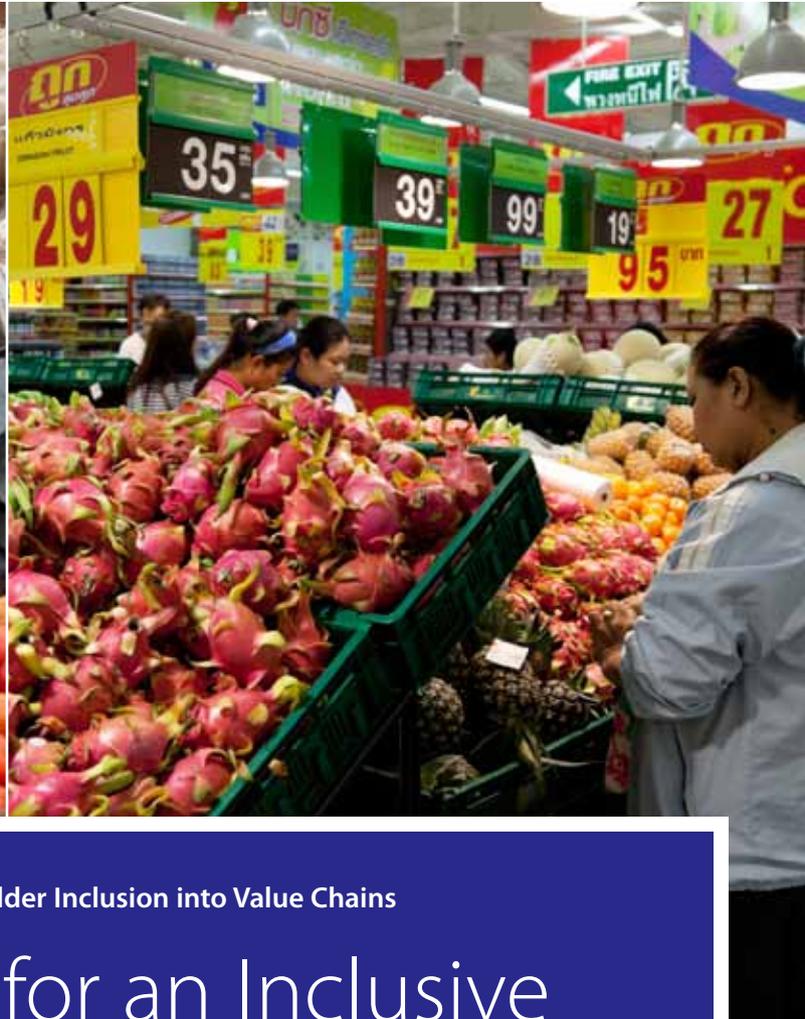




Rabobank



Co-operatives - a Key for Smallholder Inclusion into Value Chains

Framework for an Inclusive Food Strategy

Rabobank Group

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Preface

Global food security is a topic that is on the worldwide agenda of all organisations and institutions that care about the future of our planet and people. The challenge of doubling the food supply to feed slightly more than nine billion people in 2050 is a gargantuan task in an era of ever-increasing food demand and limitations in supply. The current reality of food security is that approximately one billion people worldwide are still suffering from hunger and malnutrition, and resolving this issue was consequently declared one of the United Nations' ten Millennium Development Goals in 2000. Rabobank accepts its responsibility in this area and is contributing to meeting this global challenge. We are, after all, a co-operative bank with roots in the Dutch agricultural sector with an aspiration to be a leading international Food & Agribusiness bank. In this UN International Year of Co-operatives, we are working as a partner of the UN to raise awareness of the role co-operatives play in building a better world in general and feeding the world in particular. There are multiple ways in which Rabobank contributes to providing access to affordable financial services through our international network in developing regions and activities in the global food value chain.

My observation from the Rabobank watchtower is that the business paradigm is currently transcending from a traditional narrow profit orientation towards a more holistic strategy, in which the contribution to environmental sustainability and basic standards for decent living conditions are incorporated into the 'return on investment'. This is accompanied by a shift in focus from an exclusive orientation on the business entity's interests towards recognition of broader interests in the global community. The latter shift is not a new development. In fact, it stood at the foundation of the historical co-operative movement. Co-operatives were formed on the basis of a common bond, such as that of farmers in a particular region or consumers who shared a common need. The world community is currently connected through global markets and information systems and is facing problems that affect people in every corner of the planet. Containing climate change and maintaining peace and stability have emerged as a new common bond that is felt from Asia to Latin America.

This Rabobank study focuses on the questions: 'Who will produce our food in 2050?' and 'How to make it happen?' It is a subject matter that has been researched intensively since the food crisis of 2007-2008. The conclusion has been reached that it will be possible to produce the additional food the world will need in 2050, but that it will be a mammoth task that will call for unconventional solutions and third order changes.

The current large-scale and hi-tech agriculture in developed regions (North America and the EU) will not in itself be sufficient to produce the additional food that will be required to meet the increasing food demand. While crop productivity in these regions appears to be reaching ceilings and the amount of agricultural land is decreasing, they will continue to be a crucial food source and serve as an indispensable source of innovation and entrepreneurship.

Emerging countries, such as China and India, will experience a sharp increase in the demand for food, but will also face increasing limitations with respect to land and fresh water. In contrast, large reserves of agricultural land are located in South America and Sub-Saharan Africa.

The hypothesis of this study is that the resolution of current and future imbalances in food supply is virtually inconceivable without tapping into the underused agricultural production potentials of existing small-scale farms in many developing and emerging economies. There are around 500 million smallholder farms in the developing world. They account for more than 95 percent of agricultural holdings and support around two billion people. These are the producers who feed up to 80 percent of the population in much of Asia and Sub-Saharan Africa. If the corporate world is to pursue a global food security agenda, it cannot ignore the role of small-scale farming systems. Moreover, an estimated 70 percent of the world's 1.4 billion poorest people live in the rural areas of developing countries.



The question therefore is: 'How do we make small-scale agriculture in developing and emerging regions, more efficient, market-orientated, profitable and environmentally sustainable so that it not only contributes to food security but also can spur economic growth in developing countries and lift millions out of poverty?'

This study would serve this wider purpose, if actors in the F&A sector would be encouraged to build elements of its analysis and recommendations into their sourcing strategies and business models.

I foresee a distinct role for Rabobank in this regard - not only as content provider, as financing provider to food value chains, but certainly also as content organiser: assisting farmers in developing countries with co-operatives and better access to financial services and participating in the value chains of F&A companies with farmers.

The basic premise is that food production must be a business and that value chain approaches can be employed to bring about smallholder inclusion. Smallholders, however, often lack access to affordable financial services, knowledge and education, information, land, water and fertilizers. They must therefore organise into closely-knit producers' organisations or, better yet, into co-operatives. Co-operation enables them to compensate for the disadvantages of the small scale and fragmentation of the production and to create a stronger united front.

I fully agree with the thesis that true change cannot be imposed from the outside. As a wise man once said: 'When change is cultivated from within, every tree and every plant will be able to root itself in its own soil and flourish.'

This study can serve as a stepping stone for Rabobank's efforts to address the challenges of including smallholders into the value chain and sustainable food production more effectively. It also serves to expand our network and activities aimed at providing access to rural financial services in developing regions in an integrated and effective manner in the coming decades.

Rabobank has, for example, observed that farmer producers' groups and co-operatives normally require a graduation trajectory towards commercial finance and will consequently offer successive finance instruments as they grow towards commercial scale and maturity.

Rabobank will furthermore help smallholders, even more than in the past, to establish their own local co-operatives as a means of helping to break the farm-low-income trap and to strengthen their links to markets and global value chains.

In addition, Rabobank will accelerate its activities within global food chains in which we are already extensively involved around the world. For instance, large agribusiness companies are aiming to source commodities in the future from small-scale farms in a sustainable and socially responsible manner and Rabobank will assist in bridging the gap between local, regional, national and international stakeholders and large and small-scale enterprises within the global food value chain.

In summary: Within the new vision for agriculture, Rabobank will play a distinct role in connecting the bottom and the top of the food pyramid in the decades to come.

Piet Moerland
Chairman of the Executive Board of Rabobank Nederland
CEO Rabobank Group

Abstract

In the coming decades, the food world is facing a daunting challenge to meet the needs of 9.3 billion people by 2050. Agriculture is not only expected to produce more food, but also more raw materials for biofuels, biochemicals and fibres. Nearly doubling current agricultural production with less resources (land, water and phosphate resources) in a manner that is both socially acceptable and environmentally sustainable seems to be a gargantuan task.

Stakeholders around the world are considering the crucial elements of a more holistic approach that meets the challenges of food security and responsible management of resources within a framework of inclusive business models. Resolving the current and future imbalances in food supply is virtually impossible without tapping into the underused agricultural production potentials of small-scale farms at the bottom of the pyramid. Taking this as a point of departure, many questions arise with respect to the way the transformation of smallholder agriculture can be realised and financed.

This study aims to address these questions, and elaborates on approaches and tools to unleash these underexploited food production potentials. Forging and sustaining effective linkages of smallholder farmers to the market is, however, a challenging endeavour with many obstacles along the way. Producers' organisations, in particular co-operatives, have been identified as crucial instruments to address these obstacles and to facilitate the process of value chain development and finance. Solid long-term supply arrangements are not conceivable unless they guarantee a competitive reward for producers in value chains, based on fair terms of trade and a long-term collaboration perspective.

There are various ways to increase food production, such as improving yield per hectare, cropping intensification, increasing arable land, reducing post-harvest losses, storage and transport losses, improving irrigation technology and reversing land degradation. However, achieving these gains in practice will require an exceptional level of collaboration among stakeholders in the agricultural value chain, including governments, companies, multilateral institutions and civil society organisations, farmers, consumers and entrepreneurs.

The food (business) world recognises that 'business as usual' no longer meets the global food requirements of the 21st century and is aware of the need to change course. Private sector partners operating in the F&A sector have repeatedly demonstrated that they are capable and willing to source from smallholders and take the lead in revitalising the entrepreneurial farm potentials at the bottom of the pyramid. But business cannot do it alone. A multi-stakeholder partnership and a shift towards a holistic food strategy are essential ingredients for making it happen.

The synthesis of this study is a framework for generation of food strategies that may help stakeholders along the food supply chain to design inclusive and sustainable business models, thus making themselves 'part of the solution' for one of the most pressing global issues in decades to come.

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1 Introduction

The food world is facing a formidable challenge to secure the global supply required to feed the world in 2050. Current global imbalances in food supply and demand are set to increase due to a complex of factors, including population growth, increasing wealth, dietary shifts to more animal proteins and a rise in urbanisation. Agriculture is not only expected to produce more food, but also more raw materials for biofuels, biochemicals and fibres. According to the Food and Agriculture Organisation, an estimated one billion people around the world are undernourished and the world population will grow by more than three billion by 2050. World agricultural crop output must almost double to nourish this growing population and to meet required non-food purposes. There will be acute pressure to use less water in order to feed this rising population. Water is at the heart of the global resource security challenge. As the world is heading for a projected 40 percent gap in the ratio of supply and demand of freshwater by 2030, water scarcity will have significant repercussions for agriculture, both agronomical and economical¹. Moreover, the food sector is becoming more interlinked to other sectors; an increase in energy prices will, for example, immediately lead to higher food prices. A continuing threat to global food security will slow economic growth, disproportionately hit the urban and rural poor (particularly those in low income countries), strain public finances and raise geopolitical tensions.

Various routes exist to increasing food production: improving yields per hectare, cropping intensification, reducing post-harvest, storage and transport losses, improving irrigation techniques, reducing land degradation and food waste. The hypothesis in this study is that the resolution of current and future imbalances in food supply is virtually inconceivable without tapping into the underused agricultural production potentials of existing small-scale farms in developing countries. Around 85 percent of farms worldwide are less than two hectares and this category of farm holdings accounts for about 80 percent of farmland in many Asian and African countries. Moreover, smallholders produce up to 80 percent of food consumed locally in these continents.

While smallholders have been targeted by government and donor programmes in the past decades in developing countries, they have largely remained outside the domain of self-propelled commercial

development. The focus of this study is therefore on the unexploited food production potential of small-scale agriculture in low and middle income countries².

Obstacles for linking smallholders to markets and integrating them into value chains do exist. Small farms face major disadvantages with respect to accessing modern market supply chains. These disadvantages include low volumes of produce to sell, variable quality, high transaction costs, poor market infrastructure and limited ability to meet the high credence requirements of many high value outlets. This stands in sharp contrast to conventional business drivers of food supply, such as stringent product standards for quality and consistency, economies of scale, global sourcing and competition. Bridging these two worlds is a precondition for smallholder inclusion. An increasing number of experiences/pilots in developing regions with smallholders have been done or are in progress from various international F&A companies, including Unilever, Nestlé, DANONE, Friesland Campina, Heineken, Cargill, Rijk Zwaan, ADM and MARS. The good news is that an increasing number of case studies confirm that smallholder inclusion has positive effects in terms of productivity and gross revenues. A first-of-its-kind case study of the oil palm industry (Levin, 2012) shows that smallholder inclusion is not only sustainable, but also profitable. Agricultural commodity research³ confirms that inclusion of smallholders in dairy, cocoa, coffee, aqua-culture and horticulture has effects in terms of increasing the number of smallholders, productivity and gross revenues. A number of case studies on business models for smallholder inclusion show positive effects (such as cases prepared for the Seas of Change event⁴, 2012), including business interventions to achieve social impact, financial

1 Most countries of the world do not price agricultural water. However, if water attracted an average global market price of USD 0.10 per cubic meter, water would account for an estimated 20 percent to 40 percent of the cost of major cereals and meat.

2 According to the list of countries of the Development Assistance Committee (DAC-OECD) which are recipient of official development assistance (ODA).

3 Fact sheets of various commodities, working documents prepared for Wageningen UR Centre for Development Innovation, Wageningen (2012).

4 Source: www.seasofchange.net

sustainability and scale (BoP Innovation Center, 2012). However, most cases or pilots of smallholder inclusion are supported and subsidised by the public sector and civil society, or are CSR-driven by the private sector.

The private and public sectors are increasingly aware of the new reality of future global food security, as is reflected in commitments made at both the WEF (2011 and 2012) and G20 in Cannes (2011). It has been concluded that a new vision for agriculture is needed in order to unleash the underexploited potential at the bottom of the food pyramid. This new resolve of the food world puts the critical role of agriculture and rural economy as the national breadbasket and engine for sustainable growth on the priority list of the global developing agenda.

This Rabobank study is based on literature study and aims to identify new opportunities for increased food production, with a focus on smallholder inclusion in the value chain. Most publications, however, focus on an certain aspect of smallholder inclusion and lack a holistic approach that incorporates the role of producers' co-operatives and financing. This study should be seen as a contribution to achieving global food security in an environmentally sustainable and social responsible way by providing a framework for stakeholder inclusion in value chains.

1.1 Aim, scope and outline of the study

Changing course: The food (business) world recognises that 'business as usual' no longer meets the requirements of the 21st century. The reversal of the long-term decline in real agricultural prices into steep increase, higher price volatility, recurring food shortages and famine since the food crisis of 2007-2008, as well as slowing growth in traditional supply regions and rapidly changing market conditions, has raised awareness for the need to change course. Stakeholders around the world are considering the crucial elements of a more holistic approach that meets the challenges of food security and the requirements of environmental sustainability within a framework of viable business models for the long term. Solid long-term supply arrangements are not conceivable unless they guarantee competitive rewards for the producers in the chain. While strong producers' organisations may lead to tougher negotiations with chain partners, they are an effective means to secure adequate farm income, while facilitating growth of production, yields, product quality and related farm investments. Therefore, in the long run, effective organisation of smallholder farmers is not only in the interest of all chain partners, it is a vital condition for inclusive growth.

Heading where?: This study aims to address a number of questions that are considered vital for any attempt to formulate a new food strategy and identify new opportunities for increased food production, with a focus on smallholder inclusion in the value chain. The challenge is how to link smallholder farmers to markets and integrate them into the value chain, and how to do so in a cost-effective manner. Producers' organisations and co-operatives are identified as crucial instruments to address the obstacles observed, and to facilitate the process of value chain development as well as smallholder finance. The final result of this study is a conceptual framework for an inclusive food strategy.

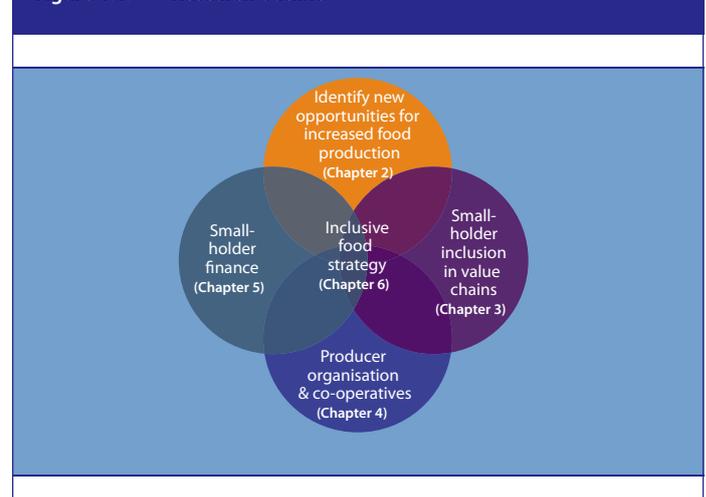
Research outline of the study (see figure 1.1):

The key elements of the research outline of this study are:

1. Identification of new (market) opportunities for increased food production. *Chapter 2* aims to answer the question 'Who will produce the food needed in 2050?' and how this is likely to be done. The strategic position of smallholders as potential food source is assessed.
2. The need to facilitate smallholder linkage to markets, with a view to boost farm income, facilitate farm investments and strengthen entrepreneurial initiative in the sector. *Chapter 3* deals with this question in the framework of local and global value chain development.
3. The process of capacity development of smallholder farmers in a business approach, which will not be possible unless it is done through effective producers' organisations and farmer co-operatives. This issue is addressed in *Chapter 4*, with special emphasis on the still underexploited potential of co-operatives in this context.
4. Improving access and creating effective smallholder financial systems by, among other things, exploiting the opportunities of effective farmer organisation (including co-operatives) and the merits of value chain finance methodology. This is at the core of the development of smallholder agriculture, particularly in LDCs. Last but not least, the investment challenge of smallholder agriculture has also been tackled (*Chapter 5*).
5. The synthesis of the four components of this study is a framework for an inclusive food strategy, consisting of a set of fundamentals and interventions. Stakeholders of the food value chain could incorporate this framework into their sourcing strategies to include smallholders (*Chapter 6*).

In paragraph 1.2 and 1.3, however, an overview of the global food challenge (Rabobank, 2010) and the outline of the new vision for agriculture (WEF, 2011) to drive food production at the Bottom of the Pyramid will be explained briefly as background of the analyses of this study.

Figure 1.1: Research outline



1.2 The global food security and nutrition challenge to 2050 in a nutshell⁵

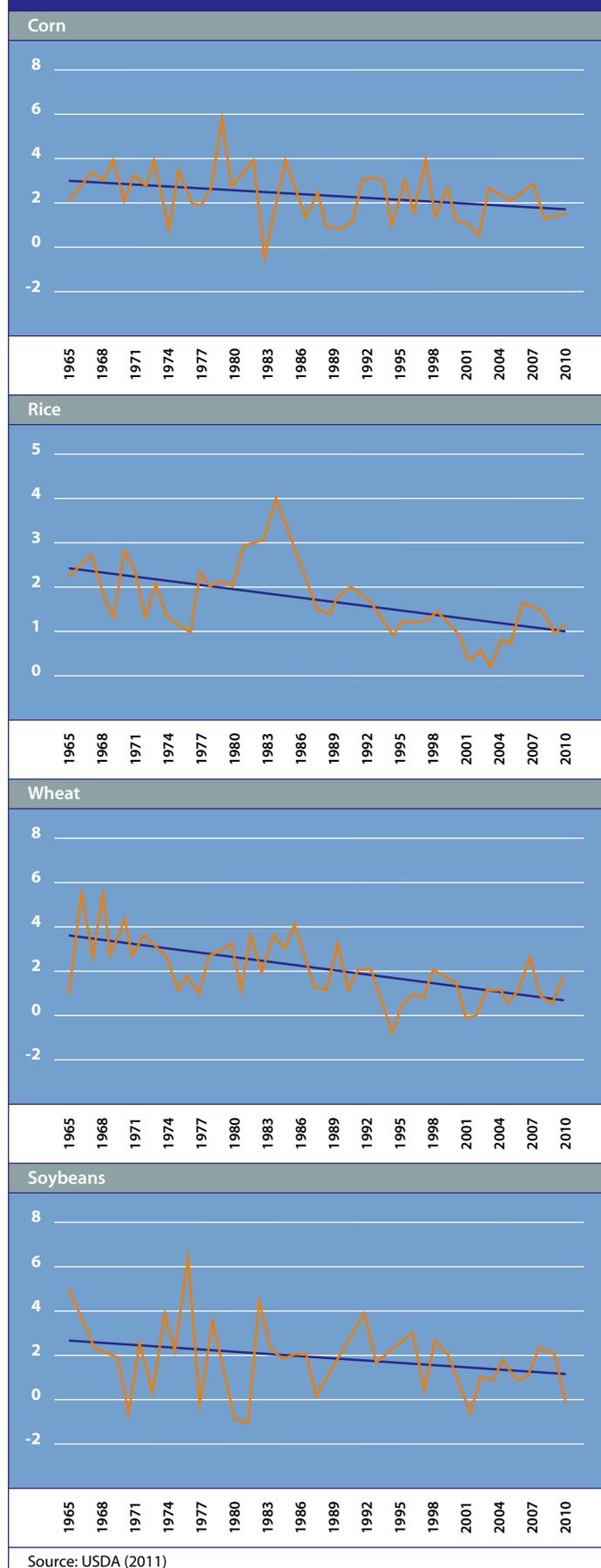
Hunger and malnutrition: Since the global food commodity crisis of 2007-2008 and the continuation of high and volatile food commodity prices, the theme of global food security has moved to the top of the world's political agenda. Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' (UN World Food Summit 1996). Food is, after all, a basic human need and is vital for stable economic development and peace. This is a particular concern considering that the world is currently on an unsustainable track. There are, in fact, nearly one billion people in the world who do not have daily access to safe food and suffer from chronic malnutrition. Many of them are children who run the risk of severe long-term health problems and stunted growth. Having the right food at the right time would mean well-nourished children who would have a better opportunity to fully develop their talents and fulfil their potential. Healthcare costs would decrease and national economies would prosper in the future.

Projection food demand 2050: Between now and 2050, the global population is projected to grow from seven billion to more than nine billion people. Approximately 90 percent of this population growth will occur in Sub-Saharan Africa (one billion or 49 percent) and Asia (900 million or 41 percent). In many countries in these two developing regions people spend more than 40 percent of their income on food. An increase in food prices has consequently had an immediate and far-reaching impact on these poor households in low income countries. This effect will be compounded as growth in income leads to a dietary transition to more animal proteins⁶ and more vegetable oil, fruits, vegetables and sugar rather than staple food such as roots, tubers and cereals. FAO's 2006 baseline projections show that by 2050 the world's average daily caloric availability could rise to 3,130 kcal per person, representing an 11 percent increase compared to the level in 2003. Migration and urbanisation will also increase, resulting in 70 percent of the population living in urban areas in 2050 compared to 50 percent at present. This will also have an impact on food consumption patterns. Current worldwide agricultural production will need to increase by approximately 70 percent (FAO, 2009) in order to fulfil this projected increased demand for food. However, the basic calculation of caloric requirements oversimplifies the global food challenge that points to the need for both a substantial increase in food production and improvement of domestic agricultural production patterns and international food commodity trade flows in order to meet the needs of growing and changing food demand.

