

Trade:

# What If...

New challenges in export development

Reports prepared for the World Export Development Forum, 8-11 October 2007

**International Trade Centre**

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## Trade: What if...?

By Stephen Browne, ITC

**Q**uestion: Which are the fastest-growing markets for developing country exports? Answer: The developing countries. A few years ago, the answer would have been the USA or the European Union. Today it is China, by a huge margin – 232% in five years according to ITC research. And the second fastest is South Korea (117%).

**Q**uestion: Which African country has the best export performance? Answer: Possibly Tanzania. Tanzania? During 2001-2005, Tanzania succeeded in having one of the fastest growth rates of exports combined with one of the highest levels of product diversification.

As ITC's own research shows, trade patterns are now changing so fast, we probably shouldn't even call them patterns. The next five years could throw up some very different numbers, many of which we shall not predict, even with the most sophisticated analysis. But we can at least interpret them and we should react to them.

ITC is the closest there is to a pure aid-for-trade organization in the multilateral system. Aid for trade is all we do. As with other trade organizations, however, we need to stay abreast of the rapidly changing trade environment,

and especially the needs of exporters who can play a crucial role in engaging constructively with globalization and facilitating dynamic growth.

For the World Export Development Forum (WEDF), ITC asked a group of thinkers to present their latest ideas about exporting. This booklet is the result.

**James McWilliams** asks: *what if* people in rich countries want to eat locally-grown food because they believe it is environmentally friendly? His answer is that their logic could be seriously at fault. The consumption of fossil fuel in food production is not confined to transportation. For example, Londoners buying lamb in the UK raised on energy-intensive pastures are 'consuming' four times as much in terms of carbon dioxide emissions as lamb shipped from New Zealand, approximately 12,000 miles away.

There is a lot at stake. The European food lobby is trying to convince their governments to bring in 'food miles labelling' on the mistaken grounds of environmental sustainability. If their arguments prevail, Europe would reduce its import of food from some developing countries, with a catastrophic impact for the livelihoods of farmers

there. Here aid-for-trade can take a benevolent green angle. For example, ITC has recently been working with British and Danish partners on the food miles debate to ensure that policy is not driven by ignorance, and that Kenyan fruit and vegetable farmers will thrive.

**Anthony Williams** and his co-authors ask: *what if* exporters from developing countries were to harness ‘mass collaboration’ via the Internet to enhance their competitiveness? Sharing knowledge works and is profitable. It could lead to a *‘tradepedia’* – a trade version of the Wikipedia, the world’s largest, peer-driven, online encyclopedia. In the rich countries, it just needs a good Internet connection.

The challenge in the poorer countries is that barely 1% of small enterprises have online access. Aid for Trade – the programme as well as the concept – could help in various ways. It could inspire and help to build IT infrastructure and allow more mini- and micro-enterprises in the South to get online. ITC might contribute some knowledge. We already aspire to build the mother of all trade information portals, based on the Trade Map. Perhaps we shouldn’t stop at a mere portal, but go on to create a veritable ‘agora’ – a global meeting place of ideas and advice. Should we even host the tradepedia and connect millions of aspiring exporters to unlimited free knowledge? It could send a lot of us trade advisers into early retirement...or give us a new

lease of life as online content providers with developing country specialists as our peers.

**Charles Gore** looks more closely at knowledge within national borders. *What if*, he asks, developing countries were to set up their own ‘innovation funds’ to boost the capabilities of small exporting firms and farms? Trade preferences stimulate opportunities and pioneering firms initiate production, importing foreign technology. The learning process expands as more companies imitate the business success of the pioneers. More widespread upgrading follows.

National innovation funds could support and accelerate the learning process stimulated by international transactions and help to overcome the supply-side constraints for countries trying to meet the challenges of new market openings. Here is another role for aid-for-trade: a new form of trade financing. It acknowledges the role of enterprise at the centre of the export effort, with a public fund in support. Assistance in this form resembles budget support and gets around the familiar pitfalls of aid. It grants countries ownership. It avoids the problems of donor coordination.

The trade map in developing countries needs to be re-drawn, says **Astrid Ruiz Thierry**. Women create one-third of all new businesses and an increasing number of families depend on women’s incomes. In the export field, women

entrepreneurs are helping to develop the comparative advantages of developing countries. They dominate the labour force in the most promising and dynamic new trade sectors. But ownership and decision-making in the trade sector is a male preserve. *What if* promise and power were on the same side, she asks?

Trade support institutions help to underpin trade success and their effectiveness is enhanced through networking. But today's trade support networks are hindering rather than helping women's participation in trade, and holding back export success. So greater female empowerment in these networks is the key to facilitating interconnection and clustering of women's business organisations. Trade support services should count women in if they are to improve trade performance, and donors should advocate and support the genderisation of trade.

At the time of writing (October 2007), Doha is still stuck, with news of a breakthrough continuing to ebb and flow. Trade facilitation, says **Oswaldo Agatiello**, is a public good that would benefit all countries. So if progress on agricultural protection and non-agricultural market access continues to stall, *what if* we were to work on trade facilitation outside the single undertaking, he asks?

Greater trade facilitation could thus be one of the most effective ways to enhance competitiveness in the developing countries.

Although the main effort will lie with each country – with the main impetus coming from the private sector – again there is a critical role for donors in financing infrastructure and technical assistance. In developing countries, trade facilitation will also help to bring the huge informal trading sectors into the mainstream economy, although not without difficulty and even controversy.

These are just a foretaste of the arguments put forward by our writers. One of the prime objectives of the WEDF is to stimulate new thinking about export development. In this spirit, the five papers here were prepared as a curtain-raiser to the issues for debate at the 2007 World Export Development Forum.

**Stephen Browne** is Deputy Executive Director and Director of Operations of the International Trade Centre, Geneva. He is the author of five books on development, including *Aid and Influence* (Earthscan, 2006).





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## Eat local, eat global: towards sustainable food exports

By James E. McWilliams, Yale University

The international movement to eat mainly locally produced food has finally reached critical mass with several campaigning books published in 2007 and a number of articles in major newspapers and magazines. This development, for the most part, should be seen as progress. As scholarly studies have shown, the inherent benefits of shrinking the distance between food production and consumption include (and are by no means limited to) fresher food, stronger community ties, the preservation of open space, and supporting family-run farms. Localvores, as Eat Local advocates are now calling themselves, have ample evidence to tout such results and deserve much credit for raising popular awareness about environmental and social issues that once existed only on the fringe. But if there is one argument in the localvores' rhetorical repertoire that receives the most positive attention it is the seemingly self-evident statement that consuming locally produced food reduces fossil fuel emissions. It is the Eat Local mantra with the largest potential implications for the global food economy and, as it turns out, it is also the Eat Local claim most vulnerable to challenge.

### Food miles

To appreciate how enthusiastically localvores stress the environmental benefits of “food miles”, consider the widely popular works of Barbara Kingsolver (*Animal, Vegetable, Miracle*), Bill McKibben (*Deep Economy*), and Alicia Smith and J. B. MacKinnon (*Plenty*). Working in the profitable vein of Michael Pollan's *Omnivore's Dilemma*, these writers espouse the conceit of limiting their diets to locally produced food (roughly, food produced within 100 miles/160 kilometres). Each author overtly rests his or her case on the supposedly irrefutable connection between local food consumption and energy reduction. “The average food item on a US grocery shelf has travelled farther than most families go on their family vacations,” writes biologist-turned-novelist Kingsolver. Her husband and co-author, Steven Hopp, explains: “If every US citizen ate just one meal a week (any meal) composed of locally and organically raised meats and produce, we would reduce our country's oil consumption by over 1.1 million barrels every week.” Concerns over inflated food miles brought Smith and MacKinnon to their dietary choice as well. “Each time we sat down to eat,” writes MacKinnon, a former *Adbusters* editor, “we were consuming

products that had traveled the equivalent distance of a drive from ... New York City to Denver, Colorado. We were living on an SUV<sup>1</sup> diet.” McKibben made a similar decision upon learning that “the average bite of American food has traveled more than 1500 miles [2400 km] before it reaches your lips.” Our food, he notes, “arrives at the table marinated in oil—crude oil.” The proposition that eating local will reduce energy consumption unifies not only these books, but the movement itself.<sup>2</sup>

The notion that local food is automatically more energy-efficient food is based on apparently convincing evidence from credible sources. The use of food miles as a methodological tool was originally pioneered at the Leopold Center for Sustainable Agriculture at Iowa State University in the early 1990s. There, Rich Pirog, Director of the centre’s Marketing and Food Systems Initiative, continues to conduct highly influential studies revealing that, to cite one recent example, the total ingredients included in strawberry yoghurt made in Des Moines travelled an astonishing 2216 miles (3545 km). This figure is well above what Pirog and his colleagues declared to be the average distance travelled by domestic food in the United States (cited by McKibben): 1500

miles (2400 km). This figure has become something of an environmental touchstone. Whatever the specific figure and whatever specific product, however, the implications for food exporting nations cannot be overlooked. “Food miles,” writes Pirog, “have become a metaphor to contrast local and global food systems for food systems researchers and local food practitioners alike.” In turn, Eat Local advocates have fashioned that metaphor into the movement’s single most important environmental yardstick.<sup>3</sup>

The quest to minimize the distance between producer and consumer has gained further momentum as a result of its emotional evocation of a disappearing way of life. While such a factor is always difficult to quantify, its cultural power should not be underestimated. It was, most notably, on vivid display when Wordwatch researcher Brian Halweil, in a conference paper delivered in Norway in 2003, spoke of the tragic fate of Lee Kyung-hae. Lee Kyung-hae was a South Korean farmer and farmers’ association leader who, after a round of WTO negotiations held in Cancún, Mexico, reportedly committed suicide on 10 September 2003 outside the conference. According to Halweil, he did so because the international rules of trade “were stacked against” Asia in a way that allowed cheap imported produce to supplant local production. By failing to mention anything else about Lee

<sup>1</sup> Sports utility vehicles, many of which consume relatively high amounts of fuel.

<sup>2</sup> Barbara Kingsolver, *Animal Vegetable, Miracle: A Year of Food Life* (HarperCollins, 2007); Bill McKibben, *Deep Economy: The Wealth of Communities and the Durable Future* (Times Books, 2007), Alisa Smith and J. B. MacKinnon, *Plenty: One Man, One Woman, and A Raucous Year of Eating Locally* (Harmony, 2007).

<sup>3</sup> Rich Pirog, “Calculating Food Miles for a Multiple Ingredient Product,” report of the Leopold Center for Sustainable Agriculture (March 2005), 3. See also: [http://www.leopold.iastate.edu/pubs/staff/files/foodmiles\\_030305.pdf](http://www.leopold.iastate.edu/pubs/staff/files/foodmiles_030305.pdf)

Kyung-hae—such as any pre-existing psychological conditions or that much evidence suggests the Korean was killed—Halweil’s rhetorical sleight of hand highlighted the emotional case that places enormous sentimental value on small farmers serving local markets. To claim that “this Korean farmer acted out of desperation . . . because he felt a way of life slipping away” today sounds like an attempt to solidify the Korean’s emerging status as an anti-globalization martyr. The impact is clear, however, in the wide publicity given to the claim by Mexican journalist Luis Hernández Navarro that the suicide was “a dramatic representation of the fact that the WTO actually murders peasants around the world” (the farmer was wearing a sign that said in English “The WTO kills farmers”)<sup>4</sup>.

Taking a more subtle line, Eat Local advocates enjoy the cultural reward that accompanies a conspicuous emphasis on buying local. As Manfred Milinski and his colleagues have shown through experiments using game theory, the nature of human psychology is such that individuals are much more likely to contribute to what society sees as the common good if their contributions are visible and reputation-enhancing. Focusing especially on global warming, Milinski found that, as is the case in general, people tend to behave much more altruistically when they are being watched. “When reputation

is at stake,” he writes, “animals as well as humans switch from selfish to altruistic behaviour, because only the latter is socially rewarded.” Milinski’s findings have a direct bearing on the future of sustainable food systems because few environmental activities have become as conspicuous and value-affirming as buying local. Joining “100-mile diet” clubs, marking menus as “local only”, or, as happens in my neighbourhood in Austin, Texas, placing on one’s car a bumper sticker advertising a local market that sells local produce, are only a few of the ways in which the Eat Local movement thrives on the high visibility for participants eager to link their identity with an environmentalist mindset.<sup>5</sup>

Finally, one should never underestimate the role of nostalgia in making food miles the primary environmental consideration used to evaluate sustainable agriculture. Authors who promote the Eat Local movement tend to entertain a deeply mythologized view of agricultural history. What has emerged is a narrative in which a golden age of farming—marked by ecological harmony and self-subsistence—succumbs to the filth, grit, and greed of industrial and corporate development. “When we walked as a nation away from the land,” writes Kingsolver, “our knowledge of food production fell away from us like dirt in a laundry-soap commercial.” The nation’s “drift away from our

<sup>4</sup> Luis Hernández Navarro, “Mr. Lee Kyung Hae,” *La Jornada* (Mexico), 23 September 2003; Brian Halweil, “Homegrown/Shortcircuit Food Conference,” 27 October 2003, Oslo, Norway.

<sup>5</sup> On the Milinski study, see [http://sciitnews.com/news\\_3657.html](http://sciitnews.com/news_3657.html); Julia Whitty, “The 13<sup>th</sup> Tipping Point,” *Mother Jones* (November/December, 2006), 48.

agricultural roots,” she writes, “began when munitions plants started making chemical fertilizers.” The result, Kingsolver says, is that “we don’t know beans about beans.” Smith and MacKinnon are equally outraged by this perceived decline. “Fifty years ago,” they declare, “there was still widespread connection to food and the places that it comes from. ... Many people kept kitchen gardens, raised chickens, or knew a beekeeper.” Today, “legions of modern children have never seen a cow.” Overall, what comes through the typical Eat Local text is a lament against modernization.<sup>6</sup>

Of course, these characterizations either distort or overlook a great deal of western agricultural history. From the moment settlers began farming in British America, landowners worked to achieve nearly everything the Eat Local groupies decry. Farmers wanted to trade internationally; they wanted to achieve scale economies; they wanted to industrialize (usually); they wanted insecticides, mechanization, and irrigation systems; they wanted to leave the farm when other opportunities arose; they would have been happy if their children never saw a cow; and they most certainly would have liked a little commercial soap to remove the dirt from their soiled overalls. But yet again, it is the irrational appeal of the ideal that has captured the public’s attention, not the underlying truths.

