ethiopia’s labour force. P4P’s locally procured food is currently being used for WFP school meals in 37 pilot schools in Ethiopia’s Southern Nations, Nationalities and Peoples Region.

Ermias and Chento Bonge, a smallholder farming couple from the outskirts of Hanja Chafa town explained how P4P has changed their lives in the two short years since its start. The couple tends to a plot of land less than half a hectare. Prior to participating in P4P, they had limited access to markets to sell their crops.

“When we managed to sell our crops, we would get a low price for them,” Ermias recalled. Then, two years ago, Ermias and Chento joined a cooperative for

smallholder farmers. The larger cooperative union to which their cooperative belongs signed an agreement with WFP, and as a result, Ermias, Chento and hundreds of other smallholder farmers became P4P participants. In 2012, 33,000 smallholder farmers represented by 17 cooperative unions participated in P4P. By the end of 2013, 34,000 additional farmers will have joined.

As part of the programme, FAO provided Ermias and Chento with a high yielding, drought resistant variety of haricot bean seeds, which they grow and sell both to WFP and elsewhere. The family’s greater income due to market access and having WFP as a reliable buyer encourages them to increase their crop production, and allows them to provide for their six children.

“P4P is empowering tens of thousands of rural poor to increase their incomes and create better lives for themselves,” explained WFP Ethiopia Country Director Abdou Dieng. “Better access to markets means that smallholders can produce more and better crops and get good prices for their yield. This is truly life-changing.”

“Providing food-insecure schoolchildren with meals grown within their own country is extremely

important,” Dieng added. “With some technical support from P4P and its partners, Ethiopia is feeding itself.”

At Hanja Chafa Primary, Markos explained, “the only food I get at home is kita (a thin bread). It is not enough to make me full for the whole day.” Then, he added with a smile, “I am happy to eat at school.”

Meselech, a classmate of Markos, chimed in: “And it tastes great!”

Senegal

Local salt procurement in from women-led suppliers: salt of the earth, just iodized

The P4P initiative is just one of WFP’s programmes that employs procurement as a means of delivering capacity building and food assistance, rather than traditional ‘food aid’. Since 2010, WFP Senegal has collaborated with the Micronutrient Initiative, funded by the Canadian International Development Agency, on a P4P-like project to improve salt quality and strengthen the management capacities of women-led salt producing economic interest groups (EIGs).

Despite the fact that Senegal is a large producer of salt and supplies most of West Africa, more than 65 per cent of Senegalese use inadequately iodized salt, which results in iodine deficiency disorders, particularly in rural areas.

The project is training EIGs in adequate salt iodization, providing them with iodization units and potassium iodate and purchasing of salt directly from them.

In April 2010, WFP procured all of its salt through large traders. Through an additional component of the salt iodization project, training was provided to select EIGs to enable them to respond to WFP’s request for quotes and to boost the local economy. EIGs were evaluated and ten of them were shortlisted by WFP. A pilot purchase of 30 metric tons was successfully completed in December 2010. Currently, WFP provides the majority of support during the purchasing process (which includes providing empty bags, transporting salt to WFP warehouses, advice, etc.), but in the long run, more responsibilities will be progressively handed over to EIGs in order to make them more independent.

Saf Sel, the chairman of an EIG representing the village of Ndiemou, signed a contract to supply 24 metric tons of iodized salt to WFP. This milestone highlights the new opportunities that this innovative procurement approach provides. Moreover, with the additional income, some farmers plan on purchasing equipment to produce refined iodized salt, which sells for a better price.



Incorporating the triple bottom line in public procurement

by Sarath Muthugala and Niroshinie Nayagam

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Introduction

For sustainable public procurement to succeed, it is essential for public officials to increase their focus on the triple bottom line. This approach measures project success not only in terms of financial performance, but also through a balanced assessment of three criteria: environmental conservation, economic growth and social progress. The following article examines the elements necessary for this approach. It also touches on challenges and opportunities for sustainable public procurement in Sri Lanka.

Sustainable procurement and the triple bottom line

There are a wide range of views on how the triple bottom line should be incorporated into the procurement process. For example, the Chartered Institute of Purchasing and Supply (CIPS) states that sustainable procurement “isn’t simply about being ‘green’. It’s about: socially and ethically responsible purchasing; minimizing environmental impact through the supply chain; delivering economically sound solutions; and good business practice.”

Likewise, the definition adopted by the Marrakech Task Forces states that sustainable procurement is “A process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment.”

Moreover, implementing sustainable procurement should include examining consequences of the triple bottom line in a wide array of areas including project design, manufacturing and production and recycling and disposal.

Case: Challenges and opportunities for sustainable public procurement in Sri Lanka

The Government of Sri Lanka has made notable efforts to implement sustainable public procurement over the last two decades. For example, during a major electricity shortage in the mid-1990s, the Government decided to purchase renewable energy from small power producers at an agreed tariff. These producers provided various sources of renewable energy including hydropower,



Minimizing environmental impacts through the supply chain, such as through the purchase of this solar panel for a village in Sri Lanka, is a central aspect of the triple bottom line concept, which guides sustainable procurement.
Photo: World Bank/Dominic Sansoni

“For sustainable public procurement to succeed, it is essential for public officials to increase their focus on the triple bottom line.”

biomass, wind power and solar power, accounting for approximately seven per cent of national grid capacity. Moreover, the related procurement processes complied with laws incorporating the triple bottom line.

In the latter part of the 1990s, the Government officially established public-private partnerships to further develop the country’s energy infrastructure, which included procuring through the Power Purchase Agreement. However, high buying prices under the Power Purchase Agreement have presented some challenges for procurers and consumers alike.

Against this backdrop of opportunities and challenges, sustainable public procurement in Sri Lanka can be further enhanced through increased incorporation of the triple bottom line. This is especially relevant in a country rich in biodiversity and environmental resources; a country that prides itself on its diverse and intellectually savvy community.

Supporting government efforts

How can public procurers, such as those within the Sri Lankan government, be further supported to implement, track and monitor social and ethically responsible purchases, minimize environmental

impacts in the supply chain and develop a business model that provides economically sound solutions? Will a stronger focus on revising and promoting sustainable public procurement policies help? Or is there a need to increase the motivation of political and administrative officials?

When incorporating the triple bottom line, more investment at the pre-project planning phase may in turn increase the organization’s return on investment. Greater attention to this phase can also ensure that all stakeholders are well informed, own the process and are committed to delivery within specified timeframes. During this phase, it is also important to conduct adequate project appraisals such as social cost-benefit analysis and risk analysis. In addition, clear and accurate specifications should be stated in bid documents.

In order to achieve some quick-wins, the questions listed in Table 1 on the next page could be considered.

In order to reap the benefits of sustainable public procurement, the triple bottom line should be systematically incorporated. This will require support from dedicated sustainability advocates, as well as continued good governance.