5 See Rabobank study: 'Sustainability and security of the global food supply chain', which was launched on the Duisenberg lecture on the occasion of the annual meeting of the IMF and the World Bank, Washington D.C., October 2010, (http://www.rabobank.nl/images/rabobanksustainability_29286998.pdf)

6 Per capita meat consumption is set to rise from 37 kilograms at present to approximately 52 kilograms in 2050 (FAO, 2009). In addition, more grain, water and fertilizer are needed to produce meat. For example, it takes two to four kilograms of grain and a total of 3,900 litres of clean water to produce one kilogram of poultry. The figures for beef are seven to ten kilograms of grain and 15,500 litres of water respectively.

Figure 1.2.1: World crop yields, selected crops, five-year moving average of YoY change, 1965-2010



Improving crop productivity: Much of the food crops production growth has been based on the growth of yields in the past decades. Only ten percent has been achieved by expanding new arable land. A question to be asked is: 'Will yield increases continue to be possible and what is the potential for a continuation for growth to 2050?' The 'Green Revolution', i.e. the adoption of modern varieties of food crops witnessed in the 1960s and 1970s was successively followed by a period of input intensification and improvements to technical inefficiency (agronomy), and this has contributed to strong yield growth for food crops. The yields of many crops have, however, slowed down in the past decade around the world from 1.7 percent per annum in the period 1961-2007 compared to 1.3 percent per annum during the period 1997-2007 (see also table 1.2.1 on the previous page). This pattern is expected to continue in the future and may nearly halve the historical growth rate of 1.7 percent per annum to 0.8 percent per annum (Bruinsma, J., (2009); Fisher, R.A., et al. (2009)).

In places where yields are near the ceilings obtained on research stations, the scope for raising yields is much more limited than in the past. Despite this, average yields have continued to increase, albeit at a decelerating rate.

According to the studies, this slowdown in the yield growth is a gradual process which has been on-going. Major food crops' optimum theoretical crop yield ceilings seem to have been reached or are rapidly reaching that point. At the same time, empirical evidence has shown that the cumulative gains in yields over time due to slower, evolutionary annual increments in yields, have been far more important than quantum jumps in yields. For example, wheat yields in South Asia that increased some 40 kg per annum over the period 1961 to 2007, is projected to grow by an additional 32 kg per annum in the period up to 2050. The variation in yields among countries, however, is very wide. Thus, although the growth of the yields of major food crops is expected to slow down, it will remain an important source for additional agricultural production in future. First of all, food crop yields are technically much lower than the theoretical maximum yield (yield gap) due to differences in practices related to the availability of water and fertilizer, suitable weather/climate conditions, pests and diseases. Secondly, the variation in yields among countries/regions is very wide. For example, the world average yield of cereal is 3.2 tonnes per hectare (FAOSTAT). By comparison, the yield is 8.1 tonnes per hectare in the Netherlands and 6.5 tonnes per hectare in Western Europe and North America. This figure is only 2.9 tonnes per hectare in developing countries and 1.8 tonnes per hectare in the least developed countries. Yields of crops do not, however, only differ from country to country, but also within countries themselves and by farms and farm types. According to IIASA (Fisher, G., et al., 2009), the world average crop yields could be improved by more than two-thirds to 5.4 tonnes per hectare.

Studies about closing the yield gap (Koning, N.B., et al. (2008); Ittersum, van, M. (2012)) conclude that theoretically enough food can be produced to feed the world of nine billion people. The challenge is how to double food production to 2050. There are, however, many constraints in practice such as limited resources, lack of physical infrastructure and capital, poorly-functioning distribution and marketing systems and environmental and social factors. Good agricultural practices and farm management could contribute to high yields. Finally, the development of new modified crops that are more adaptive

to stress conditions including drought, salinity and temperature and that are more efficient in terms of energy and fertilizer use could give the declining crop yield a new boost into possible 'Green Revolution.2' system innovations in the supply chain. This requires huge investments in research, new technologies and marketing.

Last but not least, other innovative routes to increase food supply include reducing post-harvest, storage and transport losses, land degradation and food waste 'from farm to fork, and improving irrigation techniques.

Resource constraints: Agriculture is confronted with the fact that the earth is running out of vital natural resources such as arable land (see figure 1.2.2), clean water and some critical nutrients. The existing natural resources are also not equally distributed among countries (see figure 1.2.3). Other challenges are:

- Environmental degradation (water and soil pollution, desertification and soil erosion) and the decline of vital ecosystems (rainforest and marine life).
- Rising greenhouse gas emissions, with agriculture as one of the largest emitters, contribute to global warming and extreme weather conditions, which have a huge impact on agricultural production.
- Significant inefficiencies (yield gap and losses) in current agricultural production and transport and storage, particularly in developing countries.

Figure 1.2.2: Arable land per capita (ha use per person)

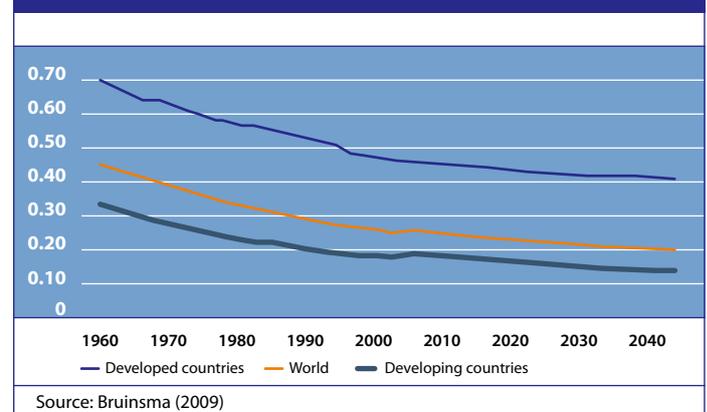
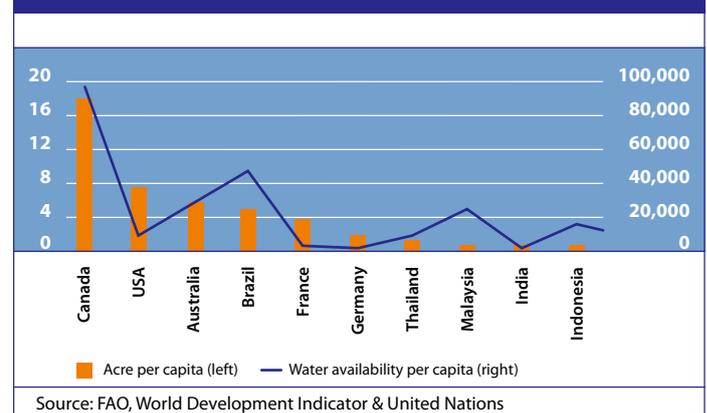


Figure 1.2.3: Water and agricultural land available per capita in selected countries



Strong economic and population growth and urbanisation trends have contributed to put the world's food and water resources under significant stress (WEF, 2012). Meeting the future demand for these resources requires significant investment and integrated policy solutions. Important trade-offs require coordination among diverse stakeholders. A transformation towards total resource management for sustainable economic growth is a key challenge of the early 21st century.

Scenarios for moving forward: In order to bridge the food gap between countries and regions, the local food supply chains of individual countries and global food supply chains must be integrated into an efficient and smoothly operating global food supply system. This will require innovations and major changes with respect to regulations, markets, consumer preferences, pricing and measurement of profit and loss. It is estimated that large investments, totalling more than USD 83 billion per annum (FAO, 2009)⁷, are needed to improve current agriculture in developing countries and downstream sections in order to meet the greater demand for food in the coming decades. The enabling environment (e.g. food and trade policy, legislation, financial system, etc.) for inclusive long-term private investments must be created. Investments must also be made to bring about a 'Green Revolution' in order to improve, among other things, the resource efficiency of crops. Plant, animal and food systems will have to be adapted to extreme weather conditions, rising temperatures and water stress conditions. A stop must be put to land degradation and illegal occupation and forestry.

Private sector in the driving seat: All these developments will affect the prevailing economic and business models and even the long-term strategies and market/competitive positions of companies in the global food supply chain. Driven by all these fundamental changes, new markets and business opportunities will emerge. The private sector is in a position to play a leading role in linking food demand and supply in an integrated fashion, while at the same time tackling Millennium Development Goals of the UN now and in the future. But the private sector cannot do it alone. Success can only be achieved if private and public stakeholders in the value chain have a common and integrated long-term, business-oriented viewpoint. Solutions must be more than simply 'doing more of the same' or adjusting business-as-usual approaches and matured technology. We have to think beyond the boundaries of current agriculture and agribusiness growth strategies, business models and interventions to unfold the full potential of agriculture in the world to meet global food security. The food world needs third order changes to make the transformation of the agriculture and food supply chains possible and safe. New answers need to be found.

⁷ In June 2011, the Global Harvest Initiative calculated that USD 90 billion a year is needed in investment in developing country agriculture.

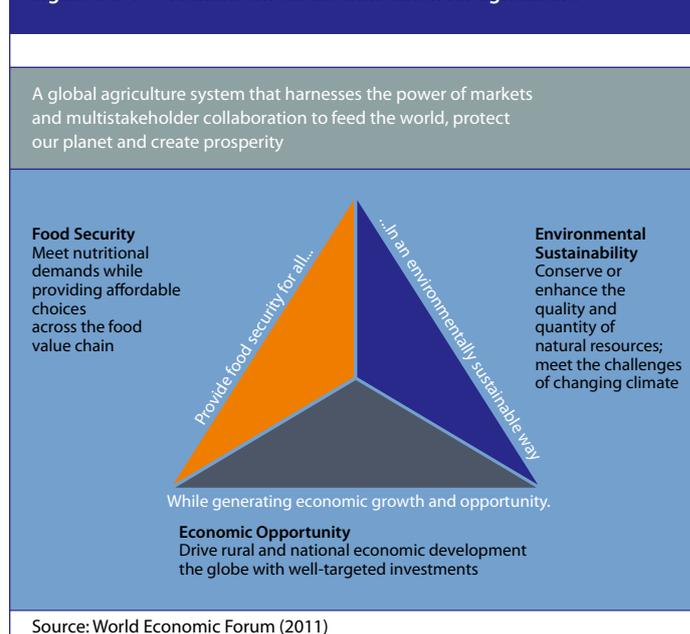
1.3 Towards a new vision for agriculture

Growing consensus: International forums are becoming increasingly aware that achieving global food security will require more than simply boosting production and processing and selling food around the world in order 'to make money'. There is also a growing consensus within the food world, among both public and private stakeholders, that future agricultural production and food supply systems must also contribute to well-balanced food security and environmental sustainability.

The business community has established a framework for a new vision for agriculture that was published by the World Economic Forum in 2011. This new vision for agriculture strives to harness the power of agriculture to drive three core goals: feed the world, protect our planet and create prosperity (see figure 1.3.1). Its aspirations are high, with concrete targets for each of these objectives for every decade from now on: to increase production by 20 percent, decrease emissions by 20 percent and reduce the prevalence of rural poverty by 20 percent.

Multi-stakeholder collaboration: In order to make the new vision for agriculture work in low and middle income countries, robust collaboration among governments (local, national, donors and multilaterals), the private sector (local and global agribusiness sector, investors and banks) and civil society (NGOs, aid foundations) is required. Given the complexity of agriculture and the food supply system within a hyper-dynamic world market, all of the aforementioned parties must work in concert to overcome the critical obstacles that arise at every stage of the transition of the food value chain. Intensive collaboration within the value chains should be equitable and fair. The aim is to generate markets, choice and benefits throughout the value chain. Each stakeholder in the value chain has a critical role to play and the scale of the challenge will require an intensification of efforts across the board (see figure 1.3.2 on the next page). In particular, governments must set the direction for their countries' agriculture and food supply policies and play a strong leadership role in the holistic transformation. Businesses should stretch to innovate and invest, tactically driving

Figure 1.3.1: Framework for the new vision for agriculture



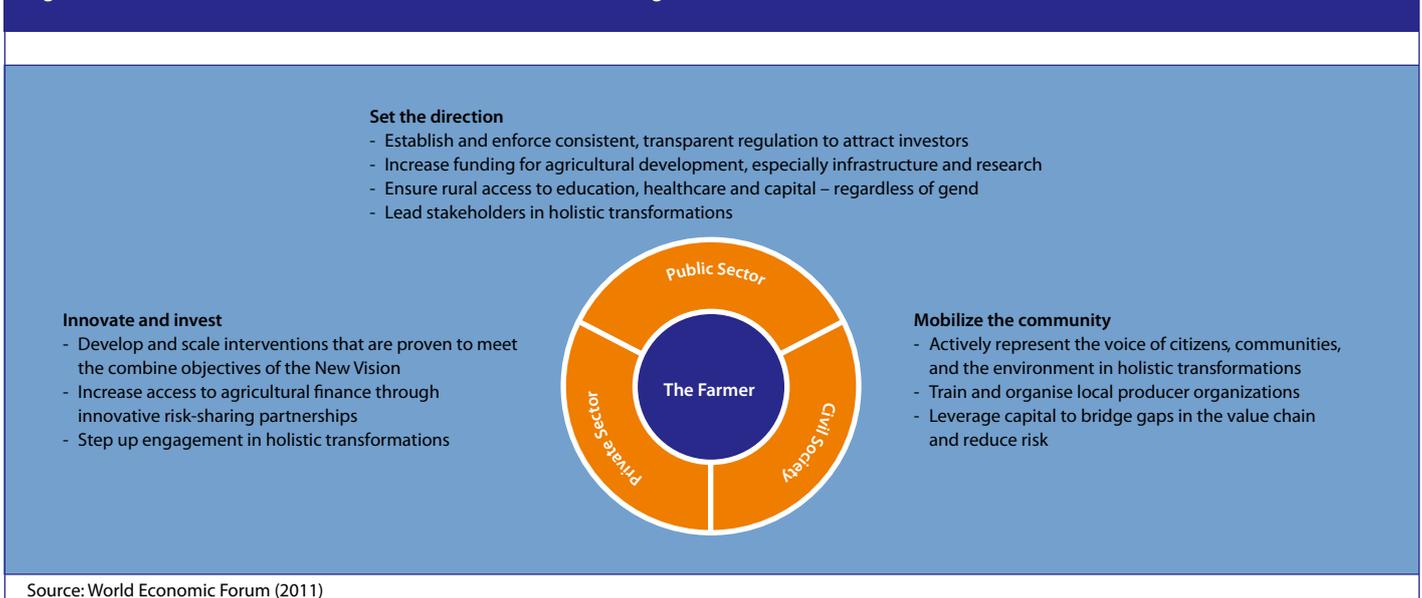
implementation of the new vision throughout the market. Agribusiness companies with global operations can leverage their resources to engage and strengthen locally-focused enterprises, partnering with diverse stakeholders to deliver results at scale. Civil society should mobilise the (local) community to meet its unique social, environmental and economic needs.

Conditions for success: Realising agriculture's full potential as a driver of food security, environmental sustainability and economic opportunity requires innovative tools for breaking current bottlenecks such as inadequate access to inputs, finance and storage. Success of the new vision for agriculture will depend strongly on the innovative strength of the agribusiness industry, the long-term commitment of governments, the power of community mobilisation by civil society and the quality of farmers' entrepreneurship. The new vision for agriculture will, however, only work if it is supported by the right policy, physical infrastructure and market structure. In other words, a holistic long-term approach is needed in order to break through the bottlenecks of current agricultural systems with a view to realising the comprehensive goals of the new vision. A few experiments involving this type of holistic approach are being carried out in the following fields of national sector transformation, value chain intervention, infrastructure corridor and breadbasket areas (WEF, 2011).

Core elements for implementation: Based on a synthesis of the experiences and best practices around the world (Morocco, Brazil, Vietnam, Indonesia, Mexico and Tanzania), the most successful ones are founded on multi-stakeholder partnerships and have six elements in common (WEF, 2012):

1. Leadership and alignment across stakeholders.
2. Clear strategic choices founded on market demand and comparative advantage.
3. A concrete investment and entrepreneurship pipeline.
4. Enabling hard and soft infrastructure policies and investments (including capacity building and other enablers).
5. Catalytic financing and risk management solutions.
6. Robust mechanisms and institutions for delivery and durability.

Figure 1.3.2: Focus and role of stakeholders in the new vision for agriculture



2 Who will produce the additional food needed to feed the world in 2050?

Agriculture not only fulfils the most basic of human needs, it has been, and will always be, the basis of human civilization. It is the one sector that can be found in the most remote corners of human settlement. It plays an important social role, providing employment and a way of life. The majority of the world's poorest and undernourished people, in total approximately one billion people, live in rural settings and depend directly on agriculture for their livelihoods and food. To meet the needs of an ever-growing world population, the world needs to produce 70 percent more food (excluding non-food purposes) by 2050. Moreover, agriculture is currently threatened by many factors, including increasing resource constraints (land, water, phosphate and energy), land degradation, water pollution and the effects of climate change.

In the view of all this the world community is facing a daunting challenge with respect to long-term global food security. A global scenario for food security confronts all stakeholders with a complicated web of dilemmas and food policy options.

Major strategic options arise:

- Local or global food supply system,
- High or low income countries or emerging economies,
- Large farms or small-scale farm holdings,
- Family or corporate farms,
- Organic or hi-tech farming systems,
- Public or private sector?

To find answers we need to examine the nature and potentials of agriculture and its role in and impact on society, ecology and the economy. Agricultural systems have strong linkages with resources such as land use (12 percent of the world's land surface) and water use (70 percent of use of fresh water worldwide). In addition, agriculture accounts for 2 percent of the world's total energy consumption and 30 percent of global emissions leading to climate change are attributable to agricultural activities, including land use changes and deforestation. Expanding agricultural production to meet demands in 2050 without substantial improvement of the resource productivity will create increasing constraints for food supply.

Agricultural systems range across the globe from capital intensive, hi-tech and large-scale systems to low-tech, small-scale and subsistence farming systems. Various long-term studies show that in the light of growing resource scarcity, combined with the limited growth potential of existing high yield systems in large-scale agriculture of industrial countries, current focus on large-scale agriculture alone is no longer adequate to tackle food demand in 2050. The food world must also tap from other sources such as small-scale farming systems of the developing regions.

Whether a particular country/region 'wins or loses' in the globalisation of the food supply system largely depends on where it is positioned in the process of agricultural transformation and on its endowments of resources, such as land, water, phosphate and energy. It furthermore depends on the extent to which countries can adjust to farming systems in order to create more value by exploiting their competitive advantages. In this view, agriculture and food supply systems can act as engines in stimulating the rural revival of developing economies. However, this requires that farming is approached as a business, based on entrepreneurial capacity and attuned to market opportunities/demand.

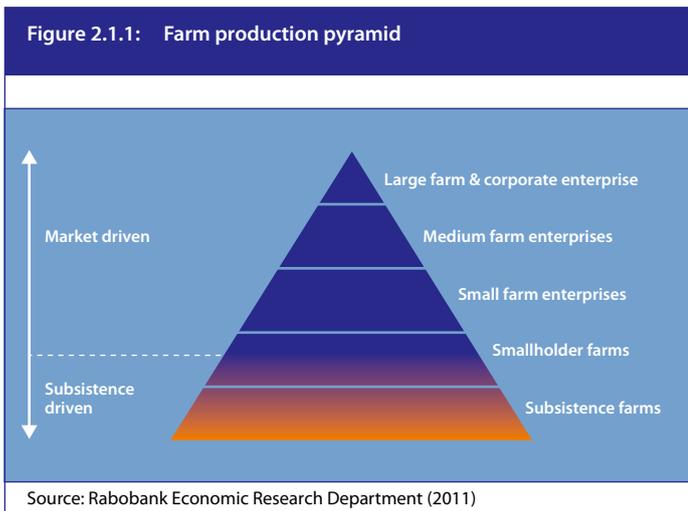
2.1 Scale and scope of the global food supply

2.1.1 Food production pyramid

Agricultural farming systems across the globe range from highly commercialised large-scale operations to small-scale subsistence farming systems (see figure 2.1.1).

Subsistence farming is a form of small-scale farming in which all of the crops and livestock raised are used to maintain the farmer and his family, leaving little, if any, surplus for sale or trade.

Smallholder farms (economically active poor) are partially commercially orientated and market driven and provide the main if not sole source of livelihood for the family. Some of the small-scale farmers are part-time farmers who combine farming with other sources of employment. The distinction is in practice gradual because many subsistence farmers are eager to take up some commercially tradable products in order to secure cash income.

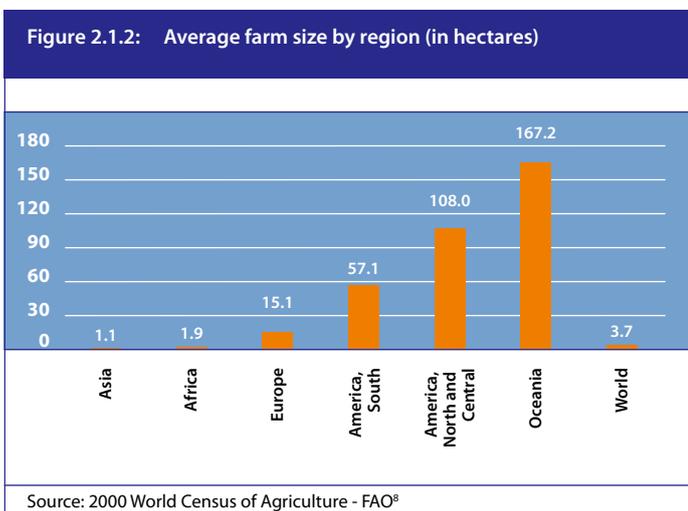


Commercial farms consist of small- and medium-sized enterprises and large-scale operations (family farms or corporate). Commercially viable small-scale enterprises are market driven. In Asia and Africa they generate significant market surpluses and are powerful engines for rural economic growth and for creating jobs for others in both the farm and rural non-farm economy.

2.1.2 Number of farm holdings and average farm size

The global agricultural sector depends on supplies from approximately 525 million farm holdings (Nagayets, 2005) that operate on more than 1.5 billion hectares of land. The majority of the world’s farm holdings are located in Asia (88 percent). It is followed by Africa (5.7 percent) and Latin America (2 percent). These remarkable differences between the continents can be at least partially explained by the variation in average farm sizes (see figure 2.1.2). The smallest average farm size is 1.1 hectares in Asia and 1.9 hectares in Africa. In contrast, the average farm size in Latin America is 57 hectares. Oceania has the largest average farm size at 167 hectares, which is mainly due to large farm holdings in Australia. North and Central America come in second place with an average farm size of 108 hectares.

8 2000 Census - FAO: Based on 436 million registered farm holdings operating approximately 1.5 billion hectares of agricultural land.



2.1.3 World farm structure

A range of characteristics can be used to classify agricultural holdings including land area, labour input, turnover, added value and income. The heterogeneity and complexity of farming systems around the world do, however, make it very difficult to make comparisons between countries.

The choice of approach is usually driven in practice by the availability of international empirical data, namely from the FAO World Census of Agriculture that is based on hectares per farm holding. The World Bank (2003) defines a small-scale farm as a holding covering less than two hectares of owned or rented land. This definition also assumes that the farm family provides the primary source of labour and that farming constitutes a principal source of income for the family.

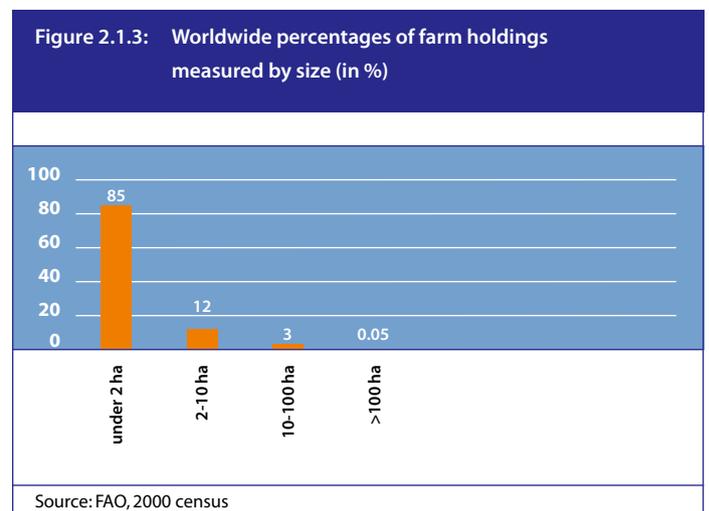
Figure 2.1.3 shows the domination (85 percent) of smallholders in the world farm structure. The majority of the approximately 500 million small farms in the world are located in Asia. China alone accounts for almost half the world’s small farms. India in turn accounts for 23 percent of all small farms.

