



The Future of Small Farms: Report on an international conference

January 24-25, 2017, Basel, Switzerland

Why this conference?

Small farmers face major challenges

By 2050, the world's population could rise to almost ten billion¹. This rapid increase, combined with other factors, will significantly raise food demand and so create opportunities on farms of all sizes. Farmers and the broader agricultural community will play pivotal roles in meeting needs sustainably. Their success will depend on investment, technological innovation and many other facets of modernization. Our conference addressed some of these issues. The aim was to focus attention on relevant aspects for smallholders, and discuss solutions particularly suited to their needs.

There are good reasons to concentrate on the future of small farms. Most agricultural units in developing economies and 'emerging markets' are small. The prospects for viability as family businesses vary considerably. To flourish, small farmers require special support, public goods and efficient links to input and output markets. These enable them to raise productivity and incomes. In the process, they can advance to positions allowing them, or the next generation, to move off the farm.

Labor migration and the consolidation of holdings have repeatedly been features of economic development. They are closely linked to off-farm job creation and on-farm productivity growth. Accelerated progress in both is essential for broadly based improvements in living standards, and in order to match future global food demand.

The wider economic context

Smallholders are part of the wider economic environment – in many countries a very large part. The state of the economy affects demand for their produce. Economic growth leads, for example, to changes in consumers' diets. It also provides more opportunities to earn income from non-farm activities, whether in the countryside or the cities. The resulting movement of agricultural workers into other sectors is one aspect of a wider process of structural transformation. Largely witnessed in today's industrialized nations in the 19th and 20th centuries, this process has more recently been dramatically apparent in China. India is at an earlier stage of internal migration. Many African countries still lack the value-adding off-farm jobs required to absorb surplus labor productively and drive economic growth.

The conference assessed structural transformation in developing economies and emerging markets. It homed in on modernization opportunities to raise productivity and profitability on all farms, but in particular small ones. How to deliver services and solutions at scale was a recurring theme.

Joint hosts were CABI and the Syngenta Foundation for Sustainable Agriculture. They selected topics from the broad range of possibilities for discussion by panelists and the expert audience. Some 150 participants represented about 80 organizations from the public and private sectors, civil society, academia and research.

Dedicated sessions addressed the following topics: (i) Land consolidation and the future of small farms, (ii) Farm productivity, non-farm job growth and the state of structural transformation in developing countries and emerging markets, (iii) Digital agriculture and platforms for linking farmers to markets, (iv) Seed delivery systems and demand-led plant breeding to ensure relevant choices for farmers, (v) Plantwise and innovations in smallholder plant health management, (vi) Risk management and financial inclusion.

An agenda with speakers' names follows below. Unless otherwise indicated, statements in this publication come from conference discussions.



The future of what – and whom?

A closer look at smallholders

The future of small farms is inextricably linked to the economic prospects of small farmers. Any predictions first demand clarity on the various types of smallholder farming. One useful categorization is by degree of commercial activity.

What is a “typical smallholder”? One rapid answer is “an elderly woman”. Rural migrants to cities are typically young men. A Syngenta Foundation survey in Bangladesh and Senegal suggests that most would rapidly return to the countryside if they had the chance of a good livelihood there. Those opportunities are yet to materialize, however. Two demographic results are an ageing farm population and an increasing proportion of female smallholders. The average age of African farmers is about 65, and the situation is similar elsewhere. The increasing proportion of women farmers has a number of corollaries that currently hamper agricultural development. Some of these are discussed in later sections.

Smallholders worldwide share a number of characteristics, not only with each other, but also with large-scale commercial growers. Farmers everywhere are permanently engaged in risk management. The unpredictable factors with which they have to deal include the weather, prices and politics.

Added to these challenges comes another international source of concern: succession. Agricultural populations are ageing in many industrialized countries as well as Africa. Farmers large and small worry about who will work their land in 20 years’ time. The next generation’s departure to other jobs is an even more emotional issue than in other family businesses. A farm is a home as well as a workplace.

Given these challenges, the future of many small farms probably lies in cooperation between their owners, or in combination into larger holdings. However, small farmers can run profitable businesses that offer attractive perspectives to young people. Various enablers of success are discussed below, notably access to technology and markets. What is common to all smallholders, however, is that they want chances, not charity.

Alongside the similarities, there are also huge differences between smallholders – or rather, in the environments in which they operate. Box 1 lists some examples.

1

There is no such thing as “the” smallholder

Examples of differences in operating environments

- Physical conditions (e.g. climate, soil, water)
- Local governance, public policy, law & order, property rights and other public goods
- Business variables (e.g. commodity demand and distance to markets)
- Infrastructure (e.g. roads, storage, IT connectivity)
- Access to farm inputs, new technologies and services
- Education levels and access to training
- Quality of community or value chain leadership (i.e. scope for beneficial collective organization)
- Interactions with the non-farm economy

With reference to these and other differences, some experts see three broad categories of smallholders. Conference participants termed these “business-orientated”, “transitional” and “subsistence”. Of the 450 million smallholders in non-OECD countries², the first category probably accounts for some 100 million, with about twice that number in the transitional group.

Business-orientated smallholders often grow fruit, vegetables and other high-value products for sale into formal supply chains. Access to such markets offers good income opportunities. However, it also requires farmers to tackle the increasingly high hurdles of food safety standards and demands for traceability. Business-orientated smallholders typically link up collectively with the private sector. Several companies represented at the conference provided examples of such interactions.

For smallholders in transition, there are three main business opportunities. They can sustainably intensify their farming, increase their off-farm activities, or leave farming altogether. In Africa, many smallholders earn 40-60% of their income from off-farm activities. Foundations and impact investors often choose to work with transitional farmers, for example in building new markets for inputs and outputs.

Subsistence farmers are marginalized and disadvantaged. They maintain precarious farm livelihoods with poor technologies and weak links to markets and finance. Governments are theoretically well placed to work with these farmers. Some achieve considerable progress. Unfortunately, however, many states fail to step up to this task appropriately. Civil society organizations can often step into the breach, but can seldom fully replace an inactive government.

What is a “small” farm, today and in the future?

A frequently used cut-off definition, regardless of smallholder type, is two hectares (almost five acres) or below. The 450 million smallholdings defined this way form a backbone of food security, particularly in developing countries.

Conventional wisdom suggests that the number of small farms is increasing, and their average size therefore shrinking. Some experts believe that this trend will continue for another 20-30 years. Others contend that

rural-urban migration leads to the pulling together of farm units, and that smallholders are becoming a less significant component of the agricultural population. There is a lack of reliable data. Censuses run only rarely and not in all countries. The data are often open to conflicting interpretations.

What seems certain, however, is that small farms will remain an important part of world agriculture for many years to come.



Who farms how much?

Land ownership, consolidation and coordination

The issue of land ownership and reform is one of the biggest challenges facing agriculture in much of Asia and Africa. Data on consolidation are open to interpretation. However, smallholders clearly thrive best in coordinated groups.

People are generally more willing to improve items that they own rather than rent. Smallholders and their land are no exception! However, land sales are prohibited in China, and constrained in India and many African countries. (India, for example, stipulates a limit of 6.5 hectares for irrigated farms). The Chinese government is aware of the disadvantages of its historically inherited policy, and is examining reforms such as long-term leases and titling. Without a formal land title, farmers' access to credit is often limited. In many societies, this constraint particularly affects widows. As they form a growing proportion of farmers, lack of land titles increasingly threatens to stifle smallholder investment in agriculture.

The issue of land ownership and reform is extremely complex. In many emerging economies, there is a strong need for greater knowledge and skill in its management. The recently formed Network of Experts on Land Policy in Africa (NELPA) should provide some assistance in this area. Many countries also urgently need to reform their land policies. Ideally, governments should coordinate these with agricultural and rural development policies. Typically, however, these are the domain of different departments, often with conflicting vested interests.

At fractions of a hectare, many farms in countries such as India or Bangladesh are known to be tiny. However, agricultural censuses do yet not provide a clear picture of how land consolidation is developing. The situation also varies markedly between countries. Generally, though, migration from the countryside usually goes hand in

hand with some form of land consolidation. Purchase of additional holdings is not always the local response. In Ethiopia, Mali, Niger and Uganda, for example, land hiring and renting have been on the rise. Community letting of land can also lead to its more efficient use, although experience in Mozambique, for example, has been mixed.

Another response to the small and fragmented nature of farms is the formation of farmer groups, "hubs" or cooperatives. These organizations can improve smallholders' access to machinery, inputs, services and buyers. The Syngenta Foundation helped launch the successful Farmers' Hubs program in Bangladesh. In Indonesia a "cluster/leader-farmer" model spreads know-how from centers of excellence. The creation of Special Economic Zones for agriculture in some African countries brings similar advantages. The zones serve small and large farmers alike, and link them with the private sector.

One rather different form of consolidation is the practice frequently referred to as 'land grabbing'. This typically involves large-scale purchase of farmland by foreign states or companies. The practice is nothing new, but it has recently attracted more widespread public attention. The purchases increased dramatically in developing countries earlier this century, reaching a first peak in 2011. A UN database lists over 1300 cases of such foreign acquisitions. Much of the land is being developed for agriculture or used for related down-stream activities such as food processing. Some, however, has been left barren. Overall, there seems little evidence of technology transfer by purchasers to the countries affected. Civil society and a number of private companies have agreed to voluntary guidelines on land acquisition, under the auspices of the United Nations.

Successful small farmers of the future will enjoy well-documented land ownership, and work closely with their neighbors.



Can small farmers tap into big data?

Digital agriculture and new technologies

Information & Communication Technologies (ICT) offer numerous opportunities for farmers worldwide. Smallholders stand to benefit enormously, if served appropriately.

The conference examined the role of ICT in providing new solutions for farmers. Sometimes, it is simply a *sine qua non* for large-scale data management: GlobalGAP provides an example. With some 160,000 farms to audit, the organization requires technological solutions for efficient tracking of production standards. As described below, ICT can additionally play a pivotal role in disease and pest diagnosis, as well as in the provision of financial and insurance services for smallholders. The spread of mechanization in smallholder agriculture can also benefit from digital technologies, for example in the “Uberization” of equipment hire, or remote monitoring of its performance.

Numerous other agricultural applications already exist. Many more would be useful and possible. With only 250 new agricultural apps out of the 10,000 released every year, there seems considerable scope for further developments. As in other sectors, however, the commercial introduction of digital technologies can face some major hurdles. These include the establishment of information ownership and a sustainable business model.

Not every app for Iowa is automatically suitable for Uttar Pradesh. Introducing ICT innovations for smallholders involves some particular additional challenges. Technology access can be an issue: Smartphone use in rural Africa, although rising rapidly, is still uncommon. Literacy often poses an additional hurdle: In India, for example, only about 56% of smallholders can read and write, considerably below the average for the population as a whole. Customizing tools to individual farmers significantly increases use, but the sheer numbers of people involved makes this expensive. Uptake of ICT solutions can also be slowed by the agricultural cycle. With only one or two harvests per year, the benefits of digital technologies can be slow to become apparent. For farmers worldwide, however – and not just smallholders! – “seeing is believing”. The time-lag caused by crop cycles is compounded by smallholders’ very understandable reluctance to change long-standing working practices. The risk involved often lies entirely on their shoulders. Raising adoption rates can therefore require risk-mitigation, for example through purchase guarantees, or insurance.

ICT can help professionalize smallholders’ business, if software developers innovate appropriately.

Digital diagnosis and real-life Doctors: Plantwise

The Plantwise program represents a successful blend of ICT and more traditional elements. The model is based on that used in primary healthcare. Over the past five years, its champions at CABI have both established diagnosis clinics and built a knowledge bank about threats to plant health in 34 countries. The data cover some 2500 pests and diseases; the knowledge bank is an open-access web-based resource. It also documents all the observations made by Plant Doctors at the clinics. These form a valuable basis for monitoring and potentially predicting the spread of pests and diseases. The system recently helped, for example, to identify the emerging threat from the tomato leaf miner (*Tuta absoluta*) in Uganda. CABI worked here closely with the government, as it does elsewhere.

As part of a broader system, Plantwise faces a number of challenges. Many of these are related to education. Some countries have a serious shortage of plant pathologists, and therefore of relevant local expertise. Farmers themselves often confuse pest or disease damage with problems related to other factors, such as soil composition. Even when the problem and a solution are correctly identified, smallholders may not be able to acquire the necessary inputs and advice. Agro-dealers sell crop protection products to smallholders. However, many lack the knowledge to play a full part in informing customers about how best to treat particular pests and diseases.

However, Plantwise itself plays an important role in disseminating knowledge. Plantwise trains extension workers to become Plant Doctors. A Plant Doctor who cannot answer a farmer’s question consults colleagues in the same network. He or she also has access to experts at universities and other institutions.

Threats to crop yield and quality will continue to evolve; platforms such as Plantwise significantly improve small farms’ ability to contend.

How can seeds best meet needs?

Functioning markets and the right varieties increase productivity

Improved varieties can hugely increase farm yields and incomes. Many smallholders', however, lack access to good seed. This is a major constraint on agricultural development.

As a contributor to improving farmers' livelihoods, seeds combine a number of advantages. Once proper markets are established, seeds can reach large numbers of smallholders much faster than other elements of agricultural improvement. Extension agents, for example, also play a valuable role. However, they can only reach farmers slowly and expensively. Seeds also act as a medium for bringing farmers several benefits at once. Inside, they can contain embedded technology, as well as traits that meet the needs of farmers and consumers, such as drought tolerance and cooking qualities. Outside, they can carry treatment coatings that protect against soil-borne insects and diseases. Farmers who invest in better seeds usually try to maximize the return by taking particularly good care of their crop.

Despite all these benefits, access to good seed is rare in developing countries. In Sub-Saharan Africa important crops such as sorghum, potatoes, beans and cassava grow on more than 29 million hectares and support 100 million smallholders. Yet, quality seed of better-performing varieties is only available for up to 10% of the area. In Mali, for example, there are almost no modern varieties grown on six million hectares of sorghum; the situation with groundnuts is similarly bleak.

Three inter-related constraints reduce smallholders' access to quality seeds. These are the lack of a conducive regulatory environment, insufficient choice of locally adapted varieties and considerable deficiencies in distribution.

The regulatory environment in many African countries is burdened by ineffective administration. It can take several years to register new seed varieties. This is often true even when the varieties are already available in neighboring countries or fellow member states of common trading areas such as ECOWAS. Some Asian countries, on the other hand, show the benefits of a supportive regulatory environment. In the Philippines, for example, this has led to the development of a flourishing seed market which supports agricultural output.

Improved crop varieties are a key focus of agricultural research and development. However, technology solutions alone are not enough. Meeting customer demand is a vital ingredient of business success. This also applies to the breeding of improved crop varieties for smallholders. It is essential for food security that public programs generate more varieties that farmers and their customers want to use. Some government programs include farmer participation in variety development. However, the public sector typically focuses strongly on science. Private companies pay closer attention to demand.

'Demand-driven' plant breeding puts customers at the heart of R&D. It involves users even before the scientific work starts. These 'users' are not only farmers, but also stakeholders right along the value chain. They influence how the crop is traded as fresh food, a processing ingredient and seed. Adoption of new varieties by smallholders depends on more than just their intrinsic benefits. Good quality seed needs to be available, affordable and accessible. Seed organizations, however, can only flourish when they can sell a range of sought-after varieties that bring benefits along the value chain. Designing a 'customer-driven' variety means taking into account the preferences and needs of key stakeholders. A major program is now underway to make demand-led approaches a core part of the curriculum for plant breeders at African universities (see also Box 2 overleaf).

Once suitable seed is developed, the challenge is finding the best route to market. Sales and marketing to small farmers require specific approaches. Small packs and mobile seed shops have both proved attractive. With the right approach, companies also see potential for profitable sales of open-pollinated varieties, as well as hybrids. A recent example is that of a pulse crop in India. One company raised the germination level from 65% to 95%, added a seed treatment and tamper-proof packaging. For these benefits, smallholders were willing to pay a considerably higher price than for conventional OPVs.

Successful small farmers will use high-quality seed of varieties that meet customer needs.

**2**

African breeders seek three changes

African scientists are working in an international program to improve their continent's plant breeding. After attending the conference on "The Future of Small Farms", they made three key recommendations: Africa needs more plant breeders, more demand-led breeding and more continuity in funding.

As the scientists explain, Africa currently has fewer than 500 active breeders to improve over 50 crops. Many nations have none. On average, there should be at least two per country for each major crop. Some regional initiatives provide cost-effective, high-quality, locally relevant training. Many more are required.

Plant breeders must understand the needs of farmers, food processors and urban households. Customers want farmers to grow crops with particular characteristics. Demand-led breeding will result in new varieties that rise to these expectations. There will be strong market pull, enabling significant increases in farm income. As a result, millions of smallholders are likely to adopt these crops rapidly. Productivity would then rise strongly.

It takes about ten years to develop a new plant variety. Certainty and continuity in funding are essential. Today, Africa's long-term R&D survives on short-term funding. Improving the financial support requires innovative business models. These include more public-private partnerships. Transforming agriculture into an attractive sector for future smallholders will also encourage breeders to work in Africa, instead of continuing the "brain drain" abroad.

Putting the money where the food could be

Risk management and financial inclusion

To grow, a business needs credit. To innovate, it needs confidence. With better loans and lower risk, small farms can become businesses and thrive.

Potentially, many financial products available to large farms can also help groups of smallholders. They include debt financing, equity, factoring, short-term loans for input purchases and long-term working capital to pay for machinery. Although many farmers, notably women, are still underserved by banks, financial inclusion has made considerable progress in recent years. Digital technologies enable many more smallholders to benefit from financial services: Kenya's M-Pesa mobile payment system is a well-known example. However, there is still a large financing gap. Smallholders currently have access to credit worth about \$50 billion; experts believe they could use at least four times this amount. Lending also needs to shift to formal institutions. In India, for example, some 37% of loans are still from the informal sector. The interest rates of 20-40% are much higher than from banks.

The conference identified three main constraints to the growth of financial services for small farmers. The first is that conventional loan offers are often inappropriate. Even where the interest rates are affordable, lenders often demand the wrong form of collateral, or fail to match the repayment plan to farm cash flow. This reflects the second constraint: bank managers' frequent lack of understanding of agriculture, or lack of interest in farmers as clients. Smallholders are often further handicapped by lack of expertise in producing financial plans and business statements. The overall result is a lack of capital from financial institutions in their hands, and therefore much less investment than farming needs.

Insurance, as well as reducing agricultural risks, can also act as a new form of loan collateral. Hitherto, however, even fewer smallholders have access to insurance than to finance. Africa's first index-based weather insurance was piloted by the Syngenta Foundation in 2009. Today, Kenyan insurance surveyors ACRE Africa help provide suitable products for some 800,000 farmers. Despite this rapid progress, millions of smallholders worldwide cannot yet take out insurance. The task now is to overcome the hurdles preventing more widespread access. These are listed in Box 3.

3

Why smallholder insurance is slow to spread

- Agricultural cover needs careful explanation, particularly to farmers without experience of other types of insurance
- Smallholders conventionally prefer risk-mitigation that does not increase costs
- Insurers fear high costs and low profitability in rural areas
- Insurers and smallholders lack a tradition of mutual understanding and trust
- Insurance is often highly regulated
- Some countries crowd out private initiatives with subsidies

Some of these challenges are easier to tackle than others. Digital technology can rapidly reduce operating costs, enabling insurers to charge premiums that smallholders can afford. However, understanding of insurance and trust in its providers take time to develop. Subsidies have their advantages and disadvantages. In India, government involvement has hampered development of the private insurance market. However, support can boost initial adoption. In China, 70% of agricultural insurance is subsidized. The market there did not exist ten years ago, and is now the world's second largest. Overall, widespread establishment of smallholder insurance requires complex partnerships. Typical members, alongside the farmers themselves, include a local insurer, an international re-insurer, aggregators of smallholder groups and suitable technology partners.

Tomorrow's small farmer will be well-served by banks, and apply insurance as naturally as fertilizer.

The best from two sectors?

Public and private can achieve most together

Smallholders can benefit both from companies and state institutions. Public-private partnerships add extra value.

Several conference participants from outside the private sector commented favorably on the strong business representation at the event. When many countries' public sector pulled back from agricultural investment in the 1990s, companies were initially slow to respond. Today, it is clear that private industry plays a key role in improving small farmers' livelihoods. With some ideologically driven exceptions, most observers welcome companies' engagement in this area. Conference speakers referred to many initiatives and successes, for example in the markets for seed, insurance and machinery. Many commercial enterprises are also involved in farmers' education: Technology and training are close and essential twins.

As indicated above, the private sector generally works with business-orientated smallholders. Even so, the approach often needs to be 'learning by doing': Companies and their partners start with pilot initiatives, then scale these up, where necessary still adapting as they gain experience. In doing so, companies need to consider the smallholders' whole environment, and not just their own particular product or service. In some cases, business are also prepared to accept lower rates of return than from large commercial farms. There is nonetheless considerable scope for further private sector engagement.

Companies can, however, not achieve everything on their own. The public sector also plays a vital role. National and supra-national organizations make numerous contributions in agricultural research, for example. Governments can also enable significant progress by providing a supportive enabling environment. As the sections above suggest, numerous aspects of farming benefit from wise policymaking and well-enforced liberal legislation. The topics include land reform, seed trade, regulation of financial and other services, food imports / exports, education and training, and targeted farm support, for example through kick-start subsidies. If the enabling environment is right, and commercial chances are apparent, private industry will engage.

In many cases, public-private partnerships offer the best route to success. PPPs can tackle numerous challenges: improving regulatory aspects, accessing funds, establishing paths to market and transferring knowledge. They combine the strengths of both sectors, and achieve more than either partner could do alone. This is, however, often easier said than done. PPPs typically need expert brokering to come together. Civil servants and company employees usually have different ways of working, priorities and organizational cultures. Early alignment of goals and values, and the building of trust, are therefore essential in every PPP. There are few sources of advice on how best to structure and run such partnerships. One useful exception are the PPP pages of www.syngentafoundation.org.





So... what is the future of small farms?

Shrinking farm sizes, lack of successors, increasing extremes of weather, poor access to numerous resources: At first sight, smallholders face a bleak present and a worse future. On closer inspection, however, there is much reason for optimism – at least for large segments of the smallholder population. Rising food demand, particularly in cities, offers farmers the prospect of better incomes. New digital tools and seed varieties help them serve the expanding market. New forms of organization enable them to do so more efficiently. Financial institutions and insurers are beginning to see small farms as business partners instead of a negligible quantity or a headache.

The two host organizations, CABI and the Syngenta Foundation, concluded the conference with a confident look ahead. The future, they believe, will be one of sufficient safe and nutritious food – much of it grown on small farms. The rural economy will thrive, on the farm and off. Small farmers will benefit from greater financial inclusivity, extend their holdings and expand their activities. Urban migration will continue, but smallholders will run businesses that offer future generations an attractive alternative.

References

1) See e.g. <http://www.un.org/en/development/desa/publications/world-population-prospects-2015-revision.html> (Accessed February 27th 2016)

2) Lowder, S.K., Scoet, J. and Singh, S. 2014. *What do we really know about the number and distribution of farms and family farms worldwide? Background paper for The State of Food and Agriculture 2014*. ESA Working Paper No. 14-02. Rome, FAO

For further information on the conference hosts, see www.cabi.org and www.syngentafoundation.org

Conference Agenda

Introduction: Michel Demaré, Chairman of Syngenta and SFSA

Scene-setting. Trevor Nicholls, CABI and Marco Ferroni, SFSA

Creating a Viable Future for Small Farms: Peter Hazell, Independent Researcher

Panel 1: Farm productivity, non-farm job growth and structural transformation
Ashok Gulati, ICRIER / John Ulimwengu, IFPRI / Xiaobing Wang, Peking University

Seeking Scale and Sustainability: Craig Hanson, World Resources Institute

Panel 2: Land consolidation and the future of small farms
Frank Place, IFPRI / Kostas Stamoulis, FAO / Julian Quan, University of Greenwich

Small farms and big data: Phil Abrahams, CABI

Panel 3: Digital agriculture and platforms for linking farmers to markets
Kristian Moeller, GAP / James Watiti, CABI / Ramesh Ramachandran, Mahindra

Scale-up through enterprise: Mike Robinson, SFSA

Empowering small farmers through science and technology: Erik Fyrwald, Syngenta CEO

Panel 4: Seed delivery systems and demand-led breeding
Eric Danquah, WACCI / Richard Jones, AGRA / Bhupen Dubey, Advanta / Mary-Ann Sayoc, EWS

Panel 5: Plantwise and innovations in smallholder plant health management
Washington Otieno, CABI / Shaun Hobbs, CABI / Stephen Byantwale, MAAIF Uganda

Different Avenues – One Destination: Paulus Verschuren, CABI Board & Founder WorldFedNL

Panel 6: Risk management and financial inclusion
Esther Baur, Swiss Re / Serena Thomson, FAST International / Stewart McCulloch, Vision Fund

