

# Integrating informal actors into the formal dairy industry in Kenya through training and certification

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## Abstract

*This paper reviews current thinking on the role of informal agribusiness in pro-poor development, and reports on the example of a recent dairy development project (the Smallholder Dairy Project) in Kenya. The project featured collaborative and participatory research, along with training and certification in milk handling practices as a practical mechanism optimizing milk quality and addressing regulatory barriers. It also targeted and helped achieve policy change, which enabled wider piloting of the training and certification activities incorporating a business development service approach by national authorities. Substantial welfare gains were achieved, as demonstrated in a recent impact assessment reviewed in the current paper. Current extensions of the project are described, and subsequent work outlined. Coherence with received wisdom is discussed along with future research topics.*

## Introduction

Throughout the developing world, informal or traditional agro-industry is the dominant avenue for delivery and processing of smallholders' products. It is also the principal food source for the great majority of poor consumers. It employs very large numbers of people as traders and service providers. However, agro-industrial policy has historically promoted "development" almost synonymously with the displacement of the informal sector by a formal sector featuring capital-intensive production and marketing, and the associated scale of operation. Second, support to collective action and services has addressed smallholders' needs largely by mimicking the organizational requirements of large-scale production. Other policy concerns, such as public health and municipal planning, have further selected against informal agribusiness, and livestock's informal agro-industry has been particularly targeted in this regard. Vested interests at several levels of formal agro-industry and government tend to reinforce policy bias against its informal counterpart. The basis for more widespread agro-industrial development has thus been stultified or left without policy support.

The objectives of this paper are to present dairy policy change as a means of addressing poverty, and to illustrate this with examples from interventions in the Kenyan informal milk industry that ensued. Interventions employed include training and certification associated with the delivery of improved product quality throughout the value chain. The paper argues that poverty alleviation is well served by recognizing and embracing informal agro-industry and its gradual transformation into a formal one. Further, it will present evidence that the informal dairy industry is capable of recognizing and responding to consumer demand for quality, particularly for safe food. Based on recent impact assessment, it presents evidence on welfare impacts when unjustified policy barriers are removed, and when price alone becomes the basis of competition.

This paper has seven parts. In the following section, poverty as a central theme in the agricultural development discourse is briefly reviewed. Informal agribusiness is then profiled as a substantial economic and social engine of poverty alleviation and associated pathways out of poverty. The third section profiles the Kenyan dairy industry and the fourth presents the Smallholder Dairy Project (SDP). The fifth section describes the impacts of the SDP and presents recent analyses. The sixth lists the lessons learned and the final section reviews consequential extensions and developments, and presents conclusions.

## Background

The goal of poverty alleviation achieved prominence within agricultural sector development programs only at the beginning of the last decade, by way of the UN's declaration of 1996-2007 as the Decade for the Eradication of Poverty. This was accompanied by the use of Poverty Reduction Strategy Papers (PRSPs) as the basis of lending by the World Bank and International Monetary Fund, and since 1999 the establishment of eradication of extreme poverty and hunger in the eight Millennium Development Goals (MDGs), agreed in 2000.

Causality leading from economic growth to poverty reduction has been questioned. This led to identification of forms of growth that are "pro-poor", by way of their entailing a reduction in food prices, or alternatively being strongly based in investment and employment by the poor according to fundamental issues of resource endowment and allocation (UNDP, 1997). More

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recently, the 2008 World Bank Development Report cites evidence that investment in agriculture is critical to the process of ensuring a decline in poverty, and that the poor's involvement in markets offers pathways out of poverty at the household level. Barrett (2008) identifies non-participation in markets as a rational choice by households characterized by scarcity of certain resources and inputs, and facing barriers to market entry at a number of levels. While welcoming market participation as a mechanism for pro-poor development, the World Bank (2008) proposes several relevant mechanisms: households' orientation may be toward employment in processing and service provision for the agricultural sector, or conversely exit from the sector altogether, along with production and sales by entrepreneurs. Hence, the role of the value chain in poverty reduction is complex and is deserving of further research.

Before the MDGs, it had been noted that livestock programs had – with few exceptions – little impact on the poor (LID, 1999). However, few were designed to do so: they typically aimed to increase aggregate national production of livestock products. Most were focused on cattle and promoted technologies (e.g., industrialized dairy) and associated institutions that were often intrinsically inappropriate to local situations (de Haan et al., 2001). Failure to reach poor producers in this context was therefore unremarkable. However, interest in pro-poor livestock development has since grown, and livestock-oriented development portfolios have diversified their approaches in acknowledgement of past failures and in recognition of growing evidence with respect to the importance of livestock in the livelihoods of the poor. Aside from the World Bank-sponsored PRSPs, an increasing number of international agencies and projects are now looking at livestock-mediated poverty alleviation more favorably (see Ashley et al., 1999; Dolberg, 2001; Ahmed 2000; ILRI, 2003; and IFAD, 2004).<sup>3</sup>

The great majority of such systems operate within the informal sector, featuring smallholder production, small-scale trader accumulation and distribution, and small-scale processing and retail. A new sphere of development effort targets the informal sector's capacity and performance (e.g., see FAO, 2007), little of which is concerned with its connection to the large-scale formal sector. Although supermarket-type retail development and export of selected high-value crops to the North are playing

a part, they remain a very small part of the larger picture of the reliance of the poor on agriculture in Africa and less advanced developing Asian countries (Tschirley et al., 2004; Humphrey, 2007).

The informal sector is frequently addressed as a set of problems and opportunities confronting urban development, in association with urbanization (FAO, 2003). However, extending into the countryside and with so many poor people depending on the informal sector, its recognition and embrace by policy, institutions and services are being promoted in poverty reduction (Morrison, 1995). There is ample evidence that participation in the informal sector particularly favors welfare generation for women (Ahmed, 2000; Broutin and Bricas, 2006), and some marginalized social and ethnic groups (Simon, 2000). However, besides possibilities of better nutrition, impacts on children may be less favorable, and the informal sector is reckoned to be unattractive as a career for aspirant youth in many cultures (Simon, 2000). There are indications that the informal sector can deliver pro-poor growth at both extremes of the economic cycle: providing jobs and cheap food in recessions or during conflicts (Yasmeen, 2001), and serving growing demand among the poor in boom times (Simon, 2000).

It should be noted, however, that some researchers identify the former effect as a survival impact and shed doubt on the latter effect due to agents' observed lack of skills and barriers to market entry (Lugalla, 1997). Moreover, the extent to which the informal sector competes with the formal, as well as the opportunities for synergy, have not been well explored (Varcin, 2000). Muller (2004) identifies a need for strong leadership by government in ensuring the informal sector's performance in resource allocation *à la* competitive markets. Despite significant statistical shortcomings [not the least of which are the definitions of the constituent parts of the informal sector (Muller, 2004) and their cross-tabulation with sector, gender, employment, and industrial data], some of these hypotheses were tested in a systematic way by Charmes (2000), who delivered both mixed and limited conclusions. To the extent of the authors' knowledge, no similar research has been done in the ensuing period.

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<sup>3</sup>Current ILRI work in partnership with the World Bank seeks to clarify the linkages amongst market participation, poverty and project/program design (further detail is available from the authors).

## Kenyan dairy

The structure of the Kenyan dairy industry is dictated largely by demand patterns. At over 100 kg/caput per year, Kenyans consume more milk than almost anyone else in the developing world<sup>4</sup>, and much of this is in liquid form (Sevo, 2008). Recent efforts by government and non-governmental agencies to promote milk consumption in all forms and increasing urbanization appear to be contributing to more sales of other forms, such as yoghurt and cheese, but the proportion represented by these is still small. Although dairy in most African countries is characterized by a patchwork of formal and informal market linkages (Ahmed et al., 2004), smallholders and informal raw milk market channels dominate the supply of marketed dairy products in Kenya. Imports and exports are negligible.

The line between what is considered “informal” and “formal” is often blurred. The term “informal” was coined originally to refer to people operating outside the law (particularly to avoid taxation), but it now commonly refers to small-scale traders operating legally (often with licenses) as well. In the dairy sector, “informal” refers to traders at variance with widely accepted international norms that emphasize cold-chain organization and pasteurization of marketed milk prior to sale. They may or may not have legal status, depending on the specific policy environment. Using this definition, an estimated 86% of all Kenyan milk sales are of this origin, while milk that reaches consumers after pasteurization and packaging accounts for just 14% in the early part of this decade (Omore et al., 2004a, b).

Although livestock numbers are uncertain in the absence of a recent census and due to political upheaval, it is estimated that 1.8 million cattle producers are involved in milk supply, most of whom keep 1-2 dairy cows and their replacements on small land areas (less than 2 ha).<sup>5</sup> Marketed milk reaches retail points via several routes: direct milk sales from producers to consumers (42%) and from dairy farmer groups (24%), with the remainder sold via some 40,000 small-scale milk traders.

The policy and institutional approach to such informal sector dominance has pre-occupied Kenya’s public officials and other dairy stakeholders for the past decade: dairy’s management and performance have been one set of concerns; another has been the vested interests of large firms in the formal sector.

Key opposing forces constituted on one side the few large and highly capitalized, highly organized, and well-connected producer-processors selling higher-priced milk, and on the other the myriad poor, often part-time, haphazardly organized, voice-less small-scale producer-traders selling lower-priced, raw unprocessed milk. Public health concerns were thrust to the fore: competition for market share between the two groups appeared to rest not on the basis of price differences, but on perceived differences in quality and safety. Sparse evidence supported these concerns, but those wishing to influence policy employed them widely.

## The Smallholder Dairy Project in Kenya

Changing mindsets regarding milk from the informal sector, based on scientific evidence, was the key focus of the Smallholder Dairy Project (SDP), with the goal of catalyzing pro-poor policy shifts<sup>6</sup>. SDP was initiated in 1997 as a collaborative project between ILRI and research and development partners in Kenya, with funding from the UK Department for International Development (DFID). It was initiated as an integrated research and development project aimed at the sustainable development of Kenyan smallholder dairy. Key areas proposed for SDP research and development activities included: detailed characterization of the sector, from production to consumption and including the policy environment; analysis of factors constraining competitiveness of smallholder dairy farmers; analysis of social and economic benefits from smallholder dairy production; and testing of milk products’ quality and identification of factors affecting public health. There was to be participatory development of improved technologies for farmers and traders, together with dissemination of extension and training materials, and a spatial analysis of dairy systems for improved targeting.

However, during its life the focus of the project shifted, in particular towards supporting change in the policy and institutional environment, in order to better support dairy-dependent livelihoods. During its three phases, the project moved from a focus on development of “best-bet” technologies to overcome farmers’ problems and to improve their livelihoods (Phase 1) to their uptake across a broader geographic area (Phase 2). An evaluation indicated limited potential impact would

<sup>4</sup>SDP Brief 1 and 10, [www.smallholderdairy.org](http://www.smallholderdairy.org)

<sup>5</sup>SDP Brief 10, [www.smallholderdairy.org](http://www.smallholderdairy.org)

<sup>6</sup>See [www.smallholderdairy.org](http://www.smallholderdairy.org)

be achieved through a focus on technologies. Detailed studies initiated during this phase to assess milk-borne public health risks weighed against benefits such as income and employment generation formed the basis of the development of a strategy for the reform of dairy policy (Phase 3). An example of behavioral findings that were far-reaching was evidence relating to consumers' predisposition to boiling milk before consuming it.

Because public health risks associated with informal milk markets were demonstrated to be exaggerated, Phase 3 saw more active

engagement with policy, particularly the need to allow small-scale milk traders or vendors (SSMVs) to be licensed. In an effort to change entrenched mind-sets, practical procedures to raise milk quality were demonstrated. A pilot program to train and certify SSMVs in basic milk testing, hygiene and handling using a new model of business development services (BDS) (see Box 1) was initiated with the active involvement of the regulatory authority, the Kenya Dairy Board.

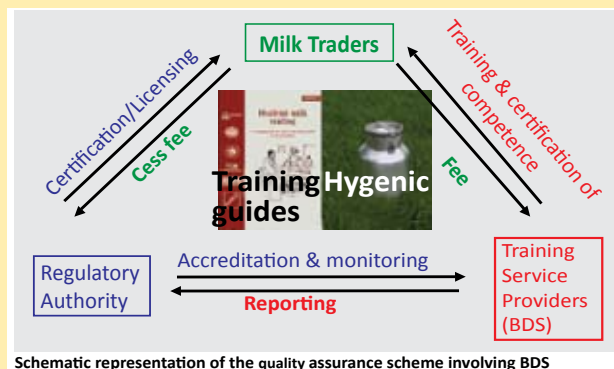
**Box 1. The training and certification intervention using BDS**

The key components of the quality assurance pilot scheme involving BDS were:

**Accreditation of BDS providers:** The involvement of BDS providers in training and provision of other services was factored to ensure the sustainability of the intervention. Selected providers were assisted to provide their services for a fee, following their accreditation by a committee established to work on behalf of the KDB and induction on how to conduct the training of traders using approved training manuals and guidelines on milk quality control and entrepreneurship. Once inducted, a public promotion campaign to stimulate demand for the BDS services was mounted. The BDS providers were empowered to issue certificates of competence in milk handling to trained milk traders on behalf of the KDB, and to report their activities regularly to the regulatory authority.

**Training of milk traders:** The training covered basic principles of hygienic milk production, milk handling and simple milk quality tests such as organoleptic, clot-on-boiling, alcohol and lactometer tests as elaborated in approved training guides. The guides include messages that reinforce the current common consumer practice of boiling raw milk prior to consumption because milk-borne pathogens, such as *Brucella*, can only be eliminated through appropriate heat treatment. Importantly, each training guide incorporates relevant information to pass on to suppliers of milk, thus ensuring improved quality of the milk traded along the whole chain. This is the compulsory component of the training. Additional skills imparted on demand include: business/entrepreneurship skills, mastitis testing, reproduction and animal feeding. All training and other services are provided at a fee to the BDS provider.

**The role of the regulatory authority:** In line with current legislation in Kenya, the KDB is empowered to register and license all traders in the dairy industry. An important criterion for issuing licenses is milk quality management, given high perishability of milk and potential zoonoses that can be passed through milk. The regulator therefore has a central role to play in mainstreaming the informal sector because hygiene standards and milk-borne health risks are usually a concern. The role of the KDB in the intervention was quality assurance by monitoring both the compliance of accredited BDS providers to approved trainers' competence level and compliance of certified milk traders to approved minimum standards for milk handling. KDB revised its previous rigid licensing requirements to pave way for the implementation of this new approach to service delivery.

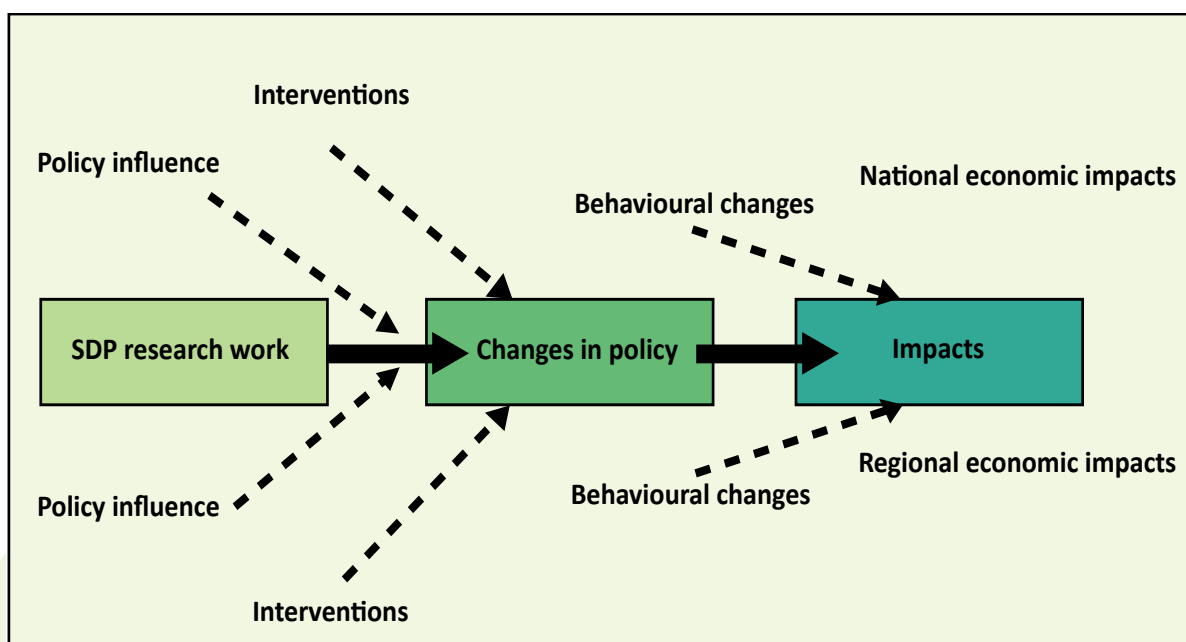


Schematic representation of the quality assurance scheme involving BDS

## Impacts of the SDP

The research evidence generated and widely disseminated soon crystallized a “milk war” between those representing the formal dairy sector and those advocating practical mechanisms for bridging the regulatory gap and gradually transforming the informal milk market into a formal one (see details in Box 2). The SDP has been identified as one of the rare, highly collaborative research and development projects that achieved significant impacts mainly due to a between-phase shift to address policy constraints (Leksmono et al., 2006; Kaitibie et al., 2008).

Attribution of changes in poverty amongst participants in the Kenyan smallholder dairy sector, and in their empowerment and social advancement, to specific SDP interventions is difficult partly because this was not specifically monitored. We assume, however, that income correlates with poverty. Much of what follows draws on work by Kaitibie et al. (2008), which employed the impact pathway presented in Figure 1 in an ex post analysis: essentially linking research to impacts via changes in policy.



Source: Kaitibie et al., 2008

Figure 1. Pathway of research outputs to impacts

## Box 2: The “Milk War”

In December 2003, the Kenya Dairy Processors Association (KDPA), a coalition of milk processors and TetraPak (a packaging manufacturer), launched a “Safe Milk Campaign” against the SSMVs, using television, radio and newspaper advertisements and leaflets. While planned and funded by these private companies, the campaign was officially sponsored by the KDB and the Ministry of Health, and therefore perceived to be supported by government. The campaign was also co-funded by Land O’ Lakes. The campaign’s message was that the consumption of raw milk was dangerous. The informal milk traders were portrayed as criminals who added potentially dangerous substances to preserve or increase milk volumes in order to boost their profits. It was widely thought that the intention of the large processors in launching this campaign was to stamp out what they regarded as their “unfair” competitors – the SSMVs. The processors, however, argued that their intention was to warn consumers of the potential dangers of consuming raw milk. The campaign flagged public health concerns, especially zoonotic diseases such as brucellosis and tuberculosis. The processors claimed it was their corporate duty to warn consumers.

With its negative portrayal of informal milk traders as criminals, and the inaccuracy of the information released, the campaign was recognized by SDP and its civil society organization (CSO) partners as being potentially extremely damaging to large numbers of poor peoples’ dairy-dependent livelihoods. As a result, the CSO partners, Institute of Policy Analysis and Research (IPAR), ActionAid Kenya, Intermediate Technology Development Group (ITDG) East Africa and Strengthening Informal Sector Training and Enterprises (SITE), supported by SDP, held a press conference on 3rd December 2003 to contest the campaign. They issued a press statement using SDP evidence to show that the claim that informal milk traders adulterated milk was not true. They also used SDP evidence to show that unsubstantiated health concerns were likely to reduce overall milk consumption, reduce health benefits to low-income customers and destroy hundreds of thousands of farmers’ and traders’ livelihoods. The CSOs also raised the point that there was a need to engage with the SSMVs because of their substantial role in the milk market and the potential for job creation for the rural poor.

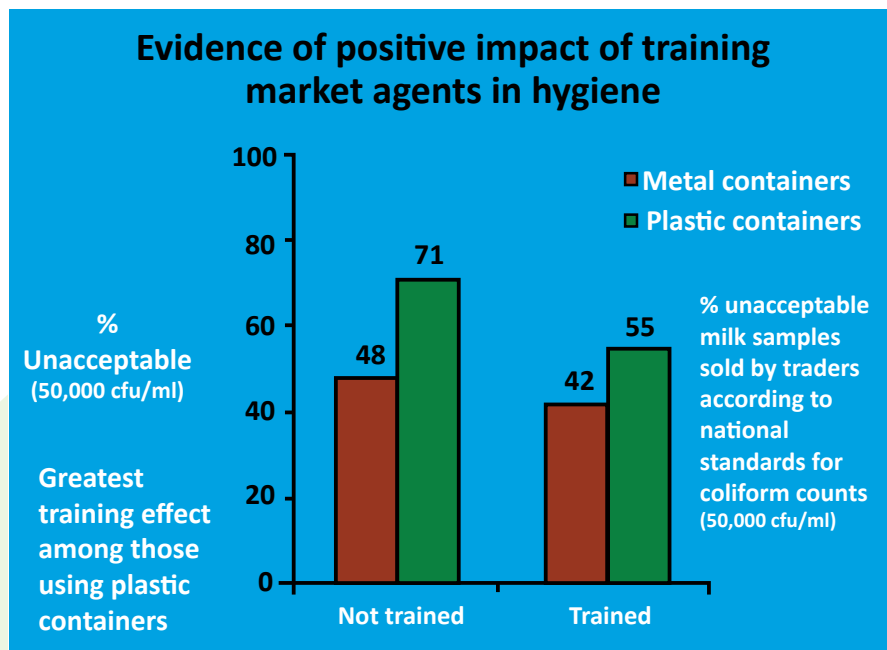
Core partner organizations implementing SDP, although actively engaged in the process leading to the press statement, were procedurally constrained from playing a leading role in policy advocacy processes, because of the institutions’ mandates. This awkward position left SDP unable to be directly involved in advocacy activities aimed at influencing policy, although the log frame required them to deliver on a policy change.

This press statement started what became popularly referred to as the “Milk War”, as the KDB and the processors tried repeatedly to challenge the CSO partners’ statement. But they were unable to produce any evidence to back their claims, while the robust evidence from SDP strongly supported the CSOs’ arguments. During the period of the Milk War, from December 2003 to March 2004, the newspapers were full of debate as the views of the opposing sides were put forward. The public also voiced their opinions, which mostly supported the CSO partners’ views. In the end, the processors decided to withdraw the Safe Milk Campaign, most probably because they saw the potential for negative publicity backfiring on them. In spite of the withdrawal of the campaign, the debate in the newspapers continued right up until the time of the Dairy Policy Forum in May 2004.

As a starting point, it can be authoritatively argued that Kenyan dairy policy and its evolution over the last 4-5 decades has had significant impact on the poor by way of production increases. Growth of dairy cattle numbers (pure exotic or crosses with local breeds) increased from 400,000 in 1961 to a current 6.7 million<sup>7</sup>. Kenya has become the dominant dairy producer in Eastern and Southern Africa, with over 70% of those regions' dairy cattle (Muriuki et al., 2003; Muriuki and Thorpe, 2001). Although the distributional impacts of policy changes over the years are unknown, it has been argued that poverty has been widely alleviated through dairying due to the dominance of smallholders and SSMVs in production and marketing over the years.

Shortly after the policy change in September 2004, KDB – with the support of SITE and funding from DFID's Business and Marketing Services Development Project (BMSDP) – embarked on a wider pilot of the scheme proposed under SDP. It is this intervention that is at the core of the benefits that Kaitibie et al. (2008) have documented (see Figure 3). As under SDP, the positive impacts of the scheme piloted by KDB on milk quality were demonstrated. These included significant increases in the proportion of traders adopting milk testing methods that they had been trained to use, among other associated benefits.

Assessment of impacts identified and measured by Kaitibie et al. (2008) entailed tracking the components of policy change



Source: SDP Policy Brief 4

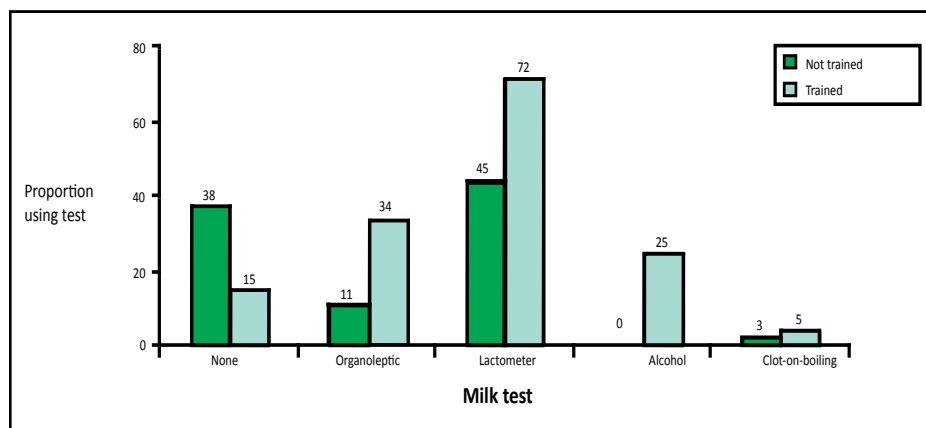
**Figure 2. Comparison of quality [coliform counts (50,000 cfu/ml)] of milk samples from untrained and trained traders using metal and plastic containers**

The method used by Kaitibie et al. (2008) maps the changes in policy back to research findings and dissemination activities under the SDP, revealing a very close correspondence. At the core of the evidence that precipitated mind-set and policy changes was the testing of a quality assurance approach involving training and certification of small-scale milk traders under SDP, which was shown as a practical mechanism for improving milk quality (Figure 2).

precipitated by the above interventions and measuring their likely effects. Attribution was then achieved by establishing a counterfactual scenario, i.e., the situation likely to have prevailed in the absence of policy change, which was established by way of interviews with stakeholders. The conclusion was drawn that without SDP, key policy changes would have been delayed 20 years.<sup>8</sup> The policy changes tracked include behavioral aspects of enforcement and compliance, and the associated impacts on transaction costs. These are in turn linked to price and margin changes, and eventually to welfare (see Table 1).

<sup>7</sup>SDP Brief 10, www.smallholderdairy.org

<sup>8</sup>This was tested by a series of sensitivity analyses.



Source: ILRI 2006.

Figure 3. Use of milk testing methods by milk traders

Table 1. Impacts of SDP identified and measured

Change	Impact	Mechanism
Behavioral change among regulators	Engagement of SSMVs by the regulatory framework, and subsequent compliance	Traced to September 2004 in response to SDP
Market margins and volumes	SSMV's margins declined, but profits rose as a consequence of increased volumes, implying an increased speed of turnover of milk.	Response to deregulated trading environment
Welfare	Increased welfare for all chain actors, particularly producers and consumers.	Higher prices, for higher volumes, are paid to producers, while consumer prices have fallen (relative to the counterfactual)
Corruption and related matters	Reduced payments due to corruption, and an enhanced social standing for SSMVs.	Engagement of SSMVs significantly reduced incidence of bribery in association with market access.

Source: Kaitibie et al. (2008)

Within-chain impacts of the SDP, dynamics and sustainability of the welfare impacts, and deep implications of the different regional impacts revealed in the study, have all been deferred to future work. However, further impacts of SDP beyond the boundaries of the project have been identified. In addition, the changes in Kenya have had important regional knock-on effects, within the context of the Association for Strengthening Agricultural Research in Eastern and Central Africa's (ASARECA's) Policy Analysis and Advocacy Program on rationalization and harmonization of dairy policies in Eastern and Central Africa (ASARECA, 2007). The ASARECA program has been working with dairy regulators from Kenya, Uganda, Tanzania and Rwanda to promote uptake of the new institutional approaches to transform informal milk markets in the region. In 2006, the efforts culminated in an agreement by the regulators from these countries on basic requirements to rationalize and harmonize

regional policy and standards, and to pilot the new approaches incorporating BDS, along the lines of the SDP in Kenya. The agreements emphasize the use of common training materials and approaches for capacity building of informal milk traders before their certification, which is to be recognized across borders in the region (ASARECA, 2007).

### Lessons learned

Key lessons from the SDP have previously been reported by Leksmono et al. (2006). Those authors emphasize the combination of practical demonstration with generation and dissemination of robust evidence through research, and the collaborative and participatory approaches that enabled these.

The collaborative and participatory approach acknowledged the centrality of stakeholder decision-making to the process



of change, and eventual welfare generation. This process, as advocated by Barrett (2008) and Lugalla (1997), addressed skills and barriers to market entry.

Impact evaluation identified the role played by markets in the generation of welfare to producers, as well as to other market participants as outlined in the World Bank's (2008) depiction of stakeholders' various orientations to the market. Within the smallholder dairy value chain, markets were harnessed in an additional manner, by introduction of a commercialized supply of training and certification in milk handling. In turn, this training and certification generated direct benefits to stakeholders and so enabled sustainability of the SDP's interventions.

KDB's leadership through broad piloting of the trader certification scheme confirms the contention by Muller (2004) that leadership by government is an important component of change. However, evidence generated by research was the basis of the willingness of authorities to consider such alternative approaches in order to meet local needs and conditions, despite departing from international norms. Hence the potential role of research, and its collaborative implementation and dissemination, was a lesson learned.

The key to enhanced impact through policy change was understanding the Kenyan political context. This was enabled by appropriate choice of project partners, and by identification of key items of information and emphasis that were required. Similar strategies enabled changes in regional-level policies.

## Conclusions, extensions, challenges

This paper identifies the informal agribusiness sector as fertile ground for the alleviation of poverty and for the targeting of vulnerable groups. A current example is examined in the form of the Smallholder Dairy Project in Kenya, which combined collaborative research with practical assistance at both individual (training) and system (certification) levels to influence policy. In turn, the policy change enabled market forces to deliver benefits to the poor, which then underpinned a sustained change process through business development service provision.

These achievements support much conjecture in the development literature about the centrality of markets, and access to them, for pro-poor development. Notably they cannot be separated from, and indeed rely upon, policy and institutional change – again as promoted in the literature.

Elements of the collaborative approach and training and certification in the SDP have been extended to a larger project across several East African countries, and to a project developing the informal dairy sector in Assam, India. Transfer of lessons into other informal commodity sectors in Africa and Asia is currently in design phase, embracing goats, beef cattle and pigs. The policy changes seen in the SDP have been adopted across the East African region.

Several research challenges remain. At a technical level, these include the improved definition and characterization of the informal sector beyond dairy as carried out early in the SDP. Such characterization is playing a major role in extending the SDP to other settings. At a policy and institutional level, the linkages between the informal sector and poverty reduction require examination, particularly among vulnerable groups and specifically in relation to market participation.

Re-examination of the exploratory work by Charmes (2000) on the informal sector is timely, and would ideally embrace the alternative uses of livestock, particularly those related to risk management. Following the World Bank's classification, this would ideally examine sales, employment and emigration orientations and their relevance to effective use of pro-poor development resources. ILRI is currently pursuing such a study in partnership with the World Bank. Tracking impacts over time, specifically throughout the economic cycle and by comparing and contrasting formal and informal sectors' persistence, performance and synergy, would be a further extension of such work.

In recognition of the importance of value chains in pro-poor development, chain development trends and drivers need to be identified with respect to stakeholder roles and the maximization of beneficial pro-poor impact of structural change. This requires improved methodologies for analysis of informal value chains, and is the subject of ongoing ILRI work with IFAD.

Identification of the means by which formal and informal sectors can co-exist, or preferably develop synergies, is a further research task. This recognizes the complex relationships between the sectors and the policy and economic drivers for their separate development. Pro-poor development actors must be informed of these relationships and the dynamics by which informal becomes formal, and vice-versa. Current ILRI work in southern Africa is examining the incentives surrounding the

efficient functioning of these linkages and their effect on welfare. Further work is needed to address the sustainability of such marketing systems in the light of examples such as SDP where certification and training were effectively endogenized in the pro-poor development process.

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