NATIONAL POLICY ON ORGANIC PRODUCTION

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PREAMBLE

The organic sector is the custodian of natural and organic production, harvesting, beneficiation, trade, and consumption of relevant products and services. The sector is founded on the principles of social, environmental and economic responsibility, and integrity.

CONTEXT

This policy on organic production should be viewed in the context of the broader agro-ecology, and other relevant policies such as National framework of sustainable development[1] and initiatives such as the implementation for the LandCare Framework Programme.

The organic sector has pioneered practices and systems that ideally position it to guide the public and private sectors on environmental and sustainability issues. Government, through its Organic Commission, established a partnership with the South African Organic Sector Organisation (SAOSO) to engage, guide and influence widely on sustainability issues impacting the sector and society.

[1] Refer to Section 4

1. INTRODUCTION

In recent years the world has seen a growing awareness about health and environmental issues. Consumers world wide are becoming concerned about the quality and safety of food that they eat. They are concerned about the effect of pesticides, fertilizers, livestock effluent and veterinary drugs on their health and livelihoods. Organic agriculture is considered to be a viable solution to most of these concerns.

Traditional agricultural methods from Africa and around the world, which have always been organic, have to a great extent inspired today's modern organic agriculture. It must be remembered that artificial fertilizers and chemical based agro-industry is a relatively new development, only becoming prominent in the second half of the 20th century. In South Africa, the indigenous farming systems that were used in the past could be referred as organic farming. These faming methodologies didn't utilize any biocides. The production methodology was dependent on the natural resource base.

Organic farming refers to the type of farming that is done without the use synthetic chemicals such as pesticides, fertilizers, fungicides and insecticides or genetically modified seeds. The organic farmers use a range of techniques that help sustain ecosystems and reduce pollution, while improving both the production and quality of nutrition, linked to improved social and economic viability. In case of plant production it involves the use of crop rotation, natural; composting, approved environmentally friendly pest control and homeopathic remedies to produce food that is free of all artificial additives. In case of animal production, the animals raised on organic farms must be allowed to range as freely as possible and eat only organically produced feeds. Most critically, organic food production is based on genuinely sustainable systems.

Organic farming is well defined in international standards such as the Codex Alimentarius, the European and American regulations and the International Federation of Organic Agriculture Movements, (IFOAM). The FAO/WHO Codex Alimentarius Commission defines organic agriculture as: *A holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs. This is accomplished by using, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system.*

The International Federation for Organic Agriculture Movement (IFOAM) defines organic farming as follows: *Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition,*

innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.

Organic agriculture has grown tremendously over the last decades, both as a commercial production and as an environmentally friendly production method. It has been found to be the best model for emerging farmers. A number of countries around the world have seen considerable increase in their organically farmed areas. More than 10% of Switzerland's farmland is organic, Sweden reached 19% in the year 2005, and about 13% of Austria's farms are organic. A number of developing countries are showing significant rates of adoption. There were 1.8 million producers in 2009, an increase of 31 percent since 2008, mainly due to a large increase in India. Forty percent of the world's organic producers are in Asia, followed by Africa (28 percent), and Latin America (16 percent). The countries with the most producers are India (677'257), Uganda (187'893), and Mexico (128'862).

About 32.2 million hectares are certified according to organic standards internationally (data as at the end of 2007). At the level of the geographical regions, growth was strongest in Latin America and Africa. Australia continues to account for the largest certified organic surface area, 12 million hectares, followed by Argentina (2.8 million hectares), and Brazil (1.8 million hectares). The greatest share of the global organic surface area is in Oceania (37.6 percent), followed by Europe (24.1 percent) and Latin America (19.9 percent). In terms of certified land under organic management as a proportion of national agricultural area, the Alpine countries, such as Austria (13.4 percent) and Switzerland (11 percent), top the statistics.

Formal certified organic farming in South Africa is still relatively small; however informal organic farming by small-holder and subsistence producers may feed as much as two-thirds of the population[2]. Due to complexity of the agricultural sector in this country, it is envisaged that organic farming will become the mainstream form of agriculture to comply with agendas such as Sustainable agriculture, the Clean Development Mechanism and the proclaimed Green and Clean Economy from the SA government. The next couple of years will its co-existence with conventional system until such a time the consumers on both local and export markets dictate norms and standards aligned with the imperative and obligation of the mitigation and adaptation to climate change. Organic farming is a vehicle to foster the conversion of agri-business to Good Agricultural Practices.