Table 1: Considerations for sustainable public procurement

Key steps in the procurement process	Questions to be raised when considering sustainable public procurement
1. Budgeting and planning	<ul style="list-style-type: none"> • Have all the required environmental, social and economic assessments been carried out? • What actions have been recommended through these assessments? • What mechanisms can be used to control and monitor the impacts of the project? • Have assessments such as sustainability risk assessments been carried out?
2. Preparing bid documents including technical specifications and invitations for bids	<ul style="list-style-type: none"> • Are all recommendations provided in the impact and benefit assessment reports considered when preparing bid documents? • How are these recommendations incorporated into the bid documents in order to measure the suppliers' approach and ability to minimize the impacts? • Has space been provided in the bid documents for the supplier to propose additional options to mitigate impacts? • Are there any considerations for using eco-friendly and ethical products and suppliers? • Does the contract title convey the importance of sustainability?
3. Evaluating and selecting suppliers	<ul style="list-style-type: none"> • Do potential suppliers have products with eco-labels and social labels? • Have all mandatory triple bottom line requirements mentioned in the bid documents been addressed by the suppliers, and to what extent? • Are the options provided by the suppliers realistic? • Has a background check of suppliers on social and environmental responsibility been conducted? • Have the views of the beneficiaries/involved parties been taken into consideration?
4. Auditing and improving supplier performance	<ul style="list-style-type: none"> • Have indicators related to the triple bottom line been included in the monitoring process? • Is there a proper monitoring system in place?



Incorporating the triple bottom line in procurement can provide a range of social, economic and environmental benefits to local businesses, such as this village shop in Sri Lanka.

Photo: World Bank/Dominic Sansoni



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Implementing sustainable public procurement in India

A case study

by Sanjay Kumar

Introduction

The total volume of public procurement in India is estimated to constitute about 30 per cent of the country's gross domestic product. However, the use of public procurement as a tool to influence market trends in favour of environmentally and socially sustainable products and services is a very new concept in India.

There is currently no overarching legislation governing sustainable public procurement in India. The General Financial Rules issued by the Ministry of Finance defines the key principles of efficiency, economy, fairness, consistency and promotion of competition in public procurement. However, these guidelines in their current form do not mandate public authorities to incorporate environmental and social concerns in their buying decisions. Nevertheless, awareness about the need to incorporate sustainability into government decision-making has been gaining traction in recent years.

While stakeholders in India are grappling to understand this subject and its implications, multilateral agencies such as UNEP, the German development agency GIZ and others have increased their sustainable procurement activities in the country. Their efforts, which have included workshops and seminars, have led to greater awareness among stakeholders. Moreover, in 2012, two noteworthy milestones were reached. First was the introduction of the Public Procurement Bill in Parliament, stating that the environmental sustainability of a product can be adopted as one of the criteria for evaluating a tender. Second, a

committee nominated by the Ministry of Environment and Forests recommended introducing legislation that encourages a shift in supplying greener products and services. Though these events have created some buzz among public procurers, the fact remains that only a handful of them are aware of sustainable public procurement.

Many studies have highlighted the barriers to adopting and implementing sustainable public procurement. A study carried out in the Indian context identified the following key challenges in implementing sustainable public procurement in the country: a lack of stakeholder awareness, knowledge and skills; the absence of clear policy guidelines; non-availability of green products in the market; a lack of vendor preparedness; and the perceived higher cost of green products and services. These findings have been corroborated by other studies carried out on developing nations.

Case: Purchasing environmentally-friendly paper for Indian Railways

The Ministry of Railways, the body that operates Indian Railways, is one of the central ministries of the Government of India. The procurement of goods, works and services by the Ministry of Railways is governed by the General Financial Rules and other codes, manuals and departmental guidelines. The ministry has the largest cadre of trained procurement professionals in India but faces similar challenges as described earlier in integrating environmental and social considerations into public buying decisions. The foremost among them is the lack of awareness



India's Ministry of Railways, the body that operates Indian Railways, has the largest cadre of trained procurement professionals in the country.
Photo: Anil Shakya

and knowledge of sustainable public procurement concepts among stakeholders in India. More specific critical issues facing procurement professionals within the ministry are: legal and technical problems during the procurement process (inclusion of sustainability criteria, evaluation and monitoring); the lack of knowledge and experience in using techniques such as life-cycle costing and life-cycle assessment; and the dependency on experts to define specifications and mitigate potential financial risks due to the perceived high costs of greener products.

Despite these overwhelming challenges, sustainability champions in the public railway sector have resolved to integrate sustainability considerations into public buying. Their actions rest on the belief that although the current public procurement legislation does not explicitly mandate sustainability, it does not prevent any government agency from procuring 'green' products and services within the given policy framework.

At the beginning of 2013, the head of procurement for the Ministry of Railways identified 'green' procurement as one of the priorities for the financial year, and support from the political leadership was identified as crucial to its implementation.

In support of this goal, an advisory team was tasked to guide the ministry's efforts by developing specifications for procuring greener products, and determining vendor availability and cost implications for buying such products.

The team assessed the ministry's procurement of writing and printing paper. They initially found that while efforts to purchase environmentally sustainable paper were already being made, there was still a long way to go before achieving true sustainability. For example, because calls for tender stipulated that paper made from 100 per cent agro-based pulp would be the only type accepted, recycled paper manufacturers could not participate in this process. Unhappy with this condition, recycled paper manufacturers proceeded to discuss the potential economic and environmental benefits of buying their product with the ministry.

In an effort to develop specifications for environmental-friendly paper, the advisory team initially considered incorporating government-approved Ecomark ecological labels. But this option was dropped after it was discovered that only eight Indian paper manufactures were certified, with four of them located in one state alone. The team then consulted with various national paper manufacturers with the aim of developing universally accepted specifications, but these consultations did not yield many tangible results. During the consultations, it was discovered that there are three distinct types of paper manufacturers using three distinct types of pulp: wood-based, agro-based or recycled. Each type of manufacturer claimed that their paper was the most environmentally-friendly. However, comparing the life cycles of the different types of paper revealed that recycled paper is the most environmentally favourable. It was also found that recycled paper costs the least in the Indian market.



The Ministry of Railways faces various challenges when integrating environmental and social considerations into public buying decisions, but has made progress in promoting sustainable procurement.
Photo: Anil Shakya

Despite its advantages, printers working with the ministry were concerned that the use of recycled paper would decrease the efficiency of their printing press and result in more wastage, leading to higher printing costs. They were also apprehensive about the durability of paper manufactured from recycled pulp. To assuage their fears, it was pointed out that quality and suitability of paper should be assessed not on the type of pulp, but on other quality parameters set by the Bureau of Indian Standards. Following these consultations, the ministry decided to start buying paper made from a minimum of 60 per cent recycled pulp, a more sustainable and inclusive policy.

Impact of the advisory project

The Ministry of Railways annually procures about 10,000 metric tons of paper. The shift to recycled pulp could result in electricity savings of up to 31.6 mega units per year and the reduction in greenhouse gas emissions by 9,382 metric tons per year. Moreover, the decision should encourage more manufacturers to produce recycled paper and promote recycling habits among consumers.

Key lessons learned

The case highlights the importance of embedding 'green campaigners' to drive sustainable public procurement within an organization, or establishing a committed pool of sustainability experts in the long run. It also demonstrates how support from top management, such as the head of procurement at the Ministry of Railways, can motivate sustainability

champions to explore and develop appropriate solutions. It is therefore not only important to train procurement professionals in sustainable public procurement processes, but to also sensitize other stakeholders, including top management, on role of governments in demanding environmentally-friendly products.

The role of governments in driving sustainable public procurement has often been examined in the literature. But the role of small and medium enterprises (SMEs) in implementing sustainable public procurement has not been analysed in much detail. The case illustrates how SMEs, such as paper manufacturers, can utilize their collective bargaining power in democratic environments to influence the political leadership into incorporating sustainability considerations for the greater public good.

In addition, while a growing number of public procurement stakeholders are becoming more and more aware of sustainability, this in itself is not sufficient unless they truly understand the multifaceted nature of sustainable public procurement.

Furthermore, environmental and social criteria need to be integrated at every stage of the procurement process without becoming discriminatory or anti-competitive. A credible labelling scheme can prove to be an easy and efficient solution, as it can act as a reliable benchmark for buyers to make informed purchasing decisions. In this case study, the number of vendors with the Ecomark label was so few that recommending this type of labelling would have

negative implications on the competition during the bidding process. But how does one make trade-offs between competitiveness in public procurement and the promotion of eco-labelling schemes supporting sustainability? Managing this dilemma for public buyers is indeed a challenging task. One possible way that buyers can solve this could be to notify the market in advance of their intent to buy products with eco-labels. This would help provide adequate time for manufacturers to acquire labels if they do not already have one and also avoid criticism that vendors are not given adequate time to prepare for the sustainable procurement process.

Lastly, several studies on the challenges of implementing sustainable public procurement in India have noted the expressed need for clear legislation and guidelines. In this case study, one of the largest public procurers in India, the Ministry of Railways, started buying recycled paper without such legal

requirements. The ministry still managed to improve the sustainable procurement of its paper within the available framework. Though this strategy may be sufficient in the short-term, it is important to have unambiguous legislation and guidelines for long-term success. This would provide the much needed legitimacy, direction and framework for sustainable public procurement to be rolled out across India's ministries and departments in a systematic manner.

Conclusion

This paper presents a first-of-its-kind initiative for implementing a sustainable public procurement policy in India. The impact of this initiative may appear insignificant now, but its outcome could be considerable as more and more products incorporate sustainability considerations and consumers – big and small – become more motivated to buy green products and services.



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Prerequisites for sustainable public procurement in developing countries

by Rita Roos

Introduction

What are the prerequisites for sustainable public procurement to succeed in developing countries? This question is not only important for developing countries themselves but also for donors. In development cooperation, donors are concerned with the factors that will allow their support to yield a lasting impact.

The term 'enabling environment' is often used to look at the range of factors that support development actors to promote socio-economic improvement. There are many definitions of an enabling environment. A general definition provided by distinguished researcher Derick Brinkerhoff describes it as "a set of interrelated conditions— such as legal, bureaucratic, fiscal, informational, political, and cultural— that impact on the capacity of development actors to engage in development processes in a sustained and effective manner."

The Organisation for Economic Co-operation and Development's Development Assistance Committee's Perspectives Note on 'The Enabling Environment for Capacity Development' uses 'environment' and 'context' interchangeably and explains how context/the enabling environment, capacity and change are intimately linked. The note states, "The context matters for capacity development (CD). It sets the stage on which actors pursue their interests and agendas, both of which are affected by change processes. And CD is change, in most cases producing winners and losers and reconfiguring the balance of influence and power in and between individuals, organizations and groups of organizations."

Implementing sustainable public procurement in developing countries is a process of change, requiring capacity development. Thus, it is important to consider the key factors that create an enabling environment in which this change process has the greatest chance of being successful.

Key enabling factors

Based on current research, the following five factors define the enabling environment for sustainable public procurement:

Economic factors

Sustainable public procurement is presently mainly implemented in high-income and upper-middle-income countries. Mauritius and Chile, countries that perform rather well in terms of broad development indicators, are examples of countries embarking on sustainable public procurement initiatives. These two countries also score relatively well in global competitiveness and levels of corruption, indicating that a certain level of development favours the introduction of sustainable procurement. More broadly, an enabling factor for sustainable public procurement should be the existence of an economy that encourages free markets and competition and is supportive of investments and innovation.

Political factors

High-level political will and commitment and a long-term government vision are mentioned most often as prerequisites for sustainable public procurement. These factors should be appropriately expressed in national policies and action plans. There needs to be preparedness and funding, especially in economic



Chile is recognized as a strong development performer, implementing infrastructure projects such as this one with the support of a well-established electronic procurement system.
Photo: World Bank/CAPRA Technical Assistance Project

“There is no one-size-fits-all approach to sustainable public procurement.”

downturns, for example to pay the higher initial price to enjoy a lower total cost over the life of a product. Moreover, a long-term government vision should be chosen over election-cycle thinking. Election cycles can encourage political leaders to implement sustainable public procurement policies only during their term of office. However, truly realizing the benefits of sustainable public procurement may take longer than the incumbent’s term. A strong policy and legal framework, including specific targets, can oblige politicians to support long-term policies, while preventing the potential interference caused by election cycles.

Administrative factors

A robust public procurement system coupled with environmental protection and social laws are pivotal. In Mauritius, existing laws address the treatment of hazardous waste, occupational safety, and the prevention of corruption. A country interested in sustainable public procurement should have also signed the core UN Conventions that ban forced and child labour, establish the right to form trade unions and ensure non-discrimination. A country should have a strong procurement regulatory framework in place, which ensures economy and efficiency, equal opportunities to compete and a transparent procurement process. Such a framework should encourage the development of domestic industries.

Socio-cultural factors

A country should also have a sustainable development strategy in place based on inclusiveness and fairness and addressing environmental, social and economic challenges, since sustainable public procurement cannot work in isolation. The European Commission identified relevant policies, the increased awareness of environmental problems and continued pressure on the environment as the most important driving forces behind sustainable public procurement. The experiences of Mauritius and Chile provide further evidence that a strong national sustainable development framework is pivotal for sustainable public procurement.

Resources

Policies for and investments in technology, research, education and information are also required, as is adequate funding and institutional capacity. Chile and Mauritius have shown that ambitious sustainable public procurement action plans require funds, staff and know-how, in order to develop the capacity of government entities, the private sector and other stakeholders.

In most developing countries, these ideal conditions that shape the five factors will not be met from the outset. The focus should be a more dynamic one.



ChileCompra has successfully managed Chile's public procurement system, by ensuring broad access to the electronic marketplace and integrating sustainability considerations into public procurement processes.

Photo: Dirección ChileCompra

The benefits, costs and risks involved in creating an enabling environment to achieve sustainable procurement results will depend on the country context and the magnitude of change aimed for. In addition, many of these conditions are not unique to sustainable public procurement, but are instrumental to any public procurement reform.

Case: Public procurement in Chile

Recently re-classified from an upper-middle to a high income country by the World Bank, Chile is recognized as a strong development performer, especially in terms of competitiveness and transparency. The country's current sustainable development initiatives focus on reducing poverty and inequality, enhancing education and health, increasing economic growth, and strengthening democratic institutions. Moreover, the democratic reform process focuses on increasing efficiency and transparency in public administration through the use of new information and communication technologies that bring the Government closer to its citizens.

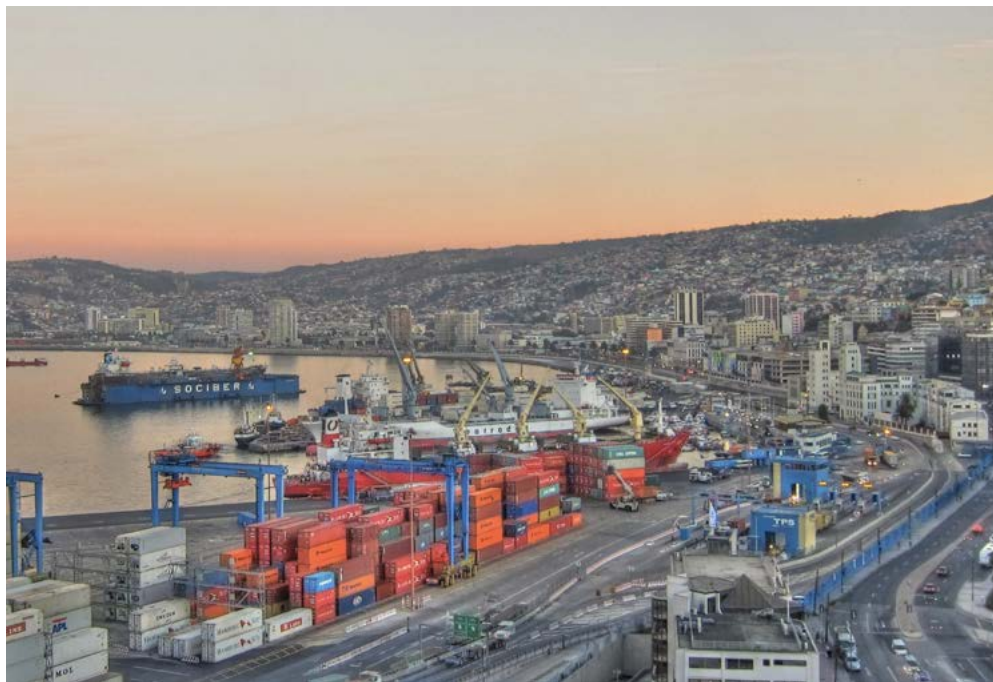
A good example of how these enabling factors have worked in practice can be seen in Chile's public procurement process. The country strongly relies on a well-established electronic procurement system, which is managed by the government agency ChileCompra. The agency was established as a result of national procurement legislation adopted in 2003, and became responsible for coordinating all public procurement. A 2009 amendment to the public procurement legislation made it possible to consider

sustainability criteria in the evaluation of the tenders and provided the foundation for the implementation of a sustainable public procurement programme.

Electronic procurement in Chile

The public procurement volume in Chile amounts to approximately \$8 billion per year. About 850 public entities and their 13,000 procurers place some two million contracts annually. The procurement processes are largely implemented through a public procurement portal (www.mercadopublico.cl), which is used to disseminate procurement related information and includes an electronic bidding platform and an online catalogue of products and services (ChileCompraExpress).

ChileCompra performs a wide range of activities in managing the online catalogue. The products and services contained in the catalogue are based on framework agreements, which set price, terms and specifications for the products based on public tendering procedures. The catalogue includes construction and maintenance services, medicine and pharmaceutical supplies, medical equipment, office equipment, cleaning supplies and services, paper products, furniture, appliances, electronics, construction and maintenance services, environmental services, electrical components and accessories, and other products and services. The use of the catalogue is mandatory for public bodies and in 2010, more than 407,000 orders representing a volume of \$1.055 million were placed through ChileCompraExpress, making it the largest online store in the country.



Chile has made significant progress in sustainable public procurement due to its robust legal framework, established institutions, advanced operations and transparency.
Photo: David Siedband

ChileCompra's sustainable procurement achievements

Guided by the national sustainable public procurement programme and legislation, ChileCompra is ensuring broad access to the electronic marketplace and integrating sustainability considerations into its procurement processes. For example, the agency helped provide micro and small businesses – which represent over 90 per cent of all registered businesses in Chile – with greater and equal access to the public procurement market. This included creating 16 entrepreneurial centres throughout the country, equipped with free Internet access, training, support and services for companies to significantly improve their chances of doing business with public entities. A scoring system was also established for procurers and suppliers to provide feedback. These initiatives have helped reduce information gaps and create a level playing field. Small and medium enterprises now represent about half of the trade on the public procurement portal.

In 2008, ChileCompra published a directive to help incorporate energy efficiency criteria into public tenders. Together with the national energy efficiency programme, an energy efficient purchasing manual was published, which contains information on existing energy efficiency classifications and labels and highlights potential energy and cost savings related to using product alternatives that are more sustainable.

Moreover, the electronic procurement system itself contains a range of sustainability elements. For

example, information is provided on sustainability labels and certifications, as well as the corporate social responsibility activities of suppliers. The electronic catalogue also flags sustainable products and services, allowing purchasers to take these into account in their procurement decisions. In addition, the electronic bidding platform allows for the consideration of sustainability criteria at different stages of the procurement process such as defining sustainable evaluation criteria and including standard contract management clauses for social considerations.

Leading the way

ChileCompra has been the driving force and national focal point for sustainable public procurement in Chile, due to its dual role as a regulatory body and key government procuring entity. It has taken the lead in engaging government agencies, private sector representatives and research organizations in developing national procurement policies and initiatives. ChileCompra has also collaborated with UNEP to build sustainable procurement capacity.

Moreover, ChileCompra and its partners are well aware of the importance of communication and knowledge sharing in promoting behaviour change. The website, www.comprassustentables.cl, is increasingly being used to consolidate information and encourage discussions on sustainable public procurement policies and practices amongst all stakeholders. For example, a contest was launched through the website to share the best examples of sustainable public procurement, with the intention of discussing them at an international seminar.

One of the key challenges for public procurers is that they are not fully prepared to implement policies and analyse products on a whole life costing basis. Public procurers need to enhance their skills to not only consider the purchasing price, but also costs for energy consumption, waste generation, recycling or disposal over the lifetime of a product or service. ChileCompra notes that this cross-cutting view, coupled with effective training, is needed to reach the country's sustainable public procurement goals. The agency also notes that appropriate change management analysing the readiness of the local industry will be needed to promote a more sustainable marketplace. Another area to be addressed is the costs for small and medium enterprises related to becoming more sustainable – such as production, labelling and certification costs – which could make bidding on public procurement notices less attractive.

Conclusion

There is no one-size-fits-all approach to sustainable public procurement. The country context needs to be taken into consideration in order to develop strategies that ensure sustainable public procurement is embedded in a country's broader sustainability system. As the Chile example has shown, a well-functioning procurement regime, characterized by a robust legal framework, established institutions, advanced operations, and transparency, is a tremendous asset for sustainable public procurement implementation. Moreover, dialogue with suppliers is essential to ensure competition, trigger innovation, and empower and encourage the participation of local small and medium-sized companies.



Rita Roos is a public procurement consultant with over 20 years of experience in international development. Before working as a consultant with the World Bank, the Asian Development Bank, the Organisation for Economic Co-operation and Development, UNOPS, and other bi- and multilateral organizations, she was the Director of Procurement of GIZ (formerly GTZ), Germany's largest development institution. Her focus has been on strengthening country procurement systems through assessments, capacity building, and the development of knowledge sharing tools. She has also been involved in exploring opportunities and challenges for incorporating sustainable public procurement in developing countries, to help achieve broader sustainable development goals.

For full text, please consult:

Roos, R., 2013. Sustainable Public Procurement – Mainstreaming sustainability criteria in public procurement in developing countries. Lüneburg: Centre for Sustainability Management.

Increasing local content in infrastructure procurement

by Jill Wells

Introduction

It is now widely accepted that sustained economic growth is necessary for the alleviation of poverty and achievement of the Millennium Development Goals. But the ability of economic growth to contribute to the alleviation of poverty will largely depend upon the extent to which the poor participate in the growth process and thereby share in its proceeds.

Investment in the construction of infrastructure in developing countries offers significant opportunities for local companies and workers to both contribute to and share in the benefits of growth. They can do this by winning construction contracts and investing in the production of building materials and components, as well as through employment in both on-site construction and in the production of goods and services purchased by contractors from other sectors of the economy.

However, in many parts of the world these opportunities are not being fully realized. Foreign construction firms dominate in developing country markets. This is particularly the case in sub-Saharan Africa, where in 2006 less than 40 per cent of the financial value of new works contracts was awarded to companies from the subcontinent – and this figure includes contracts awarded to international firms that set up offices in African countries. Foreign companies often source their professional services, materials and components (and sometimes even their labour) from their own country or from the global market. Sourcing from overseas limits opportunities for local firms to win contracts for the supply of materials, components and equipment, and restricts the

opportunities for local workers to gain employment in these industries.

While recognizing that there may be very real local capacity constraints, research by Engineers Against Poverty (EAP) and the UK Institution of Civil Engineers (ICE) has shown that more can be done to increase the input of local labour, materials and services (local content) in infrastructure projects in developing countries, without necessarily sacrificing on cost and quality. This article summarizes the arguments. It explains why promoting local content is an issue for procurement, highlights some of the key challenges and summarizes the proposals put forward to overcome them.

Why promoting local content is an issue for procurement

While there may be widespread agreement on supporting the participation of local producers in the supply of infrastructure assets, questions are sometimes raised about the role of procurement in the process. The view is often expressed that assistance to local industries should be on the supply side and that procurement policies should be 'neutral' in terms of promoting development. But current policies are not neutral. The continued 'tying' of bi-lateral assistance to developing countries, policies of 'bundling' contracts into large packages and fiscal policies that favour international suppliers, mean that developing country firms, many of which are small, have great difficulty accessing public procurement markets.



Infrastructure procurement offers significant opportunities to involve and develop the capacity of local companies and workers, such as in this bridge rehabilitation project in South Sudan. *Photo: UNOPS*

“While supply side assistance is definitely needed to develop the capacity of local enterprises, the lack of access to markets remains the most critical factor inhibiting the development and growth of many small producers.”

The aforementioned factors combine to ensure that providers of construction services from the least developed countries are often unable to compete for projects in their own home markets. At the same time, there are significant barriers to trade in construction services that prevent firms from developing countries from gaining access to more developed country markets. While supply side assistance is definitely needed to develop the capacity of local enterprises, the lack of access to markets remains the most critical factor inhibiting the development and growth of many small producers. Until the above issues are adequately addressed, enterprises from developing countries are at a disadvantage against international competitors.

It has been argued that when one side is seriously weaker than the other, the playing field needs to be tilted to favour the weaker side. In recognition of this perspective, the Model Law of the United Nations Commission on International Trade Law, upon which many developing countries are basing their procurement laws, allows the use of procurement as an industrial policy instrument as well as preferences at the evaluation stage for industrial development purposes are within the rules. The guidance

documentation on the Model Law states: “... the Model Law recognizes that enacting states may wish in some cases to restrict foreign participation with a view in particular to protecting certain vital economic sectors of their national industrial capacity against deleterious effects of foreign competition.”

Multi-lateral development banks (MDBs) also appear to support this approach. Four basic principles guide their procurement requirements:

- Economy and efficiency in the procurement of goods, works and services
- Fairness: giving eligible bidders a fair opportunity to compete
- Development: encouraging the development of suppliers in borrowing countries
- Transparency in the procurement process

To encourage the development of domestic industries, MDBs allow borrowers to give preference to bids offering goods manufactured in the borrowing country, and countries below a specified threshold of per capita gross domestic product are allowed to give preference to bids for works contracts from eligible domestic contractors.

Moreover, the World Trade Organization's Agreement on Government Procurement also recognizes the need for developing countries to promote the development of domestic industries, including small-scale and cottage industries, as well as other sectors of the economy. Special conditions allow developing countries to enter the Agreement on Government Procurement while retaining this right.

Challenges of using public procurement to promote development

Despite significant agreement among international bodies that public procurement should promote local enterprises, there are a number of challenges that may be encountered in practice. They fall into the following three groups:

Failure to balance objectives

MDBs play a key role in the funding of infrastructure projects in low-income countries. Despite recognizing the need to balance local development with other procurement objectives, MDB procedures for the appointment of contractors generally insist on international competitive bidding and acceptance of the lowest evaluated price. With the tender process led by price, objectives such as developing the local economy are overlooked. The World Bank also specifically forbids any mandatory requirement that foreign firms enter into joint ventures with local firms as well as restrictions on the sources of labour and materials in the contracting country.

Many low-income countries are currently reforming their procurement regulations and procedures under the guidance of the World Bank. During these reform processes, MDB requirements for open tendering in the appointment of contractors and acceptance of the lowest evaluated price bid have been incorporated, together with many other restrictions. Whilst recognizing the desire to enforce strict rules where previously few existed, the insistence that developing countries fully open their markets may restrict their ability to take advantage of opportunities to use procurement as an industrial policy instrument. It also weakens their bargaining position in multi-lateral trade talks.

Conflicting interests

When bi-lateral funds are provided, conflicts of interest may occur within and/or between donor and beneficiary governments. Governments play many roles, including as clients, regulators and policy makers. While the agreed long-term policy goal may be to increase local sourcing, the desire of donor governments to promote their own exports, as well as the preference of some developing country clients for expensive and imported products, can

lead to over-designed systems that local industries are unable to build or maintain. In this example the short-term interests of donors, and sometimes also of government clients, conflict with the longer-term development objective.

Knowledge issues

A further challenge lies in the fact that the procurement of works is generally regulated and implemented alongside the procurement of goods. Yet these processes are very different. The procurement of works involves very long pre-bid and post-bid stages, crossing several technical areas such as project preparation (pre-bid) and contract management (post-bid). A strong case may be made for dealing with the procurement of works and goods separately. At the very least, it is important to recognize that different skill sets are needed for procuring construction services compared to those needed for procuring goods, and that the relevant expertise is required in both.

Procurement officials may also not be aware of social or economic development needs. Procurement is often still seen as an administrative function in which compliance with regulations is the most valued performance criterion. For this reason, it may be appropriate for governments to develop and disseminate guidelines on how to incorporate local content policies into procurement decisions

Overcoming the challenges

The EAP/ICE report on which this article is based provides suggestions on how some of the challenges may be overcome. It shows that more can be done to use the procurement process as a tool to promote local content in infrastructure construction in the poorest and least developed countries. Moreover, this is possible within existing procurement guidelines and without breaching international procurement rules.

Action must start at the initial planning and design stages of the project as decisions taken at these stages can have the biggest impact on the achievement of local content objectives. At the planning stage, steps to define a project in the context of local content objectives should include an assessment of how to meet the identified need, while building local capacity to construct, operate and maintain the product.

Moreover, alternative solutions should be evaluated for their impact on employment and local enterprises. Detailed designs should wherever possible specify technologies that are within the capability of local contractors. Designing for labour-based approaches can increase employment opportunities in on-site



Local worker in Haiti. Research has shown that more can be done to increase the input of local labour, materials and services in infrastructure projects in developing countries, without necessarily sacrificing on cost and quality.
Photo: UNOPS

construction, while specifying locally produced materials and components can generate further employment and business opportunities in the supply industries.

The important role played by professional consultants in decisions at the planning and design stages suggests the need for careful evaluation of their track record and proposals prior to their appointment. Clients should set out their requirements clearly in the terms of reference or scope of works and consultants' technical submissions should be scored in terms of quality criteria framed around their proposed approach to promote local content in the project. Procurement regulations for the appointment of consultants do allow for quality-based selection, which in turn allows for the appointment of consultants committed to the use of

local resources. This is not so for the appointment of contractors, which is generally based on price alone. However, there are still opportunities to ensure that local contractors have a fairer chance of obtaining construction contracts. This can be achieved by taking advantage of the permitted preferences for local contractors, unbundling contracts into smaller packages and easing financial constraints by ensuring prompt payment. Moreover, long-term growth opportunities for local contractors can be created by making intelligent use of serial contracts and framework agreements.

These actions are at the project level and are subject to the discretion of public sector clients. But they could be developed into a series of guidelines and eventually form the core of a 'local content policy' to be adopted by both governments and donors.



Jill Wells is a social scientist with a PhD in Development Studies and a significant record of research and publications on economic and social issues related to construction. She has had a long career spanning work in academia, government, international agencies, the private sector and civil society, but has seldom deviated far from studying the interface between construction and development. Since retiring from the post of Construction Specialist at the International Labour Organization, she has been working for Engineers Against Poverty, where she played a key role in the pilot project for the Construction Sector Transparency Initiative (CoST).

For full text, please consult:
Wells, J. and Hawkins, J., 2008. Increasing local content in the procurement of infrastructure projects in low income countries. Institution of Civil Engineers and Engineers Against Poverty.

Involving impoverished communities in sustainable supply chains

by Jeremy Hall and Stelvia Matos

Introduction

This paper explores supply chain relationships between companies and impoverished farmers in the Brazilian biofuels industry. This issue is analysed through two case studies covering fuel ethanol and biodiesel supply chains.

Brazil is a major emerging economy grappling with poverty and economic disparity. The country was selected because it is currently one of the world's largest producers and users of automotive biofuels, and a global leader in biofuel technology. Additionally, recent Brazilian policies have encouraged refiners and distributors to source from small-scale farmers that have previously been excluded from participating in Brazil's growing biofuels sector, yet there remain major problems with these wider participatory schemes.

Biofuels have been recognized as a more sustainable energy source when compared with fossil fuels such as oil, coal and natural gas, due to their potential to be renewable and reduce environmental impacts such as CO₂ emissions. They have also been identified as a potential source of employment for impoverished farmers.

However, biofuels have been criticized for creating the so-called 'food for fuel crisis', where their demand may have increased prices for commodities such as corn and soybeans, with harsh impacts on impoverished communities and exacerbated social exclusion through agricultural production at the expense of small-scale farmers. Thus, while the environmental advantages of biofuels have

been broadly accepted, social concerns need to be clarified.

From environmental to sustainable supply chain management

A common theme in sustainable supply chain literature highlights the need to expand from purely environmental impacts towards the more complex relationships between economic, social and environmental factors, and the circumstances under which sustainable supply chain actors emerge and succeed. The underlying logic is that a greater understanding of this complex relationship is needed to fully understand, and hence manage, a firm's social and environmental impacts, while maintaining profitability.

Sustainability advocates also argue that social inclusion in impoverished segments of society can be achieved by providing entrepreneurial opportunities within supply chains.

Brazil is attempting to use biofuels as a means of reducing poverty and social exclusion, while improving the sustainability of its energy network. The ethanol and biodiesel supply chain case studies have been selected to illustrate the challenges faced by government and industry attempts to improve sustainability within the supply chain. In addition to being the two major biofuel sources, these two cases depict similar technological attributes, distribution structures and potential environmental improvements, while highlighting differences in social inclusion policies.



Technological innovation, supply chain improvements and increases in petroleum prices have made sugarcane ethanol a viable fuel in Brazil, produced in mills throughout the country.
Photo: UN Photo/Eskinder Debebe

The Brazilian fuel ethanol supply chain

The development of ethanol as an automotive fuel is an example of Brazil's agricultural paradox of high productivity and social exclusion. Fuel ethanol production in Brazil emerged with the Federal Government's ProAlcool programme, which was a response to the oil crises in the 1970s, and to save sugarcane producers from bankruptcy after major modernization investments were followed by a significant drop in sugar prices.

However, technological innovation, supply chain improvements and increases in petroleum prices have made it a viable fuel, and it is no longer directly subsidized. Sugarcane, a crop well suited to Brazil's climate, is currently the most efficient crop for ethanol production. Brazilian ethanol production is concentrated and capital-intensive, although the harvest is still carried out manually, creating a strong demand for temporary low-skilled labour that has been heavily scrutinized due to poor working conditions within this supply chain.

Environmental concerns include the ethanol sector's role in displacing other agricultural sectors such as cattle production into protected areas like the Amazon. Other concerns include the impact on biodiversity resulting from mono-crop production and impacts related to water usage, waste disposal, soil erosion, energy requirements, and pesticides and herbicides commonly used in large-scale production.

Concentrated ethanol farming has also led to controversial social impacts. Many workers are illiterate and earn below minimum wage, and few

independent small-scale farmers participate in this sector.

Although the environmental impact of sugarcane ethanol remains debatable, most studies suggest it provides benefits over petroleum fuel sources, and thus can be regarded as a 'win-win' example when only economic and environmental factors are considered. However, when social factors are also included, trade-offs emerge and outcomes become blurred.

The Brazilian biodiesel sustainable supply chain policy

In response to the problems of social exclusion in ethanol and other agricultural sectors, the Federal Government of Brazil launched a biodiesel programme in December 2004, with the explicit goals of stimulating the biodiesel market and promoting social inclusion and development in poor regions. A pillar of the programme is an explicit policy to encourage small farmer participation in the supply chain by providing tax incentives known as 'social fuel stamps' to biodiesel refiners and distributors.

To receive a social fuel stamp, the refiners and fuel distributors must purchase part of their feedstock from small-scale farmers, sign commercial agreements with those farmers and provide them with technical assistance. To receive the highest tax exemption, companies must purchase castor or palm oil produced by small farmers in the north, northeast or semi-arid regions. Castor and palm oil were selected because mechanized production of these



Biofuel production offers opportunities for impoverished communities in Brazil, but social and environmental concerns need to be continually addressed. **Photo:** UN Photo/ Eskinder Debebe

crops is currently not cost-effective, thus making it more suitable for small-scale farming.

The Government estimates that around 100,000 small-scale farming families have participated in the programme. In contrast to ethanol, there has been an explicit policy mandate to include independent, small-scale farmers in the supply chain through social fuel stamps, energy mix requirements and research incentives for institutes that in turn are expected to assist various members of the supply chain, especially impoverished farmers.

Involving impoverished communities in the biodiesel supply chain has not been without its challenges. It has been challenging for small-scale farmers to ensure production of what has been negotiated, and there have been uncertainties as to whether prices of, for example, soy, palm and castor for biodiesel would remain competitive with other markets. The level of education and experience in long-term planning has played an important role in how small-scale farmers have responded to biodiesel business opportunities.

To overcome these technical issues, one of the requirements for companies who wish to obtain a social fuel stamp is to provide technical assistance to small-scale farmers, but this has not always been successful. Since castor plants can be found almost anywhere (including in empty lots and landfills), farmers unfamiliar with this crop have assumed that specialized techniques are unnecessary. However, without proper crop management and enhanced varieties, productivity can be low and of poor quality. Furthermore, biodiesel refinery managers have

stated that costs for technical assistance often outweigh social fuel stamp tax exemptions, and that the operational and transactional costs required to manage contracts with thousands of geographically dispersed small-scale farmers creates difficulties. Most of these farmers have had no experience with contracts and lack basic management knowledge such as accounting principles and awareness of the benefits of economies of scale. Thus, additional costs can be linked to providing specialized knowledge to these farmers.

These knowledge gaps and high transaction costs can justify the role of cooperatives and wholesalers. Cooperatives are typically small operations, but possess adequate managerial and technical staff and act as a bridge between impoverished farmers and distributors, refiners and research institutes. They therefore play an important role in disseminating technical and basic business knowledge up the supply chain. However, economizing in this way can encourage sourcing from large-scale farmers and undermine social programmes, much like in the ethanol supply chain.

Involving impoverished communities

As shown in Table 1, the ethanol supply chain provides greater economic benefits than the biodiesel supply chain through greater economies of scale and lower transactional costs (see next page).

As far as environmental concerns go, both types of fuel are renewable and emit lower CO₂ when compared to petroleum-based fuels.

Table 1: Summary of findings: ethanol versus social stamp biodiesel supply chains

	Ethanol supply chain	Biodiesel supply chain
Economic issues	Lower transaction costs, economies of scale through modern, concentrated farming practices (+)	Higher transaction costs; lack of economies of scale due to widely dispersed suppliers (-)
Environmental issues	Renewable energy source (+)	Renewable energy source (+)
	CO ₂ emissions reduction attributes (+)	CO ₂ emissions reduction attributes (+)
	Environmental impacts from large-scale production (e.g. water usage, waste disposal, energy requirements, and pesticide and herbicide usage) (-)	Dispersed production likely to have lower local environmental impacts (e.g. water usage, waste disposal, energy requirements, and pesticide and herbicide usage) than large-scale production (+)
	Potential impact on biodiversity due to mono-crop production (-)	
	Displacement of other farming (e.g. cattle) into protected areas (-)	
Social issues	Contributes towards national energy self-sufficiency (+)	Contributes towards national energy self-sufficiency (+)
	Poor working conditions (-)	Consistent with government mandate for social inclusion, and potential to distribute wealth more equitably (+)
	Does not provide opportunities for social inclusion (-)	Opportunity for poorer communities to compete via suitable crops (+)

Large-scale ethanol production typically creates greater environmental impacts, although large-scale biodiesel from soybeans is likely to have similar impacts, and could additionally threaten protected rainforests.

Regarding social issues, both biofuels contribute to national energy self-sufficiency and employ thousands of people. However, poor working conditions for impoverished communities are more prevalent in the ethanol supply chain, with fewer opportunities for social inclusion.

Policies shaping the biodiesel supply chain have explicitly addressed the government's social inclusion mandate, in an attempt to distribute wealth more equitably, provide entrepreneurial opportunities and encourage poorer communities to compete. But as we have highlighted, these activities have not been without their challenges.

Looking forward

In the future, the Government and biofuels industry could engage impoverished farmers in earlier stages of policy development. There is also a need for increased basic business education targeting impoverished farmers. However, further research is

needed on how such education can be provided to people that have never received formal training.

Indeed, entrepreneurial dynamics within impoverished communities remain largely unexplored. The role played by the presidents of cooperatives, some of which are educated and competent entrepreneurs, is promising. Such actors are often capable of bridging the gap between impoverished farmers and the distributors and refiners, providing access to basic business education and helping to establish trust.

The message for supply chain managers and logistics scholars is twofold. First, there is increasing pressure for firms to improve the environmental and social impacts of their supply chains by providing opportunities for impoverished communities. However, knowledge gaps, transaction costs and trust issues should be taken into account when involving these communities.

Second, biofuel supply chain approaches that solely emphasize efficiency are incompatible with the sustainability concept, and would likely lead to large-scale production, resulting in the failure of environmental and social policies. A focus on collaboration between all stakeholders could be more conducive.



Sugarcane is a major crop in the Brazilian economy. In addition to ethanol, massive amounts of sugar are produced from this crop and stored in warehouses such as in this photo.

Photo: UN Photo/Eskinder Debebe



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Balancing priorities

Decision-making in sustainable supply chain management

by Zhaohui Wu and Mark Pagell

Introduction

Organizations have begun to examine their supply chains in response to numerous interrelated economic and environmental challenges such as fluctuations in commodity prices and climate change. Many organizations initially resist change, but some companies have recently begun to transform their supply chains in efforts to become more sustainable.

However, while waste and pollution reduction are aligned with the traditional goals of operations management, not all environmental practices will bring cost savings and some will increase costs, especially in the short term. The challenge is how to run a viable business today, while not compromising the natural environment in the future. Managing this trade-off is going to test every organization – and not just because environmental issues will be new to many.

When making decisions about the environmental impact of their supply chains, organizations face information uncertainty, evolving decision criteria and changing decision boundaries. Decisions about the trade-off between short-term profitability and long-term environmental sustainability involve uncertainty and risk. Organizations have stakeholders with different priorities due to their values and the level of importance they give to the related issues. For instance, owners and managers will focus on profitability, while members of the community will likely be concerned with the overall livability of the community and environmental impacts from production. The challenge is how to balance environmental issues and sound business practices in this dynamic, complex and uncertain setting.

Organizations are faced with difficult decisions mostly when the impacts of environmental actions are not clear or when such actions impose costs in the short term, while benefits accrue in the supply chain only in the long term. Through a number of case studies, this article explores how organizations balance the need for short-term profitability and long-term environmental sustainability when making supply chain decisions under conditions of uncertainty.

Decision-making under uncertainty

As companies set out to evaluate the environmental impact of their supply chains, they often do not have complete information on decision parameters or consequences. Organizations may have limited scientific information about the environmental problems they face. These trade-offs and information gaps were studied through a sample of companies that are leaders in their industries when it comes to environmental sustainability, going well beyond regulatory compliance in their environmental efforts. The companies in the sample are also profitable and have a record of long-term viability.

The result of the analysis was that organizations do indeed face information uncertainty when making environmental decisions, and that they address this uncertainty by establishing and adopting simple rules. Managers interviewed in the sample shared the sentiment that environmental challenges for them are multi-layered and like 'peeling an onion.' In the process of addressing one particular issue, additional, unexpected issues will come up.



Decision-making in sustainable supply chains can include avoiding the risk of products going to landfills by creating technical standards to reuse materials. **Photo:** UN Photo/ Evan Schneider

To respond to uncertainty, organizations in the sample used sets of operating principles and technical standards, which are 'simple rules' to help them make decisions.

Operating principles

Operating principles are a set of rules that articulate the organizations' environmental values and goals and compel managers to innovate to achieve these goals.

For instance, in our sample, the operating principle of company A in the building renovation industry is to conserve energy in existing buildings. It does not outline specific actions, but forces designers to think about choices that can better utilize natural light and airflow within the buildings. It also directs on-site personnel to reuse material when possible and minimize scrap in general.

Company B is a lighting fixture manufacturer. The operating principle of being thoughtful and treading lightly appears to be rather intangible. Yet it is understood by every employee. For example, the management of the company is determined not to 'outsource pollution'. This means that they will not use a less expensive supplier that cannot meet company B's environmental criteria, regardless of the regulations in the supplier's country. This principle led them to delay outsourcing to China and India until they could identify and develop the capacity of suitable suppliers. By postponing outsourcing, they not only incurred significant costs, but spent additional resources on supplier development.

The analysis suggests that when an organization is faced with a trade-off decision, especially in situations where the environmental costs or benefits are uncertain, they choose the option that is best aligned with the operating principle. The principles set the environmental agenda and guide conduct in each company. Additionally, since the principles do not set specific actions or choices, they allow flexibility for decision makers to make trade-off choices.

Technical standards

Technical standards are imposed by management to tackle environmental issues in a specific process or function. They co-exist with and help achieve the goals articulated in operating principles, but are more practical in nature. Technical standards specify how organizations deal with certain aspects of the supply chain such as sourcing, supplier practices, material selection and reverse logistics. Moreover, environmental decisions in these areas are well-defined and can be measured objectively.

Company C purchases horticultural products from suppliers who operate in many developing countries and often in ecologically sensitive areas. It worked with several non-profit organizations to create a fully transparent supplier certification programme and rating system. These technical standards include a social component that tracks the flow of money in the supply chain to ensure that growers, not intermediaries, reap the economic rewards of their environmental performance.



Executives, such as factory owners, are faced with the constant challenge of running a viable business today, while not compromising the natural environment in the future.
Photo: UN Photo/Kibae Park

Company D produces hardware and is thus a business that depends on disposable products. Developing its business would likely increase the flow of discarded products going to landfills, which would put it at risk of increased regulation and a diminished reputation. To address this risk, top management imposed a technical standard creating a closed-loop supply chain to take back and reuse the materials. The standard specifies material choices, design for environment requirements, and the logistical and remanufacturing processes.

Operating principles reduce information uncertainty by setting a broad environmental agenda and guidelines, while technical standards further remove uncertainty from specific decisions.

A committed workforce

A committed workforce is one of the concrete ways that the studied organizations mitigate trade-offs between short-term profitability and long-term environmental sustainability. All studied organizations noted that their sustainability initiatives had provided significant benefits in recruiting and retaining workers. These organizations could attract and retain knowledgeable people for lower costs than their competitors. More importantly, the employees of these organizations were motivated to participate in innovation.

Trade-off decisions

The studied organizations are leaders in sustainability, yet they usually do not address environmental issues at the expense of their companies' financial well-being. Several interviewed

managers asked us to clarify the definition of sustainability and made the point that "one has to be economically sustainable to be environmentally sustainable." For these organizations, there is always the tension to figure out "how much one wants to be green and how much one can afford to be green." Sustainability does not exist if a company is not profitable. Decisions about environmental issues are thus very pragmatic and all of the studied organizations keep sight of the fact that they must be both economically and environmentally sustainable. What makes these organizations unique is that the environmental impacts are part of the daily conversation such that they do not accept the status quo and actively work to mitigate the trade-offs they identify. The end result is that they remain economically viable in the short term as they try to become more environmentally sustainable over the long term.

This pragmatism was exemplified in a food packaging issue faced by company E. The transportation of their products required the use of non-recyclable packaging made up of multiple layers of virgin plastics and metal. When the expiration date of their products was reduced due to faster turnover, the management decided to remove a layer of plastic from the bag because it was no longer needed to preserve the freshness of the products. While this change reduced costs, what triggered the change was the managers' primary concern about plastic usage, not cost. At that point, it had become natural for them to consider environmental implications when business conditions changed.

The managers in our sample are deeply aware of the practical and technical aspects of the environmental issues they face in their daily operations, and strong values help tackle the challenges the companies face. Such tension pushes organizations away from only considering tactical trade-offs and forces them to consider bold environmental decisions that lead to system changes.

For instance, company F had a metal-finishing process that created a stream of toxic contaminants that were discharged into the sewer system, leading to close monitoring by the local environmental regulator. They could have invested in improved processes that reduced the discharge, but they realized that as long as they discharged waste they faced regulatory scrutiny as well as creating tension with their operating principle. Therefore, they instead asked, "what if we had no discharge?" Reframing the issue led to the development of a zero-discharge, closed-loop system that differed radically from traditional systems.

The tension between adhering to the operating principle and accepting a trade-off pushes managers to create innovative solutions in supply chain systems and operational routines. As these companies are confronted with environmental challenges, they face financial and other business constraints similar to other companies. And the trade-off decisions they make do not always favour more environmentally-oriented choices, especially in the short term. Yet at the same time, we find that rather than using cost and resource constraints as an excuse for inaction, these companies search for cost-neutral solutions and become more innovative.

Conclusion

To summarize, we find that uncertainty about environmental outcomes and future regulations, the level of importance of each environmental issue to multiple stakeholders, and a lack of influence in one's supply chain, can all contribute to an uncertain decision-making environment. In response, sustainable organizations in our sample have established and adopted operating principles and technical standards as rules to mitigate this information uncertainty.

We also find that when making environmental decisions, the managers in our sample do make short-term concessions to business needs. What makes these organizations unique is neither that they face trade-offs and experience dilemmas, nor that they often put profit first. Rather, environmental challenges offer these companies a new lens to examine their supply chain operations.

The commitment of the workforce is also a key component of mitigating trade-offs and creating a unique supply chain. With a committed workforce, sustainable organizations address environmental issues at a lower cost than less sustainable competitors in the same situation.

For a sustainable organization, many of the decisions about environmental performance will be incremental and occur through the continuous improvement of the existing supply chain. Over time, this sequence of decisions will build a supply chain radically different from its less-sustainable competitors. Each decision informs subsequent decisions, creating a feedback loop of knowledge, practices and routines that moves the organization along its unique trajectory.



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