1. Introduction

Shifts in the agrifood system are felt globally from rural communities to urban consumers. These changes are transmitted along integrated supply chains managed by increasingly powerful food retailers. The survival of individual farmers and farmer associations lies in their capacity to participate in these dynamic systems. While the rate and depth of change varies across continents and nations, some key aspects hold true globally. These include a focus on consistent volumes of product that meets quality and food safety as well as a commitment to develop novel products that meet retailer needs. The CAFTA-DR countries are not immune to these shifts and, in fact, show important levels of restructuring in food retail.

In addition to the shifts outlined above, the nature of the relationships between food chain actors has changed. Traditional supply chains focus on maximizing individual actor benefits (i.e. net income) through the purchase of relatively standardized products from independent actors depending on availability. Driven in part by shifting demands from the retail sector, some supply chains have evolved towards a more integrated approach based on differentiated products, information flows and stronger relationships between the various actors in the chain. In other cases, gains from systemic efficiencies – those achieved at a chain scale and not only at an individual actor level – have also contributed to this shift. In the CAFTA-DR countries, however, the existence of truly integrated value chains remains more the exception than the rule.

Against the backdrop of these global changes lies the CAFTA-DR agreement. The impact of this agreement on the structure of agricultural trade and supply chains in the region remains to be fully appreciated, however it seems unlikely to alter the drivers already at play in the global retail sector. Keeping this in mind, CAFTA-DR might present interesting opportunities to some agricultural sectors that can effectively integrate into global supply chains. For the majority of CAFTA-DR farmers, however, few benefits seem likely to accrue to them due to the advent of freer trade. These farmers, who are often among the poorest members of their respective countries, may well be capable of producing products that meet exacting standards but they lack important support to benefit from the opportunities that
CAFTA may provide. Stumbling blocks include access to technology, credit, effective organizational structures, infrastructure and the knowledge and skills to combine these into viable business opportunities.

The question then becomes not what do about CAFTA-DR but what to do about changing terms of trade on a much grander scale. If CAFTA-DR signatories are serious about trade as a tool for wealth creation in rural communities, then certain key elements remain to be addressed. These include identifying critical aspects of a value chain approach that make it more or less pro-poor and proactively opting for the former. It implies revising policy decisions at multiple scales and with multiple actors so that these are congruent with successful inclusive value chain development. It means working in a more integrated fashion across philosophical, political and national divides and learning together about what works and what does not work. Finally, it means assessing the reach of market linkages as a tool for poverty reduction and developing the necessary complementary policies to generate maximum positive social impact both at a national as well as a regional scale.

The remainder of the paper examines these issues in more detail. First we briefly review the changes inherent in moving from a supply to a value chain focus and how the later serve to increase the competitive position of a chain. Then we examine how global drivers prevalent in supply chains affect the CAFTA-DR countries with particular emphasis on current gaps. Based on these contextual sections, we them identify and discuss key issues for the development of successful pro-poor value chains in Central America as well as several issues to consider during implementation. The paper finishes with key aspects and questions for further research.

2. The changing nature of supply chains

The current debate in Central America and beyond focuses on the development and strengthening of market chains. Prior to entering into detail about key issues for chain upgrading, it is important to clarify the terms used, often imprecisely, in the debate.

A supply chain, in its simplest expression, is a constellation of actors that move production from one or more farms to one or more markets. Supply chains can link local production to local markets or local production to more distant, even international, markets. Actors involved in a supply chain can be grouped by their function in the chain and can include input suppliers, farmers, traders, transport providers, post-harvest processing firms as well as diverse retail actors among others.

Throughout Latin America supply chains exist as they have for centuries to move products from farm to market. However, these traditional supply chains suffer from various forms of limitations. First, they tend to exhibit important levels of inefficiency with an inordinate number of traders buying and selling products but adding little
value. Trading inefficiencies also lead to high levels of post-harvest loss. Secondly, traditional supply chains suffer from important information and power asymmetries. Well-connected or informed actors are able to capture additional profits at the expense of the more marginal members of the chain. This contributes to a low-level of trust among chain actors often resulting in opportunistic, short-term behavior to the detriment of the overall competitiveness of the system.

Inefficient and low-trust supply chains tend to suffer from two additional difficulties worth mentioning in the context of CAFTA-DR. These include difficulties related to food safety and overall product quality and product and process upgrading. Product quality varies widely in these chains as diverse actors seek short-term gain at the expense of other actors. A typical example is the practice of putting low-quality product under acceptable product or including waste (such as rocks) with products to increase weight. Typical supply chains operating are unable to guarantee product traceability and food safety due to this behavior. Finally, given the fragmented nature and short-term vision of traditional supply chain relationships, the capacity of the chain to upgrade and innovate is limited. Additional income from new or transitory market opportunities accrues to the near market actors who often do not transmit the need for new products to producers and much less provide a financial incentive to change practices or innovate. Despite the shortcoming of traditional supply chains, these continue as the default option across much of Latin America and particularly for resource poor farmers and their families.

In contrast to traditional supply chains, an increasing number of development interventions focus on building what are referred to as value chains to link farmers to markets. A value chain can be understood as a strategic network between a number of independent business organizations. According to Hobbs et al. (2000), a value chain is differentiated from a supply chain because:

- Participants in the value chain have a long-term strategic vision
- Participants recognize their interdependence and are disposed to work together to define common objectives, share risks and benefits, and make the relationship work
- It is oriented by demand and not by supply, and thus responds to consumer needs
- Participants have a shared commitment to control product quality and consistency
- Participants have a high level of confidence in one another that allows greater security in business and facilitates the development of common goals and objectives

Table 1 summarizes other comparisons between a production market chain and a value market chain.
Table 1. Enterprise relations: Production chain versus value chain.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Production market chain</th>
<th>Value market chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information flow</td>
<td>Little or none</td>
<td>Extensive</td>
</tr>
<tr>
<td>Principal focus</td>
<td>Cost / price</td>
<td>Value / quality</td>
</tr>
<tr>
<td>Strategy</td>
<td>Basic product (commodity)</td>
<td>Differentiated product</td>
</tr>
<tr>
<td>Orientation</td>
<td>Led by supply</td>
<td>Led by demand</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>Independent actors</td>
<td>Interdependent actors</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Competitiveness of the enterprise</td>
<td>Competitiveness of the market chain</td>
</tr>
</tbody>
</table>

Source: Hobbs et al. (2000).

The differences between a supply chain and a value chain focus are relevant to Central America under CAFTA-DR for several reasons. First, a shift from individual actor utility to a systemic focus (i.e. all actors are part of the production and marketing system) unlocks potential for collaboration, efficiencies and cost reduction not available to the actors on their own. A simple example here is the case of sorting and grading. In a value chain, actors are clear about product standards and quality and sort raw material on those criteria thus generating less waste and lower costs for downstream actors. Second, long-term relationships among actors helps build resilience into the system through increased communication and levels of trust. This, in turn, translates into an increased ability to overcome obstacles and difficulties that might otherwise destroy the commercial relationship. Finally, close collaboration between actors around a common market goal facilitates processes of innovation as information – on market demand and on new ideas – moves more readily through the system. The combination of efficiency gains, improved information flows, greater trust and an increased capacity to shift as the market evolves, are the hallmark of a functional value chain. These same conditions are basic requirements to operate in the globally competitive environment that characterizes CAFTA-DR.

Reardon and Flores (2006) describe a parallel shift in competitiveness strategies from a “traditional” approach based on cost competitiveness to a “modern” approach which includes not only cost competitiveness but also aspects of business environments (Porter, 1990) and flexible specialization (Piore and Sabel, 1984). These shifts in generic competitiveness approaches map well onto the supply chain – analogous to the traditional approach – and the value chain concepts – analogous to the modern approach – described above.

3. The current reality of supply chains and CAFTA-DR

The move from supply chains to value chains in the CAFTA-DR region is at best spotty. Notable successes exist, some of which are discussed below, but the vast majority of commercial relationships remain locked into traditional models based on cost competitiveness and difficult if not conflictual relations between actors. This model is poorly suited to deal with the rapid evolution of food retailing globally. The major drivers affecting supply chains in CAFTA-DR include: (a) shifts in the
international environment for food products; (b) growth in the application of private standards in the absence of public standards; (c) increasing imports of processed food products from the US driven by supermarkets, and; (d) limited resources to respond to these emerging issues.

Reardon and Flores (2006) highlight three critical shifts in the global food industry which impact directly on CAFTA-DR supply chains. These changes have occurred over a relatively short period of time – the last 5 to 10 years – but have significantly altered the playing field. First, the rapid and sustained growth in global demand for non-traditional products at the expense of basic staples driven in part by trade liberalization policies. Over the period of 1980 to 2003, for example, trade in non-traditional products grew between 300 and 500% (ibid: 486). On the surface, this huge shift would seem to favor CAFTA-DR countries many of whom were early entrants in the non-traditional products range. However, over the same time period a large number of additional countries entered the non-traditional exporting market as direct competitors with the CAFTA-DR nations. This second major shift saw the overall share of Central America in global food exports fall by half and in overall world horticultural trade fall from 3% to 2.2% between 1980 and 2003 (ibid: 491). Clearly other nations such as Mexico, Chile, Brazil, India, Vietnam, Thailand and even some developed countries are eating away the initial gains made by CAFTA-DR.

Third, the nature of the global food industry has changed significantly. In the early process of globalization Central America was successful developing a series of new products for specific market niches. However over time many of these products have become commodities which explosive volume growth mostly captured by non-CAFTA-DR nations. Examples include fresh peas, mango, frozen vegetables and raspberries all of which grew strongly globally but with a significant reduction in Central American participation. These shifts present CAFTA-DR producers and governments with the need to compete on costs, quality, market organization and volume while, simultaneously, maintaining flexibility to respond to emerging opportunities and threats (Reardon and Flores, 2006). This complex environment does not fit well with the traditional supply chain focus present in the vast majority of CAFTA-DR supply chains.

An additional factor that complicates the picture is the rapid evolution and implementation of private quality standards both for export and national markets. This trend, reviewed in detail in Berdegué et al (2005), increases the need for investments related to crop management, post-harvest handling and storage and cold chains for entry and continuance in national markets. Other studies (Graffham et al, 2007 and Graffham and MacGregor, 2007) have reviewed the impact of private quality standards – in this case EurepGAP in Eastern Africa – and have found a drop-out rate of nearly 60% for smaller producers following implementation (Graffham et al, 2007: 27-28). In the case of CAFTA-DR supply chains, increasing
quality standards are applied not by governmental agencies but by buyers as a ticket to entry or permanence in a given retail market. The cost implications of meeting these standards and preparing to meet increasingly stringent standards in the future are significant. Traditional supply chains prevalent in CAFTA-DR are not well suited to deal with this issue in a coherent fashion.

Finally, trade in an increasingly connected world is a two way street. This means that the implications of CAFTA-DR apply not only for export opportunities but also for import threats. Much effort has been invested in reviewing the implications of CAFTA for food security crops such as basic grains but little has been done on how this agreement will affect higher value niches in the CAFTA countries. Recent work in the region throws some light on this issue. Berdegué and Sanclemente (2007) show in the case of strawberries, that Mexican supermarkets source year-round from international suppliers like Driscoll who themselves source globally. While some Mexican strawberry producers (from Michoacán and Baja California) participate, the vast majority is locked out of this market segment due to food safety and private quality standard concerns. In Honduras, trade data from 1990 to 2006 from the Central Bank of Honduras shows agricultural imports increasing from 16% of exports in 1990 to 88% of exports in 2006 (Agropyme, 2006). The largest growth in these imports is in processed food products. Similar trends appear to be emerging in the case of El Salvador. Finally, Flores and Membreño (2006) (cited in Reardon and Flores, 2006) report the increasing participation of China in CAFTA-DR with products such as garlic and black beans. The consolidation of Wal-Mart Central America in the retail sectors of Guatemala and Costa Rica, and to a lesser extent in Nicaragua and Honduras, also drives this trend. Wal-Mart is a leader in global sourcing and adept at bringing products from vast distances at competitive prices. In sum, while CAFTA-DR looks north for markets, other nations are increasingly looking at the region and its modern retail sector as an important and attractive client.

Without significant and well targeted investment on a number of fronts, the net result of these trends is an increasing risk of exclusion first of the weaker members of traditional supply chains (small farmers and smaller enterprises) and, eventually, the consolidation of a few strong value chains able to compete globally. Not only do CAFTA-DR supply chains need to concern themselves with export markets but increasingly with aggressive imports of goods previously produced for export by the region. In the next section, we examine some of the key challenges facing the CAFTA-DR in the establishment of pro-poor value chains.

4. Key challenges for pro-poor value chains in CAFTA-DR

Keeping in mind the contextual issues highlighted above, what key themes need to be addressed to develop pro-poor value chains in the CAFTA-DR countries? The themes can be clustered in four categories: organizational and business models; technology and innovation; services; and sustainability.
Organizational models

Linking small farmers into value chains requires significant investments of time and resources. However, not all organizational models are created equal. Key areas of differentiation include cost, coverage and sustainability. Organizational and business models that support effective value chain development, are lightweight and scaleable to large numbers of farmers are needed urgently. Some elements to keep in mind for these models include the following.

First and foremost a clear focus on for-profit models that recognize social aspirations but elect to achieve them through profitable business. The rural landscape of Latin America is littered with failed organizations and infrastructure projects that proved economically unsustainable once donor assistance dried up. Effective organizational models must be, first and foremost, profitable businesses before they can invest in long-term processes of community development. Models such as La Central in Honduras where profits are reinvested in a non-profit arm provide insights into how this may work. Developing businesses as a mechanism to transfer donor assistance to farmers via prices or services may generate short-term gains but will not position those farmers to participate effectively in emerging market opportunities.

Development interventions tend to assume that formal organizations – i.e. associations or cooperatives – are the most effective way to achieve market linkages. However, recent research in Honduras shows that the associative models promoted by NGOs can cost nearly five times what a lead farmer model promoted by a specialized wholesaler costs for the same land holding (Hellin et al, in press). Research by Berdegué (2001) from Chile shows that the return on investment for market linkage farmer organizations is strongly linked to product and market specifics. Prior to promoting formal organization, development interventions need to clarify why farmers should organize and what specific benefits will accrue through that process and then move to identify the appropriate organizational structure. Too little though (and investment) has gone into upgrading informal organizational forms – such as informal trader networks – as a low-cost way of linking large number of farmers to specific markets.

A third issue is that of equity and ownership. Producer organizations can choose from any of several options along a continuum between vertical integration or a network approach to form an effective value chain. In the past the vertical integration model was popular. Today most organizations tend towards a network model which different firms focusing on their relative strengths. The network model can provide efficiency benefits but also raises questions about equity distribution along the chain. Successful value chains should identify benefit-sharing options that allow farmers or other marginal actors of the chain to accumulate an additional share of the overall resources over time. Stock options or profit sharing models such as
those promoted by CDRO and the Cuatro Pinos Cooperative in Guatemala are two possible ways to guarantee equitable distribution.

Finally capacity and skill development is needed. However, rather than focusing on formal training, hybrid organizational models that promote learning and link to external knowledge sources are key. Examples such as campesino to campesino in Nicaragua and the organizational coaching provided by Cuatro Pinos in Guatemala are two examples of how this can be achieved. The commonality between these models is their focus on specific, problem-solving learning, not on formal training courses. The participation of private sector actors in this process is critical especially for the adequate evaluation of risk and business decision-making. A critical skill set often overlooked is how to become an effective business partner. Research on the vegetable chain in Honduras by Agropyme showed a bias by specialized wholesalers against farmer organizations due to slow decision-making (Agropyme, 2006). Future capacity development initiatives would be well served to take this issue into account.

The need for increased organizational capacity for effective value chains is clear. However hybrid organizational models that are scaleable, focus on learning and knowledge development, provide strong equity results to participants and are good partners for dynamic markets are lacking. These models will come from the recombination of existing knowledge among diverse actors working together including both formal and informal members of existing supply chains.

**Business models**

Beyond the farm scale, additional organizational innovations focused on how diverse actors relate to one another are needed. Successful value chains and particularly those that involve resource poor members depend on relationships that differ significantly from those found in traditional supply chains. Key areas of difference include trust and transparency, information and knowledge management and risk management. These three areas complement each other and combine in a governance model specific to value chains.

Trust and transparency among actors is a hallmark of a value chain. In practical terms this means that chain actors work together on an on-going basis to resolve common problems and achieve collective goals in the market. Information and knowledge management is critical to trust and transparency. For example, advance access to projected consumption volumes by wholesalers or producer organizations allows production planning, farmer organization and necessary inputs and credit to guarantee production. Likewise, on-going field level reporting of growing conditions and projected harvest volumes and dates is useful to adjust sales projections on part of the retailers. Regular meetings and communication between chain actors are also of critical importance to resolve disputes and clarify issues. Tailor made models of low-cost information and knowledge management for specific supply chains are needed. Identifying what to measure, how to measure it and deciding how this
information factors into decision-making is part of a healthy process of trust and transparency among chain actors.

An additional area of innovation in value chains is risk management among chain actors themselves. For example, Cuatro Pinos in Guatemala manages a shared fund with a wholesaler in the US. For each crate of produce sold to the US market, a percentage is placed in a settlement account. This account has been used to cover product damage and loss, technical assistance focused on food safety and, most interestingly, to write off crop losses at the farm level associated with Hurricane Stan. This management innovation means that farmers are always paid regardless of the difficulties the product faces due to unforeseen conditions and that there are funds continually available for technological and capacity upgrading. This fund reduces both the time-specific risk faced by a fresh produce chain as well as the long-term risk associated with increasing food safety standards and requirements (Lundy, 2007).

The governance structure of a successful value chain is based on a long-term, trust-based set of relationships nurtured by transparent information and knowledge management and effective methods of risk sharing that benefit the overall health of the chain and not just the bottom line of one of the participants.

**Product and process innovation**

Establishing a functional chain and linking effectively to a market is only part of the process required for an effective value chain. The introduction and maintenance of a product or products in dynamic markets demands continues processes of product and process innovation. Product innovation refers to new presentations, formats and types of products offered by the value chain to specific market niches. The more dynamic the market niche, the more frequent the introduction of new products expected by the buyer. This is illustrated by the experience of AgriFair, a Dutch trading house focusing on fair trade, organic fruit. The initial goal of AgriFair was to access mainstream market channels – i.e. supermarkets – for its offering. However, once it managed to gain access for one product consistently, the buyers requested a new product presentation every six months. Davie Boselie of AgriFair (www.agrifair.nl) calls this process “broad streaming” and attests to the pressure applied by retail to offer a continually innovative portfolio of products (personal communication, October 2007).

Broad streaming requires not only new product development but also concerted actions along the value chain to develop innovate products that help AgriFair compete and, indirectly, differentiate the final retailer from others who do not have access to these products. Behind the development of a new product is a series of process innovations focused on linking the diverse chain actors in such a way that they can collaborate on the identification, development, testing and then sale of these new products **on an on-going basis**. This is not a one-off process of innovation.
but rather a never-ending treadmill of change that requires continual care and investment.

The demand for product and process innovation by dynamic markets is clear in more developed retail markets and constitutes an additional factor for successful value chains in CAFTA-DR. Specifically, how to develop the skills, knowledge, trust and information management capacities necessary to get on and stay on the broad streaming treadmill not as an in-house process managed by one actor but as a collective process shared along the value chain (Mosquera, et al. 2006).

**Technological upgrading**
Technological upgrading and improvement complements and supports product and process innovation in value chains. In the case of successful value chains, this process is driven by market forces and reviews technological options along the entire chain. In the case of Cuatro Pinos in Guatemala, for example, technological upgrading for one horticultural product has included changes in: varieties planted; production technology; technical assistance; sorting and packing; food safety and residue testing; packaging material and transport from Guatemala to the US. This process has responded to specific demands in terms of product quality and shelf life and has been implemented by the Cooperative in collaboration with wholesalers and retailers in the US.

The selection of appropriate technological options reinforces the competitive position of the chain in that it allows for the development of differentiated products – in terms of packaging, presentation and shelf life for example – that respond to the broad streaming demand from dynamic retailers. At the production end of the chain, however, upgrading processes need careful management to ensure that they do not become de facto barriers to the poorer members of the value chain nor unduly skew the returns that accrue to these actors.

**Financial products and services**
The provision of tailored financial services is key to value chain success. Equally important, however, is the access to these financial services in a timely and equitable fashion. In most of rural Latin America small farmers and farmer associations have limited access to formal sources of financial services. Collaboration between chain members can resolve some of these issues. Key financial services for successful value chains include savings, risk management (particularly climate and market linked insurance), systems for prompt payment, venture capital and credit.

The design of appropriate financial services, similar to innovation and technological upgrading, responds to the actual needs of the value chain members. How to access these services also varies. In Michoacán, México, for example, a large strawberry processor accesses production credit via the national financial system and then disperses this credit as inputs among a set of dedicated growers who themselves are
not credit worthy. Cuatro Pinos in Guatemala manages a similar system for very small producers where credit is provided in kind and then discounted against production.

Several financial services needed to underpin competitive value chains in CAFTA-DR remain underdeveloped. These include methods to manage and reduce risk through the use of modern financial instruments such as insurance, large-scale systems to facilitate rapid payment based on sales receipts and access to venture capital for technology and product and process innovation. Many of these services exist in the region for non-agricultural businesses but few suppliers have expressed interest in developing such tools for agribusiness value chains. The current supply of financial services is fragmented and often dependent on donor or NGO funds that are insufficient to meet the needs of the emerging value chains.

**Quality and food safety**

In the context of CAFTA-DR, the issue of consistent product quality that complies with food safety standards is rapidly becoming the *de facto* ticket to entry into regional trade flows. The rapid evolution of food safety standards implies that, as is the case with products, a successful value chain cannot merely comply with today’s regulations but also must seek to comply with potential regulations as well.

An important caveat in regards to product quality and food safety is the increasing role of buyers in setting such standards. Standards such as EurepGAP ([www.globalgap.org](http://www.globalgap.org)), the ISO standards and a recently proposed national standard on sustainable agriculture for the US ([http://www.scscertified.com/programs/SCS-001_SusAgStdFP_041307-LEO.pdf](http://www.scscertified.com/programs/SCS-001_SusAgStdFP_041307-LEO.pdf)) show that private sector firms are increasingly ahead of governmental regulation.

For a value chain to succeed in this rapidly changing context means that it must invest in research that allows it to reach compliance quickly to any shifts in private standards. Some value chains are able to do this by sharing costs among chain actors – Cuatro Pinos and other vegetable export firms in Guatemala collectively pay for a crop protection PhD full time – but many others rely on the limited research capacity and funding of regional and national programs. The relative lack of focused research on topics related to food safety – including phytosanitary measures and their implementation – constitutes a serious gap in the CAFTA-DR countries.

**Sustainability issues**

A final set of issues that sustainable value chains in CAFTA-DR need to take account of is the their sustainability in economic, social and environmental terms. Successful value chains are economically sustainable when they provide a reasonable return for all members of the chain once costs and risks have been accounted for. This analysis is not as simple as just asking how much of the final sales price goes to each actor but rather requires greater understanding of real cost structures and the risks
assumed by each member of the chain. If the chain is structured in such a way that all actors are able to participate profitably, then the chain has greater capacity to survive in the marketplace.

Successful value chains also require social sustainability. Based on fieldwork carried out in Mexico (coffee) and Guatemala (coffee and vegetables) our understanding of social sustainability focuses principally on the capacity of the chain to offer opportunities to participating actors. These opportunities may include access to increased income as well as access to health care, educational opportunities (formal and informal) and personal development. A successful value chain confers economic and important non-economic benefits to its members.

Finally, successful value chains are efficient in their use of natural resources and energy. This level of sustainability often connects with Good Agricultural and Good Manufacturing Processes in that it includes the sustainable management of soil, water and energy resources. In some cases, environmental sustainability also relates to a social license to operate as shown by innovative work between the World Wildlife Fund (WWF) and Coca Cola in several watersheds around the world (http://www.worldwildlife.org/business/companies/TCCC/).

In conclusion, successful value chains for CAFTA-DR require the following attributes:

- Effective organizational and chain models that develop and strengthen trust-based relationships between actors based on adequate information and knowledge management, transparent chain governance and shared risk management,
- Capacity to invest in on-going processes of product and process innovation as well as technological change in response to changing market conditions and quality standards,
- Access to adequate tailored financial instruments that serve to strengthen the resilience of the chain and its actors, and
- Sustainable practices that provide a profitable economic return to each member of the chain while opening new opportunities for social and personal development and fostering the long-term efficient use of natural resources

All in all the development of successful value chains requires a commitment from all members of the chain to work together in a dynamic and novel fashion. Aside from individual business decisions made by specific chains and their members, what are some key implementation issues for this focus in CAFTA-DR? The following section reviews critical issues briefly in this regard.

5. Implementation issues in CAFTA-DR

What possible intervention points exist to facilitate the development of successful value chains in CAFTA-DR? A key first step is towards the area of policy writ large. How must policies change if we hope to see more successful value chains in CAFTA-
DR, especially those that involve the resource poor and contribute to poverty reduction? A second key area is the shift from an atomized, individual actor or problem oriented approach to a more systemic approach that seeks to build on the collective knowledge and capacities of multiple actors. Given the persistent reduction in formal research in the region, how can value chain actors themselves with limited public support develop effective innovation systems that allow them to compete in an increasingly competitive marketplace?

Policy shifts
When the term “policy” is used in an academic publication, readers tend to conjure images of public sector bureaucrats discussing legal standards or deciding how best to invest their limited budget. While fair for a segment of the policy-making arena, this paper argues that policy should be looked at in a larger context. The development of successful value chains requires effective public policy in combination with effective development policy, effective research policy and effective private sector policies. In the context of CAFTA-DR government policy alone is insufficient no matter how well intentioned. The policy shifts required mean that all actors need to work together in a much more coherent fashion than in the past. Barring such collaboration the future for successful value chains in CAFTA-DR is slim.

In public policy, greater emphasis needs to be placed on resolving key national and regional level constraints to value chain development. Chief among these are: (a) the effective roll-out at large scale of GAP and GMP using models that incorporate the poor rather than exclude them; (b) re-investment in national and regional agricultural and processing research capacity to resolve specific technological bottlenecks in value chains; (c) upgrading of national capacity in terms of food safety and phytosanitary controls to meet US and European market conditions; and, (d) investment in key pieces of public infrastructure such as roads, communications and port facilities to improve access to markets. An additional role of public policy is sector-wide facilitation. The Honduran Ministry of Agriculture and Livestock has used this approach effectively in the case of some agricultural sectors.

In addition to shifts in public policy, the development of successful value chains also implies changes in development policy. In this case, development policy refers to the underlying principals applied by donor agencies as well as NGOs. Central America continues to receive a substantial flow of donor resources but development policy makers would be advised to review where and how these monies are invested. In addition to direct investments in the rural poor, complementary investments to resolve other bottlenecks along supply chains hold promise. Examples include the Global Development Alliance of USAID (http://www.usaid.gov/our_work/global_partnerships/gda/) and Public Private Partnerships of Gtz (http://www.gtz.de/en/themen/uebergreifende-themen/ppp/905.htm). Some of the issues highlighted in the public policy section are critical here, specifically those related to
GAP, GMP and phytosanitary standards. Another critical area for donor investment is supply chain facilitation where common objectives can be identified and thus used to leverage more effective interventions between multiple, specialized actors. One example of this kind of investment are learning processes that link chain actors – including the public sector – to work in a more collaborative fashion. Finally, for some donor agencies and public actors, a tension between promoting markets and more traditional philanthropy remains to be resolved. The existence of sector wide approaches in CAFTA-DR is promising in this regard. However, the reality of common approaches is still lacking at the field level.

The NGO community in CAFTA-DR is diverse and dispersed. Despite the myriad NGOs active in the region, there are three types of policy shifts that might be considered by these actors. First, a move towards increased specialization whereby diverse NGOs focus on specific topics and service provision rather than attempting to be everything to everyone. The possibility of this shift is tempered by existing donor policies – which exercise inordinate influence over agency decision-making – but forging a common agenda in this regard between donor and implementing agencies would likely contribute to greater capacities for value chain development in a core group of NGOs. Second, as is the case with the donor agencies, many NGOs still have a weak focus on market development. This limited capacity leads to programs that promote dependency rather than business orientated interventions. A question that remains to resolve is how to more effectively link enterprise development to poverty reduction. This theme is one where NGOs have much to offer but rarely have the opportunity to engage with other actors, especially the private sector, to attempt to develop answers. Finally, many NGOs, but not all, show a certain level of philosophical aversion to working with the national private sector. Developing and implementing a common agenda where a larger number of specialized actors participate in building effective value chains would go a long way to demystifying and solidifying the tenuous relations that currently exist between diverse actors.

In addition to policy shifts in public and development policy, the construction of successful value chains in CAFTA-DR implies private sector policy changes. Many firms have embraced the idea of Corporate Social Responsibility and produce impressive annual reports detailing philanthropic investments. In the increasingly competitive world of CAFTA-DR, however, firms need to move beyond the window dressing of CSR and review how their internal policies affect others in their supply chain. This implies reviewing policies relating to purchase practices, payment and supplier development among others. Some major firms are moving in this direction. For example, Wal Mart Central America has recently initiated specific policies for Small and Medium Enterprises that include not only changes in purchase practices (volume) but also payment periods and novel ways of linking potential suppliers to Wal Mart buyers (http://walmart-centroamerica.com/apoyo_pymes.htm). While important differences exist between an urban SME and rural producer associations remain to
be addressed, these kinds of private policy innovations are a step in the right direction.

Two additional policy innovations where the private sector might play a pivotal role relate to models for service provision between value chain actors and novel farm level organizational models. The issue of service provision has traditionally been left to the public or development sectors with the former suffering from politization and the later from donor dependency. The private sector, in collaboration with others, is well positioned to work with value chain actors to identify necessary services and potential providers. In the case of a set of novel personal care products with indigenous groups in Totonicapán, Guatemala, the participation of Wal Mart, Henkel and Incokensa was instrumental in identifying key services, service providers and developing a business plan that incorporates the costs of service provision in the product cost structure with the able facilitation of the Guatemalan Presidential Commission for Local Development (www.trasnformacionlocal.org). Similar models exist in the specialty coffee sector and some horticultural exporters as well. The key commonality of these approaches is that the services are for profit, included in the cost of the final product and not dependent on donor or government support. Wider application of this model is critical to the development of successful value chains in CAFTA-DR.

The final area of private sector policy innovation is farmer organization. As mentioned earlier, the farmer organization models promoted principally by the development sector have not evolved into good business partners for the private sector due to high costs, lack of transparency and slow decision-making. Collective work between the private and development sectors to identify and develop organizational models that respond to market demands as well as generating social impact is a key area for successful value chain development. More engagement of the private sector in this area would be welcome.