This policy document examines the current state of organic production and identify measures that could be utilised to support the development of this sector. The document also focuses on the factors that may drive the trends. The policy proposes a set of coherent policy instruments that will put the organic sector on a higher growth path.

[2] Refer to Lavia-campesina (The world peasant organization)

2. PROBLEM STATEMENT

2.1. FRAGMENTATION OF THE SECTOR

The fragmentation of the organic sector in South Africa, originated from the fact that it was marginalized by agri-business and only pockets of practitioners were divided on the means and methodologies to use in Organic farming. Organics South Africa (OSA) the previous official body for Certified Organic Farmers only adopted the membership of black farmers in 2006, and as a result became dysfunctional. A culture of silos and protected intellectual territories developed amongst the different euro-centric organic farming tendencies, claiming to detain the truth in methods and ways. It is only recently through the Organic Sector Strategy Implementation Committee - South African Organic Sector Organisation (OSSIC – SAOSO) process, advocating all inclusivity and unity amongst the different constituencies that a clear vision and a strong leadership is now being developed.

The organic sector in South Africa was characterized by a high level of fragmentation. There was no single organization to represents the interests of the whole organic sector. The sector is now in a process of building a strong national organization with sound governance practices and a coherent vision. Several small organizations operate within the South African organic sector and participate in the process driven by the OSSIC-SAOSO forum.

The current drive is for organic subsistence and surplus producers to be integrated and accommodated in the sector, as full members and beneficiaries of the organic policy. Two distinct groups are emerging with different agendas:

- The subsistence and surplus organic community farmers mainly supplying local markets.
- The third-party certified organic farmers catering for larger retailers and export markets.

There will be overlapping when organic subsistence and surplus farmers are seeing a monetary value in becoming certified organic producers. But all these groups will have a common vision and mission to become joint custodians of a unified sustainable agricultural sector.

2.2. INSPECTION AND CERTIFICATION CHALLENGES

South Africa does not have an official inspection and certification programme for organic food products, cosmetics, textiles and other industries using organic agricultural commodities in their production. Certification is driven by international standards and accreditation systems. This had led to a situation were farmers and other operators are said to be paying very high and unaffordable certification costs. High certification costs act as barriers to new entrants in the sector,

especially international standards and accreditation systems that small-holder farmers wishing to access retail or export markets, have to comply with.

2.3. INADEQUATE INFORMATION AND KNOWLEDGE ON ORGANIC FARMING

Producers and processors need technical and market information to make decisions in their operations. Lack of information is a major obstacle to organic farming, according to most stakeholders in the organic sector. Government extension personnel rarely receive adequate training in organic methods. There is a serious lack of information on organic production methodologies as well as market information.

The absence of advocacy and knowledge inhibits the introduction and management of sustainable organic (and related) production systems. Producers and processors need technical information about sustainable systems by means of extension management packages and fact sheets. Issues affecting the negative impact of conventional chemically driven agribusiness on organic agriculture need to be addressed. The above-mentioned scenarios lead to poor participation of emerging or small scale farmers as well as a total lack of support from government, which has not yet recognised organic agriculture as suitable for small producers, the very people who are most likely to benefit from organic food production.

2.4. FALSE AND MISLEADING CLAIMS

Consumers are bombarded with a multitude of messages about organic products. The fact that this sector is still unregulated compounds; is a problem. Consumers are never sure of the validity of claims on labels when they purchase food in retail outlets. This makes consumers vulnerable to unscrupulous dealers and their suppliers. The label “organic” is perceived as reserved for elite market and a tool to access apparent lucrative retail and export markets. It has to be acknowledged that none of the conventionally grown produce is required to indicate the content or possible risks of the various chemical substances used in the agricultural process. The organic production policy should address non-organic produce labelling requirements in conjunction with organic labelling. Consistent and equitable labelling requirements for both organic and non-organic produce will ensure a level playing field to ensure the possibility for consumers to make an informed choice based on adequate information.