## Life Cycle Assessments

Despite the Eat Local movement’s success in placing the issues in a narrow ‘food miles’ framework, the time is ripe for global environmentalists to deal in greater complexity with the issue of sustainable food production. The first step, as it tends to be when it comes to significant change, is to confront the conventional wisdom. The argument that reducing food miles necessarily decreases fossil fuel consumption appears to be so obvious, so intuitively logical, and endowed with so much emotional capital, that anyone who questions it would seem to be, as a friend put it, “messing with religion.” But as it turns out, scientists began messing with this particular religion back in 1993, when the first European Invitational Expert Seminar on Life Cycle Assessment of Food Products was held in Denmark. The unifying goal of this pioneering conference was to conceptualize food production in the broadest possible terms, expanding carbon footprint equations to include not only distance measurement, but also externalities including water usage, harvesting techniques, fertilizer outlays, pesticide use, renewable energy applications, means of transportation (and the kind of fuel used), the amount of carbon absorbed during photosynthesis, disposal of product packaging, crop drying, storage procedures, nitrogen cycles, and dozens (if not hundreds) of other obscure cultivation inputs. The hope was that “life cycle

<sup>6</sup> Kingsolver, *Animal, Vegetable, Miracle*; Smith and MacKinnon, *Plenty*.

thinking can become a part of the everyday routines of the food sector.”<sup>7</sup>

This hope is now being realized. After a decade compiling evidence, advocates of Life Cycle Assessments (LCA) are starting to edge into the mainstream with findings that could potentially revolutionize the scale and scope of sustainable food production. In 2006, New Zealand’s Lincoln University, no doubt responding to Europe’s push for “food miles labelling”, published a study challenging the premise that greater food miles automatically meant greater fossil fuel consumption. By incorporating more measures than distance travelled, scientists found that lamb raised on New Zealand’s fertile pastures and shipped by boat to the UK consumed 688 kilogrammes of carbon dioxide emissions per tonne. By contrast, stock produced within the UK’s poorly adapted pastures consumed 2849 kg per tonne. In other words, it proved to be *four times more energy efficient for Londoners to buy lamb imported from the other side of the world than to buy it from a producer in their backyard*. Such figures, despite coming from a food exporting nation, cannot be ignored, especially after similar numbers were found for dairy products—a result, once again, of seeing the matter in terms

of comparative advantage rather than the more simplistic measure of food miles.<sup>8</sup>

While many localvores have reacted defensively to these findings, the international community has almost universally embraced them as opportunities to re-think approaches to sustainability and exportation. New Zealand’s most prominent environmental research organization, the Landcare Research–Manaaki Whenua, reassessed its position on local consumption after the Lincoln study was published. “Localism,” two Landcare scientists wrote in late 2006, “is not always the most environmentally sound solution if more emissions are generated at other stages of the product life cycle during transport.” In Britain, governmental managers of the Food Industry Sustainability Strategy responded to the report by conceding that “products shipped from New Zealand by sea may have significantly lower environmental impacts than those travelling shorter distances in Europe.” The Gallon Environment Letter, a Canadian publication, informed its readers that “certain products can be transported long distances and still use less energy overall than a regionally or locally produced product.” While challenges to the Eat Local philosophy have received little attention in US media, the European press has paid more attention to Life

<sup>7</sup> B. P. Weidema and M.J.G Meeusen (eds.), *Agricultural Data for Life Cycle Assessments* Volume I Report 2.00.01, February 2000, Agricultural Economics research Institute, the Hague.

<sup>8</sup> Caroline Saunders, Andrew Barber, and Greg Taylor, “Food Miles: Comparative Energy/Emissions Performance of New Zealand’s Agriculture” (2006); Saunders and Barber, “Comparative Energy and Greenhouse Gas Emissions of New Zealand’s and UK’s Dairy Industry” (2007).

Cycle Assessments. *The Guardian* wrote that “consumers who make their choices on air miles alone may be doing more environmental harm.” *BBC News* explained in a story entitled “Food Miles Don’t Go the Distance” that food mile advocates “may seem to have common sense on their side, [but] the science which could be used to underpin their arguments is at best confusing, and at worst absent.” And *The Economist* warned that “the apparently straightforward approach of minimizing the ‘food miles’ associated with your weekly groceries does not, in fact, always result in the smallest possible environmental impact.” Whatever one’s opinion on this question, there is no denying that the concept of Life Cycle Assessments is gaining mainstream momentum as a viable method of promoting sustainable agriculture.<sup>9</sup>

## Weaknesses of Food Miles Assessments

With the rise of LCA has come a more systematic and critical evaluation of food miles. Thus far, two general criticisms have emerged. First, the Eat Local movement, somewhat ironically, is being taken to task for downplaying geography.

<sup>9</sup> Gareth Edward Jones, “Food Miles Don’t Go the Distance,” *BBC News* (16 March 2007) <http://news.bbc.co.uk/1/hi/sci/tech/4807026.stm>; Gallon Environmental Newsletter, “Energy Use Comparison of Local and Globally Sourced Food,” Research Report #285. “Food and Agriculture, *Energy Bulletin*, (4 June 2007): <http://www.energybulletin.net/30560.html>; “Voting with Your Trolley,” *The Economist* (7 December 2006): [http://www.economist.com/world/international/displayStory.cfm?story\\_id=8380592](http://www.economist.com/world/international/displayStory.cfm?story_id=8380592)

Nowhere is this tendency on more vivid display than in the work of Barbara Kingsolver, whose book *Animal, Vegetable, Miracle* continues to charm localvores while climbing *The New York Times*’ bestseller list. Repeatedly, Kingsolver skirts the critical importance of geography in shaping her personal culinary habits and beliefs. It was, after all, Arizona’s geographical conditions—ones that favour cactus fruits and tubers—that initially inspired Kingsolver and her family to move to southern Virginia to “begin the adventure of realigning our lives with our food chain”. Choosing to move to a fertile region supportive of healthy year-round subsistence was without question an environmentally responsible decision. Nevertheless, an LCA perspective demands that we must take issue with the assumption that within weeks, Kingsolver’s new geographical circumstance, one of rare sustainability, can become a normative standard. While Kingsolver was rhapsodizing over homegrown asparagus, careful readers were left wondering about the one million Tucson residents left behind, stuck in a desert. Indeed, they quickly disappear into Kingsolver’s geographical amnesia, phantom members of a society mired in a non-sustainable grid and, as a result, irrelevant to the noble project that Kingsolver undertakes. Kingsolver’s personal geography, in essence, becomes the privileged geography of the Eat Local movement—nothing more, nothing less. And the last thing advocates of environmentally sound food want to perpetuate is the geography of privilege.

Second, in ignoring the realities of geography, an Eat Local emphasis simultaneously obscures the value provided by economies of scale. While the distance that an exporter ships food might be vast, the fact that the shipper takes advantage of scale economies significantly mitigates transportation costs. This point is almost always obscured in the Eat Local perspective. For example, when Bill McKibben reports that carrots in his local grocery store traveled 1690 miles (2700 km), he needs also to ask a critical question: how many carrots? Ohio State University's Matt Mariola explains why this questions matters: "Imagine, for example, a [...] trailer carrying 2000 tomatoes, travelling 2000 miles from California to Iowa, and using 2000 gallons of fuel . . . each tomato would be said to have travelled 2000 miles, which is technically true . . . however, one can more accurately parse the energy use by item and state that a single tomato only accounted for the equivalent of 1 gallon of fuel [3.7 litres]." The idea of scale economies and food miles recently garnered international media attention when Elizabeth Edwards, wife of US presidential hopeful John Edwards, tipped her hat to the Eat Local movement by declaring: "I live in North Carolina. I'll probably never eat a tangerine again." It was not long before an economist evaluated her choice. Assuming that tangerines *were* grown in North Carolina (say, 60 miles/100 km from the Edwards residence), noting that shipment by rail or ship was much more fuel efficient than by truck, and assuming that the long-distance shippers were more likely to pack to capacity, he concluded that local tangerines

in terms of energy consumption would be "worse than truck from Florida, worse than rail from California, and worse than ship from Spain." As more environmentalists come to appreciate these paradoxical outcomes, greater opportunities will emerge to promote LCA as the preferred method of evaluating energy use in the food sector.<sup>10</sup>

### The long-term benefits of Life Cycle Assessment

An emphasis on LCA does more than simply complicate the simple notion of food miles. LCA also offers concrete advantages in the long-term quest to achieve a sustainable global food economy, primarily because it enables producers, consumers, and regulators to pinpoint hidden but highly inefficient stages in complex processes of production. Consider just three cases where an LCA methodology led to the discovery of previously elusive "hot spots" of inefficiency:

**Trout farming in France.** Studies led by the French National Institute of Agronomic Research and the French Inter-Professional Committee of Aquaculture determined through LCA that "feed is the major contributor to the environmental impacts" of this fish farming. Furthermore, scientists found that feed becomes more inefficient as the size of the fish

<sup>10</sup> Matt Mariola, "Over the Long Haul: Consequences of Local versus Long-Distance Food," forthcoming in *Agriculture and Human Values*; David Foster, "Tangerines per Gallon," <http://chicagoboyz.net/archives/5111.html> (29 July 2007).

produced increases. The correlation between fish size and feed inefficiency has wide-ranging positive implications not only for trout farming in France but for aquaculture in general.

**Danish fishing industry.** An LCA study on the environmental impacts of the industry similarly highlights heretofore hidden inefficiencies in the intricate chain of production. Most notably, scientists concluded that with regard to Atlantic cod “the fishing stage is the environmental hot spot”. The upshot—one that would never have been discovered had scientists limited their focus to transportation—is that “it is possible to reduce the fuel consumption” by a factor of 15 by using a seine instead of a beam trawl to catch the fish. With canned mackerel and pickled herring, it is the “processing and use stages [disposal of cans and waste] that are the hot spots” —yet another finding that can easily lead to practical improvements within specific stages in a global food network.

**Agricultural energy consumption in Denmark.** A general study used tractor-mounted measuring equipment to evaluate plant production. Evaluating everything from earth moisture, soil structure and weather conditions to tractor size, tractor type and driving techniques, scientists discovered that a critical point of production is linked to the types of choppers and chopping principles employed. They wrote that if the knife cylinder is replaced by a cutter wheel,” a 29% reduction in fuel consumption would result in the harvesting phase. This

reduction reaches 37% when a self-propelled precision-chop forage-harvester is used instead of a trailed one. “New cultivation methods,” the authors conclude, “may change the whole picture.”<sup>11</sup>

A related long-term potential benefit of LCA is that—as other countries undertake Life Cycle Assessments along the lines of New Zealand—a remobilization of international trade resources becomes realistically achievable, based on comparative advantages rather than provincial (and often chauvinistic) interests. What shape emerging systems will ultimately take remains open, but at least the lines of a basic blueprint are in place. Many Life Cycle Assessments have found that transportation is, in the overall scheme of production, a minor or even negligible cost. When it comes to hamburger production in Sweden, for example, “[b]aking and storage are the most the energy consuming stages and transportation the least energy consuming one.”<sup>12</sup> And for shrimp from Thai farms, it was the “intrinsic properties of geographical location” rather than distance travelled that

<sup>11</sup> E. Papatyphon et al., “Life Cycle Assessment of Trout Farming in France: a Farm Level Approach,” in Niels Halberg (ed.), *Life Cycle Assessments in the Agri-Food Sector (Proceedings of the Danish Institute of Agricultural Sciences report)*, 6-8 October 2003, p. 76; Mikkel Thrane, “Environmental Impacts from Danish Fish Products,” in *ibid*, p. 78-87; V. Nielson and T. Luoma, “Energy consumption: Overview of date foundation and extract of results,” in B.P. Weidema and M.J.G Meeusen (eds) *Agricultural Data for Life Cycle Assessments* Agricultural Economics Research Institute Volume I (February 2000), 51-59.

<sup>12</sup> Annika Carlsson-Kanyama and Mireille Faist, “Energy Use in the Food Sector: a Data Survey” (2000).



made the greatest impact on the efficiency of shrimp farming<sup>13</sup>. On the basis of such comparisons, there is clearly an incentive to develop a geographical model responding primarily to comparative life cycles rather than a single, simplistic, and de-contextualized measure of efficiency. There is, we have seen, considerable justification for downplaying ‘food miles’, working to strengthen comparative geographical advantages, and making transportation and other stages of production more fuel-efficient. Donor countries should foster regional nodes of production supplying sustainable produce for the less sustainable parts of the world—if this scenario is to reach its potential—and replace the current over-emphases on subsidies and protective tariffs. Although the metaphor must be considered provisional, one might productively conceptualize a global, regional and national hub-and-spoke system of food production and distribution, where the hubs are located in a food system’s naturally fertile areas and the spokes, which travel through zones less environmentally suited to food production, connect them with vehicles using hybrid engines and alternative sources of fuel. As the lines of this blueprint become clearer, so too will creative opportunities to fill them in.

<sup>13</sup> R. Mungkung and R. Clift, “Qualitative Life Cycle Assessment of Thai Shrimp Product,” in Halberg (ed), *Life Cycle Assessment in the Agri-Food Sector*, 69.

## Implications and responsibilities for donor and developing countries

Indeed, if the promises of LCA are fulfilled, the implications for both donor and developing countries are quite significant. To fully understand the current interdependence between developing and developed nations, one need only look to the current trade relationship between the UK and sub-Saharan Africa (SSA). This relationship offers a template for how similar arrangements might be created under a hub-and spoke system of international food production. A few facts: 1) UK residents spend over £1 million (US \$2.4 million) daily on produce imported from SSA. 2) Seventy percent of the green beans grown in Kenya go the UK and 87% of the UK’s green bean imports come from five African countries. 3) Overall, almost half of the imports sent into UK by air come from SSA.

Although food miles assessments have consistently cast these figures as evidence of environmental waste, they are in fact extremely promising statistics for the future of sustainable global trade for at least three reasons:<sup>14</sup>

- First, as LCA has revealed, the greenhouse gas emissions from air-freighted African produce are relatively

<sup>14</sup> James MacGregor and Bill Vorley, “Fair Miles? The Concept of ‘Food Miles’ through a sustainable development lens,” *Sustainable Development Opinion*, the International Institute for Environment and Development, 2006;

miniscule. If the UK banned African imports it would reduce emissions by no more than 0.1%, partly because a great deal of African produce is carried in the belly-hold of passenger flights. Moreover, only 1.5% of all produce from Africa arrives in an airplane. “In the big picture,” write James MacGregor and Bill Vorley of the International Institute for Environment and Development, “the environmental cost of international food transport is trivial compared with UK domestic food miles.”

- Second, not only would ending the trade between the UK and SSA reduce emissions by a negligible amount, it would eliminate farming jobs for over a million Africans. From a ‘food miles’ perspective, air-freighted produce might be “the epitome of unsustainable consumption”, but from a poverty and development perspective “the inclusion of sub-Saharan Africa in these high value markets has been a success story.” An emphasis on LCA would help ensure that an anti-development ‘food miles’ approach does not become widespread among consumers in wealthy nations, as it would then penalize developing countries by endangering the livelihood of African farmers.
- Third, conditions in SSA are far riper for sustainable agriculture than in the UK. Throughout the developing world, 80% of farming is organic. While figures are not available for Africa specifically, it is safe to assume that,

compared to the fact that 96% of farming in the UK is industrialized (only 4% organic), Africa rates higher on the scale of comparative advantage. This comparison takes on added resonance in light of the fact that per capita CO2 emissions are 9.2 tonnes in the UK and 1 tonne in Africa (the global average is 3.6 tonnes). Looked at from a related angle, SSA and other developing countries, as MacGregor and Vorley note, have considerable “carbon credit,” so much so that “[u]nallocated aviation emissions could accrue to African countries in a bid to stimulate trade.”<sup>15</sup>

Capitalizing on comparative advantages and achieving scale economies in an unencumbered and sustainable system of global food trade would benefit developing and developed countries alike—but only if the pitfalls are avoided. Donor nations working in the context of Aid for Trade must be willing to prioritize, enact, and fund policies designed to foster a sustainable, global, and profitable system of trade in food. Potential dangers include the following:

a) **Food insecurity.** Many poor countries have high malnutrition rates despite high food production for export. Trade liberalization can exacerbate national food insecurity. A

<sup>15</sup> MacGregor and Vorley, “Fair Miles? The Concept of ‘Food Miles’ through a sustainable development lens”; Nicholas Stern, “The Economics of Climate Change,” *The Stern Review* (2006); Delphine Strauss, “French PM calls for European carbon levy,” *Financial Times* (13 November 2006).

set of rules recognizing that international trade is not always the best answer to food shortage should control the ratio of a developing nation's food supply that is exported. Additionally, these rules should provide incentives to stop a nation's food economy descending into the exclusive production of luxury or non-food crops.<sup>16</sup>

b) **Volatile markets**. Local farmers working in developing countries are especially vulnerable to inevitable currency fluctuations and dramatic swings in commodity markets. While developed nations with established private and public infrastructures, as well as subsidy supports, are often able to handle this volatility, developing nations will need to be protected from these potentially devastating financial insecurities as they integrate into international markets.<sup>17</sup>

c) **Recidivism**. Developing environmentally sound trade arrangements based on LCA principles is a daunting task and it will be very easy to undo progress. The chauvinistic side of a radical Eat Local philosophy will always be a factor, but the temptation will also remain to return to clunky and distorting trade systems that destroy biodiversity, deplete water resources and promote toxic pollution. The lure of short-term profit at the expense of long-term sustainability might be a

ubiquitous fact of economic life, but perhaps the surest way to avoid it would be, as Tim Lang has suggested, to discourage the concentration of power over production, transport and distribution by protecting food production against monopolization by Transnational Corporations.<sup>18</sup>

Donor countries working through initiatives such as Aid for Trade bear the burden of blending the many virtues of the Eat Local movement with the promises of an LCA-based system of global trade. Sustaining biodiversity, reducing fossil-fuel expenditure (as an overall calculation of costs), supporting local farmers, preserving open space, and producing a healthy food supply can be achieved in a global context when judicious incentives and regulations guide food imports and exports toward these goals. With the world's population projected to be nine billion by 2050, we all have a self-interested stake in consuming global as well as eating local.