In terms of agricultural land, farms of less than two hectares in size account for 15 percent of the total land, while this figure is 27 percent for farms of less than 10 hectares. It should be noted that these figures refer to global averages.

The importance of smallholders is better appreciated from a regional perspective. After all, the potential for yield increases is far greater in the South, especially Africa and Latin America. In Asia, nearly 90 percent of the farm holdings are smaller than two hectares, accounting for approximately 54 percent of the agricultural land. In Africa, these figures are respectively 78 percent and 28 percent. Compared to Asia and Africa, Latin America’s farm structure is less fragmented.

When using the 10 hectares threshold for smallholders, the percentage of small holdings in Asia is almost 99 percent of the total farm holdings, operating 85 percent of the farmland. The figures for Africa are 97 percent and 63 percent, respectively.

To conclude: *The case of small-scale agriculture for food security is particularly relevant for Asia and Africa - the two continents with the largest underexploited potential for yield increase.*



2.2 Possibilities for increasing food supply

Outcomes of long-term food studies⁹ suggest that world food supply could be increased substantially. The various possibilities to increase food supply include:

Yield increase: Closing the yield gap between regions and small- and large-scale farming systems represents the greatest possibility for increasing agricultural production. Yields vary widely between countries and regions. The average world cereal yield is 3.2 tonnes per hectare (FAOSTAT), compared to an average yield of 8.1 tonnes per hectare in the Netherlands and 6.5 tonnes per hectare in Western Europe and North America. This figure is only 2.9 tonnes per hectare in developing countries and 1.8 tonnes per hectare in the Least Developed Countries. According to IIASA (Fisher, G., et al., 2009), the average world cereal yield per hectare could be improved by more than two-thirds to 5.4 tonnes per hectare.

New arable land: The potential for the classical route to increased global food production that involves putting new land into production has all but been exhausted. While unused or underused arable land still exists, there are increasing challenges related to environmental sustainability, land rights and investment capital that must be overcome. It is striking that the potentially available arable land is very unevenly distributed among regions and countries across the world. Two-thirds of all potentially suitable new arable land is located in developing regions. Some 80 percent of this amount is found in Latin America and Sub-Saharan Africa¹⁰. About half of this total is concentrated in just seven countries, namely Brazil, Argentina, Colombia, Bolivia, the Democratic Republic of the Congo, Angola and Sudan. Added to this potential arable land is 'Black Earth' group, which has been 'rediscovered' and was once the granary of Europe and the former Soviet Union. In contrast, there is virtually no spare land available for agricultural expansion in South Asia, the Middle East and North Africa, which are regions with the highest population growth. This means that, even within the relatively land-abundant region, the available arable land varies strongly by country, both in terms of quantity and quality.

Cropping intensification: Similar to methods for increasing yields per hectare, cropping intensification has the advantage that no additional new scarce arable land is needed. In theory producing two staple crops rather than one annually equals a doubling of the harvest area, but this amount is in practice much lower due to agronomical constraints. Cropping intensification furthermore makes it possible to use water, fertilizer and agricultural equipment more optimally. Several conditions must nevertheless be met in order to achieve optimum increases in cropping intensities. These conditions include the availability of sufficient inputs such as water, fertilizer and seeds, a farming system that enables optimum control of the growth conditions through

means including an irrigation/water management system and pest management plan, as well as a well-functioning distribution, market and finance system. This type of farming is more knowledge-based, enterprising, market-driven and capital-intensive. Cropping intensification therefore cannot be put into practice easily everywhere.

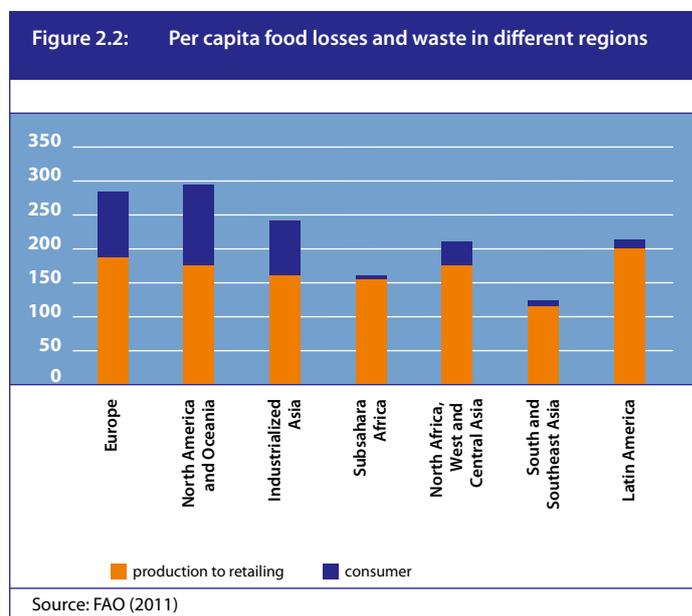
Reducing food waste: Roughly one-third of the edible parts of food produced for human consumption, gets lost or wasted globally, which is about 1.3 billion tonnes per year (FAO, 2011). Food is wasted from initial agricultural production down to final household consumption. The latter is especially high in medium and high income countries where food is thrown away even if it is still suitable for human consumption. In low income countries food is mainly lost during the early and middle stages of the food supply chain; much less food is wasted at the consumer level. Figure 2.2 shows the per capita food losses in different regions of the world.

Reducing land degradation: Land degradation (including desertification) is an extensive phenomenon caused by human activities and natural events including climate change. It refers to a reduction or loss of biological or economic productivity resulting from land uses or from a process such as erosion, deterioration of properties of soil and long-term loss of natural vegetation. There are many causes of land degradation, including the pollution of land and water resources, over-extraction of groundwater, deforestation, overgrazing and soil salinisation.

Serious land degradation affects more than 20 percent of world's arable land (IFPRI, 2011). Rehabilitating land is capital intensive. Moreover, preventing the degradation of land would require farmers to adopt crucial practices such as land conservation and terracing. The implementation of land certification programmes and extension services will be important components of any drive to address land degradation.

⁹ According to FAO long-term studies (2009), the additional food needed to feed the world population in 2050 will require a 9 percent expansion of arable land, a 14 percent increase in cropping intensity and a 77 percent increase in yields.

¹⁰ The estimated amount of potential 'free' land for agricultural purposes vary from 450 million hectares to more than 800 million hectares. The difference depends largely on the criteria, such as uncultivated, unforest, rain-fed, free of land rights) which have been used for assessing the availability of agricultural land by the different sources.



2.3 Macroeconomic implications of transforming the agricultural sector

Transition process: Induced by among others investments, extension services and technological change, a process of transforming agriculture from its traditional subsistence roots to modernised and possibly industrialised agriculture can be observed across the world. These efforts are aimed at reaping benefits in terms of improving farm income and livelihoods, achieving growth of the agricultural sector and promoting rural development.

Macroeconomic indicators: The pressure for change can be assessed by comparing the levels and trends in labour productivity in industry and services relative to agriculture. When labour productivity in agriculture is consistently lower than that of the other sectors, the position of agriculture in the national economy will decline. As a consequence the number of farms and share of agricultural workers will decrease. Average farm size will increase in order to take advantage of economies of scale. Agricultural workers forced to leave farming will pursue any employment opportunities in other emerging sectors of the economy. Figure 2.3 shows that the employment the agricultural sector adds in industrial countries is much lower in relative terms than the applicable percentage for developing countries. Not only the share of agriculture in the total employment will decline, but also the share of the value that agriculture adds to total GDP will fall as the economy grows and diversifies.

In countries in which large proportions of the population participate in small-scale farming and particularly in countries in which available land is scarce, such as China, India and Indonesia, the transition of small-scale farms would require absorbing millions of released workers into non-farm sectors in urban areas (relating to urban economy). The feminisation of agriculture in many African and Asian countries is amplifying the migration of male members of the household to urban areas and non-farm employment. This has large implications on rural provisions because access to financial services, and farming knowledge and technology for small-scale farming needs to be targeted at women who are traditionally engaged in unpaid family work.

Previously mentioned macroeconomic implications should be taken into account to make transformation of smallholder agriculture a success.

2.4 Regional characteristics and the business case of small-scale farming

Regional perspectives: The rapid growth in per capita income, growing health consciousness and urbanisation are leading to a shift in diet away from staples and increasingly towards high value agricultural commodities such as livestock and dairy products, fish, fruits and vegetables, and fats and oils. The reduction of import barriers in industrialised countries and the transformation of the agrifood industry (processing, wholesale and retail) also favours the growth of high-value export products.

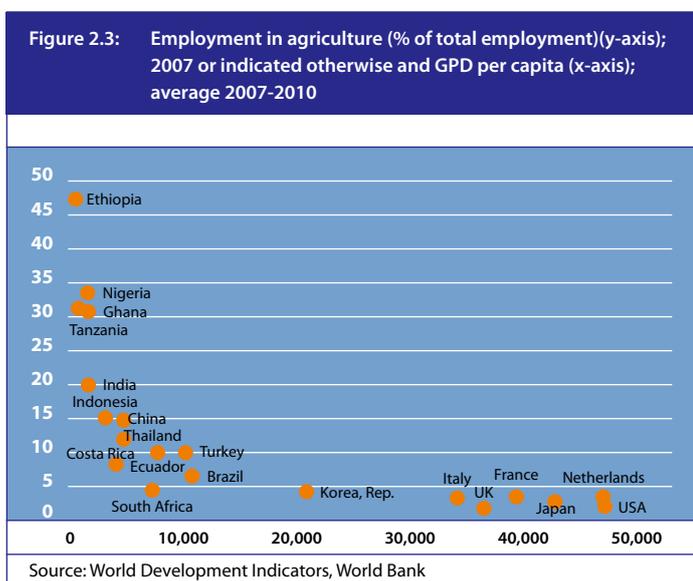
However, it has been observed that small-scale farming has widely different overall starting positions across developing regions.

Asia: Small-scale farms in Asia have proven to be resilient over time and continue to make a significant contribution to agricultural production, food security and rural poverty reduction, despite the challenges they continue to face with respect to access to the new agricultural value chain (Thapa and Gaiha, 2011). Small-scale farming in Asia faces a new context of high-value agriculture that stems from rapid income growth and urbanisation, leading to changing dietary habits.

Africa: The challenge for Africa compared to other continents is summed up in the title of the World Bank report published in 2009: 'Awakening Africa's Sleeping Giant'. In comparison to other regions, Sub-Saharan Africa's population remains predominantly rural. The agricultural sector consists mainly of rain-fed low technology, low input and non-mechanised small-scale farming. Despite the region's abundant natural resources, growth has not been commensurate to population growth and productivity still lags way behind that of other regions. It has not achieved the expected output compared to the Asian Green revolution of the 1960s and 1970s (crop yields lag behind).

Latin America: Small-scale farming in Latin America has a very different position due to the large average size of the farms measured in hectares compared to Asia and Africa and the lower overall number of farms. It was estimated that in Latin America there are about 15 million 'small-scale' family farms on 400 million hectares of the land. The main driver of the development in this region is the growing export demand for agricultural commodities (Pinto, et al., 2011).

Role of smallholders: The importance of small-scale farms in the developing world is demonstrated by their large share of total farm households and their sizable share of agricultural production. Small-scale farms do, however, exhibit specific characteristics and perform multifunctional roles in the context of rural areas and rural development in developing regions. They are not only food producers but also sources of employment, providers of 'eco services' and guardians of food security in poor and remote areas. These roles obviously vary by country and more broadly by region and differ in significance during the different stages of economic development.



Business case of smallholder agriculture: The efficiency of smaller farms has been demonstrated by numerous empirical studies (Eastwood, et al., 2004) that show an inverse relationship between farm size and land productivity. Moreover, small farms typically achieve their higher productivity with lower capital intensities than large farms. This advantage could, however, evaporate through higher distribution costs due to post-harvest losses (poor storage and transport facilities) and high transport costs (IBRD/WB (2009), Tappa/Ganesh (2011)).

Moreover, small farms face major disadvantages in accessing modern value chains. These include low volumes of produce to sell, variable quality, high transaction costs, poor market infrastructure and limited ability to meet the high credence requirements of many high value outlets. They typically face a tilted playing field in terms of access to land (land market reforms), water (irrigation), inputs (seeds, fertilizers), credit, technology (mechanisation) and markets (transport storage facilities).

In order to prosper over time, small-scale farms need to become bigger (economies of scale) and more modernised. This can be achieved through investment, knowledge, switching to high value production and going part-time by diversifying into non-farm sources of income.

Figure 2.4 sums up the pros and cons of the business case for small-scale producers.

Evolution of farm size and implication

While there has been a trend of increasing farm size in industrial countries, the opposite has occurred in densely populated developing countries¹¹. This difference can be explained by the fact that many farmers in industrial countries can find alternative employment in non-

farm sectors thanks to diversification of these countries' economies through the years. These opportunities are, however, scarce in developing countries where growing populations continue to divide land holding by the law of succession.

An exception in the developing regions is China, where average farm size increased slightly from 0.54 in 2003 to 0.60 hectares in 2008 due to cultivated rental transactions among farms, which accompanied the large shift of labour into off-farm activities (Deng, H., et al. (2010).

Not only has the number of small-scale farmers been increasing over time in some countries, their share of the total cultivated area has also been rising (Thapa and Ganesh, 2011). This development is accompanied by increasing ownership of the land by small-scale farms (fragmentation of land ownership). From an economic perspective, these trends close to the bottom of the food production pyramid place pressure on the development strategy of small-scale farming.

The need for larger scale farming differ between types of crops, depending on added value. Generally low added value crops such as maize, rice, wheat and sorghum need a larger scale compared to high added value cash crops such as cocoa, coffee, cotton, vegetables and fruits.

¹¹ For example India: from 2.3 to 1.3 hectares (1971- 2001); Indonesia: from 1.1 to 0.8 hectares (1973-2003); China: from 0.73 to 0.55 hectares (1984-2004); Ethiopia: from 1.4 to 1.0 hectares (1977-2002); DR Congo 1.5 to 0.5 hectares (1970-1990).

Figure 2.4: The business case for and against procuring from small-scale producers	
For	Against
<ul style="list-style-type: none"> - Smallholders' comparative advantages (premium quality, access to land, etc) - Securing supply in volatile markets, spreading portfolio geographically, reducing risk of undersupply as well as localised pest and disease problems - New business, clients for other products and services (Base of Pyramid) - New technologies available (efficient low-scale processing equipment, information technologies for coordination and lower cost traceability) - Capacity to ramp up or ramp down production without incurring fixed costs (contract farming) - Access to donor assistance - Corporate Responsibility - Community goodwill - Political capital 	<p>Costs and risks in organising supply from dispersed producers:</p> <ul style="list-style-type: none"> - Quantity - Quality - Consistency - Safety - Traceability - Compliance with rising standards - Packaging - Loyalty and fulfillment of commitments by farmers - Negotiation time and costs - Political opposition to commercialisation of peasant agriculture
Source: Vorley, B., et al. (2008)	

2.5 Conclusion

Considering the limited opportunities to boost food supply, the world cannot afford to concentrate on one strategy only, and hence a mix of solutions must be considered to meet the additional food needs in 2050. While the composition of this 'mix' will differ by region and country, the central thesis of this study is that smallholder agriculture in developing and emerging countries needs to be part of it, not only for the local but also for the international markets.

There are compelling arguments for this proposition;

1. *Smallholder agriculture is the dominant form of the agricultural system in developing regions on which local communities depend for their food security.*

Approximately 85 percent of all farms worldwide (approximately 500 million) are less than two hectares, while 97 percent of farm holdings are below ten hectares. These farm categories are classified as small-scale agriculture or smallholders and in Asia and Sub-Saharan Africa about 80 percent of the farmland belongs to, or is cultivated by smallholders. They produce up to 80 percent of food consumed locally.

2. *Smallholder agriculture will become more indispensable as a reliable food source and a driver of the rural economy as the world is facing resource scarcity (land, water) and greater price volatility.*

In this view, smallholders should be linked to markets and be integrated into value chains.

3. *Integrating smallholders into value chains offers downstream agribusiness companies an opportunity to strengthen their long-term sourcing strategy in a globalising food market.*

Establishment of new large-scale operations (plantations) is increasingly curtailed, not only by environmental constraints, but also by local land right restrictions and growing opposition in public opinion (outcry over 'land grab').

4. *Increasing food production by smallholders in developing regions will reduce the demand for new land including water use. The result is less deforestation and land use changes which contribute to climate change through lower GHG emission and nature conservation.*

5. *The development of smallholder agriculture of (agrarian) developing and emerging economies can also be a 'win-win' proposition for millions of farmers, improving food security, vitalising rural non-farm economies and reducing poverty. In terms of saving the planet, however, the future food challenge can only be met if sustainability lies at the heart of all development efforts.*

Smallholders matter because they exist in vast numbers, mostly in developing and emerging regions, and because they cast their shadow over a whole range of development issues. They are the backbone of rural economies that are home to some two billion people, including half of the world's undernourished people and the majority of people living in poverty.

3 The challenge of smallholder inclusion in value chains: approaches and tools

Various comprehensive scientific research studies confirm that it is possible to meet global food requirements by 2050 without extensive cultivation of new land. Most of the additional required food can be realised by improving the low crop yields on existing agricultural land, especially from many low and middle income countries. This food strategy will entail improving small-scale agriculture in Africa, Asia and Latin America because they constitute the majority of the farms.

Agribusiness companies (wholesalers, processors, retailers and exporters) often prefer to work with large-scale farm operations for their sourcing. Smallholder farms in low and middle income countries were traditionally primarily viewed as the domain of public sector intervention by governments, NGOs and development institutions, in order to help them 'escape' from the poverty base line. The challenge involves ascertaining how the conventional agribusiness sector's sourcing perspective and the inclusive food security perspective can be joined harmoniously. In other words: 'How can small-scale farmers be linked to markets or integrated into the farm-to-consumer value chains¹²?' This requires that traditional marketing channels based on ad-hoc sales be replaced with coordinated trade-links between farmers, wholesalers, processors, retailers and others in the value chain. It implies that (agribusiness) companies working with smallholders must be able to create business models that allow them to capture a market network of producers, suppliers and consumers, without compromising on high safety and quality standards and tight delivery conditions. They operate in a dynamic market characterised by a demand for quality, a need to reduce risk and transaction costs and, last but not least, critical but sovereign consumers. Suppliers must be ready to provide sufficiently consistent quantity and continuity with respect to supply, traceability and packaging.

12 The concept of value chain was used by Michael Porter (1985) to describe the flow of value, to help identify functions that add value or subtract value within a firm i.e. allocation of price paid by consumers to suppliers and primary producers (Cox et al., 2002). Supply chains are the stages that transform a raw material into a finished product or service and deliver it to the end consumer.

While small farmers tend to be risk averse, the challenge is to find entrepreneurial solutions in an approach that does not expose them to even more risk. In other words, entrepreneurial food chain innovations that increase yield and mitigate risks have the best chances of being adopted. In an environment with multiple challenges such as increased variability of agrological conditions, poor access to services and finance, fluctuating energy prices and poor post-harvest and transport facilities, this is not a task whereby small farmers can succeed entirely on their own.

Small-scale farms do have comparative advantages based upon abundant (unskilled, family) labour and local knowledge. When labour costs are an important part of the production costs, small-scale farming is in a position to compete effectively, which is a fact that has been amply demonstrated by smallholder successes in sectors such as cocoa, coffee, tea, vegetables and fruit. However, as an economy develops and wages increase, the advantages shift to larger-scale operations that use more capital-intensive technology. Compared to large-scale farms, smallholders also have less access to resources (land, water, farm inputs), financial services and information. All this goes hand in hand with fragile market relationships. The challenge is how to tap into the advantages of small-scale farming through aggregation in a way that makes it possible to benefit more from the economies of scale of large operations and to comply with high food standards from the consumer markets and tight delivery conditions.

A two-pronged strategy and market can be pursued for smallholder inclusion. Firstly, according to the new vision for agriculture, public stakeholders should work in partnership with the private sector to create the missing infrastructure, institutions and regulations in order to escape the cost-price squeeze and comply with the demand for food of high quality. Secondly, farmers must become organised in sound producers' organisations (horizontal integration) in order to benefit from the advantages of economies of scale. This also offers a possibility for farmers to capture more value for their products by integrating backward (gaining access to input supply) or forward in the value chain to create improved access to markets and services.

3.1 Breaking the farm-low-income trap

Vicious circle: In many parts of the world, especially in Africa, smallholder farmers still work the way they did for centuries. Low farm income, barely enough to meet basic needs of the family, leave little space for better farm inputs, let alone investments in farm equipment and irrigation. Moreover, lack of education combined with lack of (market) information, make that many smallholders lack the basic features of entrepreneurship. These factors combined make that for individual farmers it is often extremely difficult to work themselves out of this poverty trap. In many countries, fortunately there are a number of programmes and initiatives that show an escape is possible, allowing farmers to produce better and more products, augment their income and learn to recognise farming as a business opportunity. Almost invariably this involves external support for some time by a publicly or privately initiated programme. In other words, it has time and again been demonstrated that a seemingly vicious circle can very well be broken.

Virtuous circle: The central goal of smallholder inclusion is to identify ways and means to break through the low-farm-income trap. This strategy implies that small-scale producers become economically self-sustaining and small-scale farming is turned into a scalable and competitive business, providing food primarily for national and international markets. London and Hart (2010) defined a road map consisting of seven principles to help guide small-scale farmers through the design, pilot, and scaling stages¹³. Higher agricultural yields will create higher farm income, which in turn will enable farm investments. This way, especially when farming skills are enhanced through some form of extension service and guidance (demo farms), farmers are enabled to set into motion a virtuous circle of farmer and farm development. The challenge is to create value by combining existing productive assets from the small-scale farm sector such as local entrepreneurship, indigenous knowledge and local embeddedness, and the resources and technological capacity of larger-scale agricultural sector.

3.2 Stratification of small holders

Three rural worlds: Small-scale farms in low and middle income countries are not a homogeneous group. According to the concept of three rural worlds (Vorley, 2002) increasing globalisation and trade liberalisation are leading to increasing differentiation between rural farms, creating new categories of farms. Using the concept of rural worlds, the farm sector can be divided into three categories according to level of market involvement, access to technology and exposure to risk:

¹³ 1. create market opportunities, 2. craft solutions, 3. orchestrate effective experiments, 4. manage failures, 5. generate co-mingled competitive advantage through producers' organisations (POs), 6. leverage and transfer social embeddedness, and 7. enhance mutual value.

¹⁴ Farm size is an asset-based criteria to categorise farm sectors, while the rural world criteria are *levels of market involvement, access to technology and exposure to risk*.

¹⁵ SCM spans all movement and storage of raw materials, and finished goods from point of origin to point of consumption (the supply chain). The aim is to create net value, building a complete infrastructure, leveraging logistics, APICS Dictionary).