2.5. MARKET ACCESS CHALLENGES

Certified organic products fetch premium prices and their market is perceived as niche. Entering this lucrative market is not easy. Non-organic farmers in organic conversion are denied access to developed country certified organic markets in developed countries for two to three years after beginning organic management. The organic standards of most countries require an extended period of conversion arguing that it is necessary for the purging of chemical residues.

Certification requirements act as a market barrier for small and emerging farmers locally for the same reasons.

2.6. NEGATIVE PERCEPTIONS

Organic production is plagued by negative perceptions. Organic production has been the victim of derogatory campaigns often orchestrated in the media by the companies advocating the use of chemical inputs and based on false statements. There are many consumers who believe that this sector is the preserve of the wealthy and the powerful, where instead it is a millennium old practice which existed long before the “green revolution” took place, and which fed peasants, armies and kings for time immemorial. Agrochemical input suppliers create the perception that organic agriculture is high risk and unattainable and the source of certain localised problems with issues like the spread of weeds, as they depend on the continued use of synthetic inputs for their economic livelihood. In many countries there has actually been a move towards organic production due to the failure of input-driven chemical agriculture to address production challenges, the increasing costs of inputs, and the resurgence of pests and diseases due to increased resistance to pesticides. Other farmers are also convinced that organic production would not be able to feed the growing global population. These perceptions are highly overstated and do not reflect the whole picture, as organic farming provides up to 4 times more nutrition and 32% more jobs per hectare. Furthermore studies indicate that the conversion to agriculture in underdeveloped countries could actually result in a yield increase. However, emerging farmers and producers at the food security level are most likely to benefit from organic approaches as well as avoiding the negative impacts of chemical farming.

2.7. PRODUCTION CHALLENGES

Most seeds and plant material are bred to best fit the agro-chemical production environment and the solution is to develop organic seed. The soils that are agro-chemically farmed in South Africa are inherently poor in terms of nutrient content, which must be corrected by the returning of organic material back into the soil. Much of the livestock sector in South Africa cannot do without the use of urea as part of the lick for animals during winter, due to overgrazing and pasture mismanagement. During winter veld conditions are so poor that supplements like licks are critically needed.

Organic production, when and where properly implemented provides all the solutions for soil fertility, natural parasites, pest and weed control and remediate the challenges of irrigation. There is a rich literature of known, reputable and scientifically proven facts that organically enriched soils with composts and natural fertility enhancers are producing equal and superior quality and quantity of produce (plant and animal) and are retaining moisture in the soil. The principle of organic is that a healthy soil enables healthy pastures, and crops, hence animal production.

3. WHY THE POLICY ON ORGANIC PRODUCTION?

There are many compelling reasons as to why the South African government should develop and implement the policy on organic farming. Discussed below are some of these:

3.1. PROTECTION OF CONSUMERS

One of the critical roles of government is to protect its citizens from unfair practices. There are reports that unscrupulous elements are putting false labels on conventionally produced products and selling them as organic. Many consumers are falling for this trap and sometimes pay premium prices for wrong products. This state of affairs developed because of a lack of a policy framework and regulatory system for organically produced products. Further, the need to improve nutrition and health of the populace is a clear benefit of organic food. Avoiding and reducing public exposure to harmful chemical and additives is a key requirement, as these issues impact on other government responses such as immune impacts related to HIV/AIDS and other health impacts that place additional strain especially on the poor and on government health services.

3.2. ENVIRONMENTAL BENEFITS

Reports indicate that organic production enhances soil structures, conserves water, and enhances sustained biodiversity. Through its holistic nature, organic farming integrates wild biodiversity, agro-biodiversity and soil conservation. It takes low-intensity farming one step further by eliminating the use of chemical fertilizers, pesticides and genetically modified organisms. This is also of benefit to associated off-farm biotic communities.

Organic production eliminates the need for external inputs (usually expensive and mostly imported) by controlling pests and diseases naturally. Leaching of fertilisers into water systems are said to be the cause of eutrophication which is the suffocation of aquatic plants and animals due to rapid growth of algae and the building up of nitrates, phosphates and sulphates in the underground water reserves is a real danger for our national potable water assets. Many lakes, rivers and other bodies of water are facing this problem. Some herbicides and insecticides are founding their way into food systems and thus posing health problems for human beings. Organic production, on the other hand is reported to have minimum impact on the environmental balance and ecosystems and protecting the health of people, farm workers, local communities and all the way through to consumers.