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<sup>16</sup> Stephen Devereux, "Famine in the Twentieth century," IDS Working Paper 105 (2000).

<sup>17</sup> Vandana Shiva, "The Ecological Costs of Industrial Agriculture and the Economic Imperative to Shift to Organic Farming," *National Bank News Review*, National Bank for Agriculture and Rural Development (2004).

<sup>18</sup> Tim Lang, "Food Industrialization and Food Power: Implications for Food Governance," Gatekeeper Series No. 114, International Institute for Environment and Development (2004).



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## Wikinomics: new ways of collaborating for export competitiveness

By Anthony D. Williams, Walter D. Staples and Dan Herman, New Paradigm

Today, thanks largely to the Internet, the kind of creativity and innovation that used to take place primarily within the confines of corporate walls now occurs across large, loosely connected networks of peer firms and individual entrepreneurs. Already, millions of people have joined forces in self-organized collaborations that have produced dynamic innovations in goods and services rivalling those of the world's largest and best-financed enterprises. If masses of ordinary people can peer-produce an operating system (Linux), an encyclopaedia (Wikipedia), the media (YouTube/Current TV), a mutual fund, and even a physical thing such as a motorcycle, one should carefully consider what might come *next*. Arguably, this vast global network of specialized producers who swap and exchange services for entertainment, sustenance, and learning is becoming an economy unto itself.

The lesson for business leaders is clear: the traditional, monolithic multinational confining value creation within its closed, hierarchical organization is dead. Today's winning companies compete by reaching outside their walls to harness knowledge, resources, and capabilities. These firms set a context for innovation and then invite customers,

partners, and other interested third parties to co-create products and services *along with them*.

Some critics look at successful open source projects, such as Linux and Wikipedia, and assume that they are an attack on traditional companies' legitimate right – and need – to make a profit. But smart firms are proving otherwise. IBM decided to support, rather than fight, Linux. Today, its Linux-related services and hardware represent billions of dollars in revenue and the company estimates it saves nearly a billion dollars per year over what it would have cost to develop a Linux-like operating system of its own.

As Don Tapscott and Anthony D. Williams pointed out in *Wikinomics*<sup>19</sup>: *How Mass Collaboration Changes Everything* (Portfolio, January 2007) a new breed of 21st-century enterprise is emerging – one that opens its doors to the world; co-innovates with everyone, especially customers; shares resources that were previously closely guarded; harnesses the power of mass collaboration; and

<sup>19</sup> Hawaiian for “quick,” *wiki* is applied to many forms of collaborative software used on the Internet and intranets where users can contribute texts for Web pages and often edit each other's contributions.

behaves not as a multinational but as something new: a truly global firm.

Although mass collaboration has enabled corporate leaders in developed economies to capture new efficiencies, markets, and higher profits, the impact of these trends in developing countries has been largely unexplored. This paper seeks to shed light on the applicability of wikinomics to developing countries, with specific reference to the use of mass collaboration to promote export development and competitiveness. In particular, we outline how wikinomics can help public and private sector organizations overcome significant barriers to trade and export development.

Our research provides a four-part framework that can help exporters in developing countries and their respective government leaders to:

1. harness collective wisdom to overcome cross-sectoral obstacles to export development
2. exploit new opportunities in the global knowledge marketplace.
3. build world-class capabilities through win-win partnerships; and
4. build trade and export capacity through collaborative training

These recommendations build on a widely accepted premise that export growth lies at the heart of socio-economic development. Although export-led development strategies have catapulted China, India and the Republic of Korea, among others, into focal positions in the global economy, the share of trade held by the least developed countries (LDCs) in the South – particularly those in sub-Saharan Africa – has continued to decline. Aid for Trade and other infrastructural support initiatives play a central role in integrating these countries into the global economy. Nevertheless, as the human toll of endemic poverty rises, nothing less than wholesale collaboration among the trade community's stakeholders is needed to put those living on less than one dollar a day – more than one billion people – on the path to sustainable development.

## What is wikinomics?

Since 2004, New Paradigm, a Toronto-based think tank, has been researching the determinants of competitive advantage in a global economy. One finding stands out from all the rest: that the resources, capabilities, and knowledge required to innovate and create value are more widely distributed across the world economy than at any previous time in history. Even large global firms can no longer dominate their field or dictate the pace of development in their industries. Nor can they hope to

control an end-to-end production process or seek to retain the most talented people inside their boundaries.

Staying globally competitive means monitoring business developments internationally and tapping a much larger global talent pool. Global alliances, human capital marketplaces, and new models of inter-enterprise collaboration will provide access to new markets, ideas, and technologies. People and intellectual assets will need to be managed across cultures, disciplines, and organizational boundaries. Winning companies will need to know the world – including its markets, technologies, and people. Firms that do not will find themselves handicapped, unable to compete in a global business environment that is unrecognizable by today's standards.

Through wikinomics, we counsel firms, they can reach outside their boundaries to harness this latent power. Companies that succeed will harness external knowledge, talent, and resources far beyond that which they could ever marshal internally. Although the strategy, culture, and technology required to achieve wikinomics may have been pioneered by nimble greenfield technology start-ups, we are convinced that these innovative approaches can be applied equally well to firms in virtually all industries.

## **Mass collaboration revolutionizes one of the world's oldest industries**

Perhaps the best and most peculiar example of wikinomics comes from a close friend of New Paradigm, Goldcorp CEO Rob McEwen. A few years back, the Toronto-based gold mining company was in trouble. Besieged by strikes, lingering debts, and an exceedingly high cost of production, the company had ceased mining operations at its 50-year-old mine in Red Lake, Ontario.

The company needed a miracle. Frustrated that his internal geologists could not reliably estimate the value and location of the gold on his property, McEwen did something unheard of in his industry: he published his geological data on the Web (400 megabytes of information) and challenged the world to show the company what to do next. The "Goldcorp Challenge" made a total of \$575,000 in prize money available to participants who submitted the best methods and estimates.

More than 1000 virtual prospectors from 50 countries signed up: graduate students, management consultants, mathematicians, military officers, and a virtual army of geologists.

Sharing the firm's proprietary data – unheard-of in the gold mining industry – paid off handsomely. The contestants identified 110 targets on the Red Lake property, more than

80 percent of which yielded substantial quantities of gold. In fact, since the challenge was initiated an astounding eight million ounces of gold have been found – worth well over \$3 billion. Not a bad return on a half-million dollar investment.

It also introduced Goldcorp to state-of-the-art technologies and exploration methodologies. This catapulted the underperforming US \$100 million company into a US \$9 billion juggernaut, and transformed a backward mining site in northern Ontario into one of the most innovative and profitable properties in the industry.

## Harnessing wikinomics around the world

For resource exporters in the South, often highly dependent today on foreign multinationals for technical expertise, such a strategy offers an opportunity to tap a much greater share of the world's expertise, all at the click of a mouse. More importantly, empowering Southern trade partners with knowledge offers a unique means to level the global playing field.

With the technology readily available and the cost efficiencies increasingly obvious, a growing number of companies and organizations around the world are collaborating to design, develop, market, and distribute competitive products and services globally.

For example, in under ten years ICICI Bank, based in Mumbai, has become India's second largest retail bank. The bank leads in every retail product market that it targets. Now ICICI is knocking on the doors of global banks' home markets, with brand-new subsidiaries in Canada and the UK, each growing by over US \$1 million in assets every day. ICICI's success is due partly to the self-service proposition (customers perform their own transactions in self-serve e-lobbies), and partly to low Indian labour costs. But ICICI's costs are also low because its innovative technology systems – generally servers running open source software – cost less than one-tenth of the business infrastructure employed by the average Western financial services company.

In China, “innovation cities” are emerging across the country where thousands of intermingling companies leverage technology, low-cost structures, and physical proximity to challenge their worldwide competition. These amorphous business webs target industries from motorcycles to mobile phones with a deft ability to infuse their own innovations into knockoffs of Western products. Not only do they produce them at a fraction of the cost, they often do so without a recognizable company appearing on the radar screen of established competitors.

So while major multinationals such as Proctor & Gamble, Boeing, and IBM are blazing the path with new collaborative business models, there is also a strong case



for developing country exporters to follow the lead of Indian and Chinese businesses by harnessing collaboration and new technologies to leapfrog competitors. Wikinomics offers Southern exporters an unparalleled opportunity to capture knowledge, techniques, new partners, and new market opportunities from around the world. Although it is true that the ability to compete globally is constrained by infrastructural and capacity-based deficiencies, we believe that Southern exporters and their partners in government and international organizations can harness new models of collaboration to overcome structural weakness and put in place the requisite political, technical, and financial resources to ease their integration into the global economy. The following sections outline techniques for achieving these goals.

### **Wikinomics for export-led development**

Across the South, despite endemic poverty and under-development, the potential for growth and trade is increasingly giving countries a place on world markets. As ICICI is capturing market share in Canada and the United Kingdom, developed country software outsourcers are increasingly looking to eastern Europe and Russia; BMW and General Motors are turning to South Africa for auto parts; and Gap and Wal-Mart are making deals in Lesotho and Swaziland for apparel supplies. The challenge is to broaden the gains from trade and export to a much greater

proportion of the developing world. Organizations governing the global trade environment, such as the World Trade Organization (WTO) have a significant role to play in levelling the playing field, while regional trade agreements allow exporters to experiment “in their own backyard” while giving them the opportunity to “network” through partnerships, alliances, cooperatives and joint ventures, and improve on their knowledge and expertise by participating in trade associations, export seminars and international trade conferences.

It is fair to say, however, that international, regional, and bilateral trade agreements have yet to fulfil their promise of increasing the competitiveness of exporters in the world’s poorest countries – despite the presence of clauses that grant preferential tariff treatment to developing countries. While several countries (notably China, India, Singapore, South Korea, Thailand and Viet Nam) have secured a larger share of global trade, many LDCs have seen their proportion decline precipitously.

Despite such countries’ rich natural resources, manpower, ingenuity, and ethnic and cultural diversity, they can develop into central players in industrial development, eco-tourism, scientific research and global commerce only if they are offered the necessary export development assistance. This, in turn, means redefining how private sector companies operate, and how governments and other

key stakeholders support and engage in the export development process.

We have identified several domains in which greater collaboration among stakeholders in the trade and export development community could improve export success in the South<sup>20</sup>. In the remainder of the paper we focus on four priorities:

1. The need for open forums where all stakeholders can share knowledge and easily collaborate on export strategies and initiatives
2. The role of industry collaboration in enabling exporters to acquire world-class capabilities and efficiencies
3. The growing opportunity for knowledge exporters to access global knowledge and product supply chains
4. The importance of building local and national export capacity by training a cadre of competent export marketing/trade specialists to work in both the private and public sectors.

<sup>20</sup> A comprehensive export strategy also includes the need to attract large foreign buyers and foreign direct investment, build trade-related physical infrastructure, and develop effective trade support institutions (including export financing institutions, industry associations, professional trade associations, and national standards associations).

## Harnessing collective wisdom to overcome cross-sectoral obstacles to export development

Over the past decade, national and international development organizations have discovered that progress often depends on the ability to achieve broad consensus on the development agenda by engaging citizens and civil society in discussions about the issues that contribute to underdevelopment or maldevelopment. Similarly, future export growth stands to benefit from an engaged and participatory debate between private sector members and their respective government leaders. Today, cutting-edge online collaborative technologies offer a new and incomparable means of organizing these discussions and collect the valuable knowledge available from these sources.

The process, as we think it should be applied, begins with the *wiki*. Wiki software has increasingly been adopted by corporations attempting to capture the diverse knowledge held by their employees – knowledge that often goes well beyond what might be expected given employees’ strictly defined duties. Frankfurt-based Dresdner Kleinwort Wasserstein (DrKW) has been a leader in this regard. Former CIO J.P. Rangaswami identified his challenge as follows: “Our problem was to find the cleverest way of meeting growing customer demands, a way that satisfies their risk needs, security needs, and regulatory needs.” The

solution has, in part, relied on the introduction of wikis and blogs into the workplace as a means of allowing employees – regardless of their position in the Dresdner Kleinwort hierarchy – to provide their input and ideas into the challenges the business is facing. While sharing and openness were far from innate to the organization, Rangaswami notes, “once people worked out that by leveraging the talent and experience of their colleagues, they could make more money, the resistance to the idea of collaboration quickly disappeared.”

We think it is time to apply this concept to the challenges faced by exporters and government decision-makers; time for what we call Tradepedia: a trade focused version of Wikipedia, the world’s largest, peer-produced, online encyclopedia. Like Dresdner Kleinwort’s efforts to capture employee ideas and knowledge, Tradepedia would act as a regional, national, or even international warehouse of trade-related knowledge, including the formal and informal rules and regulations that accompany global trade.

As a starting point, Tradepedia could enable all stakeholders in the export development community to quickly identify cross-sectoral impediments to export development. For a private sector exporter, the barriers to global markets may seem obvious: lack of infrastructure; absence of credit facilities; no insurance schemes for exporters; customs irregularities, etc. For government trade ministers, the barriers may include insufficient influence at

the trade negotiations in Geneva, irregular contact with private sector advisory groups, and an inability to challenge global trade frameworks. Uniting these stakeholders in a shared forum would enable everyone to better appreciate each other’s challenges and more importantly, Tradepedia could become a platform for discussing solutions and quickly mobilizing collective resources and action plans. Moreover, innovations and lessons learned could be easily shared across countries and regions for the benefit of the whole community.

Crucial to its realization is the establishment of an open community where knowledge is accepted, vetted, and recorded, whether sponsored by an international organization such as the United Nations Conference on Trade and Development (UNCTAD), the United Nations Industrial Development Organization (UNIDO), the World Trade Organization (WTO), or a host government or group of exporters within a specified region. Access to this resource should remain as open and democratic as possible – restricting it to government ministers would miss the point. The best way in which to construct a comprehensive knowledge base is to involve a diverse set of private-sector employees and managers, academics, and government officials from within the targeted region and beyond. The result will be an online, real-time, “living” set of documents that will provide all stakeholders with instantaneous access

to the broadest and most accurate trade-related information and market intelligence – all at a negligible cost.

## **Building world-class capabilities through ‘win-win’ partnerships**

While traditional business wisdom counsels firms to compete at all costs, our research suggests that the ability to form win-win partnerships with customers, partners, suppliers and even industry rivals is a key source of competitive advantage in the global economy. In emerging markets, for example, such partnerships have often been used by nascent industries to lower costs, increase innovation and capture economies of scale. A case in point is the Chinese motorcycle industry, which is located near the Yangtze River in Chongqing. This industry has successfully harnessed collaboration to catapult itself into a dominant position in the global market for motorcycles.

Unlike traditional industries where ‘command and control’ style production hierarchies manufacture products, the Chinese motorcycle industry consists of hundreds of different suppliers collaborating on motorcycle design and manufacturing. Assemblers typically provide only rough blueprints of what they need. Suppliers of closely related components (such as the frame and fairings) work in tandem to design and deliver complete sub-assemblies to final assemblers, working to tight schedules.

This decentralization allows for rapid iterations, experimentation, and informal networking among adjacent suppliers, while assemblers integrate components and subsystems into finished products without having to impose much direction. If production problems arise, managers go to teahouses in their spare time to iron out solutions, swap market intelligence, and coordinate ideas for future product designs.

As a result, Chinese firms design and build new motorcycles faster and less expensively than conventional industry supply chains. The approach has been so successful that motorcycle production has quadrupled from 5 million to more than 20 million vehicles a year since the mid-1990s, giving China about 50% of the global market. Over 30% of production is now geared toward the rapidly expanding Asian export markets, where Chinese efficiencies have driven down the average price from US \$700 to \$200. Honda, Suzuki, and Yamaha, once dominant throughout Asia, have lost 40% of their market share in the past ten years.

The emergence of highly collaborative design and manufacturing ecosystems is not unique to China or the motorcycle industry. Such processes are becoming the norm in industries where intellectual property and production capacity are fragmented among hundreds of specialized firms. Increasingly, lead producers in fields such as semiconductors, computers, cars, clothing, and

bicycles are responsible mainly for product concepts and marketing. They outsource manufacturing and many, if not all aspects of component design. And they rely on a global plant floor consisting of hundreds of firms to assemble finished products. Developing country exporters can take advantage of this phenomenon by joining with their industry peers to develop collaborative industry networks of their own.

## Exploiting the supply side of new innovation markets

Conventional wisdom says that a firm should find the people with the right combination of expertise and experience to solve its problems, hire them, and retain them by way of money or perks.

But today a growing marketplace for ideas, innovations, and uniquely qualified minds is changing the long-standing rules of innovation and talent management. Companies seeking solutions to seemingly insoluble problems can use the Internet to tap the insights of hundreds of thousands of enterprising scientists without having to employ everyone full-time. This shift is rippling through corporate America, inspired by the example of InnoCentive and changing the way companies invent and develop products and services, including something as mundane as toothpaste.

Colgate-Palmolive was recently seeking a more efficient method for getting its toothpaste into the tube – a seemingly straightforward problem. When its internal army of research and development (R&D) professionals found no answer, the company posted the specifications on InnoCentive – one of many new marketplaces that link problems with problem solvers. A Canadian engineer, Ed Melcarek, proposed putting a positive charge on fluoride powder, then grounding the tube. It was an effective application of elementary physics but not one that Colgate-Palmolive’s chemists had ever contemplated. Melcarek was paid US \$25,000 for a few hours work.

As of now, some 120,000 scientists from 175 countries have registered with InnoCentive and hundreds of companies pay annual fees of roughly US \$80,000 to tap the talents of a global, scientific community. It is an example of what we call an “ideagora.” Launched as an e-business venture by US pharmaceutical giant Eli Lilly in 2001, InnoCentive now provides on-demand solutions to innovation-hungry titans such as Boeing, Dow, DuPont, P&G, and Novartis.

Innovation marketplaces such as InnoCentive provide an exciting new avenue for export development – namely the supply of scientific, technical, and business know-how. The key for developing countries is to export their information and expertise in a way that encourages knowledge workers to stay at home, thereby avoiding the debilitating effects of

‘brain drain’. InnoCentive may provide a partial answer. Indeed, one can envision opportunities for individuals and organizations to build viable contract research businesses that use networks such as InnoCentive as a funnel for business development. The return on investment (ROI) includes increased foreign exchange earnings, better linkages with corporate networks and retained intellectual capacity.

## Using collaborative training to build trade and export capacity

As noted earlier, developing countries have acute needs for capacity-building to support trade and export development. Whether it is training related to trade regulations, quality standards such as an ISO norm, sanitary and phytosanitary (SPS) regulations, or rules pertaining to the WTO dispute resolution procedures, the effort must be made to increase the capacity of domestic trade officials and their associated trade support networks to ensure that developing countries can adequately and efficiently exploit the opportunities and preferences made available to them.

Herein is a significant area of application for the wkinomics principles of openness and collaboration. Traditional training sources, such as the WTO and the World Bank Institute (WBI), do offer tailored programmes for trade officials and government ministries. But

increasingly, academic and non-academic organizations are offering their training and education modules without charge. For example, the Canadian government funds a comprehensive college level training programme, Forum for International Trade Training (FITT) for new exporters. Available in both English and French, completion of the eight-module programme entitles graduates to a diploma as a Certified International Trade Professional (CITP). Similarly, the Massachusetts Institute of Technology (MIT) OpenCourseWare Program offers 1800 courses in several languages, online and free of charge. To date, the least developed countries have been the slowest to respond to these opportunities, principally because the resources and support systems required for access simply don't exist locally. Only one percent of MIT OpenCourseWare users are from sub-Saharan Africa, and only five percent are based in Latin America.

The challenge is to build and deliver the technology infrastructure and training programmes that will enable exporters in developing countries to take advantage of world-class centres of knowledge and expertise. While global technology initiatives such as the US \$100 laptop may help bring skills and access to future generations, Aid for Trade funding and public-private partnerships could help support the large-scale investments in infrastructure – including power supply and broadband Internet access – that are required to broaden access to the benefits of digital

technologies. Aid for Trade funding could also be utilized to establish training and development centres that leverage leading edge academic curricula to address trade and export issues.

## Winning on a global playing field

During the past 20 years of globalization, we have seen Chinese and Indian economic liberalization, the collapse of the Soviet Union, and the first stage of a worldwide information technology revolution. Properly managed, the next 20 years of globalization will help sustain world economic growth, raise world living standards, and substantially strengthen global interdependence. At the same time, it will profoundly alter the status quo virtually everywhere – generating enormous economic, cultural, and political upheaval. Individuals and small companies anywhere in the world can now challenge the multinationals, thus reversing the power structure that has dominated international trade for many years.

The key to success in a turbulent environment is collaboration across borders, cultures, companies, and disciplines. Countries that focus narrowly on “national goals” or turn inward will fail in the new era. Likewise, firms that fail to diversify their activities geographically and develop robust global innovation webs will find themselves unable to compete in the global economy.

Small and medium-sized exporters, in particular, are beginning to see the upside of a more open global economy. Unlike larger firms, they are not excessively encumbered by large workforces, substantial investments in physical plants or organizational rigidity. Now, with a truly global business infrastructure at hand, they can practically buy “off the shelf” any function they need to run a company. Everything from market research and back office support to contract manufacturing is close to hand, if not close in distance. Most, if not all of it, can be managed on the Web. Suddenly, small business entrepreneurs can exploit world-class capabilities and powerhouse business models that will make them genuine contenders on the global stage.

Evidently, exporters seeking to apply these strategies will need to overcome various financial and infrastructural constraints. For example, there is growing recognition within the export development community that fast, reliable Internet access is a prerequisite for any exporter seeking to compete in the global economy. Unfortunately for many countries, reliable phone service, let alone Internet access, is still a luxury. While the requisite communications infrastructure will not arrive overnight, Aid for Trade initiatives could provide the impetus, and funding, needed to address large-scale infrastructural financing needs. At the same time, governments and international organizations should pool their resources with global technology leaders

to forge public-private partnerships focused on developing technologies that can lower the cost of providing Internet access in developing countries.

Insufficient access to finance and credit also figure prominently in the long list of obstacles that developing country exporters face. Recent innovations in micro-finance, however, may offer a partial solution. At the firm level, for example, the Grameen Bank model of micro-finance has been extended to online lending networks such as Kiva.org and globalgiving.org, both of which link developing country entrepreneurs with sources of funding. In some cases, access to external expertise may be “paid for” with equity and other in-kind benefits. So while Goldcorp offered over \$500,000 in prize money to its network of virtual prospectors, companies without cash on hand could offer potential collaborators a percentage share of future profits as an incentive.

Finally, there is a need to educate exporters about the benefits of fostering industry-wide collaborations. Using the Chinese motorcycle industry as a template, export development champions should encourage local exporters to work collectively on ways to drive economic

efficiencies, innovation and export growth. Working through industry associations is one option. But the most powerful way to increase export competitiveness is to achieve the scale economies required to compete for market share in affluent countries. This, in turn, means making collaboration on product development, manufacturing, marketing and distribution a routine part of the way that developing country exporters do business.

Despite the massive challenges, there is considerable cause for optimism. The brainpower behind the next generation of products and services will be more numerous, diverse, and distributed than at any time in history. Tomorrow’s global marketplace will provide an abundance of opportunity and a plethora of choice and variety. The greatest growth engines of the 21st century will be business webs that fuse the resources and competencies of the developed and developing worlds into unbeatable combinations. As it turns out, in the global economy, no individual – and certainly no company or nation – is an island. Moreover, today’s business rule for competitiveness – collaborate or perish – is a *global* one.



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## Making trade preferences and Aid for Trade effective in LDCs: the role of National Innovation Funds

By Charles Gore, UNCTAD

### The development challenge facing the LDCs<sup>21</sup>

In recent years the least developed countries (LDCs) as a group have experienced high rates of economic growth. But there is much diversity in economic performance within the group, with one-third of the countries experiencing sluggish growth or economic regression. Moreover, the more successful countries remain vulnerable to growth collapse as their performance is very much dependent on high commodity prices, aid inflows and climatic and weather conditions. More broadly, there is a wide concern that high rates of GDP growth are not translating effectively into poverty reduction and improved human well-being because insufficient jobs or livelihoods are being created for the expanding population of working age.

<sup>21</sup> The policy proposal in this paper draws on the conceptual framework and empirical analysis of *The Least Developed Countries Report 2006: Developing Productive Capacities* and *The Least Developed Countries Report 2007: Knowledge, Technological Learning and Innovation for Development* (UNCTAD 2006 and 2007). The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

In practice most of these countries currently face a daunting development challenge which has two faces. First, almost all LDCs are experiencing an employment transition: more and more people in these 50 poor countries are seeking work outside agriculture and urbanization is accelerating. But second, most LDCs have recently undertaken extensive trade liberalization. They must manage this employment transition in an open-economy context facing intense global competition.

Looking back in time, it is clear that the major sector in which LDCs absorbed labour in the past was in agriculture, and the major way in which they did so was by bringing more agricultural land into production. In general, people working in agriculture were gainfully employed in the sense that agricultural labour productivity in the LDCs rose slightly over the 20 years from the early 1980s. But it remains pitifully low by international standards. In 2000-2003, agricultural labour productivity was just 46 percent of the level in other developing countries and less than 1 percent of the level in developed countries. This, coupled with small farm sizes, is the basic cause of all-pervasive rural poverty. But at least, with an open land frontier, the

expanding labour force could be productively absorbed – even in absolute poverty.

The challenge facing LDCs now is that this mechanism of labour absorption is becoming more and more restricted. With population growth, agricultural farm sizes are declining and more and more farms are located on marginal land and subject to environmental degradation. Even in land-abundant LDCs, inequality in land holdings is very marked and the poorest households have effective access to so little land that they can barely scratch a subsistence living through agriculture. Moreover, widespread poverty is making it difficult for many farmers to purchase inputs necessary to increase and maintain land productivity.

One of the most important findings of UNCTAD's LDC Report 2006 is that for the group, the decade 2000-2010 will be the first in which the growth of the economically active population outside agriculture is predicted to be greater than that within agriculture. Bangladesh, the most populous LDC, is contributing strongly to this trend, but the employment transition will affect more than half of the group this decade, and most of the remainder will follow suit between 2010 and 2020.

This trend is extremely significant from a policy point of view. It would be wrong to think that it means that agricultural does *not* now matter. For the LDCs, agricultural activities are still the main source of livelihood

for 70 percent of the population. Thus sustainable intensification of agriculture must be a critical policy goal. But it is obviously now *also* vitally important to create productive jobs in industry, particularly manufacturing activities, and services.

The problem is that in the past most LDCs have simply been unable to generate sufficient productive *off-farm* jobs. Non-agricultural labour productivity declined by 9% for LDCs as a whole between 1980-83 and 2000-2003. Moreover, it fell in four-fifths of the 50 LDCs. This is indicative of a major off-farm jobs crisis. In short, it is proving impossible for these countries to productively absorb their expanding labour forces who are seeking work outside agriculture.

Employment in informal sector activities is now overwhelmingly the most important destination for people seeking work outside agriculture. A few informal sector enterprises are certainly productive and dynamic. But most are acting as a survival mechanism providing subsistence incomes for long under-employed hours of work in petty service sectors.

The situation in Burkina Faso exemplifies the trend. Unlike most LDCs, Burkina Faso has not suffered a major growth collapse in the last 30 years but rather maintained steady growth. It is also regarded as being well-governed and has faithfully implemented structural adjustment reforms since

the late 1980s. But a survey in the capital city, Ouagadougou, in 2000 and 2001 found that almost three quarters of the economically active population are either unemployed or underemployed. A longitudinal study which examined young peoples' access to labour markets in 1980, 1990 and 2000 in the major cities of the country shows that whilst almost a quarter of male 15-24 year olds found their first paid job in formal employment in 1980, by 2000 this had fallen to 8%. Only 5% of males and 3% of females found their first paid job in the private formal sector in 2000. This was after almost 15 years of an economic reform process intended to unleash private-sector-led growth and poverty reduction.

Past trends are discouraging. But the unavoidable challenge for LDCs now is to generate productive non-agricultural jobs and manage the employment transition in an open economy context, facing stiff global competition. This conjuncture reflects the fact that there has been an extensive process of trade liberalization in the LDCs since the late 1980s which reflects their long and deep involvement with structural adjustment programmes. As a result very few LDCs now have restrictive trade regimes and many have undertaken very deep trade liberalization, in some cases liberalizing faster than Chile did in the 1970s and 1980s.

## The limits of trade preferences and Aid for Trade

The development challenge facing LDCs is certainly daunting. But there is wide recognition by the international community of the need to support these poorest of the poor countries. Two particular instruments which have been used are trade preferences and Aid for Trade, which in the LDC context has been provided through the Integrated Framework for Trade-related Technical Cooperation.

Efforts to support the least developed countries through the granting of preferential market access for their exports began to gather momentum after the Ministerial Conference of the WTO in Singapore in 1996. *The* major new policy initiative at the Third United Nations Conference on the Least Developed Countries held in Brussels in 2001 was the Everything but Arms (EBA) Initiative of the EU. This granted duty-free and quota-free market access for all products except arms and ammunition, with a temporary exception for bananas, rice and sugar. But further impetus for trade preferences for LDCs was provided through the Doha Ministerial Declaration in 2001 and the Sixth WTO Ministerial Conference in Hong Kong in 2005, and various developed and developing countries have engaged in this process of support.

How effective market access preferences are in dealing with the development challenge which LDCs now face is debatable. On the one hand, there is clear evidence that the

quotas within the Agreement on Clothing and Textiles have fostered the development of garments exports from a number of LDCs, and have also acted as the major mechanism through which formal off-farm employment opportunities have been created in the LDCs. On the other hand, however, there is a well-known list of constraints which have served to limit the effective utilization by LDC enterprises of LDC-specific preferential market access. These include: stringent rules of origin; exceptions in terms of product coverage; unpredictability of preferences; and complex bureaucratic procedures. In addition, the multiplication of preference regimes, including those created through regional trade arrangements, has diluted the value of LDC-specific preferences, whilst inability to comply with product standards – be they related to technical barriers to trade (TBT) or sanitary and phytosanitary standards (SPS) – has constituted as formidable a market access problem as tariff barriers.

Careful analysis shows that in specific policy lines, some LDCs indeed are quite preference-dependent, and that the erosion of these preferences with multilateral trade liberalization could have negative sector-specific impacts. But it is now recognized that whilst in theory, preferential market access can enhance the competitive advantage of LDC exporters and thus promote increased exports from these countries, in practice realizing this competitive advantage depends critically on export supply capacities

and more broadly productive capacities. Improved market access is commercially meaningless if the LDCs cannot produce in the sectors in which they have preferential treatment and they lack the marketing skills, information and connections to convert market access to market entry.

In addition, even when trade preferences have stimulated the development of basic export-supply capabilities in certain sectors, it is clear that technological capabilities are very weak and thus both the new enterprises and associated jobs remain vulnerable to the erosion of such preferences. This is clear in the cases of Lesotho and Cambodia (Lall 2005 and Rasiah 2007).

Against this background, much more attention is being paid to enhancing trade development through supply-side measures. In this regard, the Hong Kong Ministerial also called for the expansion of Aid for Trade in order to “help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade”. But both the scope of Aid for Trade and the mechanisms for its implementation remain unclear (see OECD 2006).

For the LDCs, the Integrated Framework for Trade-related Technical Cooperation (IF) has supported trade-capacity development. Created in 1997, it was revamped in 2001 and is now in the process of being further improved. But

evaluations indicate that the IF has thus far failed to meet expectations in terms of concrete projects on the ground.

## The potential of National Innovation Funds

The basic argument in this paper is that trade preferences can be enhanced through the establishment of National Innovation Funds as a supply-side policy mechanism to develop productive capacities and that Aid for Trade can provide the financial resources necessary to make National Innovation Funds effective.

### The nature of National Innovation Funds

National Innovation Funds are increasingly being used in developing countries as a policy mechanism to encourage technological learning and innovation. These Funds are designed in different ways (see Cimoli, Ferraz and Primi 2005 for some Latin American examples). But they all essentially seek to provide financial incentives that stimulate technological effort and innovation by private sector enterprises, particularly small and medium-size domestic firms.

Innovation in this context does not generally mean the commercial introduction of products and processes which are new to the world. Rather innovation occurs when products and processes that are new to the country or firm are introduced. Usually this involves the application of

technologies in use elsewhere, creatively adapting them to local conditions, making incremental improvements and adaptations to improve products and processes, blending foreign technologies with local knowledge and breaking into new markets. This is not based on research and development at the global technological frontier. Nevertheless technological search, learning and firm-level innovations all involve significant risks and costs. The commercial banking sector generally shuns such projects. A National Innovation Fund is a policy instrument which addresses this failure and promotes such risk-taking activity. Along with complementary policies, it can play a catalytic role in creating a mass of innovative SMEs within a country, particularly outside the agricultural sector.

National Innovation Funds have been particularly recommended in the context of newly industrializing economies (see Avnimelech and Teubal 2006). However, they are also relevant for very low-income countries such as LDCs which are in the earliest stages of technological catch-up. The enterprise sector in these countries is often characterized by a “missing middle”, in which medium-size domestic firms are very weakly developed and small firms find it difficult to grow. The National Innovation Funds directly seeks to address this problem by supporting the development of domestic entrepreneurial capabilities.

Oyanguren (2007) reports on how such a fund is working in Nicaragua. The country’s Innovation Fund provides

matching grants awarded on a competitive basis to: (i) individual SMEs (6-99 employees); (ii) associations of SMEs (2-5 SMEs); and (iii) technological service providers (which may be private-sector laboratories, universities engaged in commercial-oriented work or specialized technology support centres). The grants cover 60% of the costs to individual SMEs for innovation projects up to US \$30,000, and 80% of the costs for SME group and technological service providers for projects up to US \$100,000. These grants fund technological innovation in the pure sense – technological upgrading, R&D design and development of new products, laboratory testing, prototypes, re-engineering processes, technology acquisition and investment in new capital equipment. But they also cover organizational innovation – the introduction of new management methods, implementation of standards and TQ (technical quality) norms, licensing and intellectual property rights at the national and international level and metrology – as well as innovation in ICTs (Information and Communication Technologies) – such as incorporating ICTs into production processes or use of management information systems. Finally, the grants can also commercial and market development activities including market research and intelligence, technological monitoring and participation in international fairs.

The Nicaraguan Innovation Fund is concerned not only to build up innovative capabilities of SMEs but also to

promote the emergence of a market for technology service providers. Given the very weak technological capabilities of domestic enterprises at the outset, stimulating the supply of technological services and specialized technical assistance to SMEs is a critical element of the approach. A network of technological facilitators helps the SMEs diagnose their technological needs and formulate their proposals. These facilitators interact with the Ministry of Development, Industry and Trade, which evaluates proposals on a competitive basis, with the technology service suppliers who supply for a fee the services contracted by the SMEs, and the SMEs themselves.

#### Linking National Innovation Funds and trade preferences

It is possible to envisage various ways in which National Innovation Funds could be used as a policy instrument for the supply-side enhancement of trade preferences.

The simplest approach would be to increase the local learning impact of new economic activities stimulated by trade preferences. Analysts of technological catch-up have identified three broad phases of learning and innovation which occur as a new sector (such as production of garments for exports) develops within a country. In the first phase, pioneer firms initiate production by importing foreign technology and implementing production. In the



second phase, there is local diffusion of new products and processes as more firms imitate the business success of the pioneer firms. This leads to quantitative expansion of the economic activity. In the third phase, there is industrial upgrading through incremental technological improvements to processes and product design as well as marketing improvements. This leads to qualitative improvements. Within such a process, the National Innovation Fund could support local diffusion of best practices, particularly from foreign to domestic investors, as well as the technological upgrading. The latter is particularly important to ensure competitiveness in the face of preference erosion, for example, for LDC garment exporters with the ending of the Agreement on Textiles and Clothing.

The essence of this first approach would be to seek to use the National Innovation Fund to leverage more learning from the international transactions stimulated by trade preferences. However, it is also possible to envisage a broader approach in which the aim is to increase the innovation capabilities of domestic SMEs more generally. In that case, the target firms would not simply be those engaged in exporting on a preferential basis but more broadly those which are engaged in the production of tradables, both exports and import substitutes. This would recognize that the learning trajectories of SMEs often initially involve production for domestic and regional markets, and that the shift toward international export

markets is actually a major step in their technological upgrading process. In promoting the technological search and learning routines and innovation capabilities of SMEs, one is increasing the real flexibility of the economy, including the potential to break into export markets. Focusing on tradables, and not simply exports, also avoids the fallacy, all too prevalent today, that the national home market is somehow not part of the global market.

Finally, the broadest approach to linking National Innovation Funds to trade preferences would see National Innovation Funds open to firms engaged in non-tradable activities as well as tradables. This approach would be particularly appropriate where the aim is to ensure that international trade leads to poverty reduction. In very poor countries balanced development of tradables and nontradables is the key to ensuring the broad-based employment creation which is necessary for poverty reduction (see UNCTAD 2006, chapter 7). Otherwise export-led growth tends to be enclave-led growth.

#### Using Aid for Trade to finance National Innovation Funds

As I have noted, what constitutes Aid for Trade, as well as the mechanisms through which it may be provided, are not yet clear. It is generally agreed that the scope of Aid for Trade should include (i) trade policy and regulation, (ii)

economic infrastructure, (iii) developing productive capacities, and (iv) adjustment assistance. But how the third of these categories should be supported is somewhat opaque. In these circumstances there is a danger that the balance of Aid for Trade gets skewed away from this goal and towards complying with WTO obligations and adjustment assistance, plus improving the capacities of officials to formulate and implement trade policy, plus increased investment in trade-related economic infrastructure. The establishment of National Innovation Funds would provide a mechanism through which Aid for Trade can be used to develop productive capacities.

A further advantage of delivering Aid for Trade through such Funds is that it is proving difficult to define Aid for Trade in such a way that it is additional finance rather than a re-shuffling and re-labelling of existing aid. However, at the present moment it is clear that very little aid is being used to support science, technology and innovation in LDCs, and the aid which is provided is particularly focused on universities and research institutes rather than building technological capabilities at the level of the firm and the farm. If part of Aid for Trade were earmarked and used to finance National Innovation Funds, it would certainly therefore be additional.

This approach would also put the private sector at the centre of Aid for Trade, with government playing a key role in stimulating the development of the technological

capabilities which are at the heart of trade development processes and national development strategies. It would also extend the role of Aid for Trade in financing real things on the ground beyond its current concern with economic infrastructure, which though certainly necessary is not sufficient for trade and development.

Finally such a policy mechanism would provide a way to ensure that key principles of Aid for Trade, as recommended by the WTO Taskforce on Aid for Trade, could be achieved (WTO 2006). In particular, using Aid for Trade to finance National Innovation Funds could enable country ownership and country-driven approaches. Problems of aligning aid to national development strategies could be minimized, and effective donor coordination and harmonization of donor procedures could also be achieved.

For this to occur, national Governments must take the initiative and establish appropriate institutional arrangements for the operationalization of a National Innovation Fund, with rules and criteria for the allocation of funds which are in line with the achievement of national development goals. The rules and criteria should be transparent to ensure that the dangers of cronyism are avoided. In effect, the National Innovation Fund could work as a counterpart to aid given in the form of budget support. But whereas the latter is oriented to finance government operations, the former would be oriented

toward promoting private sector development and in particular entrepreneurship and technological capabilities.

## Conclusion

The basic contention of this paper is that key current international support mechanisms for LDCs – trade preferences and Aid for Trade – are insufficient to deal with the development challenge which LDCs face. However, it is possible to achieve the supply-side enhancement of trade preferences by linking them – more or less broadly – to a National Innovation Fund. Moreover, Aid for Trade could become more effective if at least part of it were earmarked to finance such National Innovation Funds.

This paper has sketched this policy idea. Further analytical work, some of which is now on-going, is necessary to elaborate it. Experimental policy design can then refine the approach for specific countries.

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## Trade Support Networks don't wear skirts

By Astrid Ruiz Thierry, Women in World Markets Ltd.

Women entrepreneurs are one of the fastest growing segments of the world economy and represent a growing economic force that, if ignored, can deeply impact world economic growth and trade dynamics – and make more than one decision maker suffer politically. Some 25%-30% of business worldwide is women-owned, and recent surveys<sup>22</sup> indicate that those involved in the global marketplace have greater revenues, are more optimistic about their business prospects and are more focused on business expansion. The economic effect of this trend has yet to be seen, since there are no statistics on women entrepreneurs' direct impact on international commerce. But what the data *does* show is that their rate of success and growth in international trade is so dynamic that information a month old is out of date.

**Trade Support Networks (TSN) are a key element for market development and for supporting business development and internationalization in sectors that have a high potential impact on sustained economic development.** They facilitate access to information and

knowledge, new markets, business partners and sources of financing and provide technical assistance and business services related to internationalization processes. They also help build professional and business contacts, provide encouragement, expand on best practices and play an important role in supporting individual entrepreneurs or groups of businesses, by representing their interests in trade organizations, creating more public awareness about the positive role exports can play in economic development, and establishing international linkages among business associations.

But if TSNs are to be truly successful, they must undertake a task that has, until now, been forgotten in the “To Do” tray: integrate a gender perspective into their strategies and processes. This becomes clear when we consider information that is generally considered separately when talking about trade dynamics:

- Micro-, small and medium-sized enterprises (MSMEs) are today one of the principal driving forces in economic development, constituting approximately 85%-95% of businesses worldwide.

<sup>22</sup> For example, that conducted by the National Foundation of Women and Business Owners (NFWBO)

- The businesses that women are mostly SMEs, and their numbers are growing quickly.
- If we accounted for all the women throughout the world who ensure their family's sustenance and development on the basis of their "informal" productive market activities (selling cookies, fruit juice or fish on the local market, sewing at home, or hairdressing in an open stall), statistics would show that women entrepreneurs account for more than 50% of economic activity. This offers an enormous potential for growth that, if given the chance to improve quality and productivity and build network power, would reconfigure trade dynamics – and is already having a major impact.
- It is common knowledge (although generally ignored by dominant economic thought) that businesses started by women are more likely than average to survive past the first three years, due in part to women making more careful financial decisions. The same is true in exporting services: women succeed more frequently than their male counterparts (NFWBO).

The conclusion is crystal clear: **TSNs need to begin changing the way they work if they are to be truly representative of the wider export community.** The question no longer is simply how to help women overcome trade barriers, but how to boost the enormous potential that women have to foster trade. TSNs need to count women in

and serve as a resource for enabling, and at times even forcing, TPOs and TSIs<sup>23</sup> to work differently and better together so that women can also realize their full potential as players in international trade.

The socio-political and economic consequences of *not* moving in this direction will eventually catch up to all those who have a vested interest in promoting and supporting export-led trade – the lack of gender perspective doesn't get better with age. As more and more women enter the economy through business, it is a certainty that more will participate in exports. So it is almost a certainty that eventually they will have the political clout to force institutions and organizations to do something on their behalf, beyond assisting them to acquire affordable knowledge, equipment and financing. Hoping that won't happen is like hoping the hurricane won't hit when you're in the middle of a storm with 200 kilometre-strong winds.

## Competing with today's trade map

Markets, States, individuals, and local communities are the four pillars that Joseph Stiglitz has stated are necessary for successful development strategies (Stiglitz 2006). But networks (meaning a lot of individuals connected together and where everyone feels they are in the centre) are the glue that brings them together, and facilitates the use of

<sup>23</sup> TPO: Trade Promotion Organization; TSI: Trade Support Institution

available business resources and opens doors for making the most of new market opportunities, such that they are an essential stepping stone for gaining a competitive edge on the market. Although based on technology, which clearly affects the environment of domestic firms in ways that either facilitate or obstruct national competitiveness (Gilpin 2000), in most industries competitive advantage actually depends more on social change and participation than on machines and wires and is created by deliberate business and governmental decisions and policy choices (Porter 1998). One such policy choice is the creation, promotion and funding of TSN organizations.

TSNs form part of the Uruguay Round's request for a substantial increase in the technical assistance granted to less developed nations, in order to develop, reinforce, and diversify their bases of production and exports and promote their participation in trade (Stiglitz 2006). In essence, they respond to strategic trade theory, which states that under appropriate circumstances, government assistance for a firm in particular sectors can have important payoffs or spill-over into the rest of the economy. (Gilpin 2000).

There is more than ample evidence for this, especially with respect to government support for infant industries, but there is also an underlying flaw that, until now, has been largely overlooked and seriously hinders the success of TSNs as tools for ensuring a national business environment is conducive to developing international competitiveness

and providing relevant services (ITC, 2002): **they are based on a highly gendered (i.e. masculine) and unequal trade map that establishes a discriminating dichotomy between dynamic and new trade sectors and products and power trade dynamics.**

UNCTAD identifies dynamic new trade sectors as offering the greatest opportunities for breaking out of the poverty trap. The top 40 include the following sectors:

1. Manufacturing: electronic and electrical goods, steel and related specialties (such as automobiles, engines and parts), apparel and chemicals
2. Commodities: silk, cereal preparations and non-alcoholic beverages, fish and fisheries, and certain fruit and fruit preparations
3. Merchandise: perfumery and cosmetics
4. Non-traditional sectors: organic, non-wood forest, traditional knowledge-based products, and renewable energy products and non-timber, non-agricultural and natural products
5. Services: outsourcing for data processing and call centres and tourism.

The problem with these sectors is:

1. The labour force for most is feminine, but ownership and decision-making is male dominated.

2. LDCs are characterized by a polarized industrial system of a handful of large enterprises – owned either by the state, foreign investors or a few rich local male entrepreneurs – and a large number of mostly informal micro enterprises, of which an increasing number are run by women, and especially rural women. Very few have the capacity to capture the gains generated.
3. Women, and more specifically poor women, are not involved in the policy and decision-making processes regarding the design of specific actions aimed at ensuring development gains from trade negotiations.

In other words, the power trade sectors are those that either very much or totally exclude women – information technology, infrastructures (construction), traditional energy sources – or exploit women as labourers and victims. Although an obvious oversimplification, it shows that the trade map which guides export trade promotion is skewed against women. It seems necessary to develop an alternative map that can include women's great and growing contribution to export trade and the benefits it can provide them.

Even if some economic activities may be intrinsically more valuable than others, favouring one or more sectors while ignoring the gender variables that affect the real measure of their value and contribution to a nation's long-term economic welfare necessarily diverts scarce resources and

harms other sectors that might be even more valuable to the economy over the long term. The problems and opportunities arising from increased integration of national economies into world markets necessitate a clear commitment to supporting women entrepreneurs and business owners who want to actively participate in international trade flows.

## From wired to connected

According to the UNDP 2001 Human Development Report, transition into the 21st century ushered in a network revolution whose combination of globalization and digital and genetic technological breakthroughs have enhanced brainpower, rather than physical power. Networks have always existed in every type of economy. What is different today is that they are structured horizontally, rather than vertically, and penetrate our lives so profoundly in “real time” that communication has become the basis for the entire economic system. As competitive niches know no boundaries and cross continents at the speed of light, business dynamics must increasingly obey the logic of networking<sup>24</sup>.

<sup>24</sup> In this paper, this concept refers to a group of trade institutions and organizations that: 1) support a country's efforts to realize its economy's full potential to participate in trade flows and 2) develops collaborative institutional and organizational infrastructures to facilitate export development and open



## MSME internationalization: context and social networks<sup>25</sup>

Existing literature suggests that most international expansion is facilitated through FDI, rather than exports or cooperative inter-firm networks, and is a process of gradually increasing commitment to a foreign market. But it is a mistake to treat the internationalizing firm independently from its institutional and relational context, and considering only internal resources, strategies and competences. Market selection is neither as rational in its decision-making nor geographical market selection as theory would have it.

For most MSMEs, international market entry is relational. Choice of a target market is mainly a reaction to opportunities from external relations and/or demand from abroad or existing domestic clients. It is basically a problem of gaining access to networks of new business relations between producers, suppliers, customers and competitors. Because these relations can serve very different intentions – i.e. to reduce the cost of production or transaction; to

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pathways for business relationships conducive to exchanging ideas and best practices, resolving problems and establishing alliances.

<sup>25</sup> This section is based on the article by Johannes Glückler, “A Relational Account of Business Service Internationalization and Market Entry – Theory and Some Evidence”, Services, Space, Society Working Paper 15, Institute for Economic & Social Geography, University of Frankfurt, December 2004.

contribute to developing new knowledge and competencies; to serve as a bridge to unrelated third actors; or to help mobilize partners against a third party – access to other firms’ resources is at least as important as internal competencies and competitive advantages. An MSME is, therefore, more dependent on its position in the network as a bridge to foreign markets than on the institutional, economic or cultural conditions of the host market. A firm’s position in a network therefore has specific strategic value: it becomes a specific, intangible resource. This suggests that conventional trade support services tend to underestimate the relevance of concrete social networks and, consequently, suffer significant limitations when working with MSMEs.

## Networks, women and dis-connection

Globalization of business has not only increasingly drawn SMEs into global value chains through different types of cross-border activities. It has also spurred women’s entrepreneurship. A third of all new businesses created today are set up by women, albeit micro and small enterprises in the majority.

The Connected Age has not only changed the way we live and work, but also how business is done all over the world. Because virtual space has no quality, distance or specific characteristics, and does not distinguish by sex, age or

education or disability (Fine 2006), it has opened the floodgates of opportunities for the advancement of women in all spheres of society, but especially in business and trade: access to information and services at their time and place of choosing and provides an infinite number of ways to contribute to the value chain.

These new challenges and opportunities for women are present, alas, only in theory. Even as “trade barriers have declined significantly due to successive rounds of trade negotiations... [and] technological advances in communications and transportation have reduced costs and thus significantly encouraged trade expansion” (Gilpin 2001, p. 6), the increasing participation of businesses in international markets has been markedly male-dominant in character. Despite the variety of existing tools to facilitate networking and collaboration, the need still exists to provide solutions specifically adapted to women’s MSMEs to facilitate the kind of networking that is useful and meaningful for *them*. In reality, successful applications are quite scarce and only partially accessible (Fine 2006).

## Why focus on women?

The present situation of women’s participation in and benefits from trade networks is problematic. They are supposed to facilitate interaction among enterprises, within a country and across countries and regions, and help make

communication technologies more accessible and “human friendly”. But, despite their natural ability to network, women entrepreneurs throughout the world suffer the consequences of the existing gender gap in access to business and professional networks, both formal and informal. The former are dominated by men’s associations and clubs and the latter are built around male-dominant social, cultural and sports activities (Ruminska-Zimny, p. 89).

Women are generally excluded from these so-called “old boys networks”, and this limits their business opportunities and their impact on building gender-sensitive institutional systems that could provide support for their entrepreneurial activities. Women have, therefore, increasingly been creating their own networks. However, **their networking opportunities remain largely untapped and should be better used in order to breach the enormous distance between what they could and should be and what they effectively are.**

Contrary to what is generally believed, networking is not a very developed resource among women themselves as a strategic tool for managing the challenges they face on the global marketplace. What, in fact, has occurred over the last few years is that trade-support initiatives specifically geared at women, but not necessarily *in benefit of* women, have multiplied in such a manner and in such numbers that quantity by far exceeds quality. What we are seeing is a

worrisome *disconnection* among not only institutions and organizations who offer women trade support services but also among women entrepreneurs; there are innumerable women's business organizations and so-called networks all around the world, but they are isolated in their own particular universes.

Their lack of interaction and communication is creating a new technological barrier for women's business development in the global economy that by its very nature, should promote it. The choices available to businesswomen increasingly translate as follows: "To use all web sites available is too much work for so few useful results, and to search for different web sites means dedicating more valuable time than I have available; so I will limit myself to using two or three familiar websites and visiting one or two institutions. In other words, why participate in a 'network' that means more work for the little time I have to spend?"

This is the day-in, day-out reality for most business women, who, let us not forget, still bear the brunt of domestic tasks and responsibilities, in addition to having to care for the children, aging parents and sick family members, as well as contributing to social organizations. The end result of the disconnection among women's networks is a disaggregation of information. Support services thus threaten to turn into a barrier against development of the necessary critical mass of women in business who have a real, visible and significant presence in export trade or who,

with the right capacity-building, have the potential to do so. **TSNs should, therefore, give greater attention to the specific needs of women and women's business organizations and networks, in order to help them not only close the technology gap but also overcome the disconnection divide that is leading to their growing isolation from international trade flows.**

### Power shift

TSNs have the responsibility to contribute to garnering women's full economic potential by unleashing their potential as exporters. This requires, above all, acknowledging current gendered resource constraints for market access and addressing the issue of empowering women as legitimate business partners. The goal is to ensure that exports adequately complement the development and growth of the domestic market as an entry point to global trade dynamics for women.

The greatest obstacle to achieving this successfully is the lack of power – both perceived and actual – felt by women themselves when considering adventuring or expanding into the export market. The sense of powerlessness on the part of many women who peek out onto the international theatre of business opportunities is reflected in a socio-economic environment guided by rules that discriminate against them and in which they have virtually no voice in

trade policy decisions and keep taking it in on the chin when *power trade* priorities change without warning.

TSNs can help overcome this state of being by helping women's business organizations both to be self-determining, that is, to set out their own pathway in international trade dynamics, and to involve large numbers of women in new and meaningful ways. Information is the key...if it is widely and freely distributed and if discussions are open to everyone, from the successful and very visible leading CEO to the smallest and invisible niche-focused and often "informal" entrepreneur. The goal is to facilitate simultaneous connections between, among, and by many women in business and facilitate connected business capacity-building. This helps put resources to work creatively while encouraging participation in trade decisions and actions, regardless of one's position inside and outside the market structures. There are no prescriptions, no right or wrong answers, simply enormous opportunities for TSNs to engage in the process of connecting women in business with one another within and across borders.

This, in fact, is the basis for empowering women in business in today's Connected Age. Empowerment refers to the ability and opportunity that a person has to access the resources that will allow him/her to control his/her own choices and decisions. At group level, it refers to the capacity to influence a decision making process in pursuit

of a shared objective. Despite the fact that greater access to information and technology has given women more independence by helping them discover more alternatives and manage their time more effectively, it has not necessarily led to the structural changes necessary for transforming economic power relations. The personal efficiency gained has not eliminated the systemic inequality that TSNs unwittingly reproduce.

**TSNs can greatly contribute to women's effective empowerment by helping women entrepreneurs transform capacity to influence economic thinking and structures into collective networking power.** This means promoting generative power relations, as opposed to zero-sum power relations. The first are based on the ability to choose and realize personal choices in order to achieve one's aims and avoid being "forced" into a market sector that is "gender appropriate". It involves exercising a facilitating type of leadership that will help network members develop their own leadership and self-management capacities and stimulate their capacity for development and improvement. The second type of relation, zero-sum, refers to the use of power as an instrument for *disempowerment* by exercising authority to dominate and annul individual and group ability to make choices appropriate to their needs and goals.

Today's market structures, unfortunately, indirectly *disempower* women by upholding the gender inequalities

that underlie the current skewed trade map. They end up pushing them into “appropriate” trade sectors that, in practice, are the ones most vulnerable in terms of the adjustment costs of market liberalization, the riskiest in terms of market fluctuations, have the fewest incentives for investment, must answer to increasingly strict product norms (and other non-tariff barriers), carry higher tariffs on finished products than on primary products and thus impede sector diversification, and suffer rampant anti-competition activities that minimize their positive residual effects and multiplier effects – and where their governments have the weakest negotiating position vis-à-vis foreign investors: textiles, elaborated food products, and tourism. (Stiglitz and Charlton, 2005).

The purpose of technical assistance is to increase the benefits from trade for disadvantaged groups or nations by reinforcing institutional capacity and building the professional competence of their entrepreneurial sector to successfully manage trade reforms. This necessarily means taking into account gender differences: trade processes affect men and women differently, such that no technical assistance can be a “one-size fits all”. TSNs are a tool for lending technical assistance related to commerce and “aid for trade”, and more specifically with strengthening the capacity of disadvantaged countries to export, and, as such, have much to gain from being sensitive to these issues: foreseeing the repercussions of gender-blind assistance and

support services on women can considerably cut unnecessary costs generated by their limitations in accessing the factors of production and influencing the pricing of goods they want to sell.

TSNs can also help empower women by facilitating their development vis-à-vis trade along three dimensions:

1. **the personal dimension:** by providing training that builds self-confidence in one’s choices. Both the content and processes must help women perceive that they have the capacity and the right to be and express themselves as leaders in their own right. They must also be given the opportunity to develop their abilities to influence and exercise that influence.
2. **the relationship dimension:** by providing the resources necessary to exercise personal choice, that is, for women to participate in trade negotiations and **decision-making** processes.
3. **the collective dimension:** by promoting women in business to decision-making positions in national and international trade institutions and granting them the merited recognition through the network.

**TSNs should take it upon themselves to help business women and their organizations enhance their use of technology not only to wire-connect, but more importantly to tele-meet. That is, creating net-worlds**

**which promote the meeting of business minds for trade promotion and development.** Technology facilitates communication but does not assure effective communication, nor does technological networking create communities of best practice. This requires organizing technology and its use so that it can enhance social interaction. Networking for trade cannot be limited to information technologies and electronic commerce; it needs to promote social networking, for it is the most frequent cause of international market entry.

**TSNs could also give greater attention to consolidating those specific areas of support that can help women compete with equal opportunity in today's global markets.** This requires facilitating the tools for interconnecting women's business networks and organizations and their members. It will not only reduce the business costs related to losing out on market opportunities but will also increase the added value and competitiveness of the women's business community and make visible their contribution to their nation's economic development and positioning on the world market.

We recommend focusing service delivery strategy on facilitating and encouraging cluster formation. In the context of trade support services, this idea can help interconnect organizational networks and create competitive linkages among individuals and groups. It simply means helping to establish the critical mass of

women entrepreneurs necessary for gaining a competitive edge on the international market. It also means helping them build competitive advantage by aligning resources, strengthening their innovative capacity, enhancing their networking productivity and stimulating the creation of new business initiatives with other women and across borders<sup>26</sup>.

## Rebalancing the trade map

Any attempt to re-balance or reconfigure trade map dynamics from the perspective of gender equality will hardly be successful unless TSOs take into account women's specific needs and requirements in global market integration processes, and unless they make a conscious effort to eliminate the deeply embedded assumption that

<sup>26</sup> There are two organizations that are already working in this direction: ITC's Business Women's Team in Geneva and Equilabora in Seville, Spain. The former is actively promoting networking among business women worldwide through its Business Women's Directory and women's market entry by interconnecting associations, chambers of commerce and service clubs to draw out businesswomen and get them connected and talking. The latter is the leading organization with a team of six in Spain for developing a project funded by the Spanish Ministry of Industry, Tourism and Commerce and entitled Enl@ces (Links); its aim is to develop a virtual platform to facilitate effective communication among business women's networks and associations and among women in business and women entrepreneurs, create links between women's local and global business activities, facilitate commercial relations among women's business organizations and their members, and provide services to help women overcome the growing gap in -communication tendencies.

trade is gender-neutral and has an undifferentiated impact on women and men. Trade support services need to be sensitive to gender differences. This requires developing and applying a gender analysis approach to service policy and strategy design and a willingness to corral, leverage and expand the possibilities they can provide women.

At the **national level**, the key goal in support services is to make national trade policies responsive to gender differences: for women, developing networks and systems of information exchange may be more important than specific skills training as a way to increase women's mobilization potential, provide advocacy channels, and promote women's entrepreneurial models of success. This requires applying a gender-based analysis to all TSIs, from service conception to delivery, and engaging key stakeholders in thinking about what success means and looks like so that TSOs can promote:

- **Networking and advocacy with a broad cross-section range of civil society institutions.** Trade support agencies should consult with women's organizations when designing programmes and recommending actions to be taken. This basically involves gender-sensitive partnership building<sup>27</sup> based

<sup>27</sup> Partnerships have become more important than ever in order to achieve equality in trade. We understand a partnership to mean: "an interdependent relationship between people and/or organizations in which they work together to achieve some

on collaborative leadership, wherein all involved institutions work together to build cross-institutional and multi-level capacity-building channels that promote service champions.

TSOs have a key role to play in helping women create exporting clusters with enough critical mass to provide access to the same opportunities that big exporters have. Today's champions of real change with regards to women's inclusion in trade flows are networks and clusters. At present, many women entrepreneurs are isolated in micro-businesses and do not belong to larger networks, such as chambers of commerce or business associations. Nor do they have the same access as men to business support services and export training.

- **Focusing on the particular dynamics of individual groups and sub-groups.** Women's market exclusion, lack of control over the fruits of their labour and lack of

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mutual goals, and in which each invests resources and takes risks". A successful partnership depends on establishing a collaborative spirit, building on trust, and operating on shared information. At some point, this requires spelling out commitment and agreements in writing, not so much in order to formalize the partnership, but more in order to minimize misunderstandings and avoid later disagreements about what was done and achieved. But in order for any partnership to work, it is absolutely necessary to include a gender perspective from the beginning (i.e. choosing partners) and include women as equal members of the strategy group's negotiating teams, regional and plurilateral trade delegations, and research groups.

access to productive inputs greatly inhibit their response to trade opportunities. But advocacy occurs at all levels (professional organizations, business groups and service organizations, etc.). It is critically necessary to integrate women's informal work as a necessary factor in service formulation, by promoting collective self-help efforts of small-scale women entrepreneurs, and provide gateways for improving networking among women's business associations.

- **Greater inter-sectoral collaboration at the macro-level** (groups of policy makers), keeping in mind that working together means trying to ground efforts in the sub-national and micro-level realities. This requires articulating inter-sectorial collaboration at all levels, including the informal sector and creating an enabling assistance and support environment, in which women and particularly rural women entrepreneurs can fulfil their initiatives for advancement. It is especially important to help young entrepreneurs take advantage of market opportunities and economic activity to create their own employment, such as local technologies, knowledge spillovers, economies of scale, proximity to suppliers and customers, and linkages among firms dealing with intermediate goods.
- **Strengthening the decision-making processes required for managing the impact of trade**

**policy and regulation on business.** This involves ensuring that the structure of negotiating teams and the composition of the regional, state or local organizations are gender-balanced and actively include women at the international/multilateral trade policy and decision-making level and by areas of sectoral concern.

At the international level, the goal is to unleash women's full potential as entrepreneurs by **not only** improving the micro-economic capacity of disadvantaged countries, but also delivering targeted support for women in *all* countries, rich and poor. This requires:

- **Applying diversity management techniques** to support service design and implementation. Men and women must be taken into account on equal terms during the planning process, focusing *not only* on market access but also on the social and infrastructure needs of different stakeholders. This implies including men in gendering TSN formula design to help improve women's access to markets; gender sensitivity does not mean targeting women only.
- **Using systems thinking** to establish more cross-sectoral linkages of issues and advocacy for women as economic agents. TSN services need to design new ways forward that combine values and ingredients from a multi-faceted perspective – structure, processes,



culture, people – and help identify real, instead of assumed, causes.