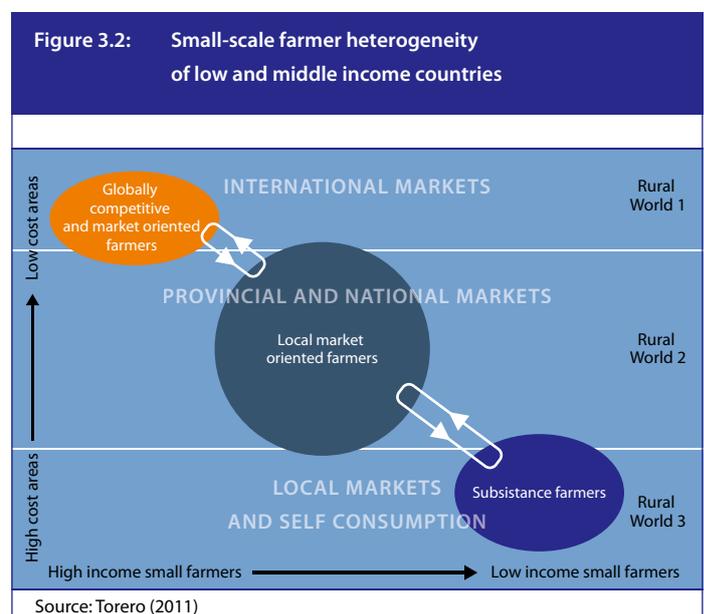
- Rural world 1: Globally competitive, embedded in agribusiness, commodity producers and processors, politically well connected, export and technology driven.
- Rural world 2: Engaged in primary local, regional and national markets, with access to and control over land, multiple and diverse enterprises and undercapitalised.
- Rural world 3: Marginalised even from their local economy i.e. subsistence farmers, fragile livelihoods, limited access to productive resources, unskilled and uneducated, dependent on low wage labour, redundant to global food production systems.

It is observed that small-scale farms¹⁴ are also active in rural world 1 and in particular sectors or crops do so even very successfully. In Asia and Africa they can be considered the backbone of agricultural production. So, the potential small-scale farmers group to be linked to the market and integrated into value chains is to be identified primarily in rural world 2. However, as many case studies of successful POs and producers' co-operatives have shown, even subsistence farmers (rural world 3) can be drawn into market-oriented production when they are guided and facilitated to do so through their local organisations.

Thus the 'rural world' classification of the farm sector is useful for defining effective and institutional and infrastructural provisions (i.e. roads, storage and transport facilities) and market interventions (i.e. information, regulations, services) for linking small-scale farmers to markets (from rural world 3 to rural world 2) and integrating them into global food value chains (from rural world 2 to rural world 1).

Figure 3.2 (adapted from Torero, 2011) gives an overview of the three categories of farms. The circular arrows in the figure represent the dynamics of rural development and the institutional linking of the three types of small-scale farmers to markets and value chain partners. It underlines the fact that current strata are not static. Supply chain management¹⁵ (SCM) can play a key role in linking small-scale farms to markets as an instrument of sourcing strategies of leading chain actors.

Between the different 'rural worlds' there are marked differences in terms of market efficiency and a true market access. The *market efficiency gap* is the difference between what markets are actually achieving under current conditions and what they could achieve if



markets where working correctly. This gap can be bridged through more private provision of services to small farmers (e.g. guidance on farm inputs, farm investments and farm practices), facilitated by effective compensation, and by market-oriented policies and regulation that create a level playing field for new entrants.

The *true access gap*, however, refers to public interventions such as roads as well as key institutions that are required for smallholders to reach markets even under perfect market conditions. The challenge is to orchestrate interventions to improve market efficiency and market access for smallholders in a manner that exploits the potential synergy between them.

In the new vision for agriculture, the public sector in collaboration with private sectors should bridge these two gaps by creating the infrastructure and market institutions needed to lower the inclusion threshold (a/o transaction costs). Institutions¹⁶ in a value chain can play five potential roles in strengthening markets for commodities produced, bought and sold by smallholders: 1. reducing transaction cost, 2. managing risk, 3. building social capital, 4. enabling collective action and 5. redressing missing markets.

Heterogeneity in the smallholder sector implies, however, that only the more entrepreneurial smallholders and their organisations are likely to respond when markets offer new opportunities. Other groups of small-scale farmers may be forced to follow the pathways of farm labour and rural non-farm work. In most countries this is reflected in an ongoing process of migration and urbanisation.

16 In this context 'institutions' are defined as the structure of relations between individuals within a system of market interactions in which the players include producers, consumers and the state (Torero, 2011).

17 The triple bottom line, also known as people, planet, profit (PPP), captures an expanded spectrum of values and criteria for measuring organisational (and societal) success: economic, ecological, and social.

3.3 A value chain approach to smallholder inclusion

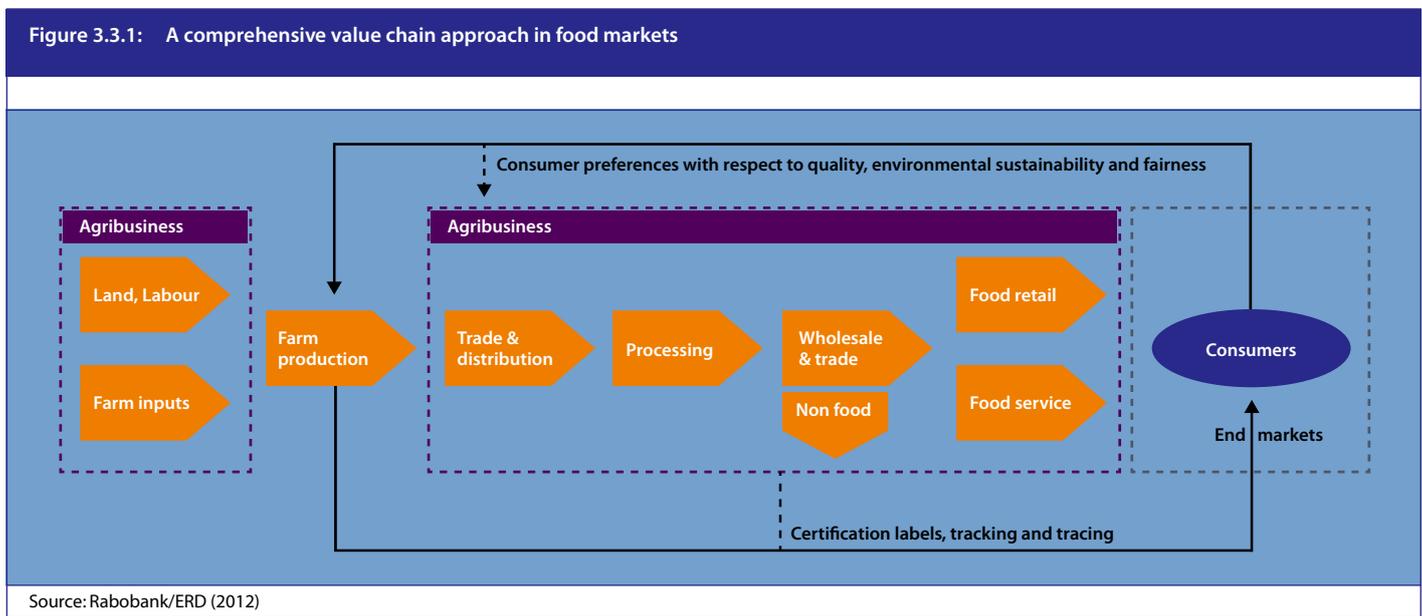
Create more value in the supply chain: For the purpose of clarifying the mechanisms of smallholder inclusion, it helps to make a distinction between supply and value chains. A supply chain consists of different stages and actors that transform a raw material into a finished product for delivery to the ultimate consumer. A value chain approach may be distinguished from the supply chain approach by virtue of one or more of the following additional characteristics:

- The production is demand driven, in other words the consumer or market preferences are known to producers, and production is organised accordingly.
- The origin and characteristics of production are known throughout the supply chain and consumers can be informed about it through a mechanism of certification or a system of tracking and tracing.
- Consumers are prepared to pay a premium for products of known origin, based upon credible product information.

These features allow farmers as primary producers to benefit from better terms of trade, as exemplified by the fair trade market chains. In the full array of food markets, the existence of all three characteristics is still rather exceptional, especially in markets of staple food. However, wherever agribusiness operates on national or international markets, the benefits of a value chain approach may at least to some extent be realised (see figure 3.3.1).

A key factor influencing the linking of small-scale farms to markets and integrating them into the global food chain is the interplay between power and profit, i.e. the distribution of costs, risks and benefits, along a food supply chain. Smallholders tend to be the weakest link, especially in buyer-driven chains.

The introduction of triple bottom line concepts¹⁷ in the corporate world implies that the term 'value' in value chains no longer refers exclusively to monetary value. Most international actors in the food sector have adopted corporate policies to also include the dimension of environmental sustainability ('planet') and fair production and trading conditions ('people'). The new vision for agriculture requires making a solid commitment to the three PPP dimensions and providing consumers with information on this topic will be considered an integrated component of the corporate strategy and business model.



Thus a wider interpretation of food value chains and value chain development emerges that is more in line with the new vision for agriculture. It calls for increased transparency towards consumers on these aspects, implying a solid system of standards as well as 'tracking and tracing' mechanisms such as the certification of cocoa producers which is included in sourcing programmes of F&A MNEs. Future value chains will secure a two-way information flow between producers and consumers. The producers are informed about the specific consumer preferences, enabling them to adjust their production to changes in market demand. And consumers want to be informed about the way environmental sustainability and fairness of the terms of trade have been embedded in chain organisation.

The distinguishing feature of a value chain is that feedback loops from buyer to seller exist in every stage of the chain. The degree to which a value chain approach can be applied depends crucially upon the relationship between the actors in the chain. Their business relationship can be described through five different types for structuring of these linkages¹⁸ (Wenner, 2006).

Drivers for value chains: Chain actors intending to work with smallholders may be faced with the question of how to turn a supply chain into a value chain. They will want to do this not only in order to provide their customers with better service, but also in order to create more value for primary producers. Almost invariably, it requires a reorientation of farmers from their traditional 'product' orientation (the crops they have grown for generations) to a market orientation (what product does the customer want). This demands not only knowledge concerning market demand, but also a willingness and ability to respond to it. A value chain approach opens what has been referred to as a 'virtuous circle'. The linkage to markets helps generate higher cash incomes for farmers (increased gross margins), providing them with the

¹⁸ The instant or spot market where producers come to sell their commodities, a contract to produce and buy, known more generally as contract farming, a relation-based partnership, a capital investment based partnership and vertical integration.

ability to generate a surplus for investments or for payment of interest on investment loans. Invariably investments are a precondition for increasing land productivity and improving the quality of their produce. As this allows farmers to better compete and serve more attractive markets, a value chain approach is able to set an upward spiral in motion, even in areas that seemed locked in traditions and poverty.

This transition process can be seen as part of 'value chain development' (VCD). It can be driven by a chain actor, a producers' organisation or an external agency (facilitator). VCD will involve improved farming practices, possibly new crops or products, introduction of quality standards and farmer organisation. Even though it is often not addressed expressly, appealing to the entrepreneurial competencies of the farmers involved is an essential part of the VCD process.

Who is driving the value chain development makes a crucial difference with respect to the process of facilitating smallholder inclusion. It may be organised by farmers themselves or their organisations (producer-driven), by an agribusiness company of the value chain (buyer-driven), by governments or NGOs (facilitator-driven) or by a leading chain actor such as a supermarket group or a multinational food processing company.

In a *producer-driven model* where a farmer co-operative takes the lead, the strategic focus is on *selling*, i.e. the identification of attractive markets and the management of product supply to impact sales. The 'sourcing' of raw materials in this model is secondary, as the produce from member is already secured through the co-operative set up. On the other hand, in the *buyer-driven model*, the strategic focus is on *buying/sourcing*, i.e. to make sure that sufficient supplies of sufficient quality can be procured. In this model the aspect of selling is secondary, as good market linkages are already in place. In *facilitator-driven models* the two perspectives have to be balanced. Forging and sustaining effective linkages of smallholders to the market is a challenging endeavour.

The presence of vertical links does not automatically lead to increased benefits for primary producers, since such linkages could have both *predatory* and *symbiotic* elements. There is potential for exploitative relationships, such as buyers who control the market and price their services unfairly; or producers who sell to competing buyers,

Figure 3.3.2: Organisational model for farm production in value chains (adapted from Miller and Jones, 2010)

Value chain model	Driver of organisation	Rationale
Producer-driven	<ul style="list-style-type: none"> - Small-scale producers themselves, co-operatives, associations - Large-scale farmers 	<ul style="list-style-type: none"> - Access new markets - Obtain higher market prices - Stabilise and secure market position
Buyer-driven	<ul style="list-style-type: none"> - Processors - Exporters - Retailers - Local traders, wholesalers 	<ul style="list-style-type: none"> - Assure supply - Increase supply volumes - Supply more discerning customers - meeting market niches and interest
Facilitator-driven	<ul style="list-style-type: none"> - NGOs and other support agencies - National and local government 	<ul style="list-style-type: none"> - 'Make markets work for the poor' - Rural development
Integrated	<ul style="list-style-type: none"> - Lead firms - Supermarkets - Multi-national companies 	<ul style="list-style-type: none"> - New and higher value markets - Low prices for good quality - Market monopolies

breaking contracts they have signed with the firms providing them with financing. Vertical linkages can, however, be configured to ensure a maximum flow of benefits to farmers, while facilitating improved value chain competitiveness.

Figure 3.2.2 shows the different models for organising farm production in the value chain. Each model has specific features and perspectives for smallholder inclusion.

Within *producer-driven* value chain models, farmer-based organisations such as agricultural co-operatives seek to establish direct links to end-markets and act as a driver of value chain development. They provide technical assistance, inputs, marketing services and access to finance to member farms. They could integrate forward in the value chain, e.g. by establishing processing facilities. Collective action has proven to be an important strategy for increasing small-scale producer participation in emerging modern food markets and for generating sustained commercial flows of high-quality products.

Within *buyer-driven* value chain models a trader, a processor, a retailer or an exporter could be the driver of value chain development. One reason for undertaking this development is to make a shift from dependency on the traditional wholesale market in pursuit of value, improved quality and product assurance. Another is the lack of collective action of producers. Contract farming is the most common buyer-driven value chain model.

Facilitator-driven value chain models are found in dual agricultural systems in which developed agro-industry coexists alongside smallholders who live at subsistence level. Both NGOs and government agencies provide support to facilitate the integration of smallholders into value chains. This is done through a variety of means, such as subsidisation of the costs of organising and training farmers and facilitating access to financial services.

Integrated-driven value chain models feature a particular kind of vertical integration that both connects producers to other actors in the supply chain - input suppliers, intermediaries, processors, retailers and service providers including finance - and integrates many of the stakeholders through ownership and/or formal contractual relationships. Vertically integrated value chain models exist, for instance,

in situations in which the driver is a large supermarket or wholesaler serving mass consumer markets. Their aim is to ensure that inputs, production and post-harvest handling will result in products that are responsive to that demand.

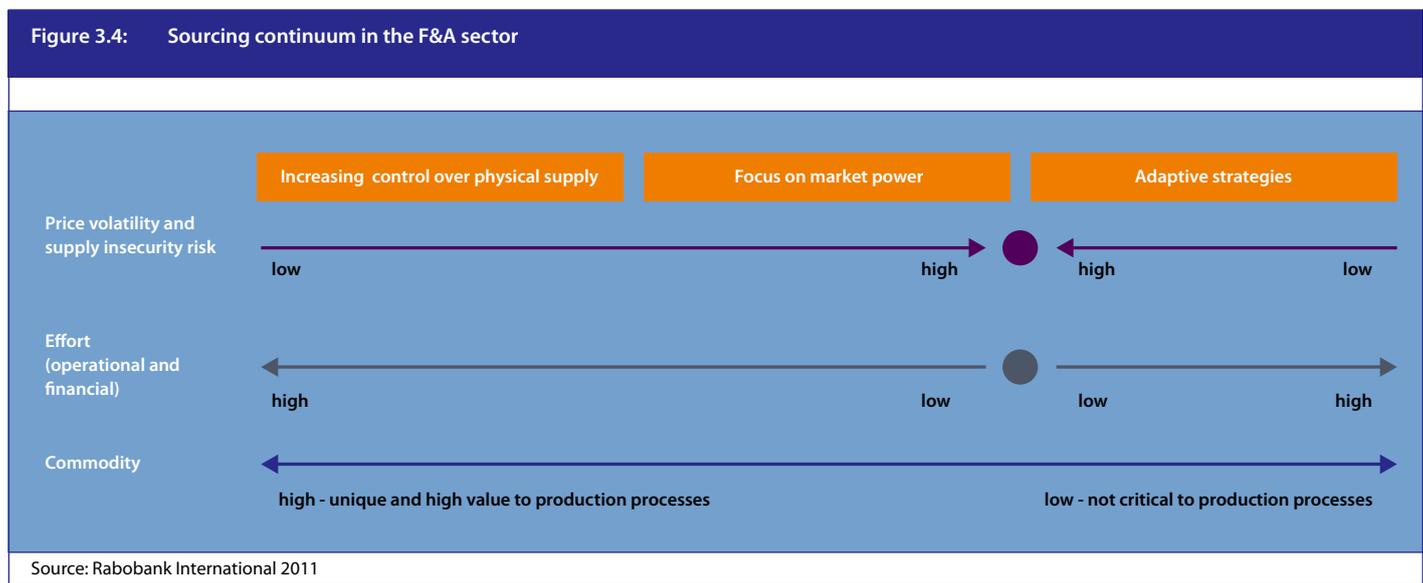
3.4 Sourcing strategies steer the way to smallholder inclusion into value chains

Sourcing continuum: In pursuit of a value chain approach to smallholder inclusion, it is important to assess the potential business models against conventional sourcing strategies of actors in the food chain. F&A companies around the world contemplate how best to position their business models in response to the structural changes in the global food markets. Eleven¹⁹ sourcing strategies of F&A companies have been identified in a comprehensive case study conducted by Rabobank (2011). These sourcing strategies are grouped around three strategic options²⁰. Rather than suggesting mutually exclusive solutions, the study presents a continuum of sourcing strategies whereby different combinations of strategic options can be identified depending upon local conditions and the risk profile of the commodities concerned. F&A companies wanting to respond to increased supply risks and price volatility have a range of options. They can either reduce the impact by increasing control over sourcing or circumvent exposure by looking for alternative strategies. This trade-off between risks and efforts can be visualised as a continuum (see figure 3.4).

The following sourcing strategies are most likely to be relevant in relation to smallholder inclusion into value chains:

19 Investing in land, 'farmer first', regional diversification, supply-contracting, horizontal partnership, market-based risk management, reliance on brand power, forward integration, finding niche markets, ingredient substitutions and tolling.

20 Increasing physical control over supply, focussing on market power that is mainly driven by relationships between chain actors and adapting a company's internal organisation to mitigate supply risks.



Regional presence and supply diversification: One way to ensure supply is to use multiple suppliers in one region. Another is to establish a presence in relevant production regions with a view to matching demand and supply more effectively and keeping closer track of crop conditions in order to be able to reduce risks in the event of supply shocks. This strategy involves building and maintaining numerous relationships, which would obviously require a considerable effort. In the more extreme instances, even capital investments could be required in order to make diversification strategies successful. Diversification has become increasingly important for grain and oilseed companies.

'Farmer first': In some sectors, such as cocoa and beer, companies are actively assisting in the production process by working directly with farmers. Ensuring the quality of supply is a key motive for these players. Investments in physical and technological infrastructure are often required in order to make this strategy work. Other companies are trading farm input raw materials for physical delivery of food commodities. Other examples include F&A companies that are providing working capital financing for farmers in return for food commodities or creating farmer loyalty by providing services such as training.

Investing in land: Investing in land involves companies or governments buying the prime production asset of any cropland. Buying up land makes it possible to exercise direct control over crops and commodity output, which can be used directly for further processing without having to deal with any other party in-between. In combination with out-growers, this strategy can facilitate smallholder inclusion.

Backward integration: This strategy involves buying or setting up (greenfield) production, logistical or storage assets along the chain. The reason companies would pursue this strategy is similar to the drivers for investing in land: gaining direct access to farmers/crops and controlling the quality of commodity output at an earlier stage in the supply chain. This can currently be seen in the sugar industry, where some manufacturers have sought to achieve vertical upstream integration in order to secure supply.

Supply contracting: Supply contracting is commonplace. Many F&A companies strike agreements with other companies within the supply chain to ensure the supply of commodities is safe and secure. While supply contracting is mainly a business-to-business agreement, agreements are sometimes made between farmers and companies. Recent greater price volatility and fears concerning the sourcing supply have encouraged companies with market power to revisit the terms of current agreements to increase the certainty and duration of supply. Long-term supply contracts have, for example, become more common in an attempt to secure origination, or in other words to lock in supply.

Forward integration: A forward integration sourcing strategy can be used if a company believes it cannot achieve a sustainable competitive advantage or is unlikely to achieve a competitive sourcing strategy. It may work for this company to buy or set up processing assets at a later stage in the supply chain. This is done in order to acquire a larger portion of the added value of the processed product and to improve negotiation positions vis-à-vis food distributors. This will in effect further strengthen market power by locking in additional margin.

Finding niche markets: This strategy of locating niche markets runs along the same lines as reliance on brand power. It may, however, be more applicable for smaller companies. Negotiating power is achieved through selecting a smaller target market in which a substantial share is achieved, rather than through large-scale marketing.

3.5 Business models rule the game of inclusion

3.5.1 Business models for inclusion of smallholders into value chains

A 'business model' is a representation of how a company buys and sells goods and services and earns money. In other words, what it offers to whom and how it can accomplish this. In a value chain, agribusiness firms (farm input companies, processors, retailers and wholesale traders) apply the concept of the business model to the value chain for, among other things, sourcing agricultural commodities from or delivering farm inputs to producers and/or farmers' organisations.

There are different categories of (legal) business structures and contractual relationships between buyers and sellers of farm produce that could be deemed relevant for smallholder inclusion (Vermeulen and Cotula, 2010):

Contract farming: This refers to pre-agreed supply agreements between farmers and buyers. The agreements usually specify the purchase price, or how it will relate to prevailing market prices, and may also include terms on delivery dates, volumes and quality. In many cases the buyer, which is generally a food processing company, commits to supply upfront inputs, such as credit, seed, fertilizers, pesticides and technical advice, all of which may be charged against the final purchase price. There are many types of contract farming deals, ranging from informal verbal purchase agreements to highly specified out-grower schemes surrounding large estates.

Management contract: This contract refers to the variety of arrangements under which a farmer or farm management company works with agricultural land that belongs to someone else. Management contracts may take the form of a lease or tenancy, but carry the connotation of stewardship, which means managing the land on behalf of the owner. In order to provide incentives for the farm management, the contract often includes some form of profit-sharing rather than a fixed fee.

Tenant farming and sharecropping: These are forms of management contracts in which individual farmers, such as smallholders, work the land of larger scale agribusinesses or other farmers. In the case of tenant farming, the usual arrangement is based on a fixed rental fee. With sharecropping the landowner and sharecropper split the crop (or its proceeds) according to a pre-agreed percentage.

Joint venture: This involves co-ownership of a business venture by two independent market players, such as an agribusiness and a farmers' organisation. A joint venture entails sharing financial risks and benefits and, in most but not all cases, decision-making authority in proportion to the equity share.

Farmer-owned business: This is a formally incorporated business structure for farmers that enables them to pool their assets with a view to entering into particular types of business (e.g. processing or marketing), gaining access to finance or limiting the liability of individual members. Such businesses are often owned by farmer co-operatives in order to facilitate business transactions.

The 'choice' between different legal business structures and contractual relationship models does not come down to a simple either/or decision due to the fact that the models overlap and can be combined into various hybrids. For example, a farmer-owned business can enter into a joint venture with an agribusiness firm (processor, retailer or trader) and this partnership can undertake a management contract with a specialised provider of farm inputs. In addition, there are often more stakeholders, including governments, financiers, farm services providers or NGOs, involved in a vertically integrated supply chain.

Two considerable challenges are evident when seeking to work with smallholder producers either for domestic retailing and processing or for exporting. The first is organising and upgrading supply from a dispersed producer base. The second is traceability and quality assurance (Vorley, et al., 2009). Producers' organisations, particularly co-operatives, are vital in any attempt to meet these challenges effectively.

3.5.2 Fair trade model

Fair Trade is an alternative path that includes small producers via farmer co-operatives. The idea or social movement originated in the 1960s as a response to developing countries' dissatisfaction with their terms of trade. It can be interpreted as an effort on the part of small producers' associations in the South and consumers in the North to contract terms of production and price directly. Producers are paid a premium above the prevailing local market price. It is a good example of how the advantages of value chain approach can be tapped into for the benefit of producers in a more equitable fashion. In the early days, Alternative Trading Organisations operated across the entire chain and were responsible for importing, distributing and selling the products.

The Max Havelaar label was introduced in 1988 in an effort to expand the distribution of Fair Trade products to mainstream retailers. The label guaranteed that the goods met certain labour and environmental standards. A new international Fair Trade Certification standard was launched in 2002. Today the Fair Trade labelling system enables commercial business companies to purchase products from a selection of producers in the South and to place a 'Fair Trade' label²¹ on these products in order to allow consumers to make informed choices. Compared to the total amount of traded goods, the share of fair-traded goods is very small, amounting to only 0.01 percent of all traded goods worldwide. However, more than 4,000 small-scale producers' groups in

21 Two sets of generic standards are stipulated. These standards require traders to: pay a price to producers that covers the costs of sustainable production and living; pay a premium that producers can invest in development; partially pay in advance at the request of producers; enter into contracts that allow for long-term planning and sustainable production practices.

22 Chain-wide collaboration, new market linkages, fair and transparent chain governance, equitable access to services, chain innovations and measurement of outcomes throughout the chain.

more than 50 low and middle income countries participate in fair trade supply chains. The vast majority of these producers are organised into co-operatives.

It has, however, been observed that Fair Trade cannot solve the wide array of problems in global food trade (Hanish, 2009; Vorley and Fox, 2004). But the impact of Fair Trade is not only found in market share alone, but also in organisational structures (mainly co-operatives) that benefit and raise consumer awareness of the fair trade movement in the North. Agribusiness companies are recognising the potential loss of reputation linked with the unfair treatment of producers and are promoting their own labels based on ethical sound production and pricing practices. While some view these as niche markets, there is evidence that they are growing rapidly in many high income countries with respect to some commodities such as fruits and cash crops. This provides smallholders with marketing opportunities, even though the demand for Fair Trade-certified products is still relatively small compared to the production capacity/supply.

3.5.3 Mapping inclusiveness of business models into value chains

Determining whether a business model in a value chain is inclusive entails assessing how values are shared between producers (smallholders) and buyers (agribusiness companies). The following four criteria can be used for this purpose: ownership, voice, risk and reward (adapted from Vermeulen and Cotula, 2010):

- *Ownership:* of the business (equity shares) and of key project assets such as land and processing facilities.
- *Voice:* the ability to influence key business decisions, including weight in decision-making arrangements for review and grievance and mechanisms for dealing with information access.
- *Risk:* including commercial risk, but also wider risk such as political and reputational risk.
- *Reward:* the sharing of economic costs and benefits, including price-setting and finance arrangements.

These four criteria are closely interlinked, for example ownership will influence voice with respect to undertakings such as a joint venture and a voice in price-setting will affect 'reward'. Moreover, in practice the same distribution of the four criteria of a business case may have very different practical viability and implications in contexts characterised by different local conditions (e.g. smallholder's capacity to engage in commercial agricultural production within the regulatory framework for the food sector). In other words, there is not a single one-size-fits-all contractual relationship model for all proposals for inclusion of smallholders.

The opportunity to develop self-supporting, longstanding and viable business relationships with smallholders represents the crucial incentive for inclusive business. Supply chains will be most robust for smallholder inclusion over time when there is a structure in place within the value chain enabling implementation of a set of six principles²² to ensure that all chain players are pulling in a similar direction, to structure how these players will work together and to ensure continuous improvement (Vorley, et al., 2009. b). These principles can serve as a framework for diagnosing and improving formal trading relationships when transitioning to a scalable business model for smallholder inclusion in value chains.

3.5.4 The concept of shared value for smallholder inclusion into value chains

Colours and shades of CSR: The CSR movement, which first took hold among European companies in the 1970s, encourage companies to consider the impact of their business choices on a range of stakeholders beyond their shareholders (good citizenship with community standards). Triggered by activist demands and increasing focus on sustainable development in the 1980s, companies undertook measures to reduce negative environmental or social impacts (some moved towards 'triple bottom line accounting').

Especially since the World Summit on Sustainable Development in 2002, companies active in the F&A sector have been seriously reviewing their role as partner in the development agenda vis-à-vis customers and shareholders as part of their corporate social responsibility policy framework. It expresses a variety of ways including business principles, a code of conduct, pro-poor charity programmes and transparent reporting. In relation to the food sector, which is dependent on natural, human and physical resources, responsible innovation is increasingly being viewed by companies as a corporate and strategic necessity for ensuring environmental sustainability. Agrifood companies use own standards and codes²³ as a tool to promote sustainable development through their supply chains by influencing suppliers to adopt more environmental and socially responsible practices.

Many companies have engaged in CSR for defensive reasons, such as a public relation tool and to reduce reputational risk. A growing number of leading companies are, however, taking a broader view of CSR by seeing it as an opportunity to create 'shared value' through their activities and investments and by starting pilots. This motivates these companies to foster stronger ties with local producers, suppliers and communities, which can become part of a long-term competitive advantage for the company by creating more favourable conditions for sustainable businesses (Genier, et al., 2009). CSR policy, with its emphasis on labour and environmental standards and supplier codes, however, has done a poor job of addressing market inclusion and is often weakly mainstreamed across the business (Vorley, et al., 2009. a).

Shared value concept: The concept that corporations can make real money 'at the bottom of the pyramid (Prahalad and Stuart, 2004) differs from CSR in that it more proactively links corporate profit to business engagements with the poor, both as producers and consumers. It was argued persuasively that today's poor will become tomorrow's middle class.

Porter and Kramer (2011) have coined the concept of 'Creating Shared Value' (CSV). In contrast, it recognises that societal needs, not just conventional economic needs, define markets and social harms can create internal cost for companies. This concept can be defined as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it sells and operates (What is good for the community is good for business). 'It is not about sharing value already created by companies (a redistribution approach

such as most fair trade purchasing). Instead, it is about expanding the total pool of economic and social values (value is defined as benefit relative to cost, not just benefit alone). A shared value perspective focuses on improving techniques and strengthening the local cluster of supporting supplies and other institutions in order to increase farmers' efficiency, yields, product quality and sustainability. It leads to a bigger pie of revenue and profits that benefits both farmers and the large agribusiness companies that buy from them'. This is indeed one of the original drivers for the formation of agricultural co-operatives.

²³ Third parties have developed independent standards and codes consisting of criteria for environmental sustainability, labour conditions, benefits to local economy/community, and food safety and quality, later on.

4 The role of producers' co-operatives in food supply chains

Vertical coordination in a value chain means that the activities of sellers (farmers) and buyers (processor, retailer) must ideally fit together in order to best meet consumer demand in the global marketplace. Weakness of producers' organisations can often be identified as the single biggest obstacle for linking small farmers to commercial markets and their integration in global value chains. Other problems observed, such as lack of standards, quality, lack of education, lack of extension services and lack of finance are 'secondary' in the sense that they can be overcome once a strong producers' organisation exists. The co-operation of producers and farmers within a value chain is therefore as critical as the coordination of the chain participants in order to enable small-scale farms to respond to emerging opportunities in the global marketplace.

Throughout the recent history of agricultural development, co-operatives have been the main institutional instrument for organising producers. This is because the co-operative approach builds upon farmers' values and interests to create more viable and sustainable methods of agricultural production. Producers' co-operatives consequently constitute an opportunity for corporate businesses to expand their sourcing of quality produce to the vast expanses of agricultural lands tilled by small-scale farmers. Agribusiness companies and farmers, above all, share a common interest in the food supply chain: 'To bring a product to the market in a viable and environmentally sustainable manner.'

Corporate agribusinesses can and do work with farmers that have succeeded in organising themselves in a solid organisation and that have demonstrated willingness to attune their mode of working to the market's needs. This business model will be of growing importance for smallholder inclusion in emerging and developing economies into global value chains.

4.1 The nature of producers' organisations (POs)

Drivers of collaboration: Farmers in many countries are organised in producers' organisations with the aim of serving the collective interests of their members. The members' common interests can include access to farm input, technical assistance, marketing or processing of their produce and financial services.

A producers' organisation (PO) can be defined (World Bank, 2008) as membership-based collective organisations or federations of organisations with elected leaders accountable to their constituents. Both ownership and control are collective in nature, i.e. members hold decision-making rights with respect to both the organisation's activities and investments. Producers' organisations are based on the principle that acting collectively improves the position of their member farmers and creates opportunities for growth in farm productivity and income. The motto is: 'United we stand, divided we lose.'

Typology: Producers' organisations can be established in a number of forms whereby farmers organise themselves into a formal or informal collective. These range from formal institutions such as co-operatives, associations and societies to informal producers' groups and village associations. Informal producers' organisations are often inward oriented to facilitate collective actions within the group, while formal producers' organisations tend to have an external orientation with a view to organising relationships between the group and the outside world. They are rooted in local customs, but are organised on the basis of economic principles and governed by law (Onumah, et al., 2007). This legal status enables them to collectively enter into contracts and arrangements with third parties. For small-scale farmers it is a basic requirement for a business relationship with partners in the value chain. Producers' organisations can be local and serve only at village and inter-village levels, or can operate at regional and national levels as advocacy or apex organisations and federations.

A number of different types of purchasing organisations have been developed that are defined on the basis of their function, geographical characteristics and legal status. According to these functions, producers' organisations can be grouped in three categories (World Bank, 2008):

- Commodity-specific organisations that provide economic services and defend their members' interests with respect to a particular commodity, such as cocoa, coffee or cotton.

- Advocacy organisations that represent producers' interests, such as farm unions.
- Multipurpose organisations that respond to their members' diverse economic (inputs, credit, processing and marketing) and social needs (community services), often in the absence of local governments or effective public services.

Producers' organisations serving food value chains can be integrated forward into the value chain by processing and/or marketing farm

products or backward by purchasing and/or producing farm inputs (fertilizers, chemicals and seeds). They can also be solely focused on selling between producers and buyers.

Functions: Membership of formal and informal organisations and social networks is probably one of the major assets of people, especially smallholder farmers, living in rural areas in low and middle income countries. It is a form of collaboration among producers aimed at

Figure 4.2: Role of producers co-operatives (adapted from Were, 2003)

Role of PO or co-operative	Type of services or facilities that support member farmers
i. Reducing transaction costs and raising gross margins	<ul style="list-style-type: none"> - <i>Market information/intelligence systems:</i> Price information, trends in demand, mapping supply chain participants, etc. This can be performed more efficiently by producers' organisations. - <i>Auction and exchanges:</i> A producers' organisation can create storage facilities and plan the logistics of transport and trade. - <i>Grades and standards:</i> The producers' organisation obtains the information on food standards and regulations and trains its members accordingly. Certification of producers can only be achieved efficiently through producers' organisations. - <i>Increased gross margins:</i> Improved bargaining power, higher quality standards, packaging, reduction of storage & transport losses.
ii. Strengthening product marketing and reducing marketing risk	<ul style="list-style-type: none"> - <i>Market contacts:</i> Building up and maintaining contacts with major participants in the food chain (traders, processors and exporters). - <i>Aggregation:</i> Producers' organisations can aggregate sufficient produce to operate on wholesale markets and negotiate good terms of trade for the farmers. - <i>Compliance:</i> Facilitating compliance with food safety standards. - <i>Contract discipline:</i> The risk of side selling (i.e. farmers not honouring delivery contracts) is mitigated through a producers' organisation that has strong bonds among its members and effective sanctions. - <i>Tracking & tracing:</i> The producers' organisation should be able to support T&T to ensure food safety and develop credible branding. - <i>Risk mitigation products:</i> Forward contracting, crop/weather insurance and futures.
iii. Increasing social capital	<ul style="list-style-type: none"> - <i>Obligations and expectations:</i> Mutual agreement on how joint objectives are pursued and how individual members are expected to comply with agreed modalities of collaboration. - <i>Information sharing channels:</i> The producers' organisation provides both training and extension services to member farmers and the up-to-date information required for farming operations. - <i>Social norms:</i> Based on shared values, members agree on ways and means to maintain group solidarity and on how to overcome individual or collective threats or misfortune.
iv. Enabling collective action	<ul style="list-style-type: none"> - <i>Collective action:</i> Joint or shared investments (harvesting, storage, irrigation and transport), advocacy (lobby with public sector and civil society), trade missions, demonstration farms, etc. - <i>Trust:</i> Building mutual trust and transparency to manage joint assets and joint interests without bias or favour. - <i>Sustainability:</i> Institutional and financial sustainability based upon credible and accountable governance and adequate professionalisation of co-operative business.
v. Facilitating access to finance	<ul style="list-style-type: none"> - <i>Facilitation of embedded finance</i> by value chain participants and/or direct finance of farmers by financial institutions/SACCOs/MFIs. - <i>Self-financing:</i> Establish SACCO or Co-operative Bank. - <i>Physical asset collateralisation:</i> Warehouse receipts, repurchase agreements and financial lease. - <i>Guarantee arrangements:</i> Established between public and private stakeholders in the value chain.

obtaining (improved) access to farm input markets, finance and insurance, fostering technological adaptation and processing or marketing their products collectively. In other words, producers' organisations form part of the smallholders' social capital²⁴ that contributes to their competitiveness through economies of scale. These organisations can add value to co-operation among producers and chain participants and provide benefits for all parties. Producers' organisations can play a pivotal role in mitigating the higher costs and risks associated with small-scale farming and strengthening of their competitive position. This consequently enables member smallholders to improve the economic opportunities for their individual business efforts.

4.2 Role of producers' organisations in marketing²⁵

There are five areas in which producers' organisations can play a dedicated role in strengthening the market position for commodities produced by smallholders: 1. reducing transaction costs, 2. managing risks, 3. building social capital, 4. enabling collective action, and 5. redressing missing markets (see figure 4.2, adapted from Were, 2003). Based upon these five factors and empirical knowledge, examples can be given of the main types of services or facilities provided by producers' organisations that support member farmers. These examples highlight the relevance of the link between market position, investment structure and decision-making rules along the same lines as co-operative pathways.

Data on producers' organisations in African and Latin American countries, although fragmented, show there has been a rapid increase in the number of local producers' organisations in recent decades. Estimates are that, in the developing region, about half (250 million) of all farmers worldwide belong to at least one producers' organisation (World Bank, 2008). Co-operatives are the most widely known formal producers' organisations that provide economic services to their member farmers, in other words input supply, processing and/or effective marketing of products.

4.3 Role of co-operatives in smallholder inclusion in value chains in the South

4.3.1 The nature of co-operatives

Principles: A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. The seven principles that co-operatives subscribe to deal with membership, democratic member control, member economic participation, autonomy, member education, networking and concern for community. The first four of these are core principles without which a co-operative would lose its identity; they guarantee the conditions under which members own, control and benefit from the business. The education principle is a commitment to make membership effective and so is a precondition for democratic control. The last principle, concern for community, is about corporate responsibility, and it pertains to other concerns that the co-operative movement is promoting, such as the prevention of poverty and protection of the environment.

Historical background: The co-operative movement has its roots in Western Europe in the mid-19th century. From there it has spread over the world. It was introduced in developing countries in the colonial period by the colonial powers who transplanted their own co-operative systems into their colonies and protectorates, such as in India in 1904 (distribution of credits) and Tanzania in 1932 (export marketing of cash crops). Colonial governments promoted co-operatives principally as structures for mobilising rural people, facilitating extraction of produce and exploiting natural resources. However, different countries followed different paths, models or traditions that were largely determined by their colonial history. Develtere (2008) has described these models for Africa as the *unified co-operative model* (in former British colonies), the *social economic model* (in former French colonies), the *social movement model* (former Belgian colonies) and the *producers' model* (in former Portuguese colonies). A number of *indigenous models* have also been identified, reflecting the fact that several African countries, such as Ethiopia, Liberia and Sierra Leone, developed their own co-operative models through local adaptation of imported co-operative concepts.

4.3.2 Basic facts about agricultural co-operatives

Significance: The history of co-operatives over the past century has shown their remarkable appeal to people on all continents and their resilience during times of unprecedented growth and globalisation. As member-owned institutions operating according to set business principles and shared values, agricultural co-operatives provide an organisational framework that has proven its strength with respect in promoting farmers and small entrepreneurs as a self-propelling business. It is estimated that at the start of the new millennium there were approximately 569,000 agricultural co-operatives worldwide (IFPRI/ ICAO, 2002). In high income countries, co-operative F&A businesses effectively compete with multinational corporations on a global scale. Like the co-operatives of the past, their present existence in low and middle income countries has a major impact on rural development in terms of availability and access to provisions that improve the basic conditions of rural populations. These include job creation in the farm and non-farm sectors, rural market development, enhancement of rural incomes and improvement of access to financial and social services.

Outreach in the South: Co-operatives have been set up by different socio-economic groups (consumers, producers and employers) and in different sectors (agriculture, finance, healthcare and housing). Agricultural co-operatives in low and middle income countries not only

²⁴ The term 'social capital' describes the network of relationships built on obligations or institutional rights that result in solidarity among people. Coleman (1988) has described three dimensions of social capital: obligation and expectations, information sharing channels and social norms, which when combined facilitate collective action, trust and sustainability. High social capital in a community also leads to better organisation for collective action, improved bargaining power and confidence (Narayan et al., 2000). These concepts on social capital are of particular relevance to farmer co-operative membership and yield both economic and social values. They, however, facilitate collective action and decision-making based on trust and the shared interests of the members.

²⁵ See Rabobank box 1 on page 30.

play an important role in food production and distribution, but also in promoting the participation of women in economic production, which in turn boosts food production and rural development. In India, there are around 150,000 primary agricultural and credit co-operatives serving more than 157 million agricultural and rural producers. In the Republic of Korea, more than two million farmers are members of agricultural co-operatives, which represents 90 percent of all farmers in the country. In Japan, around 90 percent of all farmers are likewise members of agricultural co-operatives. In Brazil, co-operatives account for 40 percent of agricultural GDP and 6 percent of agricultural business exports.

Outreach in the North: Co-operatives have been fundamental to the success of family farms in industrialised countries. They have developed from village-based into regional-based and national-based organisations that can operate and invest in activities in international markets. In the United States, dairy co-operatives control about 80 percent of the dairy production and most of the specialty crop producers in California are organised in co-operatives. In France, nine out of ten farmers are members of at least one co-operative with market shares of 60 percent for inputs, 57 percent for products and 35 percent for processing. In the Netherlands, the market share of agricultural co-operatives is even higher with inputs at 52 percent, cattle and pig breeding at 80 percent, pig slaughtering at 53 percent, dairy at 86 percent, sugar at 100 percent, flower marketing at 95 percent, vegetable and fruit marketing at 85 percent and farm financing at 84 percent.

4.3.3 New opportunities for co-operatives

Drivers of change for agricultural marketing systems

Recent decades²⁶ have seen a significant change in agricultural economies and global marketing systems in relation to the international commodity trade and globally integrated food markets on both sides of the globe. The main drivers and phenomena behind these changes have been among others the rapid global industrialisation of the food retail sector, the megacity development and the lifestyle and consumer preference changes (Hanisch, 2009).

The changing structure of food demand has offered, among other things, considerable opportunities for diversification and adding value in agriculture, particularly in developing countries, and led to the emergence of new market participants on the international market. For example, as a reflection of changing consumer demand, the 1990s witnessed a diversification of production in developing countries into non-traditional fruits and vegetables (FAO, 2007). These changes have, however, also exposed producers to increased risks in terms of uncertain access to markets and price instability in the international marketplace. Moreover, the prospects for continued growth in

domestic demand in middle income and emerging economies for agricultural commodities, in particular high-value fresh and processed food, have stimulated a rapid development of agro-industries²⁷ and expansion of the supermarket sector (Reardon, et al., 2007). It should be noted that both sectors (national as well as international) are linked closely to the local farm sectors for their sourcing.

Global food markets were until the start of the 2000s characterised by relatively abundant supply and stable prices. Often the bulk of appropriable profits occurred in the top of the value chain (retail level). This has provided the opportunity for the rise of worldwide operating integrated supermarket chains and powerful multinational food processors. Food markets consequently shifted from producer and processor-orientated markets into more consumer-orientated or buyer-driven markets. But in a world of scarcer resources a reverse to more seller-driven food markets could occur in future.

Response of co-operatives to changing market systems

Industrial countries: In recent decades, both farmer co-operatives in developing countries and their Western counterparts have developed different strategies to capture emerging market opportunities that have arisen due to the changing global agricultural marketing system.

In the more developed world, co-operatives have faced increasing competition from large-scale international investor-owned firms in the ongoing process of globalisation. Co-operatives have often developed into large enterprises with international operations that are able to keep up with other participants in the value chains.

LMICs: In the developing world, co-operatives are often viewed as instruments for grouping producers and aggregating their products with a view to enabling them to access markets and to make markets work for the poor. As such agricultural co-operatives and producers' associations have become interesting not only for their members, but also for (international and local) agribusiness companies as a means for strengthening farm production and securing sustainable sourcing. Farmer co-operatives used various upgrading strategies for products, processes and functions in response to increasing demands and in pursuit of larger market share. Ruben (2007) identifies several potential pathways of how co-operatives in six low and middle income countries have adapted internal decision-making rules in order to better take advantage of globally integrated value chains. It was concluded that the direction of institutional change follows the logic of the contractual relationship model between the farmer co-operative and the chain participants of the value chain such as joint asset management, contract farming and preferred supplier regimes.

Seller market: New drivers of change are, however, now emerging. The top three are scarcity of resources, dietary change and greater volatility of prices. Combined they lead to increasing imbalances in global food supply and demand. This will prompt agribusiness companies to rethink their long-term sourcing strategies in order to avoid supply risk and price volatility. Under these conditions, food markets are undergoing a number of changes, including making the transition from a buyer-driven to a seller-driven market, a development that benefits primary producers. This is good news for small-scale farmers and their co-operatives in low and middle income countries where the tide is now turning in their favour.

²⁶ Prior to the early 1980s, agricultural marketing systems in most developing countries were characterised by pervasive government interventions which were intended both to minimise the risk of famine and food shortages and to ensure foreign exchange earnings and tax revenues from strategic agricultural export commodities (Akiyama, et al., 2001).

²⁷ In many developing countries, large-scale and formal agro-industries were driven by the public sector in the form of parastatals, some of which were formed out of private enterprises, for example in grain milling and vegetable canning and palm oil processing (Henson and Cranfield, 2009).

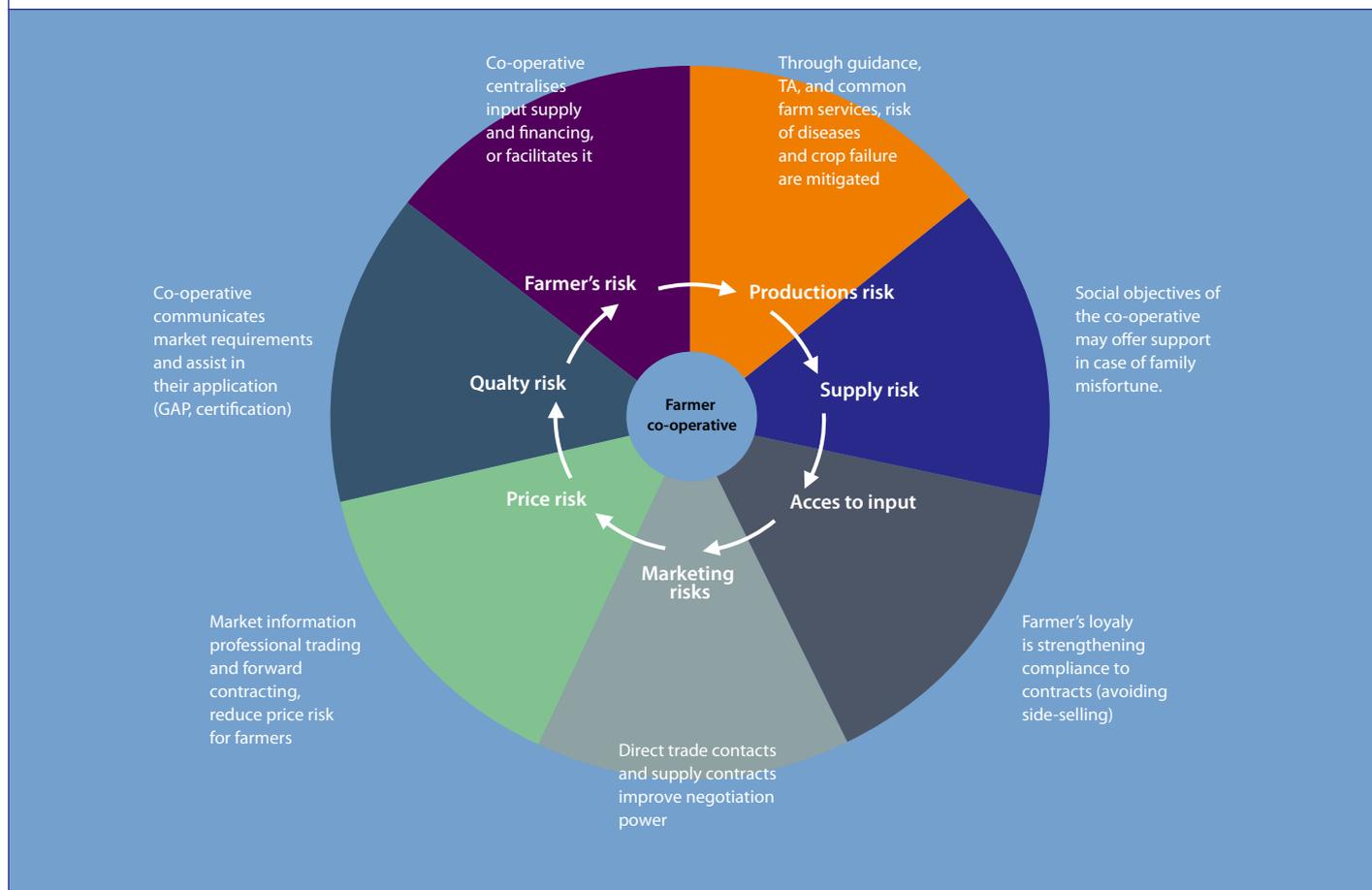
Risk mitigation potential of co-operatives: Smallholders are risk averse, in view of their limited capabilities to absorb shocks. A co-operative can play a crucial role in mitigating risks associated with farming and its links to the food value chain (thus facilitating external finance). Figure 4.3.4 presents a pathway for mitigation potential through co-operative organisation in brief.

Future perspectives: The new drivers of change will induce fundamental adjustments to global food systems, which will herald new opportunities for agriculture as a driving force in rural development. This requires a transformation towards a 'new' agriculture with scarcer resources, dynamic demand, high-value activities and the ability to add value to commodities in agribusiness. The agricultural marketing system is changing and new opportunities for scalable investments are arising, not only on-farm but also along the supply chain. The big challenge will be to make investments in the agricultural value chain favourable not only for economic growth, but also for poverty reduction and environmental sustainability.

Innovation: New opportunities will also arise from institutional and technical innovations. India is a well-known example in this respect. It is using information technology to extend and link smallholders to markets and to provide information to farmers concerning matters

such as new seeds and pest control. In the new vision for agriculture, the private sector in general and value chain participants in particular are now placing themselves in the driver's seat, not only in terms of agribusiness and value creation, but also through direct engagement in agricultural production. From this viewpoint the producers' organisations, especially co-operatives, play an important role in the process of rural transformation, allowing smallholder farmers to capture emerging market opportunities. Doing business with smallholders will also call on governments to take on a new role in order to arrive at effective partnerships with the private sector and civil society (WEF, 2011). As argued by Phahalad and Hart (2002), corporations face a world of opportunity in targeting the approximately 3.7 billion poorest people, of which a large part is comprised of smallholder farmers, who make up the Base of the Economic Pyramid (BOP). The co-operative business model can play a pivotal role in unleashing the entrepreneurial potential of and through the BOP itself when linking farmers to markets and integrating them into value chains.

Figure 4.3.4: Risk mitigation in a co-operative setting



Source: Rabobank/ERD

Rabobank box 1: Marketing and producers' co-operatives, the view of Rabobank*

Rural economic development is one of the main policy issues for the coming decades. Rabobank thinks that well-managed and well-developed producer and marketing co-operatives in developing and emerging markets could contribute to productivity growth in rural sectors and to poverty reduction, provided that certain critical conditions are met. In addition, these co-operatives could deliver market improvements and increases in revenues for farmers. Today, only one third of the smallholder farmers in emerging and developing countries takes part in some form of group enterprise. Increasing the degree of organisation could lead to considerable benefits for many smallholders. 85 per cent of the world's 460 million farms are small-scale, of less than two hectares. By joining farmers' interest organisations, they would be able to upscale their production well above household subsistence levels, thereby producing marketable surpluses.

Based on our extensive knowledge and experience, we can confidently say that the legal and institutional environment largely determines whether rural co-operative enterprises will prosper or wither. Politically motivated co-operatives cannot function properly, and will only lead to distortions rather than improvements to the market environment for member farmers. Furthermore, in the absence of elementary co-operative legislation, co-operatives cannot develop into sustainable organisations. At this point, we have to warn against going to the other extreme. It is necessary to leave ample scope for members to regulate their own co-operative business. In many countries, legislation regarding co-operatives is simply enumerative, which is in fact detrimental to co-operative development. We also believe that there is no single most appropriate manifestation or form of a co-operative enterprise to be defined, because of differences in stage of development, cultural and historical background and market conditions in each country or continent, all of which are also undergoing constant change.

Producer and marketing co-operatives that operate in a sound legal framework and a healthy market environment should first and foremost aim at economic objectives. Co-operative enterprises simply have to operate as business-like organisations. This assertion implies that member co-operatives should have or aim to attain a certain scale (in order to have an impact on the market conditions for their members), and consist of a mixture of small and medium farmers as well as larger and more innovative farmers. Co-operatives primarily directed towards the poor or subsistence farmers or small standalone co-operatives are fairly likely to fail in the end. We strongly recommend therefore that voting rights are assigned to members according to the proportionality principle rather than the often-favoured one member one vote principle. Member farmers should also have a clear market orientation

and produce sufficient volumes of good quality commodities which can be sold in markets around the world. Product regulation agreements are needed to maintain and safeguard high quality standards for the commodities as demanded by the markets. Membership should really be voluntary and members should possess intrinsic commitment and involvement. For instance, members need to understand that side-selling of their harvest will jeopardise the entire co-operative.

According to the co-operative business principle of self-financing, membership fees and retained earnings should constitute the primary source of funding and capitalisation of product and marketing co-operatives. Fee payments are not only important for funding and capitalisation, but also reflect members' intrinsic involvement in the co-operative. Without such an attitude, there can be no well-functioning co-operative. The entrance fee is generally not a major hurdle to become a member. In many cases, the entrance fee equals the world market price of 40 to 50 kilos of the commodity concerned.

Even if farmers are strongly committed to the co-operative enterprise, they may not be able to capitalise their co-operative adequately. However, a certain amount of investment or working capital is needed in most cases to finance the entire business of the co-operative, i.e. the collection, sorting and grading, handling, processing and storage, packing and shipping of the product. In our experience, co-operative capital is initially based solely on members' entrance fees and generally covers less than 10% of the financing requirement. Without sufficient funding, the co-operative cannot function properly and its future viability is threatened. To overcome this hurdle, financial institutions need to provide the necessary working capital and/or investment capital through loans (which can be encouraged in a supportive political environment). They are of course only willing to do so if co-operatives have sufficient financial and non-financial collateral or securities and are fully and voluntarily supported by their members. In other words, co-operatives need to be (or become) creditworthy and bankable. To attract external finance, co-operative businesses need organisational cohesion and management capacity, especially in financial and business planning. We feel that co-operative enterprises that do not attain creditworthiness will remain rudimentary organisations that are unable to increase their members' income.

Governments and donors can play an important role in lowering the barriers for F&A co-operatives to obtain access to financial services and to increase their productivity. Even with a consistent capitalisation policy in place, it takes several years for the co-operative to build up a capital base that is considered sufficient by banks to provide finance. Government policies focusing on improving farmers' income by facilitating the establishment of producer co-operatives and providing education need to go hand in hand with the development

of adequate financing structures/solutions for co-operatives and improvement of the general business environment. Available options include (i) the provision of reliable information to familiarise people and financial institutions with the co-operative business model, (ii) the development of Guarantee Funds, and (iii) direct financial support in the form of subsidies or intangible support in the form of education. The latter two instruments are especially useful in the initial phase of development of F&A co-operatives, if targeted at improving the efficiency and creditworthiness of the co-operative. They help to boost the use of new technology in agriculture and can encourage desired developments in the agricultural sector.

Guarantee funds are still hardly used to improve access to finance for F&A co-operatives. Rabobank thinks that these funds can have a large impact on enhancing the development of co-operatives, provided that they are properly structured with an appropriate risk-sharing mechanism between the fund and the financial institution. When designing the guarantee fund, there has to be a well-formulated exit scenario containing a time path for the realisation of capital targets and a good track record with the bank. Contributors to such a Guarantee Fund can be governments, donor organisations, and international financial institutions. **Financial support** from governments and donors should be subject to stringent conditions and be temporary. The conditions should contain strong incentives for farmers to make continuous efforts to develop and capitalise their co-operatives. Receiving external support should never become a common economic interest in itself. If so, 'members' will lose their motivation and interest as soon as external funds dry up. Economic principles should be respected at all times, and donor support should have a clear exit strategy based on realistic financial projections. Members and co-operative management should feel the real costs of assets and contribute to it or be reminded through regular loan repayments. For small farmers, **support to improve productivity** may be necessary, since their farming activities are often not profitable enough to reach sufficient capitalisation. The potential benefits of an increase in productivity often outweigh the advantages of a higher product price resulting from market power through the establishment of the co-operative. Intangible support in the form of education and transfer of knowledge therefore makes a lot of sense. Contrary to governments in developed countries, many governments in emerging and developing countries still do not assume serious responsibility for education, the extension of services, improving the infrastructure etc. for F&A co-operatives. International donors can play a constructive role in this respect. They can either encourage governments to invest in agronomic training or take up this responsibility themselves when formal institutions do not function properly.

Hence, co-operative enterprises must pursue a healthy surplus and capitalisation policy and should preferably operate with two-tier governance structure in the longer term. Contrary to common beliefs and practices, we want to emphasise the importance of retaining a significant part of the net surplus inside the co-operative in order to facilitate further growth and enhance its bankability. A part of the profit should be added to the general reserves and another part should be transferred to so-called member accounts, which members can withdraw from the co-operative when they decide to leave. Finally, larger F&A co-operatives should be managed by professionals supervised by member control or boards. If all these prerequisites are met, co-operative enterprises can play an important economic and social role. With good management, healthy profitability and strong capitalisation, they are in a position to contribute to rudimentary goals like social development, housing or education for their members. Indeed, social coherence within society is often a pre-condition for building up regional and national co-operative networks.

* Source: Rabobank (2012), 'F&A Cooperatives and Rural Financial Development in Emerging and Developing Countries: Great Opportunities and Surmountable Difficulties'. In this publication Rabobank clarifies and emphasises the important role that agricultural co-operative enterprises and rural finance solutions in emerging and developing economies can play in achieving the Millennium Development Goals. It is based on Rabobank experience and aims at providing multilateral organisations, NGOs, policymakers and other stakeholders with a practical framework for assessing the viability of F&A co-operatives and rural finance solutions.

5 Financing at the bottom of the food production pyramid

The large majority of the population in rural areas in low and middle income countries, approximately two billion people, consists of smallholders and their families. In Sub-Saharan Africa and Asia, more than 90 percent of the agricultural holdings are smallholders, while approximately 80 percent of the farmland is cultivated by smallholders. Producing up to 80 percent of the food that is consumed locally, they are the backbone of the rural economy. Access to affordable financial services is essential in order for smallholders to meet investment and working capital requirements to unlock their potential. Without investments in new farm assets, technology and equipment, these smallholders are not in a position to compete, meet formal sector requirements, diversify or increase their share in the final value of their products. In many developing regions, financial market imperfections, such as high transaction costs and information asymmetries, are likely to be especially binding on smallholders that lack collateral, credit history and connections. The absence of affordable financial services in rural areas does not only affect smallholders, but also related chain partners such as processors and traders.

The new vision for agriculture exemplifies the growing awareness in the food business world that the private sector needs to play a leading role in unlocking the potential for agriculture at the lower end of the pyramid. It will require a substantial investment in infrastructure for rural energy, irrigation, post-harvest handling and storage, processing and transportation, estimated at EUR 83 billion (FAO) and EUR 90 billion (GHI) annually. In this view, the public investment expenditure in agriculture has to be a partnership effort involving private stakeholders if the common goal of a food secure world is to be achieved.

Furthermore, increased attention should be paid to connecting and improving local and national financial systems and innovative policies for farm financing. Existing commercial banks and investment funds usually serve the top of the market, and by doing so, fail to tap into the fortune at the bottom of the pyramid (smallholders and other talented poor). If the historical lessons of co-operative banks in Western Europe are anything to go by, the

co-operative approach offers great promise for providing access to finance for smallholder farmers, and the creation of an inclusive financial system that is not limited to urban centres.

5.1 Financial landscape at the bottom of the pyramid

5.1.1 The financial service gap in the South

Lack of outreach: It is estimated that just over half of the world's adult population of 4.7 billion do not use formal financial services for saving or borrowing (Financial Access Initiative and McKinsey & Company, 2009). The large majority of these unbanked people (2.2 billion) live in Asia, Africa, Latin America and the Middle East. Approximately two-thirds of the 1.2 billion people who do use financial services in these regions live on less than USD 5 a day. The study concludes that 'existing practice shows that it is possible to serve low income populations on a large scale'. The challenge is to learn from countries and approaches where this has successfully been done, as a starting point for initiatives elsewhere. Countries can improve levels of financial inclusion by creating effective regulatory and policy environments and enabling the actions of individual financial services providers (IFC/GPFI, 2011).

Credit gap: Total unmet need for credit by all formal and informal micro, small and medium enterprises (MSMEs) in emerging markets today is estimated in the range of USD 2.1 to USD 2.5 trillion (IFC and McKinsey & Company, 2010). It is concluded that approximately 70 percent of all MSMEs (365 million to 445 million) in the developing world does not use any form of external financing from financial institutions and that another 15 percent is underfinanced. This gap is equivalent to approximately 14 percent of total developing countries' GDP and about one-third of the current total credit outstanding to MSMEs in emerging markets globally.

5.1.2 The financial landscape - a farmer's perspective

Provider: Financing of smallholders in rural markets of low and middle income countries is undertaken by a variety of institutions and community groups offering financial services, including commercial and development banks, non-bank financial institutions, co-operatives, savings and credit co-operative organisations (SACCOs), postal savings

banks, microfinance institutions (MFI), self-help groups (SHGs), village savings and loan associations (VSLAs), financial service associations (FSAs), and even telecommunications providers (mainly providing remittance services). Input suppliers, traders and processing companies also provide financial services through the value chain, such as credit for inputs and insurance for farmers.

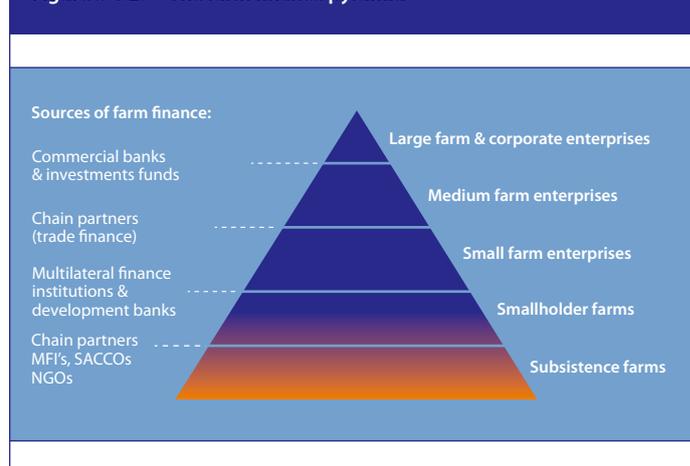
Challenges: However, compared to the non-agricultural MSMEs, these rural financial market segment face even more critical constraints that limit the availability of financing. Low levels of economic activity and population density result in dispersed demand for financial services. This, in turn, is leading to high information collection and transaction costs, making rural clients relatively less attractive for market-driven financial institutions. Other constraints to the sustainable provision of financial services in rural markets include:

- Weak institutional capacity of community-based rural finance providers limiting the potential for cost-effective alliances with commercial financial institutions.
- Limited capital resources for credit and ability to provide non-credit services such as savings, check clearing, payments and money transfers curtail rural finance providers from scaling up access to finance in rural markets.
- Weakness in the regulatory environment such as problems with registry systems for land titles and moveable assets limiting acceptable collateral that rural producers may be able to provide.
- Seasonality and co-variance of agricultural and farm production activities, which lower likely margins and increase the risks of such operations.

Although the constraints to financing of smallholders may vary between countries, they all face higher transaction costs, higher risk and relatively less attractive returns as compared to commercial urban banking. Smallholders are therefore often dependent on 'alternative' sources of finance²⁸. These sources range from microfinance institutions (MFIs) to rotating savings and credit groups (ROSCAs) and more formalised savings and credit co-operatives. In some cases, farmers are financed by value chain partners such as input suppliers and processors.

The missing middle: The key characteristics of the various farm segments in low and middle income countries from a financial point of view are described in figure 5.1.2. The top of the pyramid features the mature value chain segment, which consists of large commercial farms and plantation businesses, representing a high share of the (international) tradable agricultural commodities but a low share of rural employment/world farm holdings. This part of the value chain is usually fully commercially financed. The bottom of the pyramid consists of the subsistence farmers and semi-commercial smallholder farms. This group is usually served by MFIs and credit co-operatives (SACCOs). Commercial smallholders in the middle segment that are active in integrated cash crop sectors may get access to finance through value chain financing instruments. Some of these medium-sized farmers meet the minimum size requirement in order to appeal to banks. However, by and large, both segments have difficulties accessing formal financing, especially if they produce staple crops such as cassava, maize, wheat, rice, etc. and even more so when seeking

Figure 5.1.2: The farm finance pyramid



medium-term and long-term financing. For this reason this segment is relatively underdeveloped and has been referred to as the 'missing middle' (Oxfam, 2009). It is a crucial segment though, as it consists of private SMEs as well as producers' organisations of smallholder farmers and co-operatives that undertake vital business activities such as marketing, storage and processing. In terms of finance, the missing middle refers to the gap that exists for farmers in need of loans from USD 5,000 to USD 500,000. This group has limited access to financial services because they are often too big for microfinance institutions (MFIs) and too small, risky, and remote for commercial banks.

Key characteristics: Table 5.1.2 on the next page shows the main characteristics in terms of farm practice and technology, production capacity and the traditional position in the value chain for the five levels of farms in the above pyramid. The middle segment in this table has been subject to extensive policy debate on agricultural finance with recommendations for regulation, supervision and infrastructure. A recent study (IFC and GPFI, 2011) aims to complement this important process of revitalising agricultural finance, with an emphasis on what the private sector can contribute to the mobilisation of smallholders.

The power of collaboration: If the bottom three categories of the farm finance pyramid find it difficult to get access to finance, how do they manage? For this middle segment of smallholder farms, collaboration in the form of co-operatives has proven to be a feasible institutional response to the lack of access to finance for individual farmers. While the nature of co-operatives differs per region and subsector, the strength of the approach generally lies in a combination of one or more factors such as creation of storage facilities, enabling collateralisation of produce to facilitate finance (e.g. by application of warehouse receipt instruments) and capacity to mobilise equity participation of members to leverage debt finance. For the latter, there are various solutions, ranging from linkage to external financiers to the establishment of a member-controlled co-operative finance institution (SACCO) or co-operative bank.

	Large farmers	Medium-sized	Commercial smallholder	Semi-commercial smallholder
Land	>500 ha	20-500 ha	2 - 20 ha	<2 ha
Labour	Skilled labour	Combination of family members and external labour	Primarily family labour	Family labour
Technology	Fully mechanised	Partly mechanised	Minimal mechanisation	Low technology. Limited access to know-how.
Resources	Formal bank loans and/or external capital. Skilled (risk) and management.	Limited access to formal bank loans	Mainly informal finance	Limited resources (capital, skills, labour, risk, management)
Production	Fully commercial	Largely commercial	Partly commercial	May produce subsistence or commercial commodities, with on-farm and off-farm sources income
Capacity	Good market access, own storage/logistics and access to market information	Reasonable market access but limited access to market information	Marketing through group structures	Limited capacity of marketing, storage and processing
Value chain	Well-positioned within the value chain	Weak position. Stronger in cash crops	Position depending on group strength	Often vulnerable in supply chains

Source: adapted from IFC and GPFI (2011)

5.2 Financial services at the bottom of the pyramid

Financial co-operatives: Mutual systems of savings and credit are the most common response of rural communities to unexpected or irregular expenses, whether related to farming, festivities, sickness or burials. During the colonial and post-colonial period, these systems were replaced or supplemented with European, American and Canadian models. These types of 'self-help' financial institutions nowadays exist in many forms, ranging from informal rotating savings and credit groups (ROSCAs), organised savings and credit co-operatives (SACCOs), credit unions to co-operative banks. The strength of these financial initiatives and institutions lies in the fact that they are savings-led, which means that their prime objective is savings mobilisation and protection. Furthermore, credit delivery is restricted to members and the money they lend out (usually) comes from the savings of their members or a broader savings base. A World Bank study (2007) concludes that 'Financial co-operatives are significant providers of financial services in rural areas in both developed and developing countries. In successful cases, this success is based on a tried and tested institutional and business model: democratic, bottom-up, autonomous, self-financing and savings-based.'

The microfinance wave: What is now referred to as micro-enterprises, i.e. small shopkeepers, small farmers, marketers, craftsmen, rickshaw drivers, etc. traditionally operated mostly behind the veil of the informal sector. Access to finance, if at all, was restricted to family members, informal lenders and 'loan sharks'. During the 1960s and 1970s, a great

variety of initiatives in support of this sector emerged, often as part of public sector development programmes, or instigated by donors, NGOs and religious organisations. However, it took until the mid-1970s for the term 'microfinance' to be coined and for micro-entrepreneurs to be recognised as a legitimate target group for organised financial services. In the thirty years that followed, a wave of microfinance initiatives spread across the globe. By replacing the concept of collateral with group formation and mutual guarantees, credit came within reach of people without property. And by bringing these services to the poor man's quarters, the threshold was sufficiently lowered to draw millions of impoverished people into the realm of financial services. In the now widely replicated Grameen model²⁹, clients are part of solidarity groups, consisting of cells of some five people, clustered into groups of 20 to 30 members. Each group member is required to vouch for the creditworthiness of the others, which provides a soft guarantee, and more importantly, a system of mutual support to safeguard one another's success. Subtle peer pressure keeps each group member in line with the broader objectives of the credit programme. The innovation of group lending sparked a wave of microfinance initiatives around the world. The ability of the global microfinance sector to standardise performance indicators and to account for its achievements through a global reporting system called the Microfinance Information Exchange is remarkable for a young industry.

²⁹ Dr Muhammad Yunus, founder of Grameen Bank and winner of the Nobel Peace Prize for his work in microcredit, was an early pioneer of solidarity lending during the late 1970s.

Farming - still a frontier area for (micro)finance: The financing of the agricultural sector has proven to be a great challenge, not only for banks but also for microfinance institutions operating in rural areas. The success stories of agricultural microfinance in countries like Bangladesh (Grameen Bank) and India, have been facilitated by the fact that in densely populated regions, it is possible for credit officers to reach clients on foot or by bicycle. However, in many other countries, especially the more sparsely populated areas of Africa and Latin America, the outreach of MFIs to remote rural areas is still a challenge. Relative to commercial micro-entrepreneurs, small farmers face additional uncertainties related to crop yield and crop prices. Lack of storage facilities force farmers to sell on spot markets (local traders, village markets) at low prices during harvest time. The gross margins for farmers on staple crops sold on local markets are often very small, hardly allowing additional expenses for interest on loans. Hence small farmers may be reluctant to borrow, unless the investment financed improves their gross margin significantly. Relatively larger amounts required for farm modernisation (tools, equipment, storage, irrigation) may be well beyond the normal ceilings for microcredit.

Gross margin and interest: Another much debated issue in this context is the cost of microcredit. While an interest of 2 percent per month may be quite acceptable for a woman selling tomatoes on a daily basis, it could pose a problem for farmers who have to wait six months for the harvest and for payment of their crop. For this reason it is not uncommon for MFIs to lower their interest rates for agricultural credit, often requiring a degree of cross subsidisation by their non-farm portfolios.

Implications for MFIs: Finally, in the absence of specific agricultural finance approaches, the portfolio at risk for agricultural lending may also work out to be higher than for trade and commerce. Thus MFIs typically face lower yields combined with higher risks, making agricultural finance a more challenging proposition for finance providers.

Emerging Features of Agricultural Microfinance

1. Repayments are not linked to loan use.
 2. Character-based lending techniques are combined with technical criteria in selecting borrowers, setting loan terms, and enforcing repayment.
 3. Savings mechanisms are provided.
 4. Portfolio risk is highly diversified.
 5. Loan terms and conditions are adjusted to accommodate cyclical cash flows and bulky investments.
 6. Contractual arrangements reduce price risk, enhance production quality, and help guarantee repayment.
 7. Financial service delivery piggybacks on existing institutional infrastructure or is extended using technology.
 8. Membership-based organisations can facilitate rural access to financial services and be viable in remote areas.
 9. Area-based index insurance can protect against the risks of agricultural lending.
 10. To succeed, agricultural microfinance must be insulated from political interference.
-

Source: CGAP - Occasional Paper 11 - 2005

Emerging features of agricultural microfinance: Despite the above-mentioned obstacles, many microfinance institutions have proven that financing farm activities can be viable. A CGAP study identifies ten common characteristics of successful agricultural microfinance. A recent UNDP study explores the features of 'the next phase' of microfinance (Mendoza, 2008). Issues addressed involve improved product design, mitigating the cost of capital and distribution and marketing costs. Examples of the latter, leveraging ICT networks, include recent innovations on mobile banking, for example in Kenya and the Philippines.

Mobile farm finance: These services open up possibilities for tailored credit and procurement products for farmers, such as the DrumNet facility in Kenya (part of Pride Africa MFI), a technology that helps farmers to acquire the inputs needed, simplify credit delivery, and reduce transaction costs and risks.

Value chain finance approaches: Value chain finance refers to financial products and services that flow to or through any point in a value chain in order to increase the returns on investment, growth and competitiveness of that value chain. The successful application of a more holistic finance approach towards the various partners in a value chain, first adopted by large banks in national and international supply chains, has created awareness for the potential of this approach towards financing the agricultural sector at the bottom of the pyramid.

5.3 Financial co-operatives in the South

5.3.1 Origin and models

Origin: The history of financial co-operatives goes back to the mid-19th century when pilot projects were undertaken with credit co-operatives among rural communities in Germany. Of the two founding fathers, Friedrich Wilhelm Raiffeisen is best remembered for his ground-breaking work that led to the establishment of co-operative banking systems in various countries. By the time of Raiffeisen's death in 1888, credit co-operatives had spread to Italy, France, the Netherlands, England and Austria. As colonial powers, these countries introduced the business concept of co-operatives to their colonies. Drawing extensively on European precedents, Desjardins (DID) developed a unique parish-based model for Quebec in 1901, the so-called Caisse Populaire (Canada was a colony of France at that time). In the United States, St. Mary's Bank Credit Union was founded in New Hampshire by French-speaking immigrants from Quebec in 1908.

Models: Today, various organisational models for networks of financial co-operatives can be found around the world, its historical roots still clearly visible. Networks are the logical consequence of a 'bottom up' organisation where primary co-operatives join forces in order to benefit from shared services, expertise and economies of scale. There are two types of models (Klaus Fischer, 2004). On the one hand, there are networks in which the entities have relatively weak links and only share resources to a small extent. In this case, the accent is on the base entities while limiting integration to representation, lobbying and public relations. When resources are shared, this is often done without centralisation. Fischer refers to this as the atomised-competitive network model, like the Credit Unions in the USA. On the other hand, there are networks that are highly interrelated and equipped with apex organisations, providing significant integration. Sharing of resources is

raised to a high level of partnership and the supervision of base units is highly integrated. These are referred to as federated networks. Federated networks can be found in European countries such as Germany, France, the Netherlands and Austria.

5.3.2 Characteristics of credit co-operatives in the South³⁰

Models and features: The federated network model is often found in countries in Latin America where European immigration was strong (such as Argentina, Uruguay, Chile and Brazil) and in Central and West Africa where French, Swiss and Québécois influence is evident.

In the eight BCEAO countries of West Africa, a new regulatory framework for financial co-operatives has been established, with strict standards for capitalisation, board membership and federated structures. As a consequence, mergers take place or smaller co-operatives and federated networks are formed or strengthened. DID has been very active in this region for almost half a century with technical assistance and capacity building programmes. The *atomised model*, with a low level of integration, is characteristic of credit unions in the United States, English-speaking Canada and Australia before 1992. This model is also found in East Africa and Latin America where it has been encouraged through bilateral American and multilateral agency aid programmes.

Outreach: A compilation of data of large networks of co-operative finance of WOCCU, DID and European co-operative banks, such as Rabobank, gives a good idea of the global outreach of the co-operative finance sector in the South. They have substantially contributed to the development of financial co-operative systems through technical assistance, soft debt finance, guarantees and equity finance. Together they are active in more than 66 countries in Africa, Asia and Latin America and have some hundreds of millions of members, benefiting from either saving services, loans or both. The global outreach of co-operative financial institutions considerably exceeds that of the credit-led microfinance institutions.

Strengths and weaknesses³¹: Financial co-operatives are characterised by the urge to keep interest rates low for their member-clients. Historically, this has been a response to exploitation by informal money lenders who many poor people were forced to depend on. This distinguishing feature is especially important for farmers who, contrary to micro-entrepreneurs in trade and commerce, are faced with a relatively long production cycle and often very small gross margins. As opposed to microfinance institutions, low interest rates also imply that the capacity for hiring professional staff is very limited and governance is highly dependent upon voluntarism. Because of the relatively low yield on credit portfolios, the possibilities for the commercial refinancing of portfolios are also often limited. Another obstacle in financing the agricultural sector is the mismatch between the

maturities of savings and credit. Current legislation often makes it virtually impossible to finance term loans for agricultural equipment, storage and irrigation. This means that even if there are market opportunities, they often cannot be seized due to lack of finance.

Building capacity in the South: Co-operatives in developing countries are frequently discussed in terms of their seemingly inherent weaknesses (voluntarism in the governance structures, prone to political interference, etc). This raises the need for capacity building and professionalisation. Most national co-operative networks and federations have set up programmes to facilitate the capacity development of associated co-operatives. One of the advantages of the federated structures of credit and savings co-operatives is that the second and third tier (regional and national level) can efficiently organise capacity building and support services for the primary co-operatives. Standardisation, auditing services and joint tools can greatly facilitate the development of the primary co-operatives. The 'atomised' credit co-operatives, on the other hand, are self-standing and hence need to organise these capacity building processes and product innovation by themselves. However, these types of co-operatives (or credit unions) are often relatively large institutions that are able to afford recruitment of professional staff. For a long-term strategy on food security, it is important to recognise the prospects of financial co-operatives to become vital actors in the financial system, as many co-operative banks have already shown, with great potential for deepening outreach in rural areas and inherent stability in times of financial crisis.

5.4 A value chain finance approach to sourcing from smallholders

5.4.1 Opportunities for agribusiness

Opportunities for sourcing of agricultural produce from smallholders are greatly expanded when a marriage is realised between two core elements: a strong producer organisation combined with a value chain approach. The latter increases returns for farmers and allows for farm finance, thus facilitating farm investments. An agribusiness that takes the lead in this process needs to identify the right trading partners, develop a strategy for increasing value at the bottom, facilitate farm investment and finance and help to reduce risks within the chain.

Value chain finance (VCF) approaches do not depend primarily on new financial instruments to be applied, as these often include a traditional array of trade and investment finance tools, but rather on the orchestration of different partners in the chain (multi-stakeholder approach) and intimate knowledge of producers, products and markets. In many agricultural sectors, financial arrangements with the supply chain go back a long time due to the fact that food processors, input suppliers and large commercial farms were often the only source of credit available for producers. VCF complements traditional finance and microfinance as it adds the following three crucial elements:

- A focus on competitive agricultural subsectors by tapping into more attractive markets.
- Increase in incomes of poor farmers (higher gross margins), thus generating a capacity for farm investments and innovation.
- A focus on risk mitigation and reduction of transaction costs through collaboration arrangements between chain partners and financial services providers.

³⁰ See also Rabobank box 2 on page 40.

³¹ Large co-operative banks in Europe, the USA, Canada and BRIC countries form the other end of the graduation spectrum. It is interesting to note that, while large co-operative banks perform the same functions as commercial banks, there are still marked differences. A study on co-operative banks in the new financial system (Rabobank, 2009) concludes that financial co-operatives contribute to the stability of the financial sector. The retail customer focus and the relatively high credit ratings of co-operative banks also point to their beneficial impact on financial stability.

VCF often offers solutions in the domain of microfinance (relatively small loans), but can also be applied as a commercial arrangement between two or more chain partners, or carefully orchestrated arrangements between chain partners and one or more financial institutions.

5.4.2 Design of a value chain finance approach for smallholders

How to turn a supply chain into a value chain? Financial services providers, whether they are MFIs, financial co-operatives or banks, rarely conduct value chain finance on their own. At the bottom of the pyramid, value chain development (VCD) interventions are often required to link primary producers (farmers) to value adding markets. Invariably it involves the transformation of a local supply chain into a value chain that meets the requirements of these new markets. As long as a producers' organisation maintains a supply-driven approach, a value chain strategy may be difficult to pursue as this calls for adjustment of production to the requirements of new markets. It requires entrepreneurial spirit to venture into new products or crops for local, regional or international markets. Therefore, the success of a VCD strategy crucially depends upon the selection of the right partners.

Chain governance: An active trading partner in the chain, such as a farmers' marketing organisation or a processing company, can take the lead in streamlining the value chain, thus providing a degree of 'chain governance'. Such a party could also play a role by providing *embedded finance* to suppliers, or to establish a working relationship with a financial services provider for financing of producers and input suppliers. Compared with financial institutions, value chain operators possess easier access to information about other value chain partners, particularly with regards to the willingness and ability of potential clients to honour contracts. The creation of a successful value chain is an act of entrepreneurship. While a facilitator (specialised VCD agency) can play a useful role, the detailed design of the value chain strategy must come from a leading chain partner. In a *producer-driven* initiative, the major challenge is to turn a supply chain into a value chain (i.e. to adjust supply to demand in a new market). In a *buyer-driven* model the challenge is to identify competitive production areas and to make products conform to market requirements. Sometimes a professional facilitator is used to link producers and buyers/consumers in a chain. Whatever the entrée point, a vital characteristic of a promising VCF approach is that a leading chain partner is prepared to invest time and resources in the relations with suppliers (primary producers) and off-takers higher up in the chain. Sharing of information and building up trust is both a precondition and a good test (indicator) for a genuine VCF approach (European MFP, 2011).

Trade finance instruments: The practice of *trade credit* by commercial trade partners has always existed as a form of finance alongside formal financial services by banks. Especially in the food chains, which are handicapped by constraints on agricultural credit and rural finance, it is often the only finance instrument available. Financial institutions are traditionally hesitant to lend to farmers or farmer-based organisations due to their lack of credit history, high perceived risks and high transaction costs and monitoring costs. On top of that, there may be doubts concerning profitability, cash flow and production risks. For partners in the food chain it is much easier to overcome these obstacles as they know their trade partners and the trade itself. Based

on empirical evidence research emphasises the constructive role that foreign direct investment can have in this respect (Vorley and Fox, (2004)).

5.4.3 The need to involve financial institutions

Investment finance: The ability of chain partners to finance their trading partners is limited, and hence the need arises to get financial institutions involved. Moreover, for farmers and downstream partners (like processors), working capital finance through trade credit is not enough. Finance for investment beyond the duration of the trading cycle is what is needed. It was argued (Geoffrey Chalmers, 2006) that if chain partners see the need to take a leap forward by introducing new technologies, if they want to incorporate producers who have remained outside the organised chain, financing from inside the chain is not likely to meet the investment needs. In other words, what is needed is a transition from embedded finance within the chain to external finance. In a chain in which initially the primary producers were dependent upon embedded finance, the introduction of external credit lifts up all major functions in the chain. Financing facilitates the growth of production activities by each farmer and expansion of the overall chain when financing begins to flow in from outside the chain in the form of credit from financial intermediaries.

The virtuous circle: Access to funds from financial intermediaries external to the chain improves their situation leading to the formation of a 'virtuous circle'. The idea behind the virtuous circle of external financing is that producers can build their creditworthiness with financial intermediaries. This happens when their ensemble of market relations develops and grows stronger through participation in a modern, organised chain. When farmers receive technical assistance from buyers or when their buyers in some way guarantee purchase of the product, they improve their standing for receiving loans from financial intermediaries. This means they can obtain or improve financing from outside the value chain. The very existence of these contractual relationships, whether explicit or implicit, improves producer creditworthiness.

5.4.4 Risk mitigation through value chain finance approaches

A value chain finance approach offers a set of mutually supporting measures that, combined, are able to substantially mitigate finance risks, especially when a solid producers' organisation (co-operative) collaborates with a leading chain partner (Calvin Miller, 2011). The chain partner is in a good position to provide guidance to farmers through its PO and facilitate better gross margins through improved quality and direct access to new markets. The case of CEPIBO (see case study 5.4.3 on the next page) in Peru illustrates how risks can be mitigated through the organisation of producers and linking of finance and marketing functions. While agricultural finance in general is often considered high risk and therefore non-accessible, a consistent value chain approach manages to mitigate risks to a level that makes the chain 'credit worthy', even when individual partners (small farmers) are not.

Case study 5.4.3: CEPIBO - Banana farmers in Northern Peru

CEPIBO - Banana farmers in Northern Peru organised in a co-operative take up pre-export processing and fair trade certification. Whereas historically they supplied exporters without processing, they now do the quality control, washing, packaging and exports themselves, thus almost doubling farm incomes.

Reducing risks in the chain. Value chain finance is deemed effective and sustainable when it goes hand in hand with measures to reduce risks in the chain. The case of CEPIBO offers a good illustration on how this is achieved:

- **Production risks:** The combination of capacity building for the producers through CEPIBO is crucial to ensure year round supply in adequate quantities.
- **Finance risk:** By acting as a financial services provider and trading partner of the farmers, the risk of non-availability of finance is reduced and the risk of non-performing loans is minimised. In case of crop failure, the loans by CEPIBO to farmers can be extended for one year, with CEPIBO meeting its debt obligations from its internally generated equity capital.
- **Marketing risk:** The promotion of bananas, in fairs and business tours helped the growth of demand for CEPIBO products, resulting in a rapid growth of sales. Fixed contracts were established with fair trade importers in Europe. In the local market it has almost limitless sales opportunities, be it at lower prices. Thus, an unexpected drop in demand from importing partners can be absorbed without threatening the sustainability of CEPIBO.
- **Price risk:** Through direct contacts with importers abroad, CEPIBO has reduced the risk of price fluctuation due to influences at intermediary stages. Despite the inevitable volatility of world-market prices, the 'Fair Trade' label helps to secure fair and relatively stable prices for its members.
- **Quality risks:** Improved quality control allows for product segmentation (top quality at higher prices for export, lower quality at lower prices for local markets), thus reducing the risk of bulk rejection of export assignments.
- **Health risks for farmers:** The move to organic farming has been strongly motivated by health concerns. Part of the mission of CEPIBO is to reduce the diseases observed with farmers and farm workers in the area related to extensive use of pesticides. These working conditions have been linked to frequently observed diseases such as infertility, lung cancer, skin cancer and birth defects.

Risk of side selling: The most frequently observed obstacle in these models of 'embedded finance' in a value chain is the risk of farmers acting in breach of contracts by selling their produce to other traders, thus escaping the credit repayment mechanism. This risk is particularly high when downstream partners deal with individual farmers. In well-organised producers' organisations or farmer co-operatives, the risk is greatly reduced if not eliminated altogether. For this reason companies prefer to deal with strong producers' organisations, especially when they operate as a legal entity, such as a registered co-operative.

5.4.5 The role of value chain partners in access to financial services for smallholders

Facilitate value chain development (VCD): Companies with firm roots in consumer markets, whether by brand recognition or status as trusted supplier, considering sourcing from smallholders, almost by definition are involved in the development of a (local) value chain. In their perspective, the problem is not how to market a certain product, but rather how to ensure constant and reliable supply of agricultural supplies that meet their food quality and safety standards. A characteristic of traditional agricultural production by small farmers is the relatively low productivity per hectare. This can differ a lot in comparison to commercialised operations applying Good Agricultural Practices (GAP). If global food security is to be realised with gradually reducing resources, it is vital that productivity is increased with the smallholders the way it is with larger commercial farms. A second issue to be addressed may be the weakness of the producers' organisation(s) involved. A leading chain partner can help the producers make big steps forward, through relatively cost-effective means. This may involve simple interventions such as product-specific technical advice, chain governance, guidance on production standards and strengthening of the producers' organisation or co-operative.

In view of the importance of these types of investments, the leading chain partner will in many cases access specialised support services from the public sector, civil society or private sector specialists. Value chain development is an area par excellence for public private partnership.

Facilitating external finance for farmers (VCF): In terms of activities in the field of chain development, lead partners can play a vital role in facilitating farm financing. While initially, chain partners often play a financial role by providing trade credit, it will eventually become necessary to involve external financiers. As lead partners in the chain have already built up a relationship of creditworthiness with one or more banks, they are well placed to facilitate the transition towards direct finance facilities for farmers involved in the chain. Most important in this process are the unique opportunities that a value chain finance approach offers in terms of risk mitigation. Timely delivery of inputs and basic extension services reduce production risks. A strong producers' organisation reduces supply risks. Well-established marketing links reduce price and marketing risks. The combination of these factors makes it possible for chain partners, or banks, or a combination of the two to provide financial services. A tripartite agreement between the parties involved has proven to be a suitable arrangement to secure the commitment of all stakeholders in the process.

5.5 The investment capital challenge of smallholder inclusion

Scale of investment: Investment is essential for the development and growth of agriculture, especially for small-scale agriculture in developing regions. It requires medium and large long-term investments, such as land reclamation and physical infrastructures including roads and transport facilities, energy provision, irrigation, post-harvest handling and storage, farm inputs, equipment and equipment to processing and logistics. In 2008, the UN estimated that food security-related investment needs in developing countries ranged between USD 25 billion and USD 40 billion per year up to 2050. A more recent estimate of the investments in agriculture and downstream sections of supply

chains was USD 83 billion, of which USD 11 billion per year in Sub-Saharan Africa (FAO, 2009), while in 2011 the Global Harvest Initiative calculated that USD 90 billion is needed annually in the coming decades.

Investment sources: First of all, farmers are the primary investors in their own farm. Their investment does not only include physical capital (assets such as land, livestock, farm buildings, machinery and equipment), but also family labour and entrepreneurship (including management and farming skills). The public sector (national governments, donors and multilaterals) traditionally invests in land reclamation and reconstruction, and in physical and institutional infrastructures for agriculture. However, funding large investments through public finance and development assistance only does not seem feasible. Both donor governments and governments in developing countries have focused more on leveraging investments from the private sector.

The third source for medium and long-term investment capital is the private sector, which includes both local and foreign agribusiness firms, and private and sovereign investment funds.

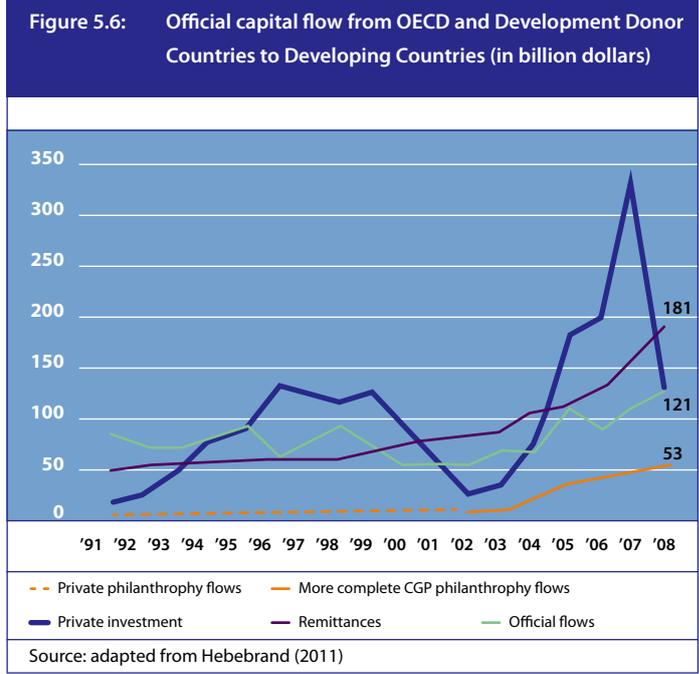
Trends: Despite the prevailing view that agriculture is risky, investment in agriculture has been experiencing noted growth in recent decades due to concerns surrounding global food security, the growing world population and rising GDP per capita in low and middle income countries. Other drivers include the switch to biofuels, growing array of agricultural investment products (e.g. 'green' funds) and a new focus on emerging markets in which agricultural assets in developing nations are gaining attraction with investors as an 'emerging market asset class'. Investing in agricultural land is unrepresented in diversified portfolios of many large pension and private equity funds, and is seen as another asset class that has the potential of going the route that real estate, private equity, and hedge funds did in the past³².

Food security considerations: Another motivation for investors, especially governmental investors/sovereign funds, is the fact that the increase in global food demand and price increases have endangered (national) food security. These factors have attracted the attention of emerging economies that are largely dependent on food imports due to lack of arable land and water, and with growing income and/or population, such as the Gulf Arab States, China, Japan, South Korea and India. These countries have invested in agricultural land to produce food abroad, mostly in Africa and Latin America, to ensure food security for their countries in the future.

Private investment: Figure 5.6 (Hebebrand, C., 2011) provides an overview of investment capital flows from different sources to developing countries. The total capital flow to developing nations is estimated at USD 476 billion in 2008, of which about 10 percent

32 FC Business Intelligence (2010), 'World agriculture investment overview: experts' insights', (www.fcbusinessintelligence.com).

33 Infant industry by its very nature operates on a small scale and therefore does not benefit from the economies of scale available to international competitors. It lacks the infrastructure and experience: managers and a trained workforce for commercial agriculture.



constitutes investment in agriculture (Global Harvest Initiative based on World Bank and other development indicators). Since private flows to developing countries tend to reflect the interest of investors, a clear decrease is visible in times of economic downturn. Some see this not so much as a lack of finance, but rather as a lack of sufficient profitable opportunities in which to invest, particularly in Africa. They reason that agriculture is an infant industry³³ (Palmer, K., 2011). Others argue that private investments will be undertaken if two conditions are met. First, there must be sufficient opportunities whose expected return on investment exceeds the return on capital required by commercial investors. Second, investors must be able to raise the debt and equity capital needed to fund the investments.

Agricultural investment funds: Among the many funds that invest in multi-asset classes, there are a growing number of specific funds whose investment target in recent years has been the agricultural sector. Investing in the agricultural sector is seen as a possible vehicle for financing agricultural projects in developing countries (Miller, C., et al., 2010). These agricultural investment funds look at the capital needs of the different partners along the agricultural value chain, taking into consideration investment funds of various types of investors, both private, public and joint initiatives, and their investment objectives. In this respect, agribusiness is not only a key driver in the agricultural value chain, but also a preferred avenue for investment into the chain, especially by international investment funds that can bring debt and equity capital, as well as expertise and market linkages to enhance agribusiness' growth and returns on investment.

Role of global players: Examples of different types of investments from across the F&A supply chain that have served to integrate smallholders into larger value chains are investments made by transnational corporations (TNCs) or global companies. Given their significant capital, technological bases and management skills, these large companies are particularly equipped to accelerate agricultural development in developing countries. TNCs offer a variety of products and services that can increase food security: advanced inputs and training to use them,

improved technologies to reduce waste and increase product quality, and the finance and marketing abilities to enlarge the number of markets they can serve profitably. TNCs have been doing business in developing countries for many years, providing the bulk of foreign direct investment (FDI). Their investments, however, tend to focus on regions that offer the greatest promise of economic returns (Hebebrand, C., 2011). According to this study, with no expectation of short-term profits, a large number of TNC investments still fall into the category of philanthropy or corporate social responsibility, and are implemented through PPPs in which the TNC collaborates with governments, foundations and NGOs.

Investment corridors: Considering that there are approximately 500 million smallholders worldwide, it is clear that the size and pace of investments must be increased. Recent attempts at significant scaled-up, transformative investments in specific regions that have the potential to be agricultural breadbaskets are the so-called 'agricultural growth corridor' projects. The aim of these projects is to guide public and private investments toward specific regions, boosting productivity in clusters around existing infrastructure while supporting the creation of new infrastructure. Two blueprints for this investment approach³⁴ are the Beira Agricultural Growth Corridor of Mozambique and the Southern Agricultural Growth Corridor of Tanzania.

Investment principles: In the new vision for agriculture, public-private investment modalities, with civil society involvement, should be able to drive sizeable, long-term investment capital in small-scale agriculture at the scale needed. The Principles for Responsible Investment, an investor initiative in partnership with the UNEP Finance Initiative and the UN Global Compact, and any actions that flow from it provide basic guidelines for achievement of inclusive and sustainable investments in agriculture. Institutional investors have the duty to act in the best long-term interest of their beneficiaries and are committed to principles such as to incorporate environmental, social and corporate governance issues into investment analysis and decision-making processes, to promote acceptance and implementation of principles within their investment industry and to report on activities and progress towards implementing the principles.

³⁴ The blueprints were launched at the World Economic Forum meetings in Davos in 2010 and 2011.

Rabobank box 2: Rural financial development, the view of Rabobank*

Rabobank believes that one cannot stimulate rural development and/or producer and marketing co-operatives without addressing the issue of rural financial development, which prominently encompasses financial inclusion of people in rural areas. Both aspects are intertwined. In the Middle East and North Africa, only 18 per cent of the total population has a bank account, as opposed to 89 per cent in Europe and the United States. 2.7 billion people are excluded from financial services worldwide, implying that they can only pay with cash and cannot save in a safe way. This leads to high - transaction - costs, but also impedes economic growth and rural development.

For many years, rural finance was simply defined as the provision of credit to specific target groups, mainly farmers. Governments in developing countries often used their financial systems to direct credit to the agricultural sector by setting interest rates at artificially low levels, by creating development finance institutions to make specific types of loans, or by directing existing institutions to lend to this sector. International donors supported this approach through the provision of funds for credit lines. This led to debt forgiveness schemes on a large scale, which had a negative impact on repayment discipline in general.

By the early 1990s, it became apparent that this approach was not successful. The credit lines had low recovery rates and were implemented by unsustainable financial institutions. Attention shifted from agricultural credit towards a wider range of financial services, rather than credit only. At the same time, priority was given to the use of market interest rates and the operational efficiency and financial viability of rural financial institutions. This policy shift did not mean that the availability of credit or financial services for the rural sector significantly improved. We have seen many financial intermediaries withdrawing from rural regions or remaining reluctant to grant loans to the rural population. Sometimes this had to do with the absence of a good enabling environment for the agricultural sector, such as the absence of enforceable land rights, or corruption. This hesitance was also often caused by the lack of organisation among individual farmers or poor functioning of the rural co-operative and supply chains in general (e.g. no enforceable delivery duty, poor governance and management, low profitability, and bad capitalisation policies). Currently, many farmers as well as rural co-operatives are still considered ineligible for banking services, mainly because they cannot provide financial security or collateral. The risks are still perceived as too high in many cases. The result has been financial exclusion for innovative farmers, well-organised new co-operatives and even good functioning co-operatives. To encourage banks to service the agricultural sector, Rabobank is strongly in favour of so-called guarantee funds and/or cost-sharing policy instruments in specific cases.

The development of a well-functioning rural finance system rests primarily on good policies, encompassing an enabling legal, regulatory and supervisory framework, and a financial sector and real sector infrastructure. Generally speaking, the preferred role of the Government is to create a conducive policy environment that enables the private sector to play its role to the optimum extent, while safeguarding the interests of all relevant stakeholders from producers to consumers. Concretely, governments should improve business conditions, develop vertical integration in the financial sector, and strengthen links between farmers. These measures will permanently increase small farmers' access to finance. Financial institutions will also be less reluctant to provide long-term finance to the agricultural sector in stable countries with a good enabling environment. Such a stable environment reduces the risks for financial intermediaries to grant long-term finance which is often needed in the agricultural sector, especially for increasing productivity. Reliable information is an essential ingredient for well-functioning financial sectors. Financial organisations need reliable information about the risks and creditworthiness of individual farmers and rural co-operatives. If proper risk assessments are impossible due to so-called information asymmetries, they will not be inclined to grant loans and provide financial services. This demands transparent accounting standards, and the establishment of independent, competent, and reputable accounting firms and credit agencies that provide reliable data on the solvency of small farmers and co-operatives. Hence, the legal environment is extremely important for the development of a sound rural financial system.

We also want to stress the importance of farmer segmentation for the development of sustainable agricultural finance solutions. The reason is that only a small group of commercial farmers has direct access to financial services from formal banks, while most farmers still belong to the group of subsistence farmers lacking sufficient repayment capacity for bank loans. The group between the subsistence farmers and the commercial farmers consists of farmers with small cash crops (for example, coffee, cotton, or cocoa) with a low annual marketable surplus and so-called 'emergent' farmers. This last group have the potential to evolve into commercial farmers, but they first have to overcome shortcomings in both their financing and farm-management expertise. Rabobank thinks that these hurdles could be overcome by establishing solid marketing or producer co-operatives with significant bargaining power, a joint marketing approach and credible zero loss and capitalisation policies. If these conditions are met, individual members of these co-operatives would not have to look independently for expensive loans or credit from money lenders, middle-men and other informal lenders. The producer co-operative can play a crucial role in facilitating this activity, achieving a better financial outcome for individual members.

Provided that the process of improvements in the enabling environment for agricultural development as well as urbanisation continues and political interference in the financial sector wanes further, we expect there to be a growing role for formal banks in rural finance in future. In this scenario, they will be able to base their financial decisions on commercial grounds and use modern technologies to reach the rural population with a wide array of appropriate financial services. Since the majority of the population still lives in rural areas, the presence of an informal financial sector is important. In the absence of formal banks, SACCOs and informal institutions should be assisted to mature and upgrade.

Reforming agricultural development banks and encouraging commercial banks to become active in rural finance are crucial factors in modernising rural finance delivery, gradually bringing together the informal and formal sides and possibly eventually establishing close linkages. By using available modern technology, formal banks could skip an evolutionary process and reach out to people that currently have to rely on informal parties or standalone Savings and Credit Co-operatives (SACCOs) directly through mobile banking and agency banking, and offering a wide range of financial services immediately. This approach has the advantage that there is no need to build expensive branch networks first, thus avoiding high transaction costs. We have also seen that SACCOs united in networks generally perform better than stand-alone SACCOs. For commercial banks, one option could be to create linkages with both SACCOs and Micro Finance Institutions so as to combine the best of both worlds. To ensure a long-term focus by any type of financial institution on rural areas, both rural and urban clients should be represented in their corporate governance.

Over many decades, Rabobank has gained valuable insights, experience and knowledge about rural finance solutions via Rabo Development and Rabobank Foundation. Though Rabobank started as a number of small credit co-operatives in the Netherlands more than a century ago, we certainly do not see the establishment of co-operative financial institutions as a holy grail to overcome all problems in rural finance. In quite some countries, a co-operative business model or structure does not work and other ways to go forward are much more appropriate. That is why we see various ways to develop rural finance, where the suitability and applicability of each alternative depends on many features of the country in question. The main message is that there is no universal recipe. It is wrong to rule out any particular type of financial institution. It is also unwise to think in rigid structures and to continue dogmatically with a chosen option if this does not seem to work after a while. Flexibility and creativity are needed.

* Source: Rabobank (2012), 'F&A Cooperatives and Rural Financial Development in Emerging and Developing Countries: Great Opportunities and Surmountable Difficulties'.

6 Synthesis: framework for an inclusive food strategy

6.1 Recapitulation of findings

This study³⁵ aims to address a number of questions that are considered vital for shaping new food sourcing strategies and the identification of new opportunities for increased food production, with a focus on smallholder inclusion in the value chain. The challenge is how to link smallholder farmers to markets and integrate them into value chains, and how to do so in a cost-effective manner. Producers' organisations and co-operatives are identified as crucial instruments to address the obstacles observed, to facilitate the process of value chain development as well as smallholder finance.

The key elements of this study are:

- Identification of new (market) opportunities for increased food production. In *Chapter 2* the strategic position of smallholders as potential food source was highlighted. Small-scale agriculture is the dominant agricultural system in developing regions, on which local communities depend for their food security. It will become increasingly indispensable as a reliable food source and a driver of the rural economy, as the world is facing resource scarcity (land, water) and greater price volatility. Integrating them into value chains offers downstream agribusiness companies an opportunity to strengthen their long-term sourcing strategies in a globalising market. Moreover, increasing food production by existing smallholders will reduce the demand for new land including water use. The result is less deforestation and land use changes, thus mitigating climate change through lower GHG emissions. The development of smallholder agriculture can be a 'win-win' proposition, benefiting the livelihood of millions of farmers, improving food security and nutrition, vitalising rural non-farm economies and aiding poverty reduction. For saving the planet,

however, food challenge can only be met if environmental sustainability and social responsibility are integrated in business models for value chains.

- Full use of this potential will not be possible unless smallholders are linked to markets in a way that boosts farm income, facilitates farm investments and strengthens entrepreneurial initiative in the sector. This issue was analysed in *Chapter 3* in the framework of local and global value chain development.
- A second major precondition is an effective process of capacity development of small farmers in a business-like approach. It was concluded in *Chapter 4* that this which will not be possible in a cost-effective manner unless it is done through producers' organisations and farmer co-operatives.
- The third essential component in the strategy is the facilitation of effective smallholder finance. In *Chapter 5* it was concluded that there is scope for smallholder finance by exploiting the opportunities of effective farmer organisation (including co-operatives) and the merits of value chain finance methodology.

The synthesis of the four components of this study is a conceptual framework for an inclusive food strategy, consisting of a set of fundamentals and interventions. Stakeholders of the food value chain could incorporate this framework into their sourcing strategies to include smallholders (*Chapter 6*).

6.2 Framework for an inclusive food strategy

Resolving the current and future imbalances in food supply is virtually impossible without tapping into the underused agricultural production potentials of small-scale farms at the bottom of the pyramid.

Obstacles to link smallholders to markets and to integrate them into value chains do exist. Small farms face major disadvantages with respect to accessing modern market supply chains. These disadvantages include low volumes of produce to sell, variable quality, high transaction costs, poor market infrastructure and limited ability to meet the high credence requirements of many high value outlets. This stands in sharp contrast to conventional business drivers of food supply, such as stringent product standards for quality and consistency, economies of scale, global sourcing and competition. Bridging these two worlds is a precondition for smallholder inclusion into value chains.

³⁵ The release of this study is timed to coincide with the UN International Year of Co-operatives 2012 and is a follow-up to the previous Rabobank studies: 'Sustainability and Security of the Global Food Supply Chain' and 'Rethinking the F&A Supply Chain, Impact of Agriculture Price Volatility on Sourcing', which were presented at the IMF/WB annual meeting in October 2010 and September 2011 respectively.

Based upon the findings of this study a framework consisting of a few fundamentals and interventions for generating an inclusive corporate food strategy can be identified. This may help stakeholders along the supply chain to shape inclusive business models, thus making themselves 'part of the solution' for one of the most pressing global issues in decades to come. The good news is that a growing number of stakeholders around the world are considering a more holistic approach that meets the challenge of food security and sustainable management of resources within a framework of inclusive business models. The question is: 'How to make the difference?'

Fundamentals of an inclusive food strategy (see figure 6.2.1)

Chain actors and MNEs can make a big difference, when they succeed to adapt a number of elements to their sourcing strategies and business model. The following key elements may be considered for shaping an inclusive food resource strategy:

Take leadership in the value chain: A clear market demand and value proposition for customers are the key drivers of an inclusive food strategy. A multi-stakeholder partnership and leadership within the supply chain are needed to overcome challenges to link smallholders to markets and to integrate them into value chain.

Ensure farm value creation: Conventional business models can be 'upgraded' to share value and risks more equitable and fairly along the value chain. Smallholders must be able to support and feed their families and make investments in their farming businesses for growth. According to this approach smallholder farming needs to become a self-propelling business.

Help strengthening of producers' co-operatives and POs: Effective inclusion of small-scale farmers, and strengthening of their farming systems is inconceivable without farmer organisation. Chain actors can play a conducive role if the farmers' organisation is able to communicate market requirements to their members and enforce supply contracts.

Seek PPP for transformation and investments: A shared holistic development view, a concrete investment plan and long-term commitment of private and public stakeholders are basic requirements for the transformation of smallholder agriculture.

Engage in B2B Coaching: The private sector can play an invaluable role in linking farmers to markets and integrating them into value chains by offering farm services and technical assistance required for production improvements and growth. Business-to-business coaching provides a uniquely cost-effective approach to farm extension, making agriculture a more viable opportunity as chain partners have the intimate knowledge of products and markets required to create more value and rewarding opportunities.

Ensure environmental sustainability: Agricultural practices should be environmentally sustainable. The challenge is: agriculture must produce more food with less resources, have less impact on biodiversity, produce less GHG emission and meet the C2C concept.

To achieve these goals it is crucial that local agricultural systems comply with local environmental sustainability requirements. Moreover, food losses and waste must also be addressed in this approach. This requires improved environmental awareness throughout the chain, from farmers to end consumers. In addition, this approach requires chain partners to be frontrunners.



Balanced food security: Local and global food security must be in concert. In this view exploitation of local and global food supply systems must be in balance.

Interventions of an inclusive food strategy (see figure 6.2.2 on page 43)

In order to maximise their impact, chain actors may consider to build one or more interventions into their sourcing strategy.

Value chain mapping: Successful long-term partnerships are based on a good understanding of the food chain concerned. A basic food value chain map³⁶ should answer questions such as: What is the structure in this value chain? Who are the key players, and what is the current role of smallholder farmers? How do products and services reach intermediary markets (farmers, traders, processors, retailers) and what channels are available to reach end markets?

Help facilitate farm business investments and attract investments in agriculture: Farm business investments improve productivity and product quality, and lower production costs.

Create access to affordable farm services: Access to farm inputs and affordable financial services reduce production costs and improve productivity. This also includes improved access to land (land tenure system), water and energy in particular for smallholders.

Facilitate horizontal integration and institutional infrastructure: Producers' organisations can reduce marketing risk, improve product quality, lower transaction costs and increase bargaining power.

Facilitate value chain finance: Use a valuable chain approach to mitigate risk and facilitate access to financial services for smallholders and other chain actors.

Seek to promote investment in physical infrastructure: Physical infrastructure required to connect smallholders more effectively to markets, such as road, ports, terminal, power grids and IT communication and information. Investments in storage, transport and processing facilities, and in sustainable water and energy supply and management reduce food losses and secure sourcing schemes.

Help shape an enabling environment: The private sector should actively participate in advocating the creation of an enabling environment, including regulations to facilitate land ownership rights (title deeds) as well as investment in smallholder agriculture and downstream sections of the value chain. This should also facilitate the embedding of interventions in a sound regional and sectorial development agenda.

these gains will require an exceptional level of collaboration among stakeholders in the agricultural value chain, including governments, companies and civil society organisations, farmers and consumers.

3. To ensure long-term success, the transformation of smallholder agriculture should be based on a holistic approach. Interrelations and impacts at local and global level, and between the farm and non-farm sector must be taken into account.
4. Effective producers' organisations are a conducive pathway for smallholder inclusion, since interventions aimed at smallholder transformation can be performed more efficiently. Solid long-term supply arrangements are not conceivable unless they guarantee a competitive reward for producers in value chains, based upon fair terms of trade and a long-term collaboration perspective.
5. Co-operatives have proven to be historically the most successful institutional mode of producer organisation, and they still are, even under conditions of competitive markets and globalisation. Small farmers are risk averse, in view of their limited capabilities to absorb shocks. Co-operatives offer unique possibilities to mitigate risks associated with farming and their links to the food value chain (thus facilitating external finance).
6. A value chain approach offers good opportunities for inclusion of smallholders, as a pathway for symbiotic partnerships within a long-term perspective, for mitigation of finance risks, and thus, for access to finance by smallholders.
7. Corporate business in the agrifood industry increasingly target smallholder farmers, especially those that have been able to organise themselves and attune their mode of working (farming) to the needs of the market. A new vision for corporate responsibility in the global food supply chain is emerging with target setting for rural economic growth, food security and environmental sustainability.
8. Existing sourcing practices in the F&A sector can well be made consistent with an inclusive food strategy, provided a number of fundamentals (basic criteria) for inclusiveness and appropriate interventions are embedded in the sourcing strategies and business models.

6.3 Concluding remarks

1. The dynamics of food markets is shifting towards producers, thus creating a conducive climate for inclusion of smallholders. Various routes exist to increase food production: improving yield per hectare, cropping intensification, reducing post-harvest losses, storage and transport losses, improving irrigation technology and reversing land degradation.
2. Smallholders form the largest underexploited potential in global agriculture, especially in Asia, Africa and Latin America. Transforming the smallholder sector requires a massive effort in terms of technical assistance, market linkages, farm investment and finance. Realising

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Rabobank Group global presence



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Cayman Island	Poland
Chile	Portugal
China	Romania
Curaçao	Russia
Czech Republic	Singapore
Denmark	South Korea
Finland	Spain
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Germany	Sweden
Guernsey	Switzerland
Hungary	Taiwan
India	The Netherlands
Indonesia	Turkey
Ireland	United Kingdom
Italy	United States

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Brazil	Mauritius
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Cayman Islands	New Zealand
Chile	Poland
China	Russia
Curaçao	Singapore
France	Spain
Germany	St. Maarten
India	The Netherlands
Indonesia	Turkey
Ireland	United Kingdom
Italy	United States

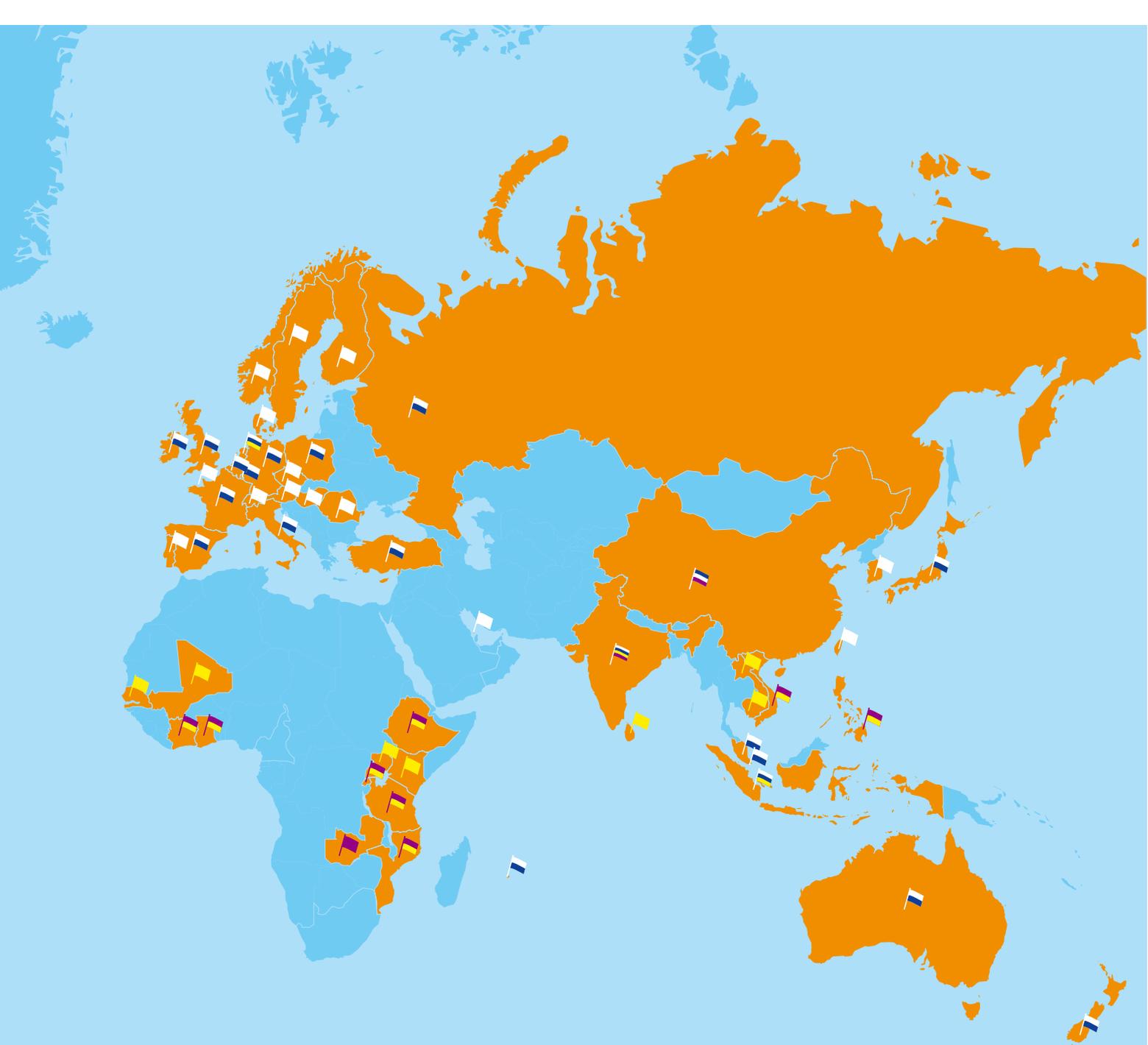
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Ethiopia	Rwanda
Ghana	Senegal
India	Sri Lanka
Indonesia	Tanzania
Ivory Coast	The Netherlands
Kenya	Uganda
Laos	Vietnam
Mali	

Rabo Development (15 countries)

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China*	South Africa
Ethiopia	Rwanda*
Ghana	Tanzania*
India	Vietnam
Ivory Coast	Zambia*
Mozambique*	
Paraguay*	
Peru	

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Global presence Rabobank Group

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***) The sale of Sarasin was completed in July 2012. Rabobank Group has no longer had a presence in Oman, Qatar and the United Arab Emirates since July as a result.

Colophon

The report 'Framework for an Inclusive Food Strategy. Co-operatives - a key for Smallholder Inclusion into Value Chains' is a joint publication of the Economic Research Department and Directorate Co-operative and Sustainable Business of Rabobank Nederland. The launch of the report coincides with the UN International Year of the Co-operatives 2012, which aims to highlight the contribution of co-operatives to building a better world.

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