3.3. HEALTH BENEFITS

It is reported that there are more than 500 additives in foodstuffs permitted for use, some of which have negative human health and natural effects. Hydrogenated fats can increase the risk of heart disease; phosphoric acid can deplete calcium in bones; Mono Sodium Glutamate (MSG) can cause dizziness, headaches, and asthma. Pesticides have potential to cause undesirable side effects. These include adverse effects on workers, consumers, community health and safety, groundwater, surface waters, and non-target wildlife organisms. In addition, pesticide use raises concerns about the persistence and accumulation of pesticides in food chains quite distant from the original point of use, and about the role of certain pesticides in causing reproductive failure and endocrine system abnormalities in both wildlife and humans and other species that are not their intended target.

The livestock are regularly injected with or fed with antibiotic drugs to prevent disease and promote growth hormones. There is a concern that humans are developing resistance to antibiotics due to the indirect consumption of antibiotic drug residues in animal-based products and many of the hormones are known to mimic human hormones, leading to endocrine disruption amongst other negative impacts. Organic production systems are designed to respect the natural integrity in the relationships between the environment, health, biodiversity, and the biotic community, humans being part of the “family”

Large numbers of the South African population can benefit from eating more nutritious organic food which will also reduce the drain on the national healthcare system and a positive impact on the cost of health externalities (e.g. pollutants, chemical inputs).

3.4. CLIMATE CHANGE

Organic production has a significant role to play in addressing one of the world’s biggest and most urgent challenges, namely climate change. Climate change mitigation and adaptation and adaptation inherent beneficial characteristics of organic production must be taken seriously by all stakeholders. Organic production has well established practices that simultaneously mitigate climate change, build resilient farming systems, reduce poverty and improve food security. Organic production emits much lower levels of greenhouse gases (GHG), and quickly, affordably and effectively sequestrates carbon in the soil. In addition, Organic production helps to make farms and people more resilient to climate change, mainly due to its water retention efficiency, resilience to extreme weather events and lower risk of complete crop failure. Correct systems approaches to ecological agriculture can also make significant additions to materials and energy for other non–food uses.

Organic production reduces greenhouse gases, especially nitrous dioxide, as no chemical nitrogenous fertilizers are used and nutrient losses are minimized. It stores carbon in soil and plant biomass by building organic matter, encouraging agro-forestry and forbidding the clearance of primary ecosystems. It minimizes energy consumption by 30-70% per unit of land by eliminating the energy required to manufacture synthetic fertilizers, fossil based fuels and by using internal farm inputs, thus reducing fuel used for transportation.

3.5. SOCIAL JUSTICE

One of the fundamental principles of the South African constitution is the freedom of choice. This means that amongst others, consumers are free to decide about what type of food they would like to eat. It is the constitutional right in this country for people who would like to produce and use organically produced food, medicinal, fibre, cellulose products to be enabled to do so. These people are also willing and can afford to pay high prices for these food products, however, there is also evidence that the “costs” to society and the environment of chemical based farming are externalised and that organic production only appears more expensive as all its costs are internalised. Organic production is based on a holistic view of the integration of farming into nature. Its proponents maintain that this fountain promotes “social justice” issues by recognising the essential role of farmer; improving labour conditions, work place health and safety; the contribution of farming to rural communities and engaging in “fair trade”. The development of an effective policy framework for organic production will ensure that South African citizens’ freedom of choice in terms of food, medicinal, cosmetics, fibres and cellulose is respected and protected; create more safer and decent work, assist in reducing the current 90% failure rate of emerging farmers and help to protect farm workers , adjacent communities and consumers. Producing more organic foods will increases the change of price deduction and affordability.

3.6. CAPITAL RETENTION

The management style of organic agriculture is not dependent on manufactured input products like fertilizer and pest and disease control products, which leads to improved control of input costs.

4. LEGAL FRAMEWORK

Documents that directly underpin this Policy are the following:

- Section 24 of the Constitution stated that everyone has the right:

  a. to an environment that is not harmful to their health or well-being; and

  b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that

- prevent pollution and ecological degradation;
- promote conservation; and
- secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

- Industrial Policy
- Kyoto Protocol: Article 3 (a) iii promotion of sