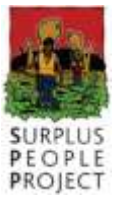
Agroecology and agrarian change:

Towards a democratic participatory agroecology

Report on a workshop held from 24–26 May 2011 in Cape Town

Co-hosted by Surplus People Project (SPP), African Centre for Biosafety (ACB) and the Right to Agrarian Reform for Food Sovereignty Campaign (FSC)



"Bringing together local and international farmers, movements, activists, NGOs and academics"

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Acronyms

ACB	African Centre for Biosafety
AE	Agroecology [agro-ecological agriculture]
ARC	Agricultural Research Council
CASP	Comprehensive Agricultural Support Programme
COP17	The 17th Conference of the Parties of the United Nations Framework Convention on Climate Change (to be held in Durban in November 2011)
DAFF	Department of Agriculture, Forestry and Fisheries
FSC	Food Sovereignty Campaign
GM	genetically modified
GMOs	genetically-modified organisms
IA	Industrial agriculture
LPM	Landless People's Movement
MFPP	Massive Food Production Program
SPP	Surplus People Project

1 Presentation: Agroecology and agrarian change

Million Belay, Movement for Ecological Learning and Community Action (MELCA), Ethiopia[1]

Objectives of food security

1. **Availability**. This relates to there being sufficient food at home and on the market to meet the needs of people.
2. **Accessibility** has physical and economic components. *Physical* accessibility means that food should be accessible to all, including physically vulnerable people such as children, older persons or persons with disabilities; *economic* accessibility means that food must be affordable without compromising the ability of people to meet other basic needs such as education, medical care or housing.
3. **Adequacy** requires that food should satisfy dietary needs, be safe for human consumption, free of adverse substances and culturally acceptable.

Industrial agriculture

The key feature of industrial agriculture is monoculture – the cultivation of a single crop for feed, fibre or fuel. Monoculture results in economies of scale that can reduce production costs and therefore reduce the prices of commodities in the marketplace. But growing only one or two crops encourages pests and weeds, which means this method requires heavy doses of insecticide and herbicide. Growing the same crops year after year also depletes the soil, which means this method requires increasing quantities of fertiliser. This creates large markets for corporate manufacturers of pesticides, fertiliser, and farm vehicles. Concentrated livestock production puts animals in close proximity to one another, often under stressful conditions, making them more susceptible to disease. Managing animal disease under intensive production conditions requires the use of vaccines and medicines like antibiotics.

Problems with industrial agriculture

1. Industrial agriculture (IA) displaces local communities and indigenous peoples as corporations consolidate farms into larger production units.
2. IA leads to loss of bio-cultural diversity (the inter-relationship between the culture of people and biodiversity). There is a movement away from a diverse range of crops to a small number of crops. The prevalence of monoculture in industrial food production systems leads to a loss of genetic diversity. Low genetic diversity increases the risk of disease or insect pest outbreak and makes the potential impact of such outbreaks more serious.
3. IA is highly dependent on petroleum to synthesise the fertilisers, pesticides and herbicides, and for fuel for the aircraft, trucks and tractors that deliver and administer these chemicals. Because petroleum supply is erratic and limited, agriculture based on these chemicals is unsustainable. As the price of petroleum increases, prices for agricultural chemicals will increase. As prices increase, farms will use less fertiliser and agricultural yield will decline.
4. IA makes increasing use of genetically modified (GM) crops. GM crops can deliver increased yields, but the trade-off is a reduced ability to resist pests and compete with weeds for nutrients and water. Genetic engineering does not increase the photosynthetic energy available to plants, it just redirects it. Using GM crops can put the farmer under the control of international corporations that own patents on the crops. As use of GM crops spreads, the world's food supply becomes increasingly dependent on the economic goals of a handful of corporations rather than the needs and desires of consumers.

[1] Melca means ford in both Amharic, the national language of Ethiopia, and Oromo, the next most widely spoken language in that country.

5. The simple, vertically integrated economic food chain common in IA can be highly susceptible to disturbances.
6. Animal production at industrial scale is a key driver of climate change (animals are the single biggest contributor to climate change).
7. IA depletes and pollutes water resources due to heavy demand and toxic runoff. Animal waste lagoons and sprayfields near aquatic environments can significantly degrade water quality and endanger health. Inorganic nitrogen leached from fertilisers spread on agricultural fields enters waterways and causes hypoxia that causes the death of fish, crustaceans and other aquatic life. Dead aquatic zones have been reported in more than 400 regions throughout the world.
8. Nitrogen volatilised from fertilisers enters the troposphere and poses direct health threats to humans. Large amounts of ammonia are released from fertilisers into the environment.
9. Overuse of antibiotics in the livestock industry has resulted in increasing resistance in targeted organisms. Increasing resistance of weeds to a single type of herbicide has resulted in the need for a wide variety of expensive herbicides. Pesticides kill beneficial insects that can help control pest species.
10. The use of chemicals in IA kills microorganisms in the soil, reducing biotic activity and natural fertility.
11. Ploughing and other methods of tillage disrupt the structure of the soil, resulting in erosion that is destroying croplands throughout the world.

Agroecology

Core principles

Agroecology (AE) came about with the convergence of two scientific disciplines: agronomy (the study of soil management and crop production) and ecology (the study of the relationships between organisms and the environment). As a science, AE is the application of ecological science to the study, design and management of sustainable agro-ecosystems. As a set of agricultural practices, AE seeks ways to enhance agricultural systems by mimicking natural processes, thus creating beneficial biological interactions and synergies between the components of the agro-ecosystem. It provides the most favourable soil conditions for plant growth, particularly by managing organic matter and by raising soil biotic activity.

AE:

- recycles nutrients and energy on the farm, rather than introducing external inputs;
- integrates crops and livestock, because the one supports the other;
- diversifies species and genetic resources in agro-ecosystems over time and space;
- does not depend on a single crop;
- does not use pesticides and fertilisers;
- focuses on interactions and productivity across the agricultural system (every element, including soil, forest and livestock), rather than focusing on individual species; and
- is highly knowledge-intensive, based on techniques that are developed from farmers' knowledge and experimentation rather than delivered from the top down.

Can agroecology feed the world?

Jules Pretty et al.[2] compared the impacts of 286 recent sustainable agricultural projects in 57 countries covering 37 million hectares (3% of the cultivated area in developing countries). They found that such interventions increased productivity on 12.6 million farms, with an average crop

[2] Pretty, Jules. 2006. *Agroecological approaches to agricultural development*, November 2006 (version 1). http://www.rimisp.org/getdoc.php?docid=6440, accessed 11 June 2011. Jules Pretty is Professor of Environment and Society, Department of Biological Sciences, University of Essex, England.

increase of 79%, while improving the supply of critical environmental services. These projects do not pollute air, water or soil. Disaggregated data from this research showed that average food production per household rose by 1.7 tonnes per year (up by 73%) for 4.42 million small farmers growing cereals and roots on 3.6 million hectares, and that increase in food production was 17 tonnes per year (up 150%) for 146 000 farmers on 542 000 hectares cultivating roots (potato, sweet potato and cassava).

When UNCTAD[3] and UNEP[4] reanalysed the database to produce a summary of the impacts in Africa, they found that the average crop yield increase was even higher for these projects than the global average of 79%. The increase for all African projects was 116% and the increase for projects in East Africa was 128%.

The most recent large-scale study points to the same conclusions. Research commissioned by the Foresight Global Food and Farming Futures project of the UK government reviewed 40 projects in 20 African countries where sustainable intensification was developed during the 2000s. The projects included crop improvements (particularly improvements through participatory plant breeding on hitherto neglected orphan crops), integrated pest management, soil conservation and agro-forestry.

By early 2010, these projects had delivered benefits for 10.39 million farmers and their families and improvements on approximately 12.75 million hectares of land. Crop yields more than doubled on average (increasing by a factor of 2.13) over a period of 3–10 years, resulting in an increase in aggregate food production of 5.79 million tonnes per year. This is equivalent to 557kg of production per farming household.

Roles of agroecology

- AE reduces rural poverty.[5]
- AE contributes to climate change adaptation by protecting soil microorganisms which absorb carbon dioxide.
- AE increases the participation of farmers because it is knowledge-intensive and starts with the farmers.
- AE contributes to the conservation of bio-cultural diversity. In Northern Ethiopia alone, there are over 100 varieties of wheat, over 60 varieties of barley and over 50 varieties of sorghum.
- The aims of AE dovetail with those of the food sovereignty movement which aims to shift the political structure of the food system.

Food sovereignty

The food sovereignty movement mobilises around:

- the right of small farmers to produce at fair prices (protecting the national economy and promoting redistributive agrarian reforms);
- access to national and local markets for small-scale producers – establishing direct links between consumers and producers;
- the right to healthy, accessible and culturally appropriate food; and
- the right of each country/ people to define their own food policies and agrarian development model.

[3] United Nations Conference on Trade and Development.
[4] United Nations Environment Programme.
[5] The definition of poverty is highly contested.

Challenging the dominant thinking around food and agriculture

A flawed set of underlying assumptions

1. 'People starve because there is not enough food and the population grows exponentially.' This assumption is flawed because the issue is not the availability of food. There is enough food in the world. The issue is that food distribution is unfair, or that people are unable to afford to buy food without compromising their access to other needs, e.g. education, medical care and housing.
2. 'Hunger is solved by increasing food production with high input technology.' During the Green Revolution in India there was a lot of production and rich farmers produced a lot of food, but hunger has increased and many farmers have committed suicide. An increase in the amount of food produced does not necessarily mean hungry people will eat.
3. 'Progress requires replacement of local varieties with improved ones.' Research into improving seed quality should be done in a participatory way – farmers should participate.
4. 'The peasant needs to be modernised.' What does modernisation mean? Everyone needs to improve their ways of thinking and doing, but it is important *how* this is done.
5. 'The economic integration of traditional farmers into the global system is a positive step that enables increased production, income and well being.' This assumes that the global system is a fair system, but it is not a fair system.
6. 'The future is biotechnology. Biotechnology is inevitable as it is the only way to feed the growing population.' Some of the hazards of biotechnology have been described above.

Example: The SAGCOT project

In January 2011, President Jakaya Mrisho Kikwete of Tanzania stood with Hugh Grant, Chairman and CEO[6] of Monsanto and Rajiv Shah USAID[7] administrator to officially inaugurate the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) Investment Blueprint at the World Economic Forum (WEF) in Davos, Switzerland. The press release on the WEF's 'new vision for agriculture' reads:

> *'The project is led by 17 global partner companies of the World Economic Forum who provide strategic leadership and championship of the initiative. These include: Archer Daniels Midland, BASF, Bunge Limited, Cargill, the Coca-Cola Company, DuPont, General Mills, Kraft Foods, Metro AG, Monsanto Company, Nestlé, PepsiCo, SABMiller, Syngenta, Unilever, Wal-Mart Stores Inc. and Yara International.'*

The project, which involves about 400 000 hectares of land, might expand into Congo, Malawi and Zambia. The SAGCOT Investment Blueprint states that its aims are to 'convert smallholder farmers into commercial farmers' and 'to establish a critical mass of profitable, modern commercial farming and agri-business, focusing on carefully selected areas and crops with high market potential'. What this means is that a huge tract of land in Tanzania has been put under GM agriculture. In a nutshell, the real long-term objective of SAGCOT is to reproduce the Brazilian and Argentinean agricultural 'model' of privately-owned, export-oriented, industrial monoculture plantations of soya, maize, sugarcane, etc. using patented GM food seeds and crops.

Drivers of the dominant ideology

- The imposition of inappropriate neo-liberal models and industrial technology for food, fisheries and agriculture that displace indigenous knowledge and ecologically sustainable management systems based on local institutions and rights, e.g. the SAGCOT case.

[6] Chief Executive Officer.
[7] United States Agency for International Development.

- The spread of liberalised markets which are driving many local producers to bankruptcy. Many local farmers are unable to compete with cheap imported foodstuffs produced with large government subsidies.
- The cultural elitism of Western science. Most people from agricultural colleges and universities tend to support industrial agriculture. Agricultural education currently functions to provide support to the current economic system.
- Falling prices of primary commodities. In some cases these have been brought about by increased supplies which are the result of development assistance projects supported by Western governments, e.g. increased coffee production in Vietnam. However, after 2008 food crisis, some governments are supporting AE.
- Withdrawal of government support, often linked to World Bank/ International Monetary Fund structural adjustment programmes. This leads, e.g., to small- and medium-scale farmers being unable to access affordable credit and government services.
- International rules on intellectual property rights.
- Cultural illiteracy. Development professionals have often acquired cultural baggage which prevents them from understanding the beliefs and practices of agricultural communities which are often radically different from their own. This baggage includes Western ethics and values, science, environmental philosophy and ways of knowing and perceiving.

The way forward

1. AE needs horizontal and vertical scaling-up. Vertical scaling up requires challenging the mentality of many governments. Horizontal scaling up is about informing many people about AE.
2. AE requires the supply of public goods, e.g. extension services, storage facilities, rural infrastructure (roads, electricity, information and communication technologies) which facilitate access to regional and local markets, access to credit and insurance against weather-related risks, agricultural research and development, education, and support to farmer's organisations and co-operatives.
3. Because it is knowledge-intensive, AE requires the development of ecological literacy and decision-making skills in farmer communities.
4. AE requires investment in appropriate agricultural extension and agricultural research.
5. AE practices are best promoted by farmer-to-farmer exchange and co-learning, rather than being imposed from the top down. Rather than treating smallholder farmers as beneficiaries of aid, these farmers should be seen as experts with knowledge that is a key part of the foundation of formalised expertise.
6. AE requires the empowerment and encouragement of women.
7. AE must be aligned with food sovereignty principles – there must be a fundamental political shift.

Comments and questions

Livestock farming and climate change

- You said livestock is the biggest contributor to climate change, what about small-scale livestock farmers?

Million: Livestock produced by factory farming is the problem, not small-scale production. Factory-level livestock production drives climate change. At that scale the animals are fed on grain. To produce the grain, bush and forest is cleared. The clearing process releases carbon and destroys the environment. Animal waste lagoons produce large quantities of methane. Transport across large distances requires fuel and the use of freezers. Even mainstream media like Time and Newsweek say community-owned small scale livestock farmers have a positive impact on climate change, not a negative one.

Corporate profits

- The primary aim of IA is to make lots of money, not to reduce the cost of food. The primary aim of corporations is to create markets for their products.

Piloting alternative approaches

- Governments opt for the IA approach for short-term gain and because they do not have the facts about alternatives. NGOs should try AE on a pilot basis to show it can lead to sustainable improvements in rural areas.

Organising for systemic change

- We need to organise the working together of organisations and people in Third World countries to overturn capitalism. TCOE [Trust for Community Outreach and Education] is part of building a national movement of farmers.

2 Presentation: Promoting agroecology in Brazil

Gabriel Fernandes, AS-PTA,*[8] *Rio de Janeiro, Brazil

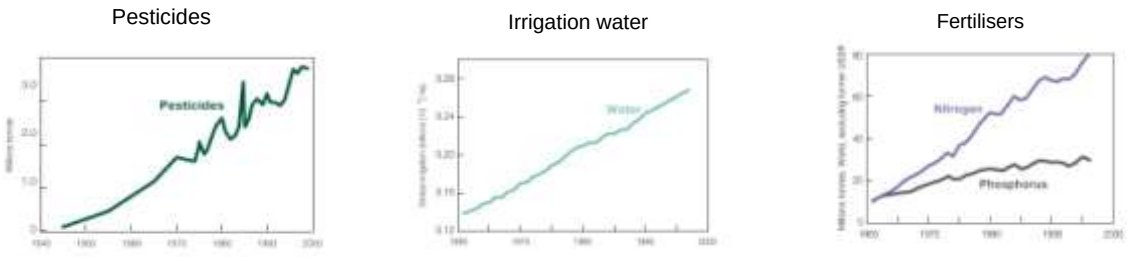
Background

Current challenges include:

- global warming and climate change;
- depletion and degradation of natural resources – soil, air and water;
- 'peak oil'[9] and the coming energy crisis;
- the likelihood that the world's population will increase to 9 billion people by 2050;
- changing diets (people are eating more meat as a result of the dominant agricultural model – how farmers are organised to produce food); and
- increasing urbanisation.

The Economist produced a series of articles on 'feeding the world' in February 2011[10] which concluded that the solution is another cycle of agricultural intensification based on Green Revolution technology using GM seeds. But can another three decades of IA be sustained? There has been a steady increase in the use of pesticides, irrigation water and fertilisers.

Figure 1: Global use of key conventional agricultural inputs[11]

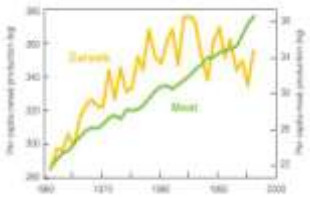


[8] Family Farming and Agro Ecology.
[9] The point where the maximum rate of global petroleum extraction is reached, after which production goes into terminal decline.
[10] 'The 9 billion people question' www.economist.com/node/18200618, accessed 11 June 2011.
[11] Source: Tilman et al., 2002, cited in Greenpeace International. 2009. *Agriculture at a crossroads: Food for survival*. www.greenpeace.org/international/en/publications/reports/agriculture-at-a-crossroads-report/, accessed 11 June 2011.

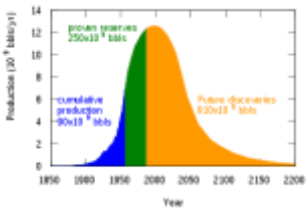
There has been a steady decline in cereal production and an increase in the production of meat. IA is totally dependent on oil, but the peak oil point has been reached, and there will be less and less oil available to support this model of agriculture. Food prices closely track the oil price. As the oil price increases, food prices will increase, and there will be more poverty and more hunger. The conventional agriculture model has reached its production limits.

Figure 2: Agricultural production, peak oil and the link between the oil price and food prices

Global production



Peak oil



The Green Revolution's ideas about conventional agriculture came to dominate the world's public policy agenda in all the key aspects:

- agricultural research;
- education;
- extension services;
- credit/ financing; and
- markets.

National agroecology meetings

Our aim in the AE movement in Brazil is not about shifting inputs to organic ones, we are lobbying for an entirely different approach – family farming supported by new public policies. Until the mid-90s the campaign was mainly run by NGOs. There is a high level of AE experience in Brazil, but it is scattered across the country. We wanted to bring social movements into the discussion about sustainable agriculture. We organised regionally-based preparation activities to identify people and organisations working in the AE field, to draw on their experiences, and to find points of common interest. A national meeting was held in 2002 to start the process of alliance building. The main outcome was the establishment of a national network (ANA). We often found there were organisations and farmers active in the AE field who were located geographically close to one another but who had not until that point not interacted with one another. We embarked on a research process of farmers sharing their experiences in local and regional AE forums. We documented and analysed these experiences. Research participants were the farmers themselves, not technical experts. Working groups maintained the momentum for the national group between the national meetings held in 2002 and 2006.

Participatory research

Most research centres in Brazil use conventional agriculture models. We have worked with scientists in conventional institutions who are open to working with AE farmers; professionals who had previously been isolated in their institutions, swimming against the tide, but now able to interact with like-minded people in other organisations. Since the government agricultural agency Embrapa published its reference guide to agro-ecological agriculture, there has been more space for scientists interested in alternative approaches.

In our participatory research activities, we go further than bringing scientists into communities. We start with a participatory research assessment in which the farmers, rather than research centres,

define the research priorities. Farmers identify the support they need. We use participatory appraisals to value and gather traditional knowledge. During practical demonstrations people learn, for example, how to do composting. Academic and traditional knowledge becomes linked through, for example, farmers planting experimental plots with local maize varieties for study purposes.

FIRST ROW

During farmer-to-farmer exchanges people visit each other to share knowledge about, e.g. the production of bio-fertiliser with locally available resources and forage management practices. Genetic diversity is promoted at community level through the exchange of plants, exchange of seeds at biodiversity fairs, and seed banks. Government markets help to create demand for AE produce and farmers using diversified AE production systems have a wider variety of products to sell and a lower level of risk. Demonstrations and awareness-raising activities take place around the dangers of pesticides and GMOs.


Learning from experience - Field day – Farmer explaining his forage management practices.


From rural extension from farmer to farmer approaches - A farmer teaches his colleagues how to prepare biofertilizer with locally available resources.


Knowledge and genetic resources flows. Women bring medicinal plants home after visiting a diversified home garden.

We foster the right of farmers to exchange knowledge and genetic resources and seeds. To use GM seeds is to use patented material that is the property of a private company. Farmers have been told by research institutions for 30 to 40 years that they need to use high-tech seed varieties, not traditional one. But previously isolated farmers are now seeing that they are not the only ones conserving traditional varieties, and that the yields are good. We often come across farmers who have lost traditional varieties who are now able to get access to old varieties again.


Biodiversity fairs


Seed banks


Markets

Government creates demand for family farmers' products.

Diversified agroecosystems increase farmers' marketing options.

Our operating principles are:

- Recognise farmers' knowledge.
- Use non-hierarchical models of relationship.
- Use participatory approaches.
- Learn from experience.
- Exchange experience.
- Struggle for public policy reform.
- Engage in networking and alliance building.

Conclusion

There is increasing high-level support for alternative approaches:

- In 2007, the United Nations Food and Agriculture Organization (FAO) concluded that:[12]
  - it is possible and necessary for AE to replace conventional agriculture;
  - the consumption of agrochemicals is growing but yields are staying the same; and
  - the world produces enough food but one billion people go hungry.
- In 2008, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) said that business as usual solutions will not be able to face problems like rural poverty, natural resource depletion, global warming and biodiversity loss.
- In 2010 UNCTAD[13] recommended that governments support the application of different forms of sustainable agriculture to reduce the use of agrochemicals, including organic agriculture, low external input agriculture, and integrated pest management.[14]

3 Presentation: The 'state of the art' of AE in South Africa

Stephen Greenberg, independent researcher on land, food and agriculture issues

Principles of agroecology

The local environmental context is core to AE, so what AE farmers do will be different in different places. The principle is that you look at how natural systems operate in a particular place and mimic that in your farming activities. Elements of the natural system support one another, so AE is a form of integrated farming. There is no waste in nature. Everything is reintegrated through closed nutrient, production and reproduction cycles. AE recycles waste, unlike IA. Diversity flourishes in nature, even in deserts, so diversity is a key part of AE practice. And AE systems are multifunctional, as natural systems are.

A limited agricultural land resource

Only 13% of land is high potential arable land, mainly on the eastern edge of the country. This is a constraint to agricultural expansion. To compensate for this, a high-external input commercial agriculture sector has been developed. This has imposed production in places where crops would not naturally grow, e.g. large parts of the Free State which are savannah – open grasslands. Conventional agriculture has resulted in soil degradation, a loss of biodiversity, and social and economic inequality.

Indigenous agricultural practices

We don't have to look somewhere else for AE practices – there are elements of AE in indigenous practices. However, indigenous systems were disrupted through colonial- and apartheid-era destruction of independent black production. There has been some adaptation to constrained conditions, but there has been an overall dwindling of indigenous practices and knowledge. Inappropriate technologies have been imposed through the agricultural extension system (e.g. irrigation schemes).

Agricultural extension practices and community-based management systems often draw on places outside South Africa. There has been a net loss of indigenous knowledge and *in situ* knowledge. In 2004 government approved an indigenous knowledge systems policy, but the emphasis is on intellectual property rights and commercialising products for the export market, not on people. This does not answer the question about what indigenous practices may have been. Statutory bodies which could do this kind of research include the ARC [Agricultural Research Council] and the CSIR [Council for Scientific and Industrial Research]. However, ever since these parastatals were corporatised, they have become focused on selling their services to those who can pay. It seems no

[12] FAO International Conference on Organic Agriculture and Food Security, Rome 3–6 May 2007.
[13] United Nations Conference on Trade and Development.
[14] UNCTAD Trade and Environment Review 2009/2010.

research is currently being done into this area. Although the government runs seed banks, it does not promote seed saving as a good farming practice.

The potential for expanding AE in South Africa

Resource-poor farmers

There are 1.1 million small-scale food producers, mainly in the former homelands – 75% of them women.[15] Land reform efforts are constrained by these farmers having to compete against large-scale industrial interests without the benefit of economies of scale. In spite of government talking about the importance of small-scale farming, very few parcels of land are being redistributed to people operating at this level. The government's Land Redistribution for Agricultural Development (LRAD) programme focuses on larger-scale commercial enterprises, one farmer at a time.

We do not have a sense of how many of the 1.1 million small producers know about AE, but we can say that people are producing in very difficult conditions, in spite of the constraints. The agricultural extension system is weak. Relationships between researchers, extension services and farmers are poor. The model is based on transfer of technology model, e.g. researchers developing new seeds and extension officers handing these over to farmers. Extension officers do not go to farmers to find out what they need so that researchers can respond.

There is some collective organisation (co-operatives and commodity associations) – but these are state-driven. Individual and family farming is the real basis of AE internationally. The most successful models in places like Cuba and Brazil are very organised around inputs and outputs and lobbying for change in larger-scale conditions.

Commercial organic producers

It is estimated that there are 250 certified organic farmers on 45 000 hectares of certified land. The focus is on export markets – about 75% of produce is exported. There are substantial barriers to entry to the sector, e.g. the need for organic certification and having to negotiate with buyers on quality and consistency of supply. The 'informal' organic market does not look profitable, but it has a basis for production and distribution that AE producers could learn from. Official policy on organic agriculture is being developed but it is a relatively closed process. Government is working with commercial organic farmers and NGOs and resource-poor farmers have struggled to have an input.

Knowledgeable AE practitioners

There is a broad split along racial lines between practitioners in high-end niche markets (mainly private farmers) and those who support resource-poor farmers (mostly NGOs). There is some knowledge about approaches like permaculture, but training is very expensive. The challenge is how to make the broad spectrum of knowledge available to the resource-poor. Urban agriculture initiatives are often based on an organic or permaculture approach. There is some discussion about the multi-functional nature of land (e.g. ecotourism and 'ecosystem services' involving public goods such as clean water), but some people at high levels are trying to commodify these things so that they can be bought and sold on the market. There is some experience around practices like seed saving, rainwater harvesting and participatory extension, but this is fragmented. 'Model farm' and 'ecovillage' projects are mainly privately owned.

Lessons from Cuba

AE in Cuba is reliant on high levels of collective organisation. The peasant movement shares practical information with its members. Government uses participatory extension methodologies (e.g. farmer-to-farmer). Government extension officers and NGO workers become facilitators of the

[15] Based on ten-year old statistics.

process by identifying people with knowledge and bringing them together with others. Innovators are identified and given an opportunity to spread their ideas. Learning and sharing is driven by co-ordinators within the movement, paid for by farmers. The processes belong to the people, and groups of farmers are in control of decision-making.

Broadening AE

The current emphasis in AE is about production techniques on farms. It was previously just about access to land. Less attention has been paid to ways of integrating with or transforming the wider food system. Transformation should not just be transformation of production, it should address the food system. Processing and distribution of food should take place in a way that does not just replicate the inequities of capitalism.

Potential points of intervention are:

- The current government emphasis on small scale farmers.
- Leveraging the provisions of the Consumer Protection Act.
- Food prices. The peak of the global financial crisis was in 2008, but food prices are now higher than they were in that year. Food prices are high and will increase. The challenge is to enable people to see the link between food prices and the type of production on the farm.
- The right to food is a constitutional right on paper.

Way forward

I have reported on the results of a first draft of a desktop study. Further steps could be:

- more detailed scoping of organisations, individuals and initiatives on the ground; finding out what people are doing; learning from one another;
- using participatory farmer-to-farmer methodologies as an organising tool to build smallholder collectives based on AE practices;
- action learning to draw farmers and producers into discussions about multi-functionality, localisation, alternative distribution, etc.; and
- the international climate change negotiations (COP17)[16] in Durban in November 2011.

We can mobilise and organise ourselves for the future. This is one step along the way to linking the ecological and agricultural aspects of food production.

4 Presentation: SPP's perspective on agroecology

Ricado Jacobs, Surplus People Project

SPP has broadened its focus from land reform to agroecology, among other things.

Background

- Land inequality is pervasive as a result of concentration and consolidation in land, together with the failure of the land reform programme. Some of the people who are part of failed land reform projects are being displaced for a second time. Consolidation of farming units is taking place across the board; even commercial farmers are being forced to sell their land. Some agribusinesses own ten farms.
- Neo-liberalism in agriculture internationally emphasises global competitiveness, profitability, the privatisation of extension support and export-led agriculture, as has been embraced in the government's Strategic Plan on Agriculture. The impact has been higher concentration of ownership, fewer farming units and a loss of skills. The government push for monoculture

[16] The 17th Conference of the Parties of the United Nations Framework Convention on Climate Change.

has meant that fewer farmers use diversified systems of production, particularly in the Northern Cape and Western Cape.
- Agrarian change is linked to international and national restructuring of capitalist agriculture – the emergence of multinational corporations and agribusiness control of the food system.
- There have been significant changes in the structure of employment in agriculture. Labour-shedding and increased exploitation are key features of industrial agriculture.
- In future farmers have to produce more with less water. There is less water available due to factors such as climate change and pollution. IA is an inefficient user of water (62% to 70% of available supply) and its chemical runoff pollutes water resources. Water allocation disadvantages small-scale farmers. Small scale users are having to subsidise big dirty users.
- Environmental destruction a key feature of the chemical industrial model of agriculture.
- South Africa exports high-quality food while people go hungry. There is a high level of food insecurity in South Africa, and many suffer from hunger and under-nutrition. A 2009 study by the HSRC [Human Sciences Research Council] found that many households are unable to afford a nutritionally adequate basket of food. The issue is not only about whether people have enough food, but also whether their food is diverse enough and nutritious enough.
- Migration is increasing – both migration from rural areas into the cities, and migration from rural areas to other rural areas in, e.g. the Western Cape.
- IA is a dysfunctional model unable to provide for the food needs of urban and rural poor. There is a danger that permaculture and AE can become a fringe interest, a 'feelgood' thing. Would AE be able to provide food for the poor in a way that is as cheap as industrial agriculture?

Agrarian transformation imperatives

- Land access and redistribution.
- Restructuring of the agricultural sector and agro-food system.
- Dealing with food insecurity and hunger.
- Mobilising multiple social forces to respond. How can we make farm workers (some of whom are becoming farmers), farm dwellers and peasants central to this struggle? Participation and democratic control by social forces is necessary at national and local level.
- The ecological crisis requires immediate action, but the ecological dimension of agrarian transformation has been ignored by most activists (including SPP) until now. Endless accumulation means endless destruction of the environment. A shift to AE production is an important way to shift the ecological crisis.

Agroecology as a basis for change

AE is a counter movement to enable small-scale farmers and farm workers/ farm dwellers to take control of their natural resources and manage their environment in a sustainable way. We view it as an emancipatory political project based on social and economic justice, and rooted in ecologically sound practice.

> *'Agro ecology is the science of the ecological management of natural resources and the self management of local resources through agro ecological productive practices' – Miguel Altieri.*

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) found that

> '*an increase and strengthening agricultural knowledge, science and technology towards agro ecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity'.*

AE is not a one-size-fits-all approach – geographical and cultural diversity is important. The development of farmers and their participation in farmer-to-farmer solidarity networks should form

the cornerstone of the way we work. We cannot assume that small-scale farmers farm sustainably or do not exploit labour.

AE includes technologies like integrated pest management, integrated nutrient management, conservation tillage, cover crops, agro-forestry, water harvesting and integrating livestock and crop farming. Production should be geared towards the needs of people rather than profit maximisation. AE should be linked to broader social, political, cultural and economic transformation. In order to achieve this we need to restructure the entire industrial agriculture and food chain. We should not be in a hurry to build a national movement just because we have identified a need for AE.

5 Presentation: Agrarian change and agroecology

Ruth Hall, PLAAS [Institute for Poverty, Land and Agrarian Studies, University of the Western Cape]

Background

The pictures below were taken in the same place in Tanzania some years apart. Investors have been buying up land to do monocropping of jatropha for biofuels. One type of production has given way to another. Changes to a landscape are not easily reversed, and the livelihoods of people before the change cannot be recreated.

In a 2003 FAO[17] report on changing roles of agriculture across the world, Fink and Kirsten argued that agriculture in South Africa was producing more and becoming more efficient, but that its social role was declining – fewer and fewer people were drawing a livelihood from it. While in the past government subsidies had enabled farmers to buy many inputs, the withdrawal of subsidies and government support for liberalisation has meant more environmentally friendly production, less farming on marginal land and fewer chemical inputs. Farmers are adopting minimum tillage because it is cheaper and because subsidies have been withdrawn. Liberalisation might be good for the environment, but the withdrawal of subsidies is based on the neoclassical economic argument that subsidies distort markets. I will take a political economy perspective – one which looks the structure of power and interests which are hostile to AE.

The commercial farming sector

There are four major trends in the commercial farming sector.

Concentration. Over the last 15–20 years major concentration has taken place – a dramatic drop in the number of commercial farms and an increase in their size. Between 1994 and 1998 the agricultural subsidy and marketing board system was dismantled. There has been a cost-price squeeze. Global market prices fluctuate but inputs – labour, electricity, water and fuel – are becoming more expensive. A lot of the smaller less profitable farms went out of business and were

[17] United Nations Food and Agriculture Organization.

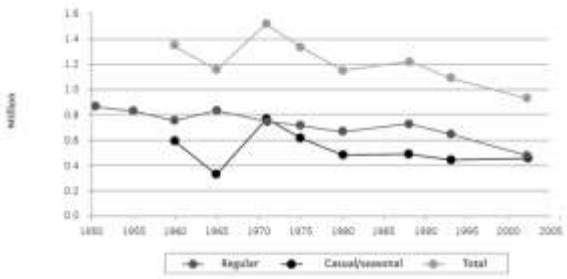
bought out by larger operators. Farms are bigger and some people own several farms. We are seeing integrated management across a number of farms. Some larger companies are buying fruit farms in the Western Cape and Mpumalanga because these areas fall into different climatic regions and the fruit grown there has different ripening times.

Vertical integration. The second major trend in commercial agriculture is vertical integration. There used to be many smaller enterprises which did farming and some processing. Now a small number of big conglomerates have taken over all the functions in the value chain from inputs through to production, logistics, storage, processing and transport. Half of the larger commercial farms have income of under R300 000 a year, but eight agribusinesses have an income of R1 billion a year. Competition Commission investigations show how much power these companies have to manipulate prices through their control of the entire food system, from before the crop is in the farmers' field to the time it is on the consumer's plate.

'Supermarkisation'. Three supermarket chains are dominating the sale of food products to an ever-increasing extent. This is also a very significant trend in neighbouring states, where South African supermarkets are dictating terms to retailers elsewhere in Southern Africa. South Africa has had dominant supermarkets for a long time. In the last 5–10 years, their major growth has been in rural areas, including deep rural areas, e.g. the rural Eastern Cape. Many poor people are living in those places and farming under difficult conditions. They now have to compete against big urban supermarkets which supply supplying industrially produced products.

Unemployment. Commercial agriculture has grown, but many jobs in the sector have been lost. A quarter of regular jobs disappeared and the level of casualisation has increased dramatically. What used to be called 'atypical employment' is now typical. Overall, from 1994 to 2006 about half a million jobs were lost translating into the loss of between 2.5 and 3 million livelihoods.

Figure 3: Farm worker jobs on commercial farms, 1950–2005



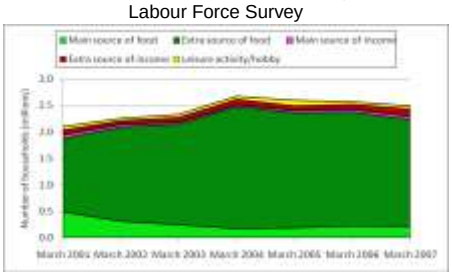
Government support to black farmers

The government's land reform efforts have fallen far short of the original target of transferring 30% of commercial farmland in five years. Only 6% of commercial farmland has been transferred to date. The land reform budget is increasingly being used to recapitalising failing land reform projects rather than to acquire new land. We need to look at why farms are failing. Why are we setting people up to fail? New solutions are needed.

Commercial agriculture changed when government stopped agricultural subsidies, reduced support to farmers and liberalised the sector. The agricultural development corporations in the bantustans were closed down and nothing was put in its place. But, over the last ten years there has been an increase in support particularly targeting black households, emerging commercial farmers through the Comprehensive Agricultural Support Programme (CASP), and small-scale farmers.

Figure 4: Profile of 'small-scale land users' & how households use the agricultural products they produce

Trends in black household involvement in agriculture, by 'main reason' according to the Labour Force Survey



Source: Stats SA, Labour Force Survey, 2001-2007

***"How does your household use the agricultural products that you produce?"* – from the General Household Survey**

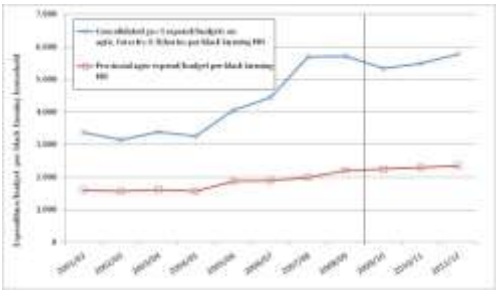
	Number	Share
Most is used for home consumption	2,355,063	93.9%
Most of it is sold	41,155	1.6%
Half & half	96,000	3.8%
Other	14,756	0.6%
Total	2,506,975	100.0%

Source: Stats SA, General Household Survey, 2009

Official statistics indicate that very few black households engaged in agriculture only do farming. The vast majority do so in order to get a source of extra food, and they receive no support at all. The best way for government to intensify production without incurring huge costs would be to provide support to the big group in the middle. Almost 94% of households produce agricultural products for home consumption.

Figure 5: Expenditure trends and incidence of support

Agricultural sector expenditure/budgets per black farming household (2008 Rand)



Sources: Treasury 2004-2009 and Stats SA (LFS) 2001-2007

Black agriculturally active households receiving support

	Number of agric active HHs receiving support in previous year	As share of all agric active black HHs	Number of C-O agric active HHs receiving support in previous year*	As share of all C-O agric active black HHs*
Training	50,806	1.9%	7,164	17.4%
Visits from extension officers from Dept of Agriculture	47,077	1.8%	5,604	13.6%
Grants	5,236	0.2%	615	1.5%
Loans	3,822	0.1%	1,049	2.5%
Inputs as part of a loan	7,752	0.3%	742	1.8%
Inputs for free	52,377	2.0%	1,219	3.0%
Dipping and vaccination services for stock	*262,568*	*10.0%*	*6,407*	*15.6%*
Other	1,773	0.1%	278	0.7%
Any 1 or more of the above	339,805	12.9%	13,315	32.4%

* 'C-O agric active' means 'commercially-oriented agricultural active', as determined by those who indicated that they sold most of what they produced

There has been a dramatic rise in spending on black farming households. Even though spending is increasing, the support is reaching very few people, i.e. most people are farming without support. Commercial farmers are doing better than other farmers, but it is still very bad. The vast majority of support goes to people in two provinces – the Eastern Cape and Northern Cape.

CASP was a major new initiative which began in 2004/05. It is a good example of the 'agricultural funding dilemma'. It receives capital funding from national government, 70% of which goes to land reform beneficiaries and the balance to 'other agrarian reform beneficiaries'. It rests on six pillars:

- on and off-farm infrastructure;
- information and knowledge management;
- training and capacity building;
- technical and advisory services;
- financing mechanisms; and
- marketing and business development.

The number of beneficiaries is very small, and declining, and benefits are unevenly spread. In one case, a single household near Makhado, Limpopo received R3.5 million in CASP funding for a broiler unit.

Figure 6: CASP budget allocations, projects and beneficiaries

Year	Budget R million	Projects	Beneficiaries
2004/05	200	510	46 553
2005/06	250	1069	53 206
2006/07	300	572	67 366
2007/08	414	817	51 000
2008/09	535	-	38 000
2009/10	*628*	955	*35 000*
2010/11	*758*	-	*32 000*
2011/12	*979*	-	

Sources: NDA 2007, NDA 2008, NDA 2009, Treasury 2009

- *"The model we're following is totally inappropriate in the sense that... because the amount we fund is so small, it becomes a case of political Smarties rather than effective use of resources. Who gets the money in the end is either a lotto or a case of political connections."*
  – provincial agriculture manager, Eastern Cape, 2009
- *"There's no cap on individuals – they can get anything from R20,000 up to R9 million – there are no guidelines. We got a lot of flack for that. We have had about 120-130 projects in the E. Cape, so the policy being pushed from national is to cut down projects, maybe to just 6 for the province, or 1 per municipality, in order to speed up administration. To administer R10 is as much as to administer R10 million, so we are meant to do fewer, bigger projects. The more projects you have, the more work you have."*
  – Agricultural official, Eastern Cape, 2009: pers. comm.

What would effective distribution of support look like? Only 13% of South Africa's 2.7 million 'average black farming households' receive any kind of government assistance in any given year, most of it via extension services. If government support was evenly spread, each household would receive the equivalent of about R2 200 a year in benefits. However, the model of support to agriculture targets big projects. The real picture looks something like this:

- 50–200 households receive R500 000 or more;
- 350 000 receive R17 000; and
- 2.3 million receive close to nothing.

The danger is that government's land reform and wider agricultural support programmes are trying to develop mini-commercial farmers using the same types of methods that many white commercial farmers are using. These methods have failed the many white commercial farmers who have become insolvent because they cannot manage the risk in the way that corporations who own many farms are able to. The important issue here is the question of scale. Are small farmers able to set up operations that are large enough to benefit from the economies of scale that will make their efforts economically viable?

What role can AE play in this context?

Against this background, the space for AE in South Africa seems to be very limited. Will it always be marginalised and setting up people to compete on unequal terrain? Miguel Altieri speaks about 'First World development over-saturation' – he says that First World countries are looking at alternatives like AE because they have badly damaged their environments. At the same time, the developing world has a development deficit, so people there are looking at farming without conventional agricultural inputs because they cannot afford to buy them. It is possible that support for AE could come from the convergence of these two needs. The primary countervailing force against AE is large corporations that sell inputs and do processing and retailing. The demand for large quantities of standardised products is also hostile to AE. We need to go further than discussing how we will produce by looking at how to develop and gain access to markets that do not depend on the dominant players.

The political imperative to deracialise South African commercial farming and support small-scale farming is good. But the limitations of the current model are such that, even if government were to increase its support budget fivefold, it would hardly touch rural farmers. We need to think strategically about how to promote alternatives in agriculture. The policy development process in the departments responsible for land reform and agriculture takes a long time. There may be potential for advocacy leverage through the Presidency's New Growth Path strategy.

The idea of a Green Revolution is much more appealing than composting and other sustainable changes because it promises the idea of quick results. People don't like doing things that take time

to work. Much government policy is based on the idea that outsiders know better. Often the models are based on targeting yield and income, rather on how the product is produced. We are not just asking for AE, but also asking government to be less prescriptive. The Presidency wants to decentralise small-scale farming support so that it is not defined from on high – local farmers defining their needs locally. Hundreds of millions have been spent on revitalising irrigation schemes, but no money has been put into supporting methods that minimise water use. Government is looking for ideas to present at COP17 and that could be a place to promote AE and collaborate with groups of farmers from elsewhere in the world.

Comments and questions

Producing for own consumption may be the start

- Groups producing for own consumption may progress to producing for market if they can produce a surplus.

Ruth Hall: There may be aspirations which are not captured in official statistics.

Restricted markets and organic certification requirements

- We small-scale AE farmers in Cape Town have no access to markets. We have a market in Philippi, but are not permitted to sell at the large municipal market at Epping. Retailers like Woolworths or Shoprite do not want to buy our organic produce because we do not have organic certification (which costs R45 000) and fancy packaging. The policy makers are stopping us from expanding.

Ruth Hall: It's not the policy makers, it's the private sector. The private sector is a more powerful policy maker than government. Small scale producers are being locked out of markets by company requirements in respect of quantities and regularity of supply. People who farm as individuals can exert more power in the market if they market as a group. Some small farmers in the former Venda and Gazankulu homelands tried to sell to the Johannesburg market, but that did not work because the distance meant that their produce spoiled on the way. They found an alternative market at Spar, which is a franchise which allows store owners to buy locally.

- A black farmer in Philippi has to sell his produce to a white farmer and then people accept it. We don't have the money for an organic certificate. We have to push back hard.

6 Small group discussion points

Overhauling extension services

- Extension officers impose their knowledge based on IA practice, including chemicals and GM seeds. Farmers who choose a different kind of approach to agriculture should be offered the same level of support and traditional seeds.
- There may be a legal basis for challenging the way government extension services impose a certain paradigm on small farmers. It may be discriminatory.
- Small-scale producers should challenge government for discriminating against them by supporting commercial farmers differently. If extension services are inappropriate or inadequate, this is a constitutional matter. We could take it up in the Equality Court.

Gabriel Fernandes: Extension services in Brazil were established to promote conventional agriculture. They were specialised centres developing technology and transferring it to farmers. We are trying to transform these services. Privately-owned extension services go from house to house offering credit to buy chemical inputs so that the farmers become dependent on these inputs. This gives the companies the ability to set the price.

Million Belay: Knowledge is power and it gets to farmers through extension officers. The sites of knowledge production are the universities and research institutions, which are increasingly funded by corporations. These corporations may influence the production of knowledge and what extension officers learn. One of the reasons why Cuba was successful with regard to AE is that, unlike many other Latin American countries which fell under the US sphere of influence, the US was hostile. Cuba supported the work of many locally born scientists engaged in appropriate knowledge production.

- We should explore extension support to farm workers and farm dwellers. Even if commercial farmers make land available to farm workers and farm dwellers, government extension officers don't want to provide support because this is privately-owned land. We should move away from the university base of extension officer training. Farmers should become involved in the education and learning process. Farmers are more open to input from other farmers than from extension officers.

AE advocacy and individual farmer choice

- Is it a good idea to try to influence people to adopt AE on their properties? They may only want to do what they deem to be profitable.
- Most people believe IA is more profitable.
- Is it right or wrong for those of us who believe in AE to try to persuade people to change the way they do things?
- Small farmers should explain to commercial farmers using the IA method how their way of doing things is using up all the resources, and suggest that AE is the best route for all farming to go.
- We should focus on what we know is positive and good rather than criticising factory farmers.
- Commercial farmers might not want to adopt AE, but we might, for example, be able to convince them to use less of an expensive toxic pesticide.
- We need more examples of where AE works well. There are projects in KwaZulu-Natal where people have been exposed to other ideas about what works, e.g. ploughing and hydroponics. We have to tread the fine line between imposing our ideas and being responsive to what communities want. We don't yet have many examples of successful AE farmers that can share with others. We need to be aware that farmers themselves carry the risk of failure during the years they are changing to an AE way of farming.
- The cost of developing electronic and audio-visual media is coming down all the time. People might want to produce food but not know how to. It is important to document what people are doing in different conditions and show people what can be done.

Million Belay: Do our children want to be farmers? They are bombarded by the media, they want an easy life. AE is knowledge-intensive. Do they want that challenge? If they don't want it now, how do we make them want it?

Who makes production decisions?

Stephen Greenberg: Fragmented privately-owned pieces of land are a part of capitalism. There should be democratic control over production decisions. At what level does should those decisions lie? The individual farmer? Or the community? Or the nation? And how should those decisions be co-ordinated?

An incremental approach to implementation

Stephen Greenberg: It is unwise to introduce a new system on a whole farm basis because it may put an entire livelihood at risk. Seeing what works and taking small steps forward is more sustainable than taking a big leap.

Farmer concentration as a key success factor

- In countries where AE has been successful (e.g. Brazil and India) the farmers are geographically close to one another. In KwaZulu-Natal and the Eastern Cape there are high concentrations of small farmers, in other provinces, less so. What concentrations are required for AE to be effectively implemented?

Is a new kind of legal entity and type of ownership necessary?

- If the AE small scale approach brings lots of knowledge and lots of relating, it brings something of unique value, and can engage in production on its own terms. Better legal models could more accurately reflect how we organise politically, and include multi-level checks and balances on decision making and accountability. What property models would best reflect the property and relational models we are aiming for? Private ownership may not be the answer.

The new model makes the old one obsolete

- Buckminster Fuller said you cannot change the existing reality, you can only create a new model that makes the old one obsolete. Once people find a new way of doing things acceptable and desirable, they will drop the old model.
- This is not just a different way of doing business, the business has to change completely.
- We do not have the luxury of time. We cannot wait for IA to decline. IA and AE systems cannot coexist. IA destroys the environment, perpetuates inequality, and ensures the entire agricultural value chain is controlled by a few companies.

Dealing with land dispossession

- Work with poor people takes a long time; their resources have been taken away over 300 years. The playing fields must be levelled.
- There are important questions about who owns land, and how much land they own.

AE is about more than production techniques, it is about challenging inequality

- IA monopolises the available land. We should go beyond replacing one model of industrial production (IA) with another (e.g. industrial-scale organic). Our process must challenge land inequality (transfer land) and empower small farmers (transform practices).

Promoting multi-functionality

- Part of the process of building an alternative is moving farms from having a low level of multi-functionality to a higher one, incorporating social and ecological goals. Economically strong farms are more likely to be able to become multi-functional. Organic agriculture is one step forward in the right direction.

Do what works in a particular locality

- We have to look at what works rather than the abstract idea of diversifying production. If goats work, don't farm sheep.

Agriculture is not the only land use that can bring a livelihood

- For poor people on a farm, the issue is not necessarily about good models of agriculture. The question might be 'what can we do with the land that can provide a livelihood'? A farm with inadequate water might do well as a wind farm. People might not be able to, or might not want to, grow food.

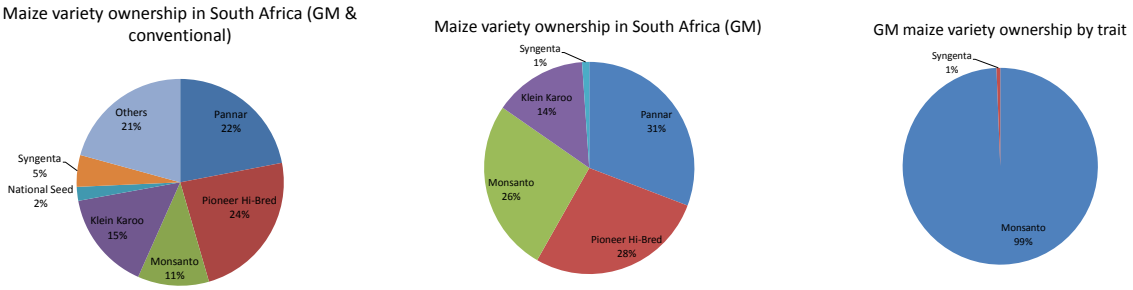
7 Presentation: Concentration and consolidation of the seed industry in South Africa

Gareth Jones, African Centre for Biosafety

Introduction

In 2010/11 the maize seed industry was worth approximately R2.1 billion.[18] Approximately 10% of maize varieties registered in South Africa are owned by Monsanto, as are 25% of all GM maize varieties. Only one currently available GM maize variety does not contain Monsanto's patented 'traits'. Insect resistance and herbicide tolerance are the key traits. Six varieties of GM maize have been approved for commercial planting: MON810; NK603; MON810 x NK603; MON89034; MON89034 x NK603 (all owned by Monsanto); and Bt11, GA21, GA21 x Bt11 (Syngenta). Since 2001 over 170 000 tons of GM seeds have been imported, 99.9% of which have contained Monsanto traits. All the other companies are selling under licence to Monsanto.

Figure 7: Maize variety ownership in South Africa



Monsanto at a glance

Monsanto:

- is the world's largest seed company;
- had a 23% share of the global proprietary seed market in 2007;
- had seed and agro-chemical sales of $10 billion in 2010
- has a presence in 80 countries, including nine in Africa.

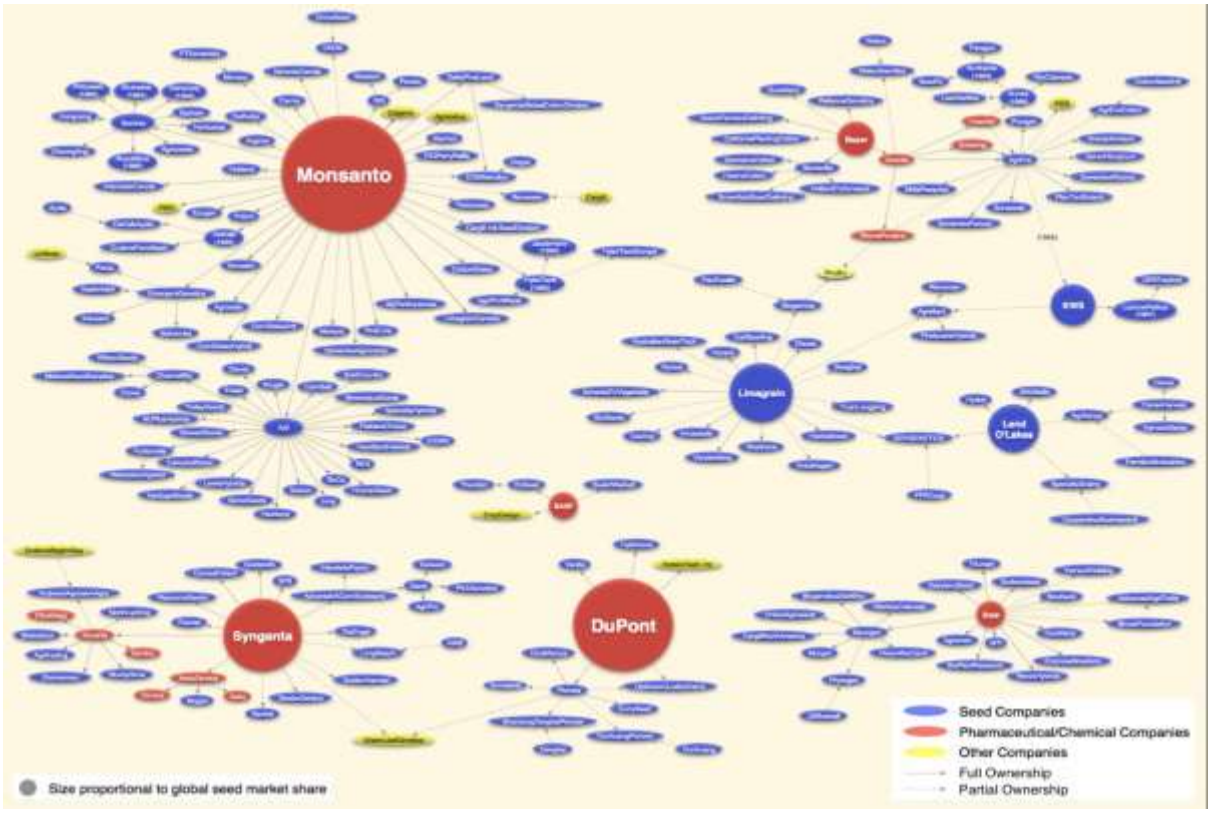
Monsanto was founded in 1905, although it was not firmly established as chemical company until after World War II. The company produced 'Agent Orange', used in the Vietnam war. Its Roundup herbicide brand was used by the US military in Columbia during the 'war on drugs'.

A number of key events enabled Monsanto to become a dominant player in the seed market:

- Changes in national and international seed laws which gave intellectual property rights to breeders (e.g. amendments to the International Convention for the Protection of New Varieties of Plants).
- Changes in intellectual property laws.[19]
- Advances in biotechnology which allowed the isolation and patenting of individual genes.
- The shift from public to private plant breeding research.
- A series of mergers and acquisitions in the chemical, pharmaceutical, seed and biotechnology industries from the 1990s onwards.

[18] SANSOR [South African National Seed Organisation].
[19] *Diamond v Chakrabarty* (1980); *Ex Parte Hibberd* (1985).

Figure 8: Consolidation in the global seed industry[20]



Monsanto in South Africa

Monsanto has operated in South Africa since 1968 and entered the commercial seed market in 1998. In 1999–2000 Monsanto purchased Sensako and Carnia, two of the country's largest seed companies. It controls 50% of the commercial maize seed market and 60% of the market for glyphosate (the active ingredient in its Roundup herbicide). This creates a market for high-performing seeds and herbicides, pesticides etc. The company has a virtual monopoly over the market in GM seed, including maize (see above). South Africa is seen as a 'springboard' into rest of Africa. It has made attempts to penetrate the small-holder agriculture sector through projects on the Makhathini Flats and the Massive Food Production Programme (MFFP) in the Eastern Cape.

The spread of Roundup Ready crops in South Africa

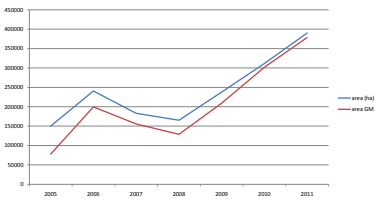
Monsanto's flagship herbicide Roundup was registered in 1975 and is still highly lucrative despite the patent lapsing in 2000. Eighty percent of the world's GM crops contain the Roundup Ready (RR) trait. There are huge environmental and health problems associated with its use in the US and Argentina.

Between 2006 and 2010, the amount of land planted to RR yellow maize increased from 137 000 ha to 340 000 ha, and land planted to RR soybeans increased from 75 000 ha to 375 000 ha. Farmers using generic herbicides invalidate the warranty on the seeds. User agreements compel the farmers who buy the seeds to buy the chemicals that go along with them. There has been no post-release monitoring of the impact of RR crops on the environment. The MON810 study only commenced 11 years after its first planting.

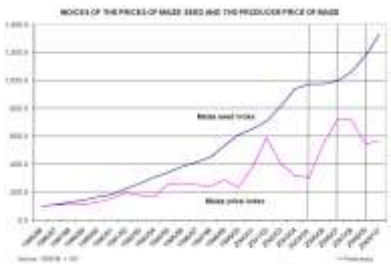
[20] Howard, PH. 2009. Visualizing consolidation in the global seed industry 1996–2008. *Sustainability*, 1: 1266–1287.

Figure 9: GM soybean planted area in South Africa; changes in the price of maize seeds and maize producer price

GM soybean planted area in SA: 2005 - 2011



Source: Crop Estimates Committee and SANSOR



Source: GRAIN SA

Seed price increases

In South Africa, GM maize seeds have increased in price by 45% in the last five years. There is a 'transgenic treadmill' which sees the continuous release of new, more expensive, but not better performing varieties. E.g. Smartstax in the US contains eight modified genes, rather than one or two.

Comparisons of price and yield information in South Africa show that more expensive varieties produced lower yields. For example DKC 77-61B cost 8.5% more than DKC 78-15B in 2010 but field test data from the Agricultural Research Council revealed its yield was actually lower. There are a number of other examples of this phenomenon.

Pioneer Hi-Bred/ Pannar Competition Commission case

Pioneer-Hi Bred is one of world's largest seed companies with sales in 2010 sales of $1.75 billion. It was purchased by DuPont in 1997–1999. Pannar Seed, established in 1958, is South Africa's largest seed company, with one of the world's largest white maize germplasm collections. It has a large business footprint in Africa, including links with the Kenya Agricultural Research Institute (KARI) and the International Institute of Tropical Agriculture (IITA). In September 2010 the parties announced they had applied to the Competition Commission for merger approval. In December 2010 the merger blocked over fears of decreased competition, increased seed prices and proliferation of GM seed. The case is currently on appeal at the Competition Tribunal, with a final hearing scheduled for September 2011.

Never waste a good crisis: 'Climate Ready' crops

There is increased corporate interest in crops previously not deemed to be commercially lucrative: e.g. sorghum, millet, cassava and banana. There is widespread patenting of genes 'discovered' to have useful climatic traits. Between June 2008 and June 2010, 1 663 patent documents were lodged worldwide related to crops with 'climate ready' traits (tolerance to drought, salinity, heat etc). Du Pont, BASF an Monsanto own 66% of these patents. This Trojan horse of climate ready and 'nutritionally enhanced' crops are intended to secure public support and open up markets.

8 Presentation: Confronting Monsanto in Lutzville

Davine Witbooi, emerging farmer and Food Sovereignty Campaign activist, Matzikamma municipality

Last year we in the Food Sovereignty Campaign had our first meeting in Springbok in the Northern Cape. We decided to start our activities in Lutzville about 260km from Cape Town. Monsanto placed advertisements in the local newspaper applying for permission to use 1ha of local land to test GM maize. We did not see the first advertisement but we realised we had to stop this. Monsanto did not

come to the community to explain the purpose of the research. We informed the community about what was happening and held a picket so that the whole world can see we are not as stupid as the Agricultural Research Council and Monsanto think we are. Our resistance was organised with the help of SPP.

When the local emerging farmers came together and applied for land, they only granted us commonage land – 32 emerging farmers on less than 2ha of land. We want to know why the ARC does not help us to do research on AE farming of crops like vegetables in Matzikamma municipality. Why does the municipality allow Monsanto to use land that belongs to indigenous communities? Companies are not doing trials like this in countries like the US because rural communities there are well educated. Commercial farmers use chemicals that are a health risk to our people. As emerging farmers we decided we did not want to be like commercial farmers.

ACB asked us emerging farmers to come to a meeting about the Monsanto GM maize trial. Those of who know about the danger of GMOs were keeping quiet, but people in the community were asking the presenters difficult questions. The ARC thought it would be easy to tell people at the meeting that GM maize will feed the world. They said they would do a follow up workshop. In March we had another meeting. They undermined us by applying for another 1ha of land in the local newspaper. They said they were not willing to sit in the workshop with the anti-GMO campaigners. We said we wanted to sit in a workshop with community members so that community members can decide whether this is a good thing or not. They planted the second batch on that land. At the end of this month (May 2011) they will harvest. We wanted to do something radical, not just bring in professors and doctors [to make our point]. We decided we might burn the crop to make it clear we do not want this in Lutzville. They said farmers in KwaZulu-Natal are very happy with this crop. The community asked us whether we can provide an alternative. We can. We are distributing open pollinated varieties, taking people back to the farming practices before chemical agriculture. We are planting in the way our grandparents planted, introducing people to AE farming, old farming practices, so that people can be healthy. People were asking why people are dying young. We know this is because of the activities of multinational corporations. We don't want to be like the commercial white farmers because now we know what the danger is. We will not stop until Monsanto is out of Lutzville.

9 Presentation: Reforming corporate factory farming in South Africa

Brett Bard, Compassion in World Farming[21]

Compassion in World Farming aims to abolish factory farming globally. This is an ambitious goal. We are aiming to obtain the recognition of animals as sentient beings rather than as property. Factory farming is industrial farming with animals. Compassionate farming looks at the interests of animals, and we do not ignore the impacts on human health and animal welfare. The Consumer Protection Act gives consumers the right to know how their food and other consumables are produced. We now have the right to take action on parts of the production process that are unconscionable. Factory farming methods will shock the conscience of any reasonable person. We want to see the large-scale adoption of AE farming and free range farming.

We lodged a class action against battery farming of chickens. Intensive egg farmers in South Africa put 23 million hens into spaces that are three quarters of the size of a sheet of A4 for their whole lives. Farmers cut off the toenails and beaks of chickens without anaesthetic to stop them

[21] Brett is a qualified veterinary surgeon. His presentation included videos of the conditions of factory-farmed pigs and chickens.

cannibalising each other We are calling for a phasing out of battery chicken runs and the introduction of a more free range situation.

Intensive pig farming is contrary to the provisions of the Animal Protection Act. Pregnant sows are kept in sow crates for 63 days – metal cages in which they can hardly move. We are pushing for a ban with immediate effect. Sow crates are banned in many countries.

Six thousand ostriches were slaughtered in Oudtshoorn because after the advent of avian flu in other countries, the EU put a ban on importing bird meat.

People know how chickens and pigs are treated but still eat eggs and bacon. It is not normal for people to eat the amount of meat they eat. It is unsustainable for planet to produce meat to feed everybody.

10 Presentation: AE and government policy in South Africa

Thabo Ramashala, Director: Plant Production, Department of Agriculture, Forestry and Fisheries (DAFF)

Background

The resource base

South Africa has a total land mass of 122.3 million hectares, of which 100.6 million hectares is agricultural land. Arable land accounts for 14 million hectares (14%), extensive grazing for 84 million hectares (84%), and 2 million hectares (2%) is used for forestry. High potential arable land comprises only 22% of total arable land. Only 1.35 million hectares of agricultural land is under irrigation.

There are four main types of agro-ecological zones – temperate, Mediterranean, tropical and sub-tropical. Despite the limitations of the soil, the wide variety of climatic zones and topography enable the production of almost any kind of crop. Crops can be divided into six main categories – grains, fruits, industrial crops, vegetables, indigenous crops and ornamental plants. South Africa is a net exporter of a variety of agricultural products, including wine; citrus, deciduous and subtropical fruit; maize; nuts; and processed fruits and vegetables. It is a net exporter of grain, except for wheat. Two million tons of wheat are locally produced and 1 million tons is imported. There is a significant surplus of maize, most of which is supplied to members of the Southern African Development Community. No rice is grown in South Africa. We produce all the vegetables we need – 95% is consumed locally, the rest is exported. Non-food crops include cotton, jute, sisal, essential oils and ornamental plants and flowers. Indigenous crops include rooibos and honeybush, sorghum and millet. Animal production – diary, beef, pork, poultry, sheep and goats are susceptible to diseases, but these are manageable.

Hindrances to development of the agricultural sector

The development of the agricultural sector is hindered by factors like poor rural infrastructure, globalisation, a limited natural resource base, a shortage of skills and climate change. Social challenges include a high unemployment rate, poverty, food insecurity, crime, a growing incidence of HIV/ AIDS and homelessness. The degradation of natural resources (land, water, and biological diversity) threatens the livelihoods of the poor, particularly in rural areas. Economic challenges to sustainable development include slow economic growth, globalisation, mechanisation, excessive reliance on foreign direct investment and job losses.

Globalisation has resulted in increased competition for our agricultural products in both export and local markets. The free movement of agricultural products between countries has increased sanitary and phyto-sanitary risks, particularly exotic pests and diseases. Outbreaks of foot-and-mouth disease, Karnal bunt and larger grain borer are cases in point. Climate change has resulted in

increased incidence of prolonged droughts. This poses a big problem because most of South Africa's agricultural production is rain-fed.

For many farmers, market access is hindered by constraints such as inadequate physical infrastructure, sanitary and phyto-sanitary barriers, unstable market opportunities related to production variability, relatively small markets, and a lack of current market information and trading skills. International trade is hampered by unfair competition due to subsidies and other barriers used by the developed countries.

The recent global economic crisis continues to have a devastating effect on economic growth in countries across the world. Poor economic conditions are bad news for the agricultural sector in South Africa. The sector shed a lot of jobs during this time, creating additional financial and social difficulties, particularly for small farmers and low-income consumers.

Agricultural production is struggling to keep up with growing demand for products. Rising input costs globally and domestically seriously threatens the sustainability of the agricultural sector (in both the primary and downstream industries), and therefore the ability of this sector to supply enough food at affordable prices. Although there are many reasons why input prices soared over past year, mainly three factors stand out, namely: (i) the ongoing hikes in oil and natural gas prices, (ii) very high demand for fertiliser due to increased production for food and bio-fuel; and (iii) very high demand for food in world, specifically in China and India.

Agroecology

The United Nations Human Rights Council Special Rapporteur on the right to food said that agriculture should be fundamentally redirected towards modes of production that are highly productive, highly sustainable and socially just and referred to AE as one of the production systems that have the potential to address current challenges facing agriculture.[22] AE is important as a way of mitigating climate change, and could help to attain the objectives of the government's New Growth Path, industrial policy and green economy initiatives, as well as the Integrated Sector Plan for Agriculture, Forestry and Fisheries.

AE has potential in terms of contributing towards reducing rural poverty, because it promotes on-farm fertility generation, by applying livestock manure or by growing green manures. Thus the soils do not necessarily require adding mineral fertilisers. AE is also labour-intensive thereby creating much needed jobs. Some of the positive impacts attributed to AE include that it:

- offers higher quantitative and qualitative yields in small-scale farming systems, resulting in improved health, wellbeing and income;
- addresses the advantages and disadvantages of a given ecosystem;
- contributes to reduced emission of greenhouse gases and fossil fuel dependency;
- leads to improved soil fertility;
- is based on integrated natural resource management and promotion of biodiversity;
- improves resilience to extreme weather conditions and has overall climate adaptation potential;
- increases competence, innovation and co-operation among small and resource-poor farmers;
- improves livelihood opportunities for the rural poor, including farm workers; and
- based on conservation and use of traditional, indigenous and local knowledge and value systems and respect for regional and community-based social, cultural and spiritual identity.

AE is based on the following principles:

[22] http://www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16-49_agroecology_en.pdf, accessed 11 June 2011.

1. Maintenance of vegetative cover as an effective soil and water conserving measure, met through the use of no-till practices, mulch farming, and use of cover crops and other appropriate methods.
2. Provision of regular supply of organic matter through the addition of organic matter (manure, compost, and promotion of soil biotic activity).
3. Enhancement of nutrient recycling mechanisms through the use of livestock systems based on legumes, etc.
4. Promotion of pest regulation through enhanced activity of biological control agents achieved by introducing and/or conserving natural enemies and antagonists.
5. Enhancement of the recycling of biomass and optimising nutrient availability and balancing nutrient flow.
6. Securing favourable soil conditions for plant growth, particularly by managing organic matter and enhancing soil biotic activity.
7. Minimising losses due to flows of solar radiation, air and water by way of microclimate management, water harvesting and soil management through increased soil cover.
8. Species and genetic diversification of the agro ecosystem in time and space.
9. Enhancement of beneficial biological interactions and synergisms among agro-biodiversity components thus resulting in the promotion of key ecological processes and services.
10. Optimising the use of locally available resources by combining the different components of the farm system, i.e. plants, animals, soil, water, climate and people, so that they complement each other and have the greatest possible synergetic effects.
11. Reducing the use of off-farm, external and non-renewable inputs with the greatest potential to damage the environment or harm the health of farmers and consumers, and a more targeted use of the remaining inputs used with a view to minimising variable costs.
12. Replacing external inputs with nutrient cycling, better conservation, and an expanded use of local resources.
13. Working to value and conserve biological diversity, both in the wild and in domesticated landscapes, and making optimal use of the biological and genetic potential of plant and animal species.
14. Promoting and supporting indigenous knowledge systems and practices, including innovative approaches towards production, pest and disease control, harvesting, processing and preservation.

Policy framework needed to support AE in South Africa

Government policies and strategies need to promote the following key factors that are critical for shift towards the adoption of agroecology:

- **Seed systems**. It is important to develop and support the development of sustainable seed supply systems. These systems should be backed by appropriate breeding programmes.
- **Crop rotation**. This is aimed at incorporating diversity into cropping systems. It is important in terms of increasing soil nutrients and breaking the life cycles of several insect pests, diseases, and weed life cycles.
- **Polycultures**. This refers to complex cropping systems in which two or more crop species are planted within sufficient spatial proximity to result in competition or complementation, thus enhancing yields.
- **Agroforestry systems**. This refers to an agricultural system where trees are grown together with annual crops and/or animals, resulting in enhanced complementary relations between components increasing multiple use of the agro ecosystem.
- **Cover crops**. This is based on the use of pure or mixed stands of legumes or other annual plant species under fruit trees for the purpose of improving soil fertility, enhancing biological control of pests, and modifying the orchard microclimate.

- **Integrated production systems**. This refers to the integration of livestock in agro-ecosystems. This aids in achieving high biomass output and optimal recycling.

Institutional arrangements needed to support AE

Development of a viable agroecology sector needs creation and alignment of appropriate structures at the national level as well as at both provincial and local levels. These structures will improve co-ordination, and facilitate implementation of AE programmes.

National policy on organic agriculture

The dominant mode of production is conventional farming, but we know that that kind of agriculture is a major contributor to climate change. Our policy on sustainable agriculture from the World Summit on Sustainable Development in 2002 was not focused on a particular production system. In 2007, we were approached by stakeholders in organic agriculture industry. We commissioned a study which was completed in 2009 and then drafted a strategy to support organic agriculture. The stakeholder group includes the Department of Trade and Industry (DTI). Our outputs are a draft policy on organic agriculture, standards for organic produce, and a review of the law which regulates fertilisers, farm feeds and pesticides. Draft 7 of the policy has been approved for external consultation and a consultation workshop has been held in Pretoria with practitioners from Gauteng, Limpopo and parts of Mpumalanga. A consultation will be held on 2 June 2011 with stakeholders from KwaZulu-Natal, Free State and the rest of Mpumalanga. A third consultation will be held on 8 June in Cape Town with stakeholders from the Western Cape, Eastern Cape and Northern Cape.

What is the relationship between organic agriculture and AE? Some say the policy should also be on AE. The broad consensus seems to be that organic is a subset of AE (as is the case with biodynamic, permaculture and natural farming). During COP17 in Durban in November 2011 we will announce we have developed an organic agriculture policy, standards for products and standards for export.

Agriculture has been identified as one of the job-creating sectors in the National Growth Path document, particularly labour-intensive systems like organic and AE. Organic farming and AE will also be contributing towards the government's 'green economy' initiative. I have been working on a draft strategy for AE, but it is in a early draft stage, so I have not announced this publicly.

Comments and questions

Towards sustainable agriculture

- Organic agriculture is structured as a niche market, and government wants to go to COP17 to say it has an organic agriculture policy. But it should be replacing conventional agriculture.

Thabo Ramashala: When land is converted to organic agriculture, there is initially a loss of production and it takes a while for the soil to build fertility, but you never go back to the original yield, so farmers say. On the subject of whether organics and AE should be the mainstream – the dominant system of production in the whole world is conventional. The UN Food and Agriculture Organization has acknowledged this. It says organic will for now cater for the niche markets, for the people who are concerned about what they eat. There is no national organic association. Different associations argue among themselves and walk out. The two key drivers for organic farming and AE are concern around climate change, and food safety. These will contribute to the growth of organic and agro-ecological agriculture.

Ricado Jacobs: The international assessment of agricultural knowledge produced by the UN and World Bank says conventional agriculture has reached its limits and that there should be a shift towards AE. It looks like the South African government is going against this international consensus. Organic agriculture is a niche. AE activists are wanting normal healthy food that is not sold at premium prices so that all people can have access to it.

Thabo Ramashala: Our strategy on AE is still an internal discussion document in DAFF. We will develop the policy, discuss it, and then take it to stakeholders. AE is being taken seriously. Our own Director-General is taking AE seriously. It will not become a government strategy without you making inputs. We will contact you. You will see this document. We will ensure you have the opportunity to participate in the process. Our organic policy came in first, and will be before Cabinet in November 2011. If we get the go-ahead by September for the AE policy, you will see the document. Just like the rest of the world we would like to move towards sustainable production. This needs to be gradual. We are promoting organic agriculture with regulations, amendments to legislation and standards (developed by the South African Bureau of Standards). Organic agriculture will find its place in the room. AE policy is in development. You may say you want standards for AE and tell us how these might be different to organic standards. Government is here to provide support.

- When you are cooking, who decides what the recipe is? Farmers want to be part of the process now. Can farmers be included at this point?

Thabo Ramashala: AE and organic farmers are very passionate. We have a participatory democracy and we develop strategies and policies in a participatory way. We need to get you in as early as possible, but many policies have been developed and never implemented, partly because they were rushed. I have noted your plea about not wanting to wait, and will find a way of speeding it up. Even if we have a preliminary interaction, we note you want to get in early, but we are a government for all the production systems. AE is an important sector that needs government support.

- This sounds like a minor process on the sidelines. A fundamental policy shift is required, not just fiddling at the margins.

Thabo Ramashala: Does government know enough about AE? There is some knowledge in DAFF about AE but it needs to be improved and complemented by knowledge from groups like you. You have experience, that's why we'll talk to you. Document your production practices. We have developed production guidelines for all the crops grown in South Africa. There is a need to develop production guidelines for AE practice. You will have to help government to put that into place. How to mainstream AE? We would want to assist you and ensure that your sector occupies a significant part of the agricultural landscape. There is a need for policies, strategies, and implementation framework and institutions. In that way perhaps your sector will increase its size from occupying the corner of the room to occupying more of the room.

Agriculture, employment and livelihood

- A coal mine with a 20-year lifespan has the same net present value as potato farm with a 70-year lifespan. It creates the same number of jobs, but does not sterilise the land.
- Government support to small-scale AE farming could create a lot of self-employment. There are already 1.1 million small producers – that's 20% of the President's job creation target.
- Research findings on the Massive Food Production Program shows that the prevailing idea that commercial agriculture is labour-intensive is wrong.

Thabo Ramashala: Mining and agriculture are both commodity-based and have the same problems. In the past the emphasis was on primary production and selling primary commodities without adding value locally. We can employ more people through mining. Much farm labour is seasonal. Even subsistence farmers need to generate cash. It is a noble idea to help people to produce their own food, but it does not work. In communal areas, three million hectares of land lie fallow. Some people abandon their land when they get social grants.

Available land

- What is the government definition of arable land? If marginal land was included, this would include the amount of land available for cultivation. A lot of cultivation takes place in Zimbabwe on land considered to be marginal.

Thabo Ramashala: We might need to look at our definition of arable land again, but the soils are generally of poor quality regardless of what you are going to plant.

Why export maize when people are hungry?

- There is such overproduction of maize that millions of tons are exported, but why is maize being exported when people are going hungry?
- Government needs to have a strategy for people who go to bed hungry. People with money can buy food, those with no money struggle to get food.

Thabo Ramashala: The Presidents's State of the National Address emphasised the need to create five million jobs so that people can earn money. When you have produced products you need markets to get money. The local market is limited. It can take up our products, but to be a serious player, you must also be in the export market. That's why we are a net exporter. We need foreign exchange to enable government to deal with poverty and unemployment and to provide social grants for the vulnerable.

- There seems to be interest among policy makers in exports, not so much emphasis on people on the ground, unemployment and household food insecurity.

Thabo Ramashala: The Minister has initiated the Zero Hunger campaign following the Brazilian model. Goverment officials have been to Brazil to find out about the Zero Hunger campaign there.

Government support to small farmers

- Why is government more supportive of AgriSA more than emerging farmers?

Thabo Ramashala: I am not aware of any support to AgriSA. All organised agriculture bodies interact with government. Since 1994 we have been providing increasing amounts of support to smallholder farmers through CASP, MAFISA[23] and AgriBEEE.[24] We get money from National Treasury and transfer it to provinces. As a national department, DAFF wants to have more direct control to ensure results on the ground.

- The national and provincial agriculture departments provide money in a way that undoes the work that we do and they support what multinational corporations are doing.

Organising small AE farmers

- Other farmer associations get more attention from government because they are organised. In this workshop we have representatives from all over the country. We should think seriously about creating some kind of co-ordinating structure. We have an organisation in the Eastern Cape and linkages with organisations, farm workers, farm dwellers and small-scale farmers in KwaZulu-Natal and the Western Cape. We should use it to organise.

Thabo Ramashala: Forming a structure to represent the AE sector is a good idea. Government often does not know who to talk to. We want a unified sector that can talk on behalf of the sector. We look at the whole value chain and want to talk about the whole chain.

[23] The Micro Agricultural Finance Institute of South Africa.
[24] The framework for broad-based black economic empowerment in agriculture.

GM crops

- How does the handout of licences to GM research work? Communities do not want Monsanto to misuse their land.

Thabo Ramashala: Permits are issued in terms of the Genetically Modified Organisms Act 15 of 1997. Sixty-five percent of maize grown in South Africa is GM, as is 90% of cotton and 95% of soy beans. That's only three crops of the more than 350 crops that are grown here. We have a very stringent approval process and biosafety system in place. We do not allow anything that would endanger people. Multinational corporations put us under pressure, but up to now only we have only licensed three so far. There is a regulated way of managing things.

11 Small group discussions: Participating in the development of government policy on AE

The government AE policy participation process

- In line with the 2007 African National Congress conference resolution on agrarian reform, government must ensure all relevant structures can participate in agrarian change.
- DAFF must make resources available to ensure effective participation by NGOs and AE farmers.
- Farmers must participate in the design of the public participation process.
- Process timeframes must be sufficient for effective participation to take place.
- The venue for meetings must be central.
- DAFF must listen to the farmers.
- DAFF must be open to a paradigm shift.
- DAFF must make the current draft of the document available ahead of time so that farmers can prepare themselves.
- DAFF must present the draft document and discuss it in each province, with all provisional organisations represented.
- DAFF must make it clear how much money it has committed to developing the policy.
- Government should meet with farmers, not farmers with government.
- Government should not relegate AE to the Second Economy.

Stakeholder organisation and consultation

- A task team should be established to manage the process of: 1) establishing a co-ordinating structure to represent farmers and NGOs; 2) canvass opinions to develop a position to take to government; 3) take information and disseminate it to the grassroots. Our dvocacy needs to look at key elements of AE practices from production to consumption. We must consider the whole value chain, the whole food system, address contentious issues and think of a way of organising this group of players to engage meaningfully with government.
- We must make sure the diversity of voices is heard, and that those voices are included. Women must be involved in the process, and farmers and communities in every province must be mobilised to engage with the process.
- Stakeholders should consider engaging with Parliament's Portfolio Committee on Agriculture if the DAFF Director-General and other staff do not co-operate.
- Stakeholders should establish how to engage with provincial, local and municipal levels of government.
- If AE is an umbrella for different sustainable agriculture practices, AE practitioners should bring in other sustainable approaches.

Case studies

- Farmers should develop case studies on AE.

Longer timeframes for government project funding

- Government funding for projects is being withdrawn after too short a time. We should lobby for change.

AE education and training

- There is a need for AE education from schools to universities and agricultural research stations.

AE food gardens at schools

- Children and teachers at schools should be encouraged to grow food for schools using AE methods.

Seeds

- Seed exchanges should be organised.
- Should government or local farmers or others take responsibility for looking after seeds?

Co-ordinating NGO and government efforts

- NGOs and government should explore ways of co-ordinating what they do to support AE.

International exchanges

- There is potential for capacity-building exchanges within the members of IBSA [the India, Brazil, South Africa dialogue forum]. Government should engage with NGOs and farmers on how best to do this.

12 Comments on AE policy from a Brazilian perspective

Gabriel Fernandes, AS-PTA

Seed

Access to seed is essential for AE since we are talking about a way of farming that is most suitable for local conditions. There must be autonomy around seeds and farmers must be able to exchange seeds with each other.

GM crops

Since 65% of maize in South Africa is GM, a way must be established to avoid contamination. Contamination leads to a loss of biodiversity.

Access to credit

The state should facilitate grants and special lines of credit with low interest rates so that farmers can organise their units for the transition to AE.

Access to markets

The state should create markets for family farming products. The Brazilian government's Zero Hunger project is a huge market for AE, e.g. in hospitals and schools.

Education and training

There should be a continuous process of education and training on AE, backed up by concrete case studies and sharing of experiences.

Extension and research

NGOs and farmers' organisations should engage with scientists from universities and agricultural research stations and extension officers so that they all work towards developing AE.

Women and youth

There should be an emphasis on the empowerment of farmers in general, with specific emphasis on role of women and young people in agriculture.

13 Presentation: SPP's AE learning sites

Sithandiwe Yeni, SPP

Establishing AE learning sites was one of SPP's strategic objectives adopted in 2008.

The objectives of the sites are:

- To create alternative centres of learning to enhance the agro-ecological model of agriculture.
- To build an AE movement.
- To engage in participatory research with small-scale farmers.
- To promote indigenous farming systems.

The activities we use to promote these aims are: workshops, training events, horizontal exchanges and market days. We also have workshops with farmers to advise them about world food production systems and food security to give them an idea of the bigger picture. We have held events in the Hantam Karoo and Namaqualand. Our training is more practical than theory, and it includes such topics as crop production, livestock production and pest management. Farmers determine the content, since their needs differ from place to place. Training is provided by SPP staff, farmers training other farmers, and external experts.

Horizontal exchanges between farmers take place in a local area, nationally, regionally, and internationally (Zimbabwe, Mozambique, Brazil and India). The criteria for who should go on these exchange visits are designed by the farmers themselves, e.g. whether they farm the same animals, and any language or other considerations that may apply. One of the things we've done is link the kitchen and the farm so, for example, we've run events where men go into the kitchen to make cheese and pasta. This event was intended to enable the men to see ways of adding value to what they are already producing, e.g. producers of wheat and eggs can go a step further and produce pasta. Farmers have also trained us in such things as water harvesting, seedbed making and compost making. They know more than we do about many things.

As a way of taking AE to the consumers, we ran a 'produce local, buy local, eat local' campaign in Namaqualand to challenge the idea that healthy food is only for middle class city dwellers. We ran a Slow Food movement eat-in where farmers and consumers came together at a market. The farmers displayed their raw produce for sale. The consumers bought what they wanted and sat down. The farmers cooked it for them, and the consumers ate it then and there.

14 Presentation: Implementing AE in Porterville

Anthony Coetzee, farmer, Porterville

I farm 167 hectares of commonage land with pigs, cattle and some wheat. I received an award when I studied farm management and livestock farming by conventional methods. So I can understand DAFF's position. When I first heard the word 'agroecology' at an SPP workshop I fought against it because it would take me away from my conventional position on how agriculture is done. I said 'you have to prove it to me'. Then in 2009 I went to another AE workshop where I found out about GMOs. I was more informed than before. I was made aware of nature's cycle in farming. The Bible also says we should not destroy the land. I went to India with SPP to see how Thamizhaga Vivasayigal Sangam promotes conservation farming – people working with available resources. Then I visited Zimbabwe and I saw work there that was linked with Sangam. I took this knowledge and implemented it first in my back yard with maize, beans, tomatoes and onions and it works. It helps to bring life to depleted soil. I make use of mulch from the cows in my wheat farming. Last season I put in 10 hectares of wheat using only guano and a natural spray from the Northern Cape called kraalbos. The yield was not very good because there were too few seeds per hectare. This year I put in 12 hectares of wheat with more seeds per hectare and natural fertiliser. The yield increased.

Porterville is one of the AE learning sites. An AE learning site is a place to promote the retention of indigenous knowledge and to support small-scale farmers. The learning site is also a site of resistance to the dominant model of agriculture – it demonstrates an alternative to the industrial model where the maximisation of profit is the only important thing. We practice seed saving, AE livestock production, and soil and water conservation and management. A learning site is the ideal form of a showcase where people can see how it is possible to work with different locally available resources. We create relationship with other farmers. We share stories, they can visit, we have exchange visits and we engage in horizontal learning activities with them.

I farm with pigs. Since they have been walking around more freely I need less iron injections. We work with nature, human beings, plants and animals. We work with respect for animals. We are building up an AE network. My group would want to see government showing more interest in AE. By the time government takes an interest it might be too late. Government should find out what we are doing to produce healthier food. We try to see our food go from the garden into the kitchen, at a family level. We want government to show an interest and see our food is healthy. My message to AE farmers is keep on, share your successes, don't be isolated, try to build up networks. The things which come from the earth go back into the earth.

We do low tillage agriculture, and use all the available resources. In 2008 I spent almost R5 200 per hectare on chemicals and seed. In 2009/2010 with AE the price per hectare dropped to R4 000. But spending all that money to plant 80 hectares, at the end of the season you may find the price of the wheat has dropped. On my first experimental plot of 10 hectares, the yield was not so good per hectare, but I got 6 tons, and I used half the amount of nitrogen. Since 2010, I have spent no money on chemicals, only R10 000 on guano. I used seeds I saved from the previous season. I sold some of the flour at the Namaqualand festival. The wheat is healthier because we see what it is, and it is affordable to grow it like that. Be very careful about DAFF's MAFISA scheme. The money is handled by AgriWesCape and they take a percentage of the money. They wanted R62 000 for chemicals and R103 000 for a contractor, so I said no thank you.

15 Presentation: Implementing AE in Ingwavuma[25]

Selinah Mncwango, farmer, Ingwavuma

I started farming in 1967 using traditional seeds. I have 18 varieties of traditional seeds including maize, beans, pumpkins, sorghum, mung beans and sugar beans. I have some fruit trees, goats, cattle and indigenous chickens. I have been saving seeds from generation to generation, and exchanging seeds with my neighbours. At one point I tried other seeds because I was promised there would be a bigger harvest. I did not mix these new seeds with the traditional seeds. When I found a lot of insect pests with the new seeds, I told my children to take those seeds away and I've never tried it again. I felt heartbroken when I heard about the way factory farmed chickens are treated.[26] I have indigenous chickens and some broilers which I sell, but now I don't know what to do with them. The food I grow is nutritious and sufficient to feed the family throughout the year. I hardly ever buy any food. The people in my community are really against using any seeds if they do not know where they come from. Biowatch has made the community very resistant to accepting bad seeds. I have tried those seeds, and I don't want them. People have chased away department of agriculture officials who came with free seeds because there are enough traditional seeds in the community. I learned a lot here and am grateful to the organisers for bringing me here. I have a message to all the mothers, because they are the ones who feed the children and their families: be very careful about what you give your family. I do not want to be sick and unable to do things for myself. I have enjoyed the workshop, but I really want to be back on the farm.

Comments and questions

Access to land

- How do the farmers deal with access to land?

Selinah Mncwango: We have no problems with access to land [in Ingwavuma]. You can use any piece you want, it is about you having the capacity cultivate as much land as you need.

Preserving seed, transferring knowledge, improving soil productivity

- How you preserve your seed? Do you transfer your knowledge to others? How do you improve the soil productivity?

Selinah Mncwango: We hang maize and sorghum up near the roof of our huts and the smoke from the fire preserves the seed. We use some plants with a smell that keeps pests away. I share knowledge with a big group of women farming with traditional seeds. You need to know how much seed you have and how for how long you can keep it. If you have too many, it's better to give them away, otherwise they go to waste. We don't use tractors, we use hands, or use animals to plough. We use animal manure for fertiliser. If I don't have enough manure, I ask my neighbour. We mix crops, planting maize, pumpkin and beans together.

16 Presentation: Implementing AE in Carolusberg[27]

Anna April, farmer, Carolusberg

The non-profit Garden of Hope project started in 1999 with a R500 000 grant from the Department of Social Services and lots of support from the department of agriculture. Things went well until the grant ran out. When the money dries up, the people dry up. Only a few women stayed behind. I was

[25] The presentation was done in Zulu.
[26] Brett Bard's presentation.
[27] This presentation was done in Afrikaans.

elected Female Farmer of the Year in 2006 and went to a fancy hotel. We used to work with chemicals but most of the women got skin rashes, inhaled the chemicals and got sick. SPP invited us to a workshop at Goedgedacht where I heard about the negative effects of chemicals and the positive effects of AE, I decided to farm in the AE way. Now I can sleep well, I have good appetite, I have no marks on my fact. Not even one cat has died from the materials we use in AE agriculture. I know it is the best way to farm and I encourage others to adopt it. I have received no support from the Department of Agriculture since my transition to AE. 2007. I am finished with the department, I am *gatvol*, I am alone. The baboons like my vegetables because they are healthy. A big baboon went up to the scarecrow and shouted at it. When nothing happened, the baboon called his family to come and eat.

17 Presentation: Action research with smallholder farming systems in KwaZulu-Natal

Maxwell Mudhara, Farmer Support Group, University of KwaZulu-Natal

FSG is a community development and outreach unit of the university working in KwaZulu-Natal. We conduct action research with smallholder farmers and other land users to improve their livelihoods, and do capacity building of development practitioners.

The action learning approach

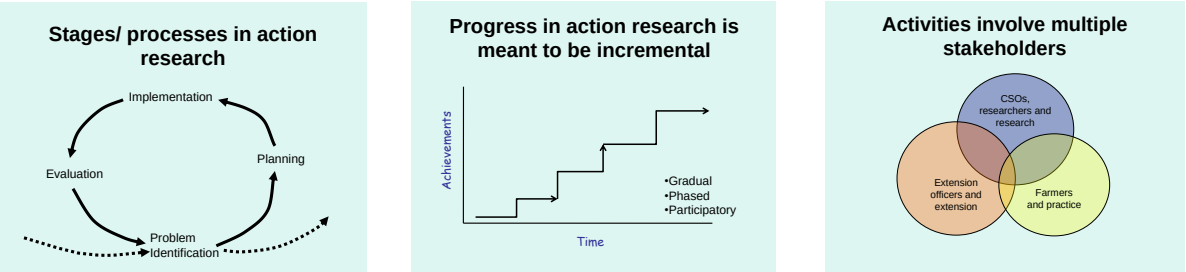
Action research:

- combines learning with development;
- makes analysis a part of the research process;
- brings farmers in as co-researchers, deciding what goes in;
- has outcomes that evolve over time; and
- focuses on solving real problems.

Its outputs are:

- local, direct and tangible impacts;
- new and improved methodologies;
- possible technical and social innovations; and
- building creativity and innovation capacity in the community as they are involved in trying to understand the issues in a deeper way.

Figure 10: Action learning



Evaluation incorporates both farmers' criteria (technical, social and economic considerations) and technical assessment (statistical, economic, etc). It is based on stated objectives. Because there can be many objectives, there may be many evaluation criteria. The tools and techniques for evaluation come from Participatory Rural Appraisal, namely ranking preference, matrix scoring and pair-wise ranking.

Example: Maize variety research in Okhahlamba

Maize is the most important staple food in Okhahlamba, with 67.3% of people consuming it every day. Fifty percent of the farmers retain their maize seed because they cannot afford to buy seed every year. The seed they have access to produces small cobs, i.e. low yields. This led to a participatory maize variety evaluation in 2008–2009. Local varieties were compared with: fresh open pollinated varieties (OPVs); retained OPVs; and hybrid maize seed. Farmers developed a list of criteria that were important to them – 17, not just one or two. There is a world of knowledge we can draw on here.

Figure 11: Criteria for variety evaluation, evaluation of variety performance, ranking of variety

Criteria identified for variety evaluation

Criteria	Ranking
Variety suitability to marketing	1
Retained planting seed	2
Disease tolerance	3
Early maturity	4
Number of lines per cob	4
2-3 cobs per maize stalk	6
Affordable variety cost	6
Yield	8
Colour of maize flour	9
Quick to dry	9
Drought resistance	11
Ability to withstand lodging	12
Maize stalk height	13
High rainfall tolerance	14
Taste	14
Rot resistance	16
Easy to shell	17

Evaluation of variety performance

Criteria	OPV 1	Hybrid	OPV 2	Local
Number of lines per cob	8	4	6	2
Yield	12	8	7	3
Early maturity	8	8	8	4
Number of cobs per stalk	11	7	6	4
Disease resistantnce	10	7	5	4
Less lodging	5	5	5	13
Taste	4	4	4	8
Colour of maize flour	8	4	4	4

Maize variety ranking

VARIETY	SCORE	RANK
Season 1		
OPV 1	71	1
OPV 2	68	2
Hybrid 1	66	3
Local	63	4
Hybrid 2	55	5
Season 2		
OPV 1	66	1
Hybrid 1	47	2
OPV 2	45	3
Local	44	3

Farmer learning groups

We cannot work with the whole population, so we work with farmer learning groups (FLGs).

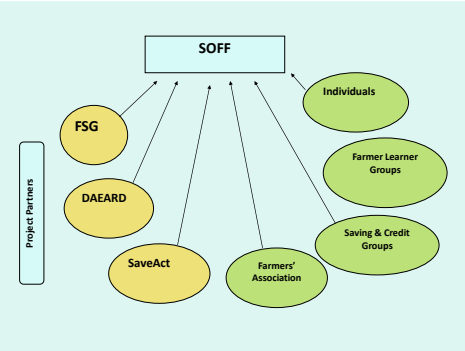
- Groups have broadly similar interests, even though the level of resources they have access to and their objectives may be different.
- Groups participate in every stage of the action learning process, identifying priority problems.
- Continuity is maintained through the continued existence of the groups.
- Groups allow smallholder farmers to manage risk, because they are able to confer with their peers.
- Groups are more accessible to service providers.
- Groups allow informal association and this facilitates technology assessment and accelerated adoption of what has been learned.
- Group sizes range from 18–30. Most have male and female members, with women in the majority.
- FLGs can be informal with no properly constituted committees or leadership and may choose to remain that way.
- Formal groups have a formally constituted leadership structure with a constitution. They receive institutional development training, e.g. skills to run committees and draft constitutions

Sivusimpilo Okhahlamba Farmers' forum

This forum meets every six weeks. It:

- organises field visit days and farmer-to-farmer exchange visits which allows them to learn from one another and share seeds;
- runs savings and credit activities which is a stimulus for group formation and various agricultural activities;
- stimulates innovation using indigenous knowledge and local knowledge.

Figure 12: Sivusimpilo Okhahlamba Farmers' Forum



Conclusion

Challenges to the success of the project are:

- difficulties in scaling up projects;
- limited local systems to access land;
- limited access to markets;
- extension officers being overwhelmed with responsibilities; and
- extension services having a tendency to prescribe rather than consider what might be learned from action research.

However:

- farmers can be meaningfully involved in identifying their production constraints;
- action research is a way of jointly achieving research and extension; and
- the action research approach supports activities such as savings and credit and the farmers' forum.

18 Presentation: Threats to food security and food sovereignty in the Eastern Cape

SithembeleTempi, Zingisa Educational Project

Objectives of the study

The objectives of the study were to explore the impact and limitations of the Eastern Cape government's Massive Food Production Program (MFPP) based on the production of GM crops and cash crop projects led by the private sector in the villages of Mgababa, Prudhoe, Peelton and Nxarhuni, as appropriate and viable vehicles for:

- the attainment of household food security and decreasing the levels of hunger at household levels;
- the creation of sustainable jobs and promoting sustainable development;

- the reduction of the levels of poverty and inequalities; and
- building local economic development.

The longer term objective of the research was, in conjunction with small scale farmers, unemployed and landless people, to use the results for the development of an advocacy strategy, and lobbying for the development of an alternative agricultural policy framework that is pro-poor and addresses the imperatives of sustainable agriculture towards agrarian reform, food security and food sovereignty.

Conclusions

Poor small-scale black farmers that are in the majority older than 51, and in some instances over 65, and who have often been retrenched from employment elsewhere are being turned into fragmented 'project recipients', using their best lands, to produce genetically modified crops (maize, soya and cotton) and other cash mono-crops. These crops are not relevant to the food needs of the local communities, and are often experimental, with no certainty about their long-term effects on health and the environment. These crops rely on the intensive use of chemical and expensive inputs and promote instead the interests of agri-business.

The current projects are not conducive to these farmers constructing economically viable, successful and sustainable farming initiatives that can provide for their own livelihoods and build local and provincial food security. Furthermore, the provision of extension services and infrastructure is either inappropriate or lacking. The prevailing conditions are also not encouraging young people to remain in the rural areas rather than migrate to urban centres. For this to be achieved, additional land outside the communal areas must be acquired by government for land and agrarian reform

The MFPP and cash crop initiatives in the Eastern Cape seem to be underpinned by the national government's belief that the solution to poverty in the country lies in the integration of the poor, seen as part of a 'second' economy, into the 'first' formal economy. This belief that the two are merely 'structurally disconnected' is mirrored in the Eastern Cape Department of Agriculture's 2008–2009 policy statement that it will be focusing on finding ways to integrate the 'dislocated agrarian economy of the previous homeland areas into the wider provincial economy'.

Our research indicates that these poor farmers in the former homelands are already very much part of the mainstream economy, but their 'integration into formal value chains and markets' is highly exploitative. They are being used by powerful players for the appropriation of surplus, to reproduce social relations and to further entrench existing political and economic interests. The MFPP projects are modelled on the Alliance for a Green Revolution in Africa (AGRA), and this is facilitated by national legislation and policies that favour agri-business and GMO production, allowing multinational corporations to gain control over South Africa's food and agricultural production.

Recent changes to the MFPP by the provincial department of agriculture incorporate the production of vegetables and livestock, a tacit acknowledgment of past MFPP failures. Some of the problems and challenges identified by the officials interviewed during this research had a lot in common with those identified by the farmers themselves. A big difference though is that officials blame community members for contributing to project failure by not being committed enough.

Comments and questions

Mobilising in the Eastern Cape

- Has the MFPP been an opportunity to mobilise communities, what will you do next after the report is complete?

Ilizwe Lamafama and other social movements on the ground have forged links of solidarity with other farmers in the province. A new network was formed in the last month – the Eastern Cape Rural

Assembly. During COP17 we should raise discussion about the role of conventional farming in climate change. Farmers can make presentations on that. There are cadre leadership schools every quarter to capacitate people to analyse the context. We are engaging the Department of Rural Development and Land Reform around the findings of the study. It is a launching pad to attack the system.

19 Presentation: Movement building in Brazil

Gabriel Fernandes AS-PTA, Brazil

Advocating for change

We can prove that AE:

- is more efficient than commercial Green Revolution agriculture;
- is a viable alternative;
- improves farmers' livelihoods; and
- improves farmers' food security.

Rallying points for the AE movement

Public awareness of the growing number of GMOs and increasing amount of pesticides

- The approval of 15 traits in GM maize;
- The approval of five GM traits in soya;
- The approval of six GM traits in cotton;
- The introduction of 10 transgenic vaccines;
- The introduction of a GM mosquito to combat dengue; and
- > 1 million tons of pesticides a year, of which 46% is used for growing soya.

Land inequality: Only 16% of farm units are family farms (24% of arable land), the remaining 84% belong to commercial land owners (76% of arable land).

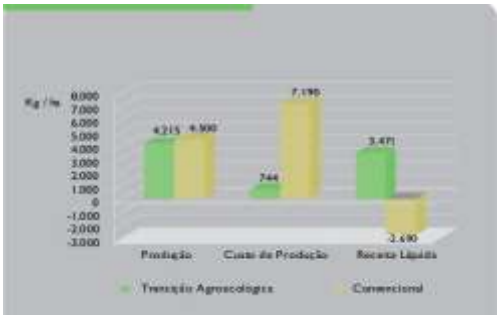
Employment per hectare: Family farms employ 15.4 people per hectare, commercial farms only employ 1.7 people per hectare.

Efficiency: Family farmers are far more efficient. The average income for a family farmer is R$515/hectare, compared with R$322 for a commercial farmer

Productivity: Commercial farmers say they provide food for the people. But the food we have every day at home comes from family farmers – cassava, beans, etc. This is the sector that produces food to feed us. Most commercial farmers produce export commodities.

Figure 13: Production by crop and Santa Catarina case study

Product	% Family	Productivity ratio family/ commercial
Cassava	**88.3**	1.31
Beans	**68.7**	1.86
Milk	**56.4**	
Pork	**51**	
Maize	**47**	1.42
Rice	**35.1**	1.84
Coffee	**30.3**	1.34
Wheat	**20.7**	1.23
Eggs	**17.1**	
Soya	**16.9**	1.12
Source: Censo Agropecuário 2006 – IBGE		



We did a study of the average production of 30 farmers in Santa Catarina state during the summer of 2007/ 2009 when half the expected rain fell in a single week and then there was no rain for 40 days. Conventional producers produced more than those in transition to AE (4 500kg/ha compared with 4 215kg/ha), but their costs of production were so much higher (R$7 190/ha compared to R$744 for AE farmers) that they made a loss (–R$2 690) while the AE farmers made a profit (R$3 741).

Our advocacy campaign

To advocate effectively, you need more than one way of approaching government.

Brazil has two agriculture ministries, one for commercial agriculture and another for small-scale production. We could not get access to the commercial farming ministry (which is orientated towards exports) so we lobbied the agrarian development ministry. When President Lula said his first priority was to stop hunger through the Zero Hunger campaign, we could move forward. We decided it would be better to start lobbying for AE in the context of food security and move to lobbying for a different agricultural model later. We lobbied the President's advisors and in 2003 the government's PAA programme for purchasing food was launched.

Under the PAA, government buys everything that people produce for the Zero Hunger programme. This creates a market for family farm production (to a maximum income of R$3 500/ farmer/ year). There is no bureaucracy, no guidelines and no standardisation, and government pays a 30% premium for AE products. The programme started in 2003 with 24 000 farmers; in 2010 it involved 100 000 farmers.

It is good to build alliances with existing social movements working on agrarian reform. If they can also support AE, we can get a broader coalition of movements to support the idea of AE as a political project. Farmers are promoting AE themselves. The most important pressure is from the ground up. For example, MST started with the struggle for land, and is becoming more convinced to support AE. MST is an important player in the national AE network in Brazil. We have a pilot project to try to show MST and the farmworkers' union that it is good to farm in a different way. Campaigns like this start with NGOs, then later they become movements.

20 Presentation: The Food Sovereignty Campaign

Rosinah Secondt, Food Sovereignty Campaign

The biggest struggle of the campaign is to acquire land for food security, to plant nutritious food and provide self-reliance. The right to agrarian reform among the landless poor and small-scale farmers is undermined in favour of a market-based model that led to the concentration of land and the displacement of small farmers. A percentage of agricultural land has been transferred to dispossessed rural poor people of South Africa and we say it is not enough. The chemical model of agriculture undermines agrarian reform, the environment and the health of farmers and consumers. As small farmers we are left out and therefore the economic and social divide between rich white and poor black is growing, because government supports large-scale commercial farming. The state is capitalist and does not support the struggles of emerging and small-scale farmers for land and food sovereignty. We want government to say yes to land redistribution, agrarian reform and food sovereignty that benefits the poor. We cannot farm efficiently because of a lack of support from government and municipalities. Another problem we face is that the extension services that are provided are mainly based on the chemical and industrial model of agriculture and we don't want it. They do not serve us to do alternative organic production.

What we want as the campaign:

1. Enough land and land to grow our own food.
2. The effective implementation of the expropriation clause in the Constitution.

3. The expropriation of commercial farmers that own too much land.
4. We want to own land, not rent for the rest of our lives.
5. A clear policy on municipal commonage land that answer the needs of emerging farmers.
6. A review of the export-led model of agriculture.
7. A move from capitalist to social development.
8. An end to trying to settle too many farmers on one farm. It's a recipe for failure and conflict.
9. Municipal policies must carry the approval of small-scale farmers.
10. We want sustainable services and infrastructure.

Our vision is to unite with other social sectors who suffer from the same wants as we do, to achieve what we need and what we deserve as South Africans.

21 Presentation: Movement building

Ronald Wesso, Surplus People Project

What is the relationship between movement building, AE and the problems with industrial agriculture? We have to start by asking what movement building is so that we can achieve a common understanding of what we are talking about. We have to find out what kinds of movements already exist. Movements are not all the same, and not all movements are equally deserving of our support. Then we can ask some key questions.

- How important is building a movement to us?
- How does it relate to our objectives?
- Can we achieve any of our objectives without movement building?
- Are we doing several things of which movement building is one, or are our activities all geared towards making an AE movement strong?
- How could we do movement building?

What is movement building? How do we arrive at a position to say we need to build a movement for social change? Movements can come into being when there is a certain dissatisfaction about something. But if we thought the problems that we are concerned about could be addressed in another way, we would not propose building a movement to do it. If a letter to the President would do it, we would do that instead. Movement building has two basic components: 1) wanting to do fight for social change; and 2) building the capacity to fight for social change.

There are very few examples of movements that have succeeded in achieving what they wanted to. Movements go against the grain of the social system; they are inherently opposed to the fundamental nature of the social system. What we want is quite revolutionary, and I have never heard of an easy revolution.

I am happy to hear we are opposed to neoliberalism, but I get uncomfortable when critics of neo-liberalism and neoliberal agriculture say we should go back to farming the way we did it in the past. AE is not simply a technically different approach to agriculture – natural rather than chemical – it includes a social justice aspect. We should not uncritically glorify a past which was based on the exploitation of women and oppressive relations generally. We can take something from the past, yes, and excavate what was noble and good about the past, yes, but we should not look to the past uncritically. It makes me uncomfortable when our ideas become associated with the pre-1970 period. We need to spell out our own vision. We are not proposing something completely new (there is nothing completely new under the sun), but we want something new in the sense that it won't be an uncritical rerun of the way agriculture was done in the distant past, or in the period before neoliberal agriculture. What we are proposing should be *much* better than that.

What will be the relationships between the members of such a movement to support AE and resistance to neo-liberalism? Some people within the movement may be in positions of power of

power over others. But it is no use building movements that reproduce the power relations of neo-liberalism within their ranks. Relationships inside the movement should be based on autonomy and egalitarianism as far as possible.

A movement also has a relationship with the rest of society. Do we think the government can possibly ever be an ally or that political parties as they are presently constituted will support us to achieve our vision for AE? We need to start the work of spelling these things out.

It will be hard for us to have a constructive conversation about movement building unless we take careful and serious account of the experience of the Landless People's Movement (LPM). What was the LPM? What did it set out to do? What did it achieve? Why did it move from such a high point to such a low one? The LPM no longer functions as a movement, but there may still be functional parts. The problems the LPM aimed to address are worse now. Movement building in South Africa is not constrained by people being too afraid of getting involved. Movements should be growing but they are not. Why is that the case?

In South Africa (and maybe in the rest of Africa), movement building around AE and food sovereignty must take account of what happened in Zimbabwe. What happened there and what people believed happened there has become a part of the discussion in South Africa about land and agriculture. We bump up against it in a piecemeal way. I am not aware of anybody having looked at what happened in a systematic way – what worked well and what went badly. The people we are fighting might simply ask whether we want to create another situation like the one in Zimbabwe.

The Food Sovereignty Campaign is a good example of the kind of movement we are trying to build. It is slowly coming to grips with all these elements of movement building. Rosinah Secondt and Davine Witbooi have spoken about what they have done. They have asked us to come on board, not necessarily to become members but to join them in their struggles. If you think what we are doing is wrong, tell us. If not, tell us why you are not joining us.

Movement building is really important. None of our other objectives will be achieved if there is no movement to support it. We can place articles in the press and make presentations to Parliament, but if we are not orientated towards movement building, the prospect of success is limited. We could consider becoming part of broad anti-neoliberal movement around a host of issues which can include fighting for AE and agrarian change.

It is dangerous to assume our current constitutional and legal arrangements are on our side. We need to challenge the idea that what we are trying to do is facilitated by constitutional rights. Actually we are blocked by the right to property and the right of white land owners to compensation. We should look at whether our ways of protesting and engaging the state is bringing us anywhere. Successful movements of the past had a set of actions that captured the imagination, e.g. the civil rights campaign in the US, the anti-eviction campaign, land occupations and the Defiance Campaign. Are we recognising the legal right of the current landowners? If not, does that not give us something to focus on, something that will give the jolt to mobilise people?

Comments and questions

To join other movements, or not?

Rosinah Secondt: Movement building is important but we have to look at our intentions. It makes no sense to join a movement that has nothing to do with AE.

- There is no recipe for how to build a movement. We are trying to bring together existing movements with their own history, e.g. social movements, community co-operatives and farmers' unions bring them together around one issue.

Ronald Wesso: I don't think we should join existing movements, they don't exist in a form where they can take us on board. The LPM was conceived as a broad movement of people around land,

farm workers dwellers (around labour relations and evictions), labour tenants, and small-scale farmers in conflict with specific municipalities around access to land and services. Supporters of AE could join such a movement if it existed, but I don't know of an existing strong movement that we can just join like that. We should consider how we can start building such a movement and bring in interested people.

The power lies in activists, especially women

Davine Witbooi: Some movements grow, some fail. The power lies in communities and community activists, especially women because they are the most oppressed. They make the best leaders. We can start with community leaders opposed to GMOs and support people wanting to join the movement. We need help from NGOs and we need finance. Poor rural people have no money. If you become an activist in a rural area, nobody will give you a job.

- We should bring together the different struggles against landlessness, water disconnections, evictions from farms and evictions in cities. All the struggles are linked. Women in Zimbabwe wanted to sell their produce in the markets and the soldiers told them 'if you come, 10 or 20, we will thrash you; if you come in your thousands we will be scared of you'.

Starting with ourselves

Brett Bard: I think the movement starts with ourselves, each one of us. We are all weak but can all be strong. AE is about food, everybody at this conference venue has been eating food that is factory farmed, maize that is GM, but nobody has said they don't want to eat that food. We must be role models for our families and people. As individuals we have a strong influence on the people we have direct contact with.

22 Points from small group discussions: Building a movement

Starting the process

- We should gather together as farmers at provincial level to address our problems and issues at national level.
- We should establish task teams for farmers to participate in AE policy making.
- We should find ways of engaging with COP17 in November 2011.

Champions and role models

- We should be good role models for our communities, leading by example.
- We need collective power to fight the struggle, and we need to identify people to lead this mobilisation.

Building alliances and networks; exchange visits

- We should keep the network in this workshop intact, we are already a movement when we are here.
- Make sure that farmers are included, particularly women.
- We should continue to network internationally and have exchange visits with partners in Brazil, Zimbabwe and other countries.
- Supporters of AE in different provinces can learn from one another through exchange visits.

Mobilising local-level knowledge and commitment

- We need whistleblowers in our communities to alert us to what is happening at local level.

- We can establish commitment at the grassroots level, start with small local movements on the ground.
- We should lobby local government and act locally to mobilise family, neighbours, local groups, tribal authorities and local government.
- There are issue-specific struggles in particular geographical places that could be linked to broader struggles.

Education, awareness-raising, communication

- We should educate ourselves to build our own knowledge so that we can lead others.
- We should educate people in families, schools and churches about AE.
- We should use social media to spread the message.
- We should keep lines of communication open.
- We should develop learning materials.
- We should document and share good AE practice.
- We should lobby for AE to become part of the school curriculum.

Litigation

- We could ask the Constitutional Court to enforce the rights in the Bill of Rights.

Resourcing the campaign

- We should mobilise and share resources. The burden of resourcing this struggle should not just fall on the organisers of the workshop.
- We volunteer, we are activists, we should use our own resources to go forward and advocate among people at the grassroots.
- It is difficult for farmers to participate if there is no finance available.

Including food sovereignty and seed sovereignty in the campaign

- The campaign should focus on AE, and also include the broader issue of food and seed sovereignty, building on the work that has already been done.

Linking with broader struggles

- We should link rural and urban struggles, including those of farm workers and farm dwellers, fisherfolk, people living in forestry areas and people practising urban agriculture.

Women and youth

- We should ensure that women and youth are brought into the campaign.

The role of service organisations

- The relationship between NGOs and any movement must be carefully negotiated.

COP17

- COP17 is a key opportunity for us to make our voice heard as a group.

23 Broad outline of the draft government AE strategy

Thabo Ramashala, Department of Agriculture, Forestry and Fisheries

Preamble

Intentions of the strategy.

Introduction

Definition of terms, including food sovereignty; why AE is important; AE experience in other countries.

Purpose and objectives

A broad framework for the development of a sustainable AE sector, including defining sustainability in this context.

Principles of AE

E.g. soil and fertility management, pest management, indigenous knowledge systems and biological diversity.

Problem statement

The challenges are currently defined as:

- A fragmented sector. Who are champions, who speaks on behalf of all AE stakeholders? As government, we want to consult. Who can we talk to without having to speak to 20–30 organisations?
- A skills shortage.
- Low levels of consumer awareness. Consumers' choices dominated by price considerations, rather than quality considerations – how the food is produced. That's why organic products are struggling to grow their market share beyond 5%.
- A lack of appropriate extension services. The type of training that extension officers receive is geared towards the dominant mode of production. Addressing the cause of this problem will require redesigning the training curriculum in colleges and universities, and integrating some of the elements into school education from primary level.
- The lack of production guidelines for best practice.
- Market access.
- Reasons for production. The view expressed in this workshop seemed to be that AE should be geared to feeding themselves, but people need money for education, housing, etc. Some of the AE products should ultimately be in the market for income. About 70% of what poor people earn goes towards buying food.
- Land ownership – some people may not be willing to invest in AE production systems if they might be kicked off the land.
- Positioning of AE in relation to other production systems, e.g. defining the relationship between AE and organic farming.

Intervention measures

- Training programmes – listing what already exists, like the ones that SPP and Biowatch are already offering with a view to developing partnerships with training service providers.
- Defining the research agenda for AE.
- Programmes to promote consumer awareness – what the core messages to consumers should be.
- Knowledge management, e.g. having production guidelines, packaged and available.

- A status report on AE in South Africa to enable us to respond queries about who is doing it, how many, and where.
- Documentation of success stories to sell the concept.
- Market development. E.g., what type of market AE producers are targeting and whether we need branding. The organic sector said we'd need to develop a national logo so that consumers easily identify organic produce.
- Certification. Is it necessary? If so, what kind of inspection would be necessary? People do not like being regulated but if the sector is unregulated, unscrupulous producers may claim their products are AE. This decision will be left up to the sector to decide. The organic sector asked for three forms of certification.
- Sustainable seed supply systems. We administer the Plant Improvement Act and provide testing services for seed quality – seed for local use, seed for export, and seed coming into the country. Testing includes germination rates, and any seed coatings are regulated.

Institutional arrangements

- A national AE body and provincial structures.

Evaluation

- Yield levels, skills levels, awareness levels, etc.

Annexures

- Acronyms.
- Definitions and glossary.
- Broad principles around best practices.
- A list of stakeholders and partners in the sector.

Once the consultation process is complete, the policy will go to Cabinet together with an implementation plan and a business plan.

24 Small group discussion: Next steps to take AE forward

- Following up on government strategy, group contact list of everyone who was here.
- Documenting current AE practices on the ground.
- Identifying the stakeholders and establishing a database.
- Identifying the different campaigns e.g. Lutzville and co-ordinate those.
- Establishing a mechanism to link up different players and campaigns.
- Extracting potential campaigns from the group work during the workshop
- Taking action in Lutzville against the maize trial.
- Taking information about the Consumer Protection Act to farming communities.
- Organising a consumer boycott against GMOs.
- Doing awareness-raising about GMOs.
- Sharing information about AE with consumers.
- Taking action to support AE, e.g. workshops like this one.
- Building a network between stakeholders in AE workshops.
- Taking steps to establish a seed distribution network and seed banks.
- Organising farmer-to-farmer exchanges.
- Organising horizontal exchanges.
- Doing grassroots training in how to do AE farming.
- Making useful plants such as kraalbos available.
- Identifying key people to speak on behalf of AE farmers.

- Developing simple, accessible awareness raising materials and activities and taking these to ordinary people.
- Lobbying government to support AE.
- Involving extension officers in AE.
- Quickly engaging with DAFF on AE policy.
- Doing AE education starting in primary schools, through to AE training colleges in each province.
- Engaging in an access to land and water campaign
- Engaging with government on draft AE strategy document.
- Campaigning for access to land for farmworkers and farmdwellers.
- Doing information sharing between the AE structures coupled with translations.
- Participating in COP17 as a structure to present AE as an alternative to conventional farming.
- Convening debriefing sessions on the lessons learned at this workshop.

25 Next steps: Concrete actions

Biowatch

Rose Williams

We will do all we can to support AE and AE farmers to challenge DAFF and the provincial departments of agriculture to shift away from IA especially in light of climate change. We will hold a workshop in August on COP17, and support this group in whatever way we can. Please phone or e-mail if you need our support.

SPP

Herschelle Milford

We will circulate the proceedings of the workshop, including a film. We will circulate the full version of Stephen Greenberg's report. We will do follow up research on AE and identify potential new sites. We will share what we have learned with others.

ACB

Mariam Mayet

We will continue our campaign around challenging corporate concentration in the seed and agro-ecological chain. Resistance has to take place on all levels. AE work is good, but we need to challenge the concentrated IA system. We will engage in challenging the proposed merger of Pioneer Hi-Bred and Pannar at the Competition Commission. We have asked the Commission to investigate Monsanto's practices, including the way it sets prices. The Commission has levied heavy fines against Pioneer Foods, among other companies. A third GM trait is being introduced to seed – drought resistance. We are doing a seed study to understand the sector properly as part of a coalition with NGOs which have strong links with farmers. This will have a participatory research design and include farmers. We offer support to anyone who wants training on GMOs.

Farmers

- Every farmer going back to his or her community and talking to people about AE based on a clear definition of what it is and how it is different to organic farming.
- Starting our own local markets; selling to our own communities.
- Ensuring that the food we eat ourselves is good food.

- Making seed available; asking NGOs for support to establish AE seedbanks; establishing our own seedbank in Wupperthal.
- Asking extension officers to distribute traditional seeds and making sure they do that.
- Advocating for a national policy on access to commonage.

NGOs

- ACB and TCOE will continue working on a seed study.
- Collaborating with one another.
- Strengthening our base in existing struggles, e.g. the Lutzville campaign.
- SPP will be a contact point for input into the government AE strategy. This is not just another sector that needs to be regulated, it is a different way of thinking.
- Supporting local-level organising, taking time to find out who is involved in the sector, what AE is and what it means at local level.
- Challenging Monsanto.
- Organising a platform for farmers at COP17. EJN and Biowatch are taking this forward.
- SPP will attend the La Via Campesina meeting in June.
- Continuing to work on the Pannar/ Pioneer Hi-Bred case before the Competition Commission.
- Setting up a meeting in KwaZulu-Natal.
- Going to the national seedbank to claim our seed.

26 Concluding remarks

Gabriel Fernandes, AS-PTA, Brazil

This workshop might be the start of an AE movement in South Africa. It would be good to work with existing movements rather than setting up a new structure. Start with the people in this room. Keep the process moving after the workshop.

Million Belay, MELCA, Ethiopia

How does change happen? How does AE become a major discourse? There are a few steps: 1) Find out who practises AE in each region; 2) Connect these people to build their capacity; and 3) Highlight what they are doing. That would make it a major discourse. Civil society and government are at loggerheads, but must work together. Bring the small movements together at COP17 and connect them. This initiative could succeed, or fail, there.

Rosinah Secondt, Food Sovereignty Campaign

This was a very good workshop. It started very well but I felt disappointment in Mr Ramashala. Now I look look forward to seeing his policy, to see whether there is room to manoeuvre on helping to developing the policy, join hands across provinces. We are not the elite, but we also want to eat, what we take in and what we give our children must be good.

Herschelle Milford, Surplus People Project

Thank you to our guests and presenters, local and international, for your participation, sharing, wisdom and insight. We hope this is the beginning of a long-term relationship. SPP will take care of business nationally and we look forward to receiving your ongoing support. We succeeded in our intention to bring together national players to discuss and identify the campaigns and next steps forward. SPP has a mandate to immediately take what we have discussed here forward in a transparent way and share information about this event. Tshintsha Amakhaya provides a further platform. La Via Campesina will be holding a national dialogue in Zimbabwe in June 2011, and we in SPP and FSC will decide how to participate in that event. Other events coming up in the near future include the Biowatch meeting in August and the Southern Cape Land Committee food producers'

workshop. We are building a movement in struggle. There is lots of work ahead. We will be making space for people to join in, critique what we are doing, and help this struggle along. Farmers will be playing their part by informing their constituencies. We thank all the service providers and donors – CCFD,[28] Africa Groups for Sweden and EED[29] for funding this workshop.

[28] Comité Catholique contre la Faim et pour le Développement – Catholic committee against hunger and for development.
[29] Evangelischer Entwicklungsdienst e.V.

27 Appendix: Workshop participants

Desmond Adams	Riebeeck Wes community
Anna April	Garden of Hope, Carolusberg
Craig Bantom	Wuppertal Traditional Farmers
Brett Bard	Compassion in World Farming (CIWF)
Mandy Barnes	Surplus People Project (SPP)
Million Belay	MELCA [Movement for Ecological Learning and Community Action], Ethiopia
Selinah Mncwango Billi	Sivulizandla
Vanessa Black	African Centre for Biosafety (ACB)
Petrus Brink	Farmworker Forum
Paula Cardoso	Trust for Community Outreach and Education (TCOE)
Anthony Cloete	Porterville Small Farmers
Catherine Collingwood	Social development consultant
Angela Conway	Southern Cape Land Committee (SCLC)
Peter John Danster	SPP
Siphiwe Dubazama	Farmer Support Group (FSG)
Roseline Engelbrecht	Women on Farms Project
Ferdi	Azania Rising Productions
Gabriel B Fernandes	AS-PTA [Agricultura Familiar e Agroecologia]
Henry Fredericks	SPP
Stephen Greenberg	Independent researcher
Ruth Hall	PLAAS [Institute for Poverty, Land and Agrarian Studies, University of the Western Cape]
Lonwabo Haya	ECARP [Eastern Cape Agricultural Research Project]
Stephen Heyns	Workshop documenter
Ricado Jacobs	SPP
Johan Jantjies	Ithemba Farmers' Association
Mazibuko Jara	Amandla Publishers
Gareth Jones	African Centre for Biosafety (ACB)
Craig Jonkers	International Project Finance Association
Candice Kelly	Sustainability Institute
Thabo Kgapane	Itireleng Development and Educational Project (IDEP)-TCOE
Eugene Khokhong	Legal Resources Association (LRC)
A Mabandla	TRALSO [Transkei Land Service Organisation]
Phillip Mamabolo	Nkuzi Development Association
Coleen Matteus	SPP
Martin Matunsi	Kwanokuthula Boere
Harry May	SPP
Mariam Mayet	ACB
Herschelle Milford	SPP
Mbuyiseli Mtana	ECARP
Mittah Mtembu	AFRA [Association for Rural Advancement]

Maxwell Mudhara	FSG
David Ntsenge	Church Land Programme
Agnes Nygren	AGS [Africa Groups of Sweden]
Kurt Orderson	Azania Rising Productions
Margaret Plaatjies	Women on Farms Project
Thabo Ramashala	Department of Agriculture, Forestry and Fisheries
Tennille Rode	SPP
Odette Rodrigues	CCFD [Comité Catholique contre la Faim et pour le Développement – Catholic committee against hunger and for development]
Monique Salomom	Tshintsha Amakhaya
Patrick Sambo	SCLC
Rosina Secondt	Food Sovereignty Campaign
Morris Seopela	Nkuzi Development Association
Cecelia Shandu	SPP
Samu Sithole	Biowatch
Henk Smith	LRC
Lonwabo Somadlangathi	TRALSO
Irene Spence	Pella cc
SithembeleTempi	Zingisa Educational Project
Emily Tjale	LAMOSA [Land Access Movement of South Africa]
Gladman Tom	Masifunde
Obiozo Ukpabi	PLAAS
Ronald van Schalkwyk	SPP Springbok
Gerrit van Wyk	Emerging Farmers' Association – Hantam Karoo
Simon Vilakazi	EJN FOCCISA [Economic Justice Network of the Fellowship of Christian Councils in Southern Africa]
Ronald Wesso	SPP
Charles Williams	SPP
Franco Williams	SPP
Rose Williams	Biowatch
Davine Witbooi	Matzikamma community
Sithandiwe Yeni	SPP
Daniel Zass	Eselbank community
Ndabezinhle Ziqubu	AFRA