# Regoverning Markets

Small-scale producers in modern agrifood markets

# Agrifood Sector Studies

## Smallholder farmers' participation in restructuring food markets: The tomato subsector in South Africa (B)

Davison Chikazunga, Andre Louw, Leah Ndanga,Estelle Biénab

University of Pretoria

www.regoverningmarkets.org

# Smallholder farmers' participation in restructuring food markets: A case study of the tomato sub-sector in Limpopo and Mpumalanga provinces in South Africa

**Working Paper**

**Davison Chikazunga[1], Andre Louw[2], Leah Ndanga[3] and Estelle Bienabe[4]**

**Department of Agricultural Economics, Extension and Rural Development,**
**University of Pretoria,**
**South Africa**

*PhD Student:* Dept. of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria 0002 South Africa. E-Mail: dchikaz110@yahoo.com Tel: (+27 12) 420 5767 Fax: (+27 12) 420 4958

[2] *Professor & ABSA Chair in Agribusiness:* Dept. of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria 0002 South Africa. E-Mail: andre.louw@up.ac.za Tel: (+27 12) 420 5772 Fax: (+27-12) 420 3247

[3] *M.Sc. Student:* Dept. of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria 0002 South Africa. E-Mail: lzbndanga@tuks.co.za Tel: (+27 12) 420 4584 Fax: (+27 12) 420 4958

[4] *Post Doctorate Researcher*: Dept. of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria 0002 South Africa. E-Mail: Estelle.bienabe@up.ac.za Tel: (+27 12) 420 3251 Fax: (+27-12) 420 3247

**Regoverning Markets**
Regoverning Markets is a multi-partner collaborative research programme analysing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle- and low-income countries. The aim of the programme is to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of the dynamic changes in local and regional markets.

**Agrifood Sector Studies**
These studies look at specific agrifood sectors within a country or region. Research studies have been carried out in China, India, Indonesia, Mexico, South Africa, Turkey, Poland and Zambia covering the horticulture, dairy and meat sectors. Part A of the studies describe the observed market restructuring along the chains. Part B explores the determinants of small-scale farmer inclusion in emerging modern markets. Using quantitative survey techniques, they explore the impacts on marketing choices of farmers, and implications for rural development.

**The studies were coordinated by:**
Jikun Huang, Center for Chinese Agricultural Policy (CCAP), China (contact jkhuang.ccap@igsnrr.ac.cn)
Thomas Reardon, Michigan State University (MSU), USA (contact: reardon@msu.edu)

**Other publication series from the Regoverning Markets programme**

**Innovative Practice**
This series of country case studies provides examples of specific innovation in connecting small-scale producers with dynamic markets at local or regional level. Based on significant fieldwork activities, the studies focus on four drivers of innovation: public policy principles, private business models, collective action strategies by small-scale farmers, and intervention strategies and methods of development agencies. The studies highlight policy lessons and working methods to guide public and private actors.

**Innovative Policy**
These are short studies addressing a specific policy innovation in the public or private sector that improves the conditions for small-scale producers to access dynamic markets at national, regional and global level.

**Country Studies**
These provide a summary of market changes taking place at national level within key high-value agrifood commodity chains.

**Policy Briefs**
These are short policy-focused summaries targeted at each stakeholder group.

Further information and publications from the Regoverning Markets programme are available at: www.regoverningmarkets.org.

# Contents

# 1 Abstract

The first stage of the econometric model shows that location, education, farm size, access to greenhouse facilities, number of supply channels and ownership of a mobile phone are significant determinants of market channel choices among smallholder tomato growers in Limpopo and Mpumalanga provinces of South Africa. The second stage of the econometric model shows that market channel choice does not have an impact on incomes and technology use. The model results show that smallholder farmers in the study area need to invest in non-land assets such as greenhouse facilities and mobile phones in order to enhance their market channel choices. The model results also suggest that the presence of agribusiness firms in a region may stimulate market-oriented production among smallholder farmers. The overall results also points out that contracts and collective action among farmers may be key variables in securing smallholder farmers' access to modern markets.

**Key words:** Restructuring food markets, smallholder farmers, market channel choice

# 2 Introduction

Agriculture plays an important role in South Africa's economy. Primary agriculture accounts for 2.7 per cent of the country's GDP, but taking its backward and forward linkages with the manufacturing sector into consideration, the contribution adds up to more than 12 per cent (Louw *et al.,* 2007). South African agriculture is highly dualistic, comprising of a large-scale commercial sector and a large complex group of small-scale subsistence farmers. South Africa has the best performing agricultural sector in Sub-Saharan Africa, but the legacy of the apartheid regime's discriminatory policies means that the communal farming sector, where small-scale farming dominates, has not shared in this phenomenal success (Pote *et al.,* 2007).

The post 1994 market liberalization period has witnessed rapid agri-industrialization of the agricultural sector. There has been transformation of the agrifood markets in the country characterized by a rise in dominance of retailers and agri-processors. The restructuring process has been accompanied by increased concentration, changes in procurement strategies, introduction of private standards and consolidation of the production base. South Africa's food markets are now at an advanced stage of restructuring (Louw *et al,.* 2007), observed through consolidation, trans-nationalization and the emergence and disappearance of some supply chain actors (Louw *et al,.* 2007). The consolidation is also evident from the relatively high levels of concentration observable in food production, processing, wholesale and retailing systems. The restructuring or agri-industrialization of the agriculture sector has ensured a leaner and stronger agricultural industry, with farmers and agribusinesses being able to position themselves as players in a globally competitive environment (Louw *et al*., 2007). However this transformation process risks the exclusion of smallholder farmers from food markets (Kirsten & Sartorius, 2002).

The risk of exclusion is more pronounced among emerging small-scale black farmers as they are prone to multiple exclusion, firstly on efficiency grounds and secondly from institutional exclusion, largely as a result of the colonial legacy. They are faced with a number of challenges including a high degree of uncertainty, low profits, and a lack of ability to meet the ever-changing requirements brought about by new forms of agribusiness (Kirsten & Sartorius, 2002). Research in South Africa has shown that there are few black farmers who integrated into formal agribusiness value chains either for supermarkets or agri-processors (Sartorius & Kirsten, 2006). The majority of small-scale farmers still supply to traditional markets such as hawkers, bakkie traders and wet/open markets (Louw *et al,* 2007). These traditional markets are best placed to serve these small-scale farmers in remote areas because of their low transaction costs, relatively flexible prices and proximity to the farmer.

# 3 Research objectives and hypotheses

The central research question of this paper is "what are the determinants of the marketing channel choice for smallholder farmers?"

In addition to this, the paper also seeks to evaluate the impact of market channel choices on household incomes and technology use.

There are several underlying hypotheses to be tested;
Hypothesis 1 states that household characteristics (age, farm size, gender, education level) are significant in determining marketing channel choice for smallholder tomato producers.
Hypothesis 2 states that access to non-land assets such as greenhouses, packhouse irrigation knapsacks, tractors and mobile phones enables the inclusion of smallholder farmers in modern formal food supply channels.
Hypothesis 3 states that collective action is significant in determining smallholder farmers' participation in modern markets.
Hypothesis 4 states that market channel choices have significant impacts on incomes, technology use and input use levels.

# 4 Methodology

The study uses a two-stage econometric model to test the hypotheses stated in section 2. The household data used for estimating the econometric model was derived from a household survey of 345 small-scale tomato growers in the Mpumalanga and Limpopo Provinces of South Africa. The household units in the sample were split into two categories based on the main market channels which they supply their tomatoes to. The first category is made up of farmers who sell the major share of their tomatoes to modern market channels such as supermarkets, agri-processors and the National Fresh Produce Markets. The second category is made up of farmers who sell the biggest share of their tomatoes to traditional market channels such hawkers, bakkie traders and the local open markets.

A two-stage econometric analysis approach was used to determine factors which determine market channel choice. The first stage is a choice probit model[1] in which the dependant variable is market channel choice with a binary variable (zero [0] for traditional markets and one [1] for modern markets). The second stage model uses the ordinary least squares (OLS) approach for estimating the impact of market channel choice on incomes, fertilizer use, capital/labour ratio, return on capital inputs and labour inputs.

The first stage model is stated as:
(1) $M_k$= f (Incentive, Risk, Farm Size$_{t-n}$, Other Assets$_{t-n-}$ Policy Shifters, Other Shifters, IVs-M)

Where $M_k$ is the market channel choice, it is a binary variable (0, 1); IVs-M are the instrumental variables for market channel choice whilst t-n refers to lagged variables. In this context the variables were lagged by five years (to the 2001/2 season).

The second stage of the model estimates the impact of selected market channel choice ($M_k$) on input use such as capital/labour ratio, return to capital inputs and labour inputs.

The second stage model is expressed as:
(2) Y = f (Incentive, Risk, Farm Size $_{t-n}$, Other Assets $_{t-n}$, Policy Shifters, Other Shifters, Mk)

[1] The weighted data is explained in the data collection section.

# 5 Description of the econometric variables

This section gives a brief description of the variables, with a comparison between modern market channel farmers and traditional market channel farmers. Table 1 describes the variables on the right hand side of the equation, which are used in the model for both the first and second stages.

The household survey was conducted in two provinces, Mpumalanga and Limpopo. The Limpopo province is well known as a tomato production province as 70 per cent of tomatoes in South Africa come from here. Mpumalanga agriculture is largely dominated by fruits, grains and sugar cane, with a few pockets where tomatoes are grown.

There is no significant difference between the two groups for most of the variables except for farm size and non-farm income, which are significant at a 10 per cent significance level.

**Table 1: Variables description used in econometric model**

| **Variables** | **Description** | **Total (N=345)** | **Modern (N=85)** | **Traditional (N=260)** |
|---|---|---|---|---|
| Gender | Male-headed households | 59.4 | 63.95 | 58.30 |
| Age | Years | 54 | 55.13 | 54.22 |
| Education | Years | 8 | 7.62 | 8.20 |
| Labour | Number | 6 | 6.92 | 6.27 |
| Non-farm income | Amount/R | 2780 | 1645.17 | 3026.17 |
| Farm size | Hectares | 5.7 | 8.58 | 4.85 |
| Transport | % own | 32.0 | 22.0 | 23.0 |
| Packhouse | % own/hire | 8.1 | 2.33 | 10.00 |
| Greenhouse | % owners | 4 | 3.5 | 1.2 |
| Cooperative | % member | 45 | 41.00 | 29.00 |
| Supermarket proximity | % in 50 km radius | 47 | 48.00 | 47.00 |
| Processor proximity | % in 50 km radius | 15.0 | 20.0 | 13.0 |
| Training | % trained in agriculture | 40.7 | 33 | 34.9 |
| Extension | % access to extension service | 62 | 77 | 73 |
| Access to credit | % received credit | 9.3 | 8.8 | 8.9 |
| Market channels | Number of market channels sold to | 2.4 | 1.9 | 2.0 |
| Mobile phone | % owners of mobile phones | 67 | 73 | 76 |

# 6 Results

According to the results of the first-stage econometric estimation presented in Table 2; geographical location, education, farm size, access to greenhouse, number of supply channels and mobile phone ownership are significant determinants of smallholder farmers' market channel choices at a ten per cent confidence level.

**Table 2: Model results on smallholder farmer market channel choices**

| Market choice | Coefficient | Z | P>z |
|---|---|---|---|
| Location | -0.94 | -3.32 | 0.001*** |
| Gender | -0.18 | -1.02 | 0.309 |
| Age | 0.00 | 0.4 | 0.689 |
| Education | -0.04 | -1.62 | 0.106* |
| Training | 0.01 | 0.1 | 0.922 |
| Experience | 0.01 | 1.47 | 0.14 |
| Family size | 0.02 | 0.61 | 0.54 |
| Non farm income | 0.00 | -0.62 | 0.535 |
| Farm size | 0.03 | 2.24 | 0.025** |
| Green house | 0.67 | 1.93 | 0.054* |
| Pack house | 0.47 | 1.33 | 0.182 |
| Cooperatives | -0.23 | -1.03 | 0.303 |
| Extension | -0.10 | -0.49 | 0.627 |
| Transport | 0.19 | 1.12 | 0.263 |
| Credit | 0.05 | 0.15 | 0.884 |
| Supermarkets | 0.03 | 0.13 | 0.895 |
| Processor | -0.13 | -0.7 | 0.481 |
| Market channels | 0.26 | 2.86 | 0.004*** |
| Phone | -0.35 | -1.92 | 0.055* |
| _cons | -0.66 | -0.82 | 0.411 |

* (P<0.10) =10 percent significance level ** (P<0.05) =5 percent significance level *** (P<0.01) =1 percent significance level

Location is estimated using a dummy variable proxied by provinces in which the study was carried out. Location is significant at 1 per cent significance level, which means there is significant difference in terms of market channel choice made by farmers between these two provinces. These two provinces have distinct geo-economic and climatic characteristics with regards to tomato production and marketing. The Limpopo province is a tomato growing region and it is home to several tomato agri-processors and related agribusiness firms. Mpumalanga province however does not have favourable geo-climatic conditions for tomato production and it also has no agri-processing firms dealing with tomatoes. The explanation is that the presence of agribusiness and related infrastructure enables small-scale farmers to participate in modern market channels.

The education level of the household head is significant at a 10 per cent significance level. It is positively related to market choice, indicating that the more education a

farmer has, the more likely he/she is going to participate in modern marketing channels. It is expected that those farmers who have higher education levels can gather and understand production and marketing information so that they can adjust their production and marketing systems according to the supply specifications set by modern marketing channels.

Farm size is statistically significant at a 5 per cent significance level. This means that tomato growers with a larger area of land are more likely to participate in modern/formal marketing channels. The explanation for this is that farmers with relatively large land holdings have the capacity to increase their production levels such that they will be able to meet the quantity and consistency demands set by modern market channels such as agri-processors and supermarkets.

Access to a greenhouse is statistically significant at a 5 per cent significance level. This means farmers who own or have access to a greenhouse are more likely to participate in modern marketing channels. Farmers with a greenhouse are able to produce throughout the year and the temperature control technology allows them to grow quality tomatoes demanded by the modern markets such as supermarkets.

Attitudes towards marketing and price risk are proxied by the number of market channels to which a farmer supplies his/her tomatoes. The variable is significant at a 1 per cent significance level. This means that farmers who have a big market portfolio (supplying to more marketing channels) are likely to supply to modern/formal marketing channels with greater fixed price structures than the spot or traditional markets. Supplying to several markets is a risk mitigating strategy; however modern markets can reduce the price risk faced by farmers by offering supply or growing contracts to them.

Ownership of a mobile phone significantly determines market channel choice at a 10 per cent significance level. This variable is negatively related to market channel choice, which means that farmers in the study area with access to mobile phones are more likely to participate in informal/traditional marketing channels. The explanation is that farmers with mobile phones are more likely to have better access to informal traders especially cross-border bakkie traders, and therefore prior marketing arrangements are made through mobile phones before they procure tomatoes from the producers. A mobile phone also influences farmers' decisions on where and when a farmer may get updates on price information. Given that prices are relatively more flexible in traditional market channels, farmers with mobile phones tend to supply their tomatoes to traditional market channels

# 7 Impact of market channel choice on incomes and technology use

Several indices were used to determine the impact of market channel choice on income, technology and input use. According to the second stage model results, shown in Table 3, market channel choice has no impact on income from tomatoes or technology use (fertilizer use and technology mix indices). The geographical region, farm size, access to a packhouse and ownership of a mobile phone are significant determinants of income from tomatoes. Geographical region, gender, cooperative membership, farm size, utilization of extension, and access to credit are significant determinants of fertilizer use. Labour size and farm size are significant determinants for capital to labour ratio index, while farm size, access to a pack house and access to a mobile phone are significant determinants of capital to land ratio are.

**Table 4: Market channel choice impact**

| | **Revenue** | | **Fertiliser use** | | **Revenue to labour ratio** | | **Capital to land ratio** | |
|---|---|---|---|---|---|---|---|---|
| | Coefficients | P>t | Coefficients | P>t | Coefficients | P>t | Coefficients | P>t |
| Market choice | -156.1456 | 0.979 | -26.23 | 0.836 | -17.10 | 0.62 | 5377.41 | 0.26 |
| Location | -10745.84 | 0.261 | -223.65 | 0.276 | -83.32 | 0.13 | -1548.87 | 0.84 |
| Gender | 4955.06 | 0.337 | -139.49 | 0.208 | 28.26 | 0.34 | 1363.58 | 0.74 |
| Age | 58.32 | 0.78 | -3.90 | 0.383 | 0.33 | 0.79 | -18.49 | 0.91 |
| Education | 210.90 | 0.797 | -2.31 | 0.895 | -1.41 | 0.77 | 385.35 | 0.56 |
| Training | -113.54 | 0.972 | -128.14 | 0.063 | 29.13 | 0.12 | -1763.84 | 0.49 |
| Labour | 681.71 | 0.39 | 5.70 | 0.738 | -7.16 | 0.12 | 260.85 | 0.68 |
| Non farm income | 0.02 | 0.939 | -0.00 | 0.93 | 0.00 | 0.91 | 0.10 | 0.69 |
| Farm size | 1077.16 | 0.059 | 19.37 | 0.114 | 8.24 | 0.01 | -1674.62 | 0.00 |
| Cooperative membership | -5964.93 | 0.363 | 314.76 | 0.026 | -38.66 | 0.31 | 54.55 | 0.99 |
| Extension | -535.25 | 0.928 | -136.63 | 0.283 | 16.59 | 0.63 | 2865.94 | 0.55 |
| Transport | -6884.87 | 0.216 | 456.96 | 0 | -6.22 | 0.85 | -8757.61 | 0.05 |
| Credit | -16588.12 | 0.055 | 400.71 | 0.031 | -20.32 | 0.68 | -9181.48 | 0.18 |
| Price | -1797.24 | 0.841 | -22.467 | 0.907 | -71.20 | 0.17 | -4051.51 | 0.57 |
| Channels | -1325.62 | 0.724 | 70.51 | 0.383 | 0.94 | 0.97 | -2162.76 | 0.47 |
| Phone | 7592.82 | 0.209 | -205.73 | 0.113 | 19.82 | 0.57 | 11438.01 | 0.02 |
| _cons | 28029.05 | 0.238 | -120.75 | 0.813 | 203.65 | 0.14 | 24750.79 | 0.19 |

* (P<0.10)=10 percent significance level ** (P<0.05)=5 percent significance level *** (P<0.01)=1 percent significance level

## 7.1 Impact on income from tomatoes

The location variable is positively related to revenue from tomatoes at a 10 per cent significance level, which means that the income received by tomato farmers varies significantly between regions. This is expected as the areas in Limpopo are superior tomato-producing areas due to their geo-climatic conditions. Farm size is positively

related to total tomato revenue at a 5 per cent significance level. Farmers with large plots achieve economies of scale in production, which allows them to minimize costs and maximize profits. Access to a packhouse is positively related to tomato revenue at a 10 per cent significance level. This means that value addition through packing and sorting increases the income obtained by farmers from selling tomatoes. Ownership of a mobile phone is positively related to tomato revenue at a 10 per cent significance level. A possible explanation for this is that farmers with mobile phones are likely to obtain better prices, and as a result they will have higher revenues.

## 7.2 Impact on technology use

### 7.2.1 Fertilizer use

Location (geographical region) is positively related to fertilizer use at a 1 per cent significance level, which means that fertilizer use among tomato farmers varies significantly across the different production regions. This is expected due to the higher production potential of areas in Limpopo. Gender of the household head is negatively related to fertilizer use at a 5 per cent significance level, which means that female-headed households use higher levels of fertilizer than their male-headed counterparts. Membership to a cooperative is positively related to fertilizer use at a 1 per cent significance level. Farm size is positively related to total fertilizer use at a 1 per cent significance level. This means farmers who have access to extension advice are more likely to use higher levels than those who do not. Access to credit is positively related to fertilizer use at a 5 per cent significance level. This means that farmers with access to credit have use higher levels than farmers that do not.

### 7.2.2 Capital to labour ratio

Labour size is negatively related to capital to labour ratio at a 10 per cent significance level. This means that farmers in the study area use more labour and less capital in their tomato enterprises. However farm size is positively related to capital to labour ratio. This means that households with more land use more capital than labour in their tomato enterprises.

### 7.2.3 Capital to land ratio

Location is positively related to capital to land ratio at a 10 per cent significance level. This means that there is a significant variation in terms of input use (capital to land) across the different districts in the study area. However farm size is negatively related to capital to land ratio at a 1 per cent significance level. This means those households with larger farms are likely to use more land than capital in their tomato enterprises. Access to a packhouse is positively related to capital to land ratio at a 1 per cent significance level. This means that households with access to packhouses

(either by owning or leasing) are more likely to use more capital than land in their tomato enterprises. Access to a mobile phone is positively related to capital to land ratio at a 1 per cent significance level. This means those households with mobile phones are likely to use more capital to land in their tomato enterprises

# 8 Summary and conclusion

South Africa's food chains are transforming, characterized by modern markets replacing traditional markets. The transformation of agrifood markets is at an advanced stage, but despite providing opportunities for new markets it risks marginalization of small-scale farmers from agribusiness supply chains. The majority of small-scale farmers in South Africa are classified as subsistence farmers, with a few pockets of semi-commercialized production, especially for fresh produce commodities.

Small-scale farmers, or emerging farmers, have been victims of deliberate exclusions from mainstream agricultural markets. Given the rise of modern food markets together with changes in the procurement systems of these channels, there is a need to evaluate the determinants of smallholder farmers' participation in restructuring agrifood markets and whether smallholder farmers should work towards integrating themselves into formal food supply chains or not. Despite the perceived advantage of integrating into formal supply chains, the survey results show that the informal supply chains are relatively more beneficial for smallholder farmers.

The results of the econometric analysis show that the first two hypotheses of the study can be partially confirmed. The age of the household head and farm size are significant in determining smallholder farmers' market channel choice. However the household head's education level is not significant with regards to market channel choice. Based on the second hypothesis, only access to a greenhouse is significant in determining smallholder farmers' market channel choice. Access to packhouses, tractors and knapsack sprayers, and irrigation are not significant determinants of smallholder farmers' marketing channel choices.

The third hypothesis cannot be confirmed as collective action is not a significant determinant in influencing participation of smallholder tomato growers in modern market channels. However collective action has a negative impact, which is interesting to note as other researchers working on similar topic have concluded that collective action among smallholder farmers do influence participation in modern marketing channels (Huang & Reardon, 2008). The explanation for the direction of the relationship between collective action and modern markets is that cooperatives in the Republic of South Africa are usually a loose coalition of smallholder farmers driven more by social affiliations rather than business or economic motives.

Lastly the results of the second stage nullifies the fourth hypothesis, namely that market channel choice has no impact on income, technology and input use.

The forgoing study shows that emphasis should not only be placed on linking small-scale farmers to modern markets, but also to consider the role of traditional markets as alternative marketing options. Farmers should be linked to market channel choices that maximize their income given the different constraints ranging from production to transaction costs. The study results, based on the models identified, also indicate that there is a need for relevant stakeholders, such as the private sector and government, to support the establishment of agribusiness firms in rural areas to stimulate the transformation of smallholder agriculture. This should be preceded by the development of marketing institutions such as contracts for protecting farmers against price risks.

There is also need for farmers to invest in non-land assets, such as greenhouses, to enable them to attain the production thresholds which enable them to meet the quality, quantity and supply consistency set by the modern market channel farmers. Although the role of collective action in enhancing market access was not significant in this study, there is a need for stakeholders, especially civil society, to invest in building the capacity of small-scale farmers to act collectively to enhance their access to modern markets.

# 9 References

LOUW A, D CHIKAZUNGA, D JORDAAN & E BIÉNABE (2007), *Restructuring food markets in South Africa: Dynamics within the context of the tomato subsector*, Report Regoverning Markets Project, IIED, University of Pretoria.

POTE PETER P.T, A OBI & G.C FRASER (2007), *Technical Constraints to Smallholder Development in South Africa: Implication for Market Access and Food Chain Management.* Poster paper at the International Food and Agribusiness Management Association, Parma, Italy, June 23-26, 2007.

KIRSTEN, J & K SARTORIUS (2002), "Linking Agribusiness and Small-scale Farmers in Developing Countries: Is There A New Role for Contract Farming?" *Development Southern Africa.* Vol 17(4).

## Regoverning Markets

**Regoverning Markets is a multi-partner collaborative research programme analysing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle- and low-income countries. The aim of the programme is to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of the dynamic changes in local and regional markets. The programme is funded by the UK Department for International Development (DFID), the International Development Research Centre (IDRC), ICCO, Cordaid, the Canadian International Development Agency (CIDA), and the US Agency for International Development (USAID).**

## Agrifood Sector Studies

**These studies look at specific agrifood sectors within a country or region. Research studies have been carried out in China, India, Indonesia, Mexico, South Africa, Turkey, Poland and Zambia covering the horticulture, dairy and meat sectors.**
**Part A describes the observed market restructuring along the chains.**
**Part B explores the determinants of small-scale farmer inclusion in emerging modern markets. Using quantitative survey techniques, they explore the impacts on marketing choices of farmers, and implications for rural development.**

**The studies were coordinated by:**
**Jikun Huang, Centre for Chinese Agricultural Policy (CCAP), China**
**(contact jkhuang.ccap@igsnrr.ac.cn)**
**Thomas Reardon, Michigan State University (MSU), USA**
**(contact: reardon@msu.edu)**

DFID Department for International Development

Cordaid

ICCO

IDRC CRDI

USAID FROM THE AMERICAN PEOPLE

REGOVERNING MARKETS

www.regoverningmarkets.org