The final actor in the value chain system that needs to review and shift policy is the research sector. As noted above, most CAFTA-DR countries have limited in-country research capacity and increasingly rely on regional and international research agencies. However, these research agencies set their agendas in accordance with what donor agencies are interested in funding. This interest often differs substantially from the actual needs of the country or a specific value chain. Part of a donor shift towards funding specific sector processes should include funds for targeted and applicable research that resolves the needs of value chain actors. In this sense, research centers need to increase their capacities in areas such as GAP, GMP and phytosanitary measures among other topics if they hope to stay relevant for value chain development. Research also needs to be more collaborative and involve a range of actors.

Innovation and learning systems for pro-poor value chains
The combination of policy shifts suggested above lays the groundwork for the development of an innovation system (World Bank, 2007) approach for value chains in CAFTA-DR. Such a system is based on increased linkages between relevant actors – governments, donors, NGOs, private firms, research – as well as rural populations themselves. The objective of an innovation system is to resolve key problems or bottlenecks that limit the development of a sector or value chain in a collaborative fashion. Douthwaite (2007) posits that such a system includes four key aspects: (a) new idea discovery; (b) access to information to assist decision-making; (c) access to peers to resolve implementation issues, and; (d) learning selection processes. Intrinsic to an innovation system is the need to increase the density of linkages between relevant actors to achieve processes of systemic learning.

In the case of successful value chains in CAFTA-DR, the application of an innovation system approach implies increased collaboration between actors. For this to occur, process facilitation is critical. In some cases, the public sector can convene collaborative spaces while in others this is best left to exporter unions or chambers of commerce. In some cases, NGOs have also been effective conveners provided that they are willing to listen to other chain actors. An effective innovation system seeks to improve the overall health of the value chain, not resolve the problems of one specific actor. The identification of key crosscutting issues that affect the value chain in its entirety is critical to generate the buy-in from all relevant actors.

After convening an innovation system, the next question is how to make it work. Several ideas from the business world are useful here. First, the idea of rapid prototyping whereby ideas are put into practice, evaluated and incorporated or rejected quickly (Hassan and Bojer, 2005). Value chain specific innovation systems should seek to identify possible solutions to bottle-necks, test them in a rapid and low-cost way and then adopt those which hold promise and reject that that do not work. The second key concept is co-development by which innovations are collectively evolved (Hippel, 2005). Innovation systems rarely function with only one source of new ideas. Rather the existence of multiple sources of novelty and the existence of actors capable of recombining such ideas into useful prototypes is key. The greater the linkages of the innovation system of a value chain to relevant actors, the higher the probability that useful new ideas will emerge. In the case of agricultural-based value chains, this means developing linkages far beyond the specific set of chain actors that include other similar chains or relevant experiences globally. An innovation system that is not continually in touch with new thinking and ways of working will eventually stagnate.

The combination of policy shifts by multiple actors and the establishment of functional innovation systems are two key shifts that need to occur to support the development of successful value chains in CAFTA-DR. A rapid evolution from models that seek individual benefit to those that seek systemic efficiencies and the establishment of spaces for collective learning and action among regional actors is
critical. Baring this kind of a shift by all actors, CAFTA-DR faces the risk of an eroding competitive position as other producers of goods and services adopt similar approaches globally.

6. Conclusions
Market conditions for CAFTA-DR countries are moving rapidly. The implementation of the CAFTA-DR agreement does not affect the fundamental sea changes occurring in global retailing but it does provide a useful regional rallying point for needed changes and investments. If the region as a whole proposes to stay in the global retail game rather than losing competitive position, significant decisions and investments are required from a range of actors. The starting point is a mental shift from a supply chain model that focuses on cost competitiveness to one of value chains where systemic competitiveness is the name of the game. Complementary work is also required on organizational issues, technology, risk management and, principally, in learning how to work more effectively across sector and organizational boundaries.

The implementation of meshing policy decisions across a range of actors is called for, as is the establishment of regional mechanisms to promote innovation systems. Part of this process will require politically difficult decisions in terms of what sectors are most viable for CAFTA-DR towards the future and how to recompense those that are not selected. To advance in this direction, CAFTA-DR countries and relevant donors would be advised to clearly define how their policy objectives for economic development and poverty reduction fit together, what can realistically be achieved and what needs to be reassessed.

One specific action that can be undertaken is the establishment of regional innovation systems focused on critical sectors. This effort must involve the state as well as donors, development NGOs, research capacity and the private sector and could build on models available elsewhere. CAFTA-DR and other regional integration initiatives could work as umbrella platforms for this kind of initiative.
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