- **Shifting the focus from allocation to innovation.** “In the modern economy, innovation is fundamental for economic performance at the level of both firms and regions”. (Bengt-Ake and Johnson, et al, p. 214.). It helps firms to be more timely with and responsive to market trends. Because innovation is a cumulative process, it can be used as an alternative “focusing device” for promoting equal opportunities in accessing high-potential export-market sectors and helping women see what trends remain hidden and can be “activated” for gaining competitive advantage. TSNs play a key role in using innovation as a pragmatic tool for enhancing cumulative processes of interaction and non-price relationships where individuals and organizations combine efforts to create, diffuse, and use knowledge.

## What does success mean?

We are heading into an exciting future, while at the same grappling with the important and broad social and economic implications of women’s full participation in the world economy and active integration into world trade flows. TSNs need to find ways to grow with the unprecedented and overwhelming change this entails. The

question is: What are the key ingredients in a recipe for success?

There is one single key ingredient: connection based on integrated reflection. **Success for TSNs means turning into a connector.** The barriers to fully taking on this role have traditionally been turf and money, not easy to overcome. But part of the challenge to becoming more effective in today’s global economy is preventing cliques, or closed networks, from developing, and leveraging participation by bringing in excluded partners and their expertise, resources, and collaborators. TSNs must, therefore, be broad, porous and reflective of, and connected to, the communities of business women in which TSOs function. This entails developing two component parts:

- 1) an open and inclusive view of the world market and international trade that invites meaningful participation by a wide network of men *and* women, and
- 2) the provision and active promotion of available collaboration tools.

Both require overcoming an enormous deficit that many networks suffer today: listening. The lack of inclusive listening is endemic to organizations across all sectors, sizes, and stripes. TSNs need to start changing by listening to what women in business think and feel... and then keep a history of what has been learned and make it available (Fine 2006).

## Conclusion: counting women in

As the world has moved from the sharply divided international economy of the Cold War to an increasingly integrated global capitalist economy, there is simply no reason or excuse to ignore the fact that women's economic activities have become fundamental to the new global economy...and that women are key stakeholders in international trade. Unfortunately, as women entrepreneurs are systematically excluded from strategy and policy-making process, they are one of the most undervalued comparative advantage factors and export trade capacity-builder. **If those responsible for developing TSNs truly want to build a business environment that is conducive to healthy and sustainable competitiveness and ensure that trade support services are relevant for improving national and global trade performance, they need to count women in!**

Why focus on women specifically? Because they suffer the greatest gap in access not only to technology and finance, but also to networking structures, systems and services. Because an increasing number of families depend on their income (globally, 20%-24%). But more importantly, because an increasing and yet unrecognized number of women entrepreneurs are developing their countries' comparative advantage by creating new market spaces

borne out of the synergies obtained from the interaction between the formal and informal economies.

Yet they are systematically excluded from the creation, design and development of technological tools and their "peripherals", such as network services. Imagine what they could do with equal access to productive resources, new technologies, and trade support services!

As TSNs seek to adapt their offer to all the communication and relational changes that make our markets borderless, making women visible as agents and partners for economic development through trade will become a basic requirement for providing services that can effectively contribute to liberating them from entrapment in survival economics and make a positive difference for entrepreneurs and business organizations through network building. This is crucial to help women overcome market adversity.

**TSNs have a key role to play in facilitating areas and spaces for collaboration and exchange among women in business that can help create connected groups and networks of groups for doing business within and across borders.** Like a good stew, TSNs have a set of core ingredients that include but also go beyond ICT:: the willingness and ability of TSN promoters, supporters and donors to chart a course that is gender sensitive and acknowledges gender differences in trade; broadened strategies for access to information, and the leveraging of

existing networks; and, perhaps more than anything, a shift in control from a few leaders at the centre out toward the many women at the edges who want to participate meaningfully in trade flows but are, for the most part, locked out of the process.

These ingredients can, perhaps, feel counterintuitive to established TSOs. But there can be no doubt that one size does not fit all trade support service efforts; they must take into account the inherent gender differences in potential (education and health), access to resources and opportunities, and the means to make personal choices and decisions that can influence the final result of one's life choices<sup>28</sup>. Real progress towards a fair trade agenda will be made when efforts to lend technical assistance and trade support services facilitate women's full integration into trade flows, instead of limiting their choices and opportunities. TSNs must learn to leverage more and prescribe less, listen better and act smarter, share and participate, create and build power where there is none now by showing the pathway for rebalancing the trade map.

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<sup>28</sup> See United Nations Millenium Project.

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## Trade facilitation: a consensus development tool

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Since the early 1990s many developing countries have reduced the hurdles faced by traders and their agents. For instance, the number of documents required to export to and import in central and east Asia, the Pacific, the Middle East, north Africa, Latin America and the Caribbean average around 7 and 9.5 respectively, with the OECD industrial countries way ahead (less than 5 / less than 6) while sub-Saharan Africa and south Asia still lag behind (more than 8 / more than 12)<sup>29</sup>. This development can be plausibly regarded as a consequence of Uruguay Round commitments and regional trade and investment agreements.

Trade facilitation measures can be found in 19th-century agreements and the League of Nations agenda. Article X of GATT (Publication and administration of trade regulations) was taken from the International Convention relating to the Simplification of Customs Formalities of 1923 and Section E, Articles 33 to 39, of the Havana Charter for an International Trade Organization of 1948. But it is only

since the early 1990s that trade facilitation has arrived in much of the South. In an environment where bilateral, subregional and regional customs unions, common markets, single markets and free trade, investment and technology transfer promotion and protection agreements and projects are superimposed on each other, trade facilitation issues have become a daily concern for trade operators and officials, whether resolving conflicts of rules of origin and preferential arrangements or streamlining port and airport procedures to South-South technical assistance to the introduction and sharing of customs management and reporting software.

### On trade facilitation

Many of the trade facilitation measures adopted in the South resulted from the first wave of 'opening up' economic policies of the 1990s, under the auspices and financing of international financial institutions, such as the International Monetary Fund, the World Bank and the regional development banks. At the WTO Singapore Ministerial Conference of 1996 three new working groups

<sup>29</sup> See table *Trading across borders* at the end of this paper and <http://www.doingbusiness.org/ExploreTopics/TradingAcrossBorders/>

were established – on trade and investment, on competition policy, and on transparency in government procurement. In addition, the WTO Goods Council was instructed to look at possible ways of simplifying trade procedures. On 1 August 2004 all but one of these ‘Singapore issues’ were dropped from the DDA.<sup>30</sup>

Trade facilitation is defined in the WTO’s trade facilitation webpage as “the simplification and harmonization of international trade procedures, including activities, practices, and formalities involved in collecting, presenting, communicating, and processing data required for the movement of goods in international trade”<sup>31</sup>. UNECE, UNCTAD and OECD have adopted a similar approach in their own documents.

The WTO/OECD Trade Capacity Building Database (TCBDB) interprets support for trade facilitation procedures in an ampler sense, in line with the scope of

<sup>30</sup> [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/bey3\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/bey3_e.htm)

<sup>31</sup> This narrow definition is related to GATT 1994 Articles V (freedom of transit), VIII (fees and formalities connected with importation and exportation) and X (publication and administration of trade regulations) and directly responds to the negotiation mandate contained in Annex D of the WTO General Council’s decision on the Doha Development Agenda’s work programme of 1 August 2004 (the “July package”). Apart from Articles V, VIII and X, the WTO Agreements on Customs Valuation, Import Licensing, Preshipment Inspection, Rules of Origin, Technical Barriers to Trade, and the Agreement on the Application of Sanitary and Phytosanitary Measures are encompassed in this definition, but otherwise excluded from the Doha Ministerial Declaration of 2001.

typical development assistance programmes. Other organizations and economic groupings, such as the World Bank, UNIDO and APEC, opt for a still broader definition, as a “comprehensive and integrated approach to reducing the complexity and cost of the trade transaction process, and ensuring that all these activities can take place in an efficient, transparent and predictable manner, based on internationally accepted norms, standards and best practices”.<sup>32</sup>

Regional integration initiatives have adopted various approaches towards the main categories of trade facilitation, namely *customs modernization, regulatory streamlining, e-business usage and infrastructure upgrading*, including making air and water ports more efficient. These distinctions are rather important because broader definitions, as endorsed by public-private partnerships such as the Global Facilitation Partnership for Transportation and Trade, entail much more exacting commitments, particularly the very expensive ones resulting from infrastructure modernization.

Interestingly, the developing countries that record higher levels of trade openness (ratio of imports and exports to GDP) and integration with the world economy, are more

<sup>32</sup> UNECE’s UN/CEFACT webpage, World Bank Trade Costs and Facilitation webpage, WCO framework of standards, APEC Principles 2002, Dee, Geisler and Watts 1996.

likely to adopt narrower definitions of trade facilitation, and limit measures to steps proposed to improve and clarify GATT 1994 Articles V, VIII and X.<sup>33</sup> Most probably this results from a higher level of awareness of trade facilitation matters (resulting from their recent amendment of national legislation and administrative procedures to guarantee alignment with, and enhanced accountability and enforcement resulting from, commitments contained in the FTAs to which they are party).<sup>34</sup>

## Benefits and challenges

The economic benefits of trade facilitation become manifest when looking at the process in *microeconomic*, *macroeconomic* and *international economic* terms.

<sup>33</sup> Report by the Negotiating Group on Trade Facilitation to the TNC, Annex E , WT/MIN(05)/DEC, Doha Work Programme Sixth Ministerial Conference Declaration, Hong Kong, 18 December 2005. [http://www.wto.org/english/thewto\\_e/minist\\_e/min05\\_e/final\\_annex\\_e.htm#anne xe](http://www.wto.org/english/thewto_e/minist_e/min05_e/final_annex_e.htm#anne xe).

<sup>34</sup> For example, chapter 5 of the US-CAFTA-DR is dedicated to customs administration and trade facilitation, including commitments on publication (to be implemented within two years), release of goods (within one year), automation (within three years), risk management (within two years), cooperation, confidentiality, express shipments (within one year), review and appeal, penalties, advance rulings (within two years), implementation and capacity building. These provisions are nearly identical to those contained in NAFTA and the FTAs in force between the United States and Bahrain, Chile and Morocco as well as those pending congressional approval with Peru, Colombia, Panama and the Republic of Korea.

Developing an effective legal and regulatory framework, efficient trade procedures and transport formalities, modernizing the customs administration and adopting an appropriate information technology strategy can very rapidly yield results in international competitiveness, foreign direct investment inflows, human resource development, and tax and duty collection.

However, while the private sector is dominated by real world, operational concerns, overwhelmingly microeconomic in nature – and more broadly encompassed under the label of *business facilitation* – international organizations, such as the World Bank and the regional development banks, mostly worry about *total factor productivity* in the world economy. Their concerns are related to the overall efficiency of factor allocation in international trade and investment.<sup>35</sup>

National governments look upon trade facilitation from a predominantly *macroeconomic* perspective of their own, not only as a source of improved tariff and tax collection

<sup>35</sup> For instance, Djankov et al. (2007) have calculated the impact of time delays on international trade by using World Bank data on the days it takes to move standard cargo from the factory gate to the ship in 98 countries. On average, each additional day that a product is delayed prior to being shipped reduces trade by at least one percent, that is, each day is equivalent to a country distancing itself from its trade partners by 70km on average. Delays have an even greater impact on developing country exports and exports of time-sensitive goods, such as perishable agricultural products.

but also as a multi-pronged policymaking tool. That is, they see it as a way to address wide-ranging policy issues. These include developing physical infrastructure and human capital, combating corruption and market imperfections, allocating scarce resources in a more efficient manner, redefining the roles of control and collection agencies, and extending the reach and intensity of intergovernmental cooperation, especially with proximate neighbours.

In other words, the *non-economic* or *indirect benefits* of trade facilitation are manifold. These extend to fostering the rule of law, providing responsive governance, demonstrating integrity and fair play through the predictable application and explanation of the rules governing trade, to investment and technology transfer, improved trader compliance and to enhanced security standards. This means that trade facilitation measures themselves are also the source of new, unforeseen challenges – economic, political and administrative. They raise concerns previously not taken heed of, which range from rather simple, not-very-costly decisions, such as putting together, updating and enriching a customs authority webpage, to very expensive ones. Among these are: modernizing land, air, sea and waterway transportation facilities or engaging in the major power and special-interest struggles that result from strict adherence to standards for e-government transparency and accountability that are generally accepted in more advanced economies.

There are basically three ways, or some combination of them, that are used to measure the benefits resulting from introducing trade facilitation measures. One is to record a times series of available data affecting some or all activities in core trade categories (customs procedures, regulatory framework, e-business penetration, air and water port efficiency) using shadow pricing when hard data is not available. This approach is based on the notions of *economic good* and *intertemporal planning*, given their long-run importance for socio-economic development. The application of the *regional public goods* notion to trade facilitation to a large extent draws on this approach (Arrow and Kurz 1970; Devlin and Estevadeordal 2004). Another approach is to make an ad hoc measurement for each topic, such as the number of steps involved in a procedure, the period of time required to obtain a specific authorization or the cost of discrete activities, recording their progress over time, compiling and weighting them under an index (such as the World Bank's *Doing business* methodology). And a third approach, based on empirical sources and criteria that allow for comparing the benefits of one measure over another within its specific context.

The first two approaches have been attempted with various degrees of success, especially by the World Bank (Wilson et al. 2005). However, most national policy-makers rarely limit their selection of policy options to those based on cost-benefit analyses only. They consistently prefer to take



into account other economic and extra-economic factors, such as the sectors affected, the unwanted effects of alternative measures as well as the impact on society and public opinion and the fungibility (degree of substitutability) of each available option. For example, banking secrecy laws and regulations in many countries are rather stringent and the business community is accustomed to their operation and benefits. This means that customs and tax authorities can go only so far in their investigations without a formal court order. This situation, in fact, constitutes an impediment to increasing the reach of the Financial Action Task Force, created in 1989 to accelerate the fight against money laundering around the world.

## **Institutional setting**

A wave of sustained change was introduced in the 1990s with the integration of duty collection administrations – tax, customs and, in some cases, social security – under a single authority, a movement inspired by the International Monetary Fund and implemented with the auspices, technical assistance and financial support of the World Bank and regional development banks. This introduced new challenges, given the more advanced automation, technical preparation and sheer size of most tax administrations vis-à-vis their customs counterparts and the need for resource convergence, including telecommunications and computing equipment and connectivity, physical installations,

personnel training, systems, methods, procedures and practices overhauling, and the like.

Many customs administrations have a proud tradition of autonomy and financial autarky, including those in developing countries that were once colonies of global empires. In the perception of the public though, as in many other control agencies, a number of customs administrations are viewed as reservoirs of political cronyism and administrative corruption.

The main rationale for the single revenue authority initiative is to improve collection, rather than focus on control, but cross-fertilization seems to help improve the overall professional profile of the new, merged authorities. In the process, discrete efforts need to be implemented to improve the technical capacity and productivity of customs personnel, by applying domestic resources and receiving the support of customs administrations of industrial countries, international organizations and donors.

## **Information technology**

A series of converging efforts aiming for the automation of government procedures in developing countries can be traced back to the early 1980s. They started in many countries with the informatization of legislation, executive decrees, ministerial resolutions and court precedents, and was followed by the progressive incorporation of

regulations and rules emanating from executive agencies, among them central bank circulars, trade, tax and customs regimes, guidelines, interpretations and rulings.

The introduction of customs automation, in a framework of government legitimacy, public sector modernization and increasing Internet penetration, helps avoid many transparency problems and allay fears in public opinion toward them. Above all, it greatly helps in simplifying and accelerating external trade procedures in spite of severe shortcomings in key inputs affecting implementation and inter-agency and government-to-end-user interoperability, such as reliable power supply and lack of ICT compatibility in developing countries.

The benefits of automation are overwhelmingly positive in the opinion of private-sector operators, that is, exporters, importers, customs brokers, freightforwarders, insurers, trade finance providers, consultants and auditors but especially export-oriented small- and medium-sized enterprises (SMEX). Indeed, in some cases exporters' associations are responsible for running their countries' single window facilities, efforts that in some developing countries date back to the mid-1980s.

The costs of introducing and maintaining automated customs data processing varies from country to country. The most widely-used one is UNCTAD'S Automated System for Customs Data (Asycuda), which is operational

in close to 100 jurisdictions.<sup>36</sup> Some countries opted from the start for the adoption of customized software of their own, suited to their singular needs, in some cases exporting their home-grown customs software and related technical assistance to other countries. Off-the-shelf systems are considered to be less expensive to introduce, update, service and interoperate across government agencies than customized automated systems but also not flexible enough when specific features need to be added (De Wulf and Sokol 2005). The problem is that it is very hard to find a ready-made system that can cater for the circumstances and needs of a particular economy or country grouping, even in the case of economies of similar scale, location and export profiles, such as the central America or ASEAN countries. And interoperability across countries, in a milieu of

<sup>36</sup> Asycuda is found in Afghanistan, Albania, Anguilla, Antigua and Barbuda, Armenia, Aruba, Bangladesh, Barbados, Belize, Benin, Bolivia, Bosnia and Herzegovina, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Colombia, Comoros, Congo, Cote d'Ivoire, Cuba, Democratic Republic of the Congo, Dominica, East Timor, El Salvador, Estonia, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Gibraltar, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Iran, Jordan, Latvia, Lebanon, Lithuania, Macedonia, Madagascar, Malawi, Maldives, Mali, Malta, Mauritania, Moldova, Mongolia, Montserrat, Namibia, Nepal, Netherlands Antilles, New Caledonia, Nicaragua, Niger, Nigeria, Palestine, Panama, Papua New Guinea, Philippines, Romania, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Slovakia, Sri Lanka, Sudan, Suriname, Syria, Tanzania, Togo, Trinidad and Tobago, Turks and Caicos Islands, Uganda, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, and Zimbabwe. <http://www.asycuda.org/>

advanced economic integration, is the next apparent challenge.

Progress in customs automation has reached many developing countries, particularly those that have experienced a trade boom in recent years. In those cases, customs declarations are submitted through electronic means, albeit with varying degrees of sophistication. However, in most cases a number of documents are required in hard copy as well, together with their archival records, thus defeating the very purpose of automation. Although there are exceptions, digital signatures by and large remain in a precarious legal standing in many developing countries – the probative validity of digital signatures depending on judicial discretion<sup>37</sup>. The webpages of most customs authorities and single window operators in developing countries provide information in the national language only, sometimes also in one of the WTO official languages (English, French, Spanish)<sup>38</sup>.

<sup>37</sup> The legal validity of e-mail messages is uncertain or non-existent in many jurisdictions.

<sup>38</sup> Of the 171 Customs administrations that are members to the World Customs Organization, 168 are hyperlinked on the WCO webpage: <http://www.wcoomd.org/customwebsites/?lid=1>. The web pages differ in scope and sophistication in terms of format, medium and frequency of updating, availability and user-friendliness of search engines and hyperlinks, operating forums and bulletin boards, processing feedback, recruitment promotion, and the like.

## Single window environment

A single window (SW) is broadly defined as a facility that allows parties involved in trade and transport to lodge standardized information and documentation at a single entry point in order to fulfil all trade and transit-related regulatory requirements (UN/CEFACT Recommendation 33). This definition implies that elementary single windows need not necessarily operate on an electronic, paperless platform. Also, they can encompass the whole spectrum of trade transactions or be restricted to exports only; and their level of complexity can vary according to their regulatory framework, the government agencies and departments involved in close cooperation, their incorporation of adequate technologies, the involvement of private stakeholders (the trading community), and their modes of organization.

There are two modes for organizing single windows. One is based on *regulatory convergence*, usually through customs, other government authorities or public-private partnerships, while the other is based on *trade logistics*, through air, sea and waterway port authorities, whether public, private or mixed. Integration of both approaches over time should be the ‘natural’ policy target. They can take the form of a *single authority* that receives the information, disseminates it and coordinates and controls the whole process, ordinarily the customs service. When the information is

processed electronically, individual data is submitted only once, with the consequent economies of time and resources as well as reducing errors<sup>39</sup>. Alternatively the SW can take the form of a *single automated system* for the collection, use, dissemination and storage of cross-border, trade-related, public or private information<sup>40</sup>. Finally, SW can take the form of an *automated information transaction system*, through which a trader can submit electronic trade declarations to the various authorities for processing and approval in a single application<sup>41</sup>.

Single windows usually show the most advanced form of automation, interconnecting various control agencies and aiming for paperless processing. Comparative experience worldwide confirms that customs authorities should lead, or at least be closely involved in, the development of a single window project for it to succeed in the long run.<sup>42</sup> Having

<sup>39</sup> The model for this type of single window is the Virtual Customs Office of the Swedish Customs Service (VCO), which supports eleven languages, with exhaustive information provided in the main three – Swedish, English and German.

<sup>40</sup> A typical single automated system is the US Customs and Border Protection's Automated Commercial Environment (CBP/ACE), based on its proprietary International Trade Data System (ITDS).

<sup>41</sup> This is the evolving Singaporean model. TradeNet is an electronic messaging service administered by CrimsonLogic Pte Ltd for the Singapore Customs. CrimsonLogic is launching a new national IT platform for trade and logistics, known as TradeXchange, in October 2007.

<sup>42</sup> For SW case studies in developing countries, see [http://www.unece.org/cefact/single\\_window/welcome.htm](http://www.unece.org/cefact/single_window/welcome.htm).

said that, there is a clear divide across regions between the promoters of single windows, usually supported by trade ministries and the private trading community on one side, and customs authorities, often operating under the supervision of powerful finance ministries, on the other.

## Customs clearance, integrated border management, infrastructure modernization

Statistical evidence worldwide suggests that *hard infrastructure* – ports and inland transport – accounts for only a quarter of the time demanded by procedural requirements for exporting and importing goods. The preparation of pre-arrival documents as well as customs and inspection procedures make up for the rest.<sup>43</sup> Some developing countries have introduced lower time limits for customs clearance and implemented automated tariff and tax payments. The adoption of risk assessment policies has helped reduce delays in many countries. But this requires a change in the mentality of customs officials, traditionally trained to perform physical inspections.

The integration of customs border management in neighbouring countries is a new trend in trade facilitation gathering momentum across developing regions. Largely resulting from trade integration agreements, the benefits to

<sup>43</sup> See the *Trading across borders* table at the end of this paper.

traders in particular are substantial. In those areas where North-South or South-South trade and investment integration agreements have been implemented, as among the ASEAN countries, this has become a crucial part of improved trade facilitation.

Infrastructure modernization, including the strengthening of regional road and railway networks and the harmonization of transport regulations also ranks high on the TF agenda. This has been identified as a *sine qua non* in some regions where road access and quality, and maritime and air port services and productivity are short of the international benchmark. For example, Panama, an economy dominated by trade in services, is nonetheless intent on becoming the regional hub for safe transport and trade, and is dependent on progress in its neighbours' infrastructure for it. This because Panama has the main ports in central America and plays a pivotal role in inter-oceanic goods traffic: substantial multimodal cargo moving to the North originates in the Colón Free Zone, the second largest in the world after Hong Kong.<sup>44</sup>

<sup>44</sup> International security concerns and the trafficking of narcotic drugs hamper the consideration of trade facilitation measures in the Caribbean. Central America and the Caribbean archipelago are located on the route between the main South American drug producers, principally of cocaine and marijuana, and the main consumers in North America. Only a small fraction of the flow is intercepted. Over the last decade, the Caribbean Financial Action Task Force, established in 1990, has exerted some influence by setting legal provisions and establishing

## Policy recommendations

Trade facilitation is an intuitively appealing concept that no longer requires much awareness-raising in most developing countries. Indeed, many governments in the South perceive trade facilitation not only as a precondition for growth in times of globalization or as a set of effective tools to introduce useful change but also as a powerful marketing strategy when combined with the promotion of foreign investment and country branding. This requires sustained political determination, best manifested in *directive principles of state policy* resulting from widespread national consensus and not subject to partisanship-inspired reversals.

Adopting a *public goods approach* for advancing trade facilitation may be one of the most effective ways to enhance competitiveness in the developing world. The effectiveness of international cooperation will largely depend on fostering a *cooperative action approach* rather than a *traditional donor-recipient model* (Devlin and Estevadeordal 2004). This approach will acquire increasing importance for donors and developing countries alike as multilateral trade negotiations on trade facilitation enter

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dedicated government services to deal with drug trafficking and money laundering. Banking legislation has been tightened yet there is evidence that launderers continue to escape the noose.

into the process of defining technical assistance targets and modalities, determining the implementation capacities, needs and priorities of developing countries, and acknowledging the special and differential treatment (S&D) that many developing countries require.

Although the bulk of the effort will continue to rest within each individual country, the support of multilateral and bilateral technical and infrastructure assistance to confront these long-term commitments is viewed by donors and beneficiaries alike to be crucial for progress in this area. Refocusing technical assistance and capacity building (TA/CB) can help fill a perceived gap –the lack of an overarching approach towards trade facilitation. Indeed, much of the work undertaken in the South until now has been piecemeal, project-, sector- and country-oriented (trade negotiations, customs, port and airport modernization, transportation, international security) even when resulting from bilateral, subregional and regional trade integration initiatives. As a consequence, ultimate success in the MTN process will depend on the aptitude of WTO members to adequately gauge and advance the long-term needs of clusters of developing countries. Rather than restricting the analysis to the welfare effects and efficiency gains of trade facilitation initiatives without their context, an approach enriched by taking stock of the development concerns of beneficiaries would be in order, such as considering unhindered trade as a national, regional and

global public good, principally in the context of aid and development (Hellqvist 2003).

Adopting and enforcing global, rules-based trade facilitation commitments, planning for their effective implementation and fostering the maximization of their development impact are serious propositions that will require multi-tiered efforts and response-convergence (national-international, donor-beneficiary, public-private, government-to-government, government-to-business and business-to-business) for years to come. They will need to be based on deep trust and fluent communication among all interested parties.

Trade facilitation cannot be accomplished as a one-shot government measure. Rather it implies sustained, incremental commitments not only by government agencies but also by the whole trading community of individual countries and their neighbours. Again, it is the private sector, interested in expanding its presence and position across expanded marketplaces, which should give focus and impetus to the process.

While the welfare benefits potential for developing countries of full liberalization of trade in agricultural products is estimated at about US \$43 billion, overall benefits resulting from trade facilitation are estimated at between US \$40 billion and US \$110 billion worldwide, mostly in favour of developing countries. When

productivity effects are aggregated, even when coupled with significant upfront costs and investments in infrastructure and capacity-building, such orders of magnitude should give policy-makers in the South food for thought.<sup>45</sup>

National governments all around the world are concerned with the size and vigour of their underground economies. Average informal economic activity in developing countries is 2½ times larger than the average among OECD-developed members, or China's, which is even lower.<sup>46</sup> Many cross-border activities traditionally hide from the statistical dragnet, through trade misinvoicing, distortions in non-factor service accounts (freight, insurance, tourism), factor services (interest and profit income), and straight tax evasion and smuggling. Then there are the heavily criminal operations that escape accounting, such as the clandestine traffic of narcotic drugs, weapons, prostitution and gambling and the laundering of their proceeds as well as terrorism, guerrilla warfare and kidnapping. The motives for trade misinvoicing may be capital flight, tax evasion or money laundering, but in all cases appropriate customs automation coupled with other control measures can act as a powerful detector and deterrent with regard to illicit cross-border activities.

<sup>45</sup> Walkenhorst and Yasui 2003, Hertel and Keeney 2005, Charlton and Stiglitz 2005.

<sup>46</sup> See table *Size of the shadow economy* below.

Trade facilitation can go a long way towards reducing the pernicious effects of non-registered trade activities. However, confronted with such an overwhelming institutional environment it would be self-defeating to address trade facilitation issues without also making national and international policies to combat underground economic activities a top priority.

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## Resources

### **Global Facilitation Partnership for Transportation and Trade, United Nations Trade Facilitation Network**

<http://www.gfptt.org/Default.aspx>

### **International Maritime Organization**

Facilitation of international maritime traffic. <http://www.imo.org/home.asp>

### **Organisation for Economic Co-operation and Development**

Trade facilitation webpage

[http://www.oecd.org/document/10/0,2340,en\\_2649\\_33705\\_31558282\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/10/0,2340,en_2649_33705_31558282_1_1_1_1,00.html)

Development Assistance Committee Project on Trade Facilitation webpage

[http://www.oecd.org/document/13/0,2340,en\\_2649\\_33705\\_35305549\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/13/0,2340,en_2649_33705_35305549_1_1_1_1,00.html)

### **Trade Facilitator Toolkit and Forms Repository**

A joint project of the UNECE, UNESCAP, UNECLAC, UNECA AND UNESCWA. <http://unece.unog.ch/etrade/>

### **United Nations Centre for Trade Facilitation and Electronic Business**

United Nations Economic Commission for Europe. <http://www.unece.org/cefact/index.htm>

### **United Nations Conference on Trade and Development**

*Technical Notes on Trade Facilitation Measures*. <http://r0.unctad.org/ttl/technical-notes.htm>

UNCTAD Transport Newsletter. <http://extranet.unctad.org/TransportNews>

### **The World Bank**

Trade facilitation

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/TRADE/0,,contentMDK:20550369~pagePK:148956~piPK:216618~theSitePK:239071,00.html>

Trade and Transport Facilitation and Logistics. [http://www.worldbank.org/transport/ports/tr\\_facil.htm](http://www.worldbank.org/transport/ports/tr_facil.htm)

### **World Customs Organization**

[www.wcoomd.org](http://www.wcoomd.org)

**World Trade Organization**

Trade facilitation. [http://www.wto.org/spanish/tratop\\_s/tradfa\\_s/tradfa\\_negoti\\_docs\\_s.htm](http://www.wto.org/spanish/tratop_s/tradfa_s/tradfa_negoti_docs_s.htm)

Trade facilitation technical assistance and capacity building [http://www.wto.org/english/tratop\\_e/tradfa\\_e/ta\\_capac\\_build\\_negoti\\_e.htm](http://www.wto.org/english/tratop_e/tradfa_e/ta_capac_build_negoti_e.htm)

Successive compilations and summaries of all proposals submitted by members to the Negotiating Group on Trade Facilitation appear in WTO Secretariat documents TN/TF/W/43/Rev. 12 and TN/TF/W/106/Rev.7 at <http://docsonline.wto.org/>

Doha Development Agenda Trade Capacity Building Database, jointly established with the OECD [http://tcbdb.wto.org/ben\\_dcs.asp](http://tcbdb.wto.org/ben_dcs.asp)

<p style="text-align: center;"><b>Trading across borders</b>            (a country table is available the <a href="http://intracen.org/wedef/">intracen.org/wedef/</a> website)</p>						
Countries and regions	Number of documents for export	Number of days for export	Export cost per container in USD	Number of documents for import	Number of days for import	Export cost per container in US \$
East Asia & Pacific	6.9	23.9	884.8	9.3	25.9	1037.1
Europe & Central Asia	7.4	29.2	1,450.2	10	37.1	1589.3
Latin America & Caribbean	7.3	22.2	1,067.5	9.5	27.9	1225.5
Middle East & North Africa	7.1	27.1	923.9	10.3	35.4	1182.8
South Asia	8.1	34.4	1,236.0	12.5	41.5	1494.9
Sub-Saharan Africa	8.2	40	1,561.1	12.2	51.5	1946.9

Source: The World Bank's *Doing business* website

<b>Size of the shadow economy</b> <b>(a country table is available at the intracen.org/wedef website)</b>	
<b>Countries and regions (unweighted average)</b>	<b>Informal economy estimate as a percentage of 2003 GNP</b>
Southwest Pacific	33.4
Eastern and central Europe	40.1
Central and south America	43.4
Asia	30.4
Africa	43.2
OECD industrial	16.3

Source: Schneider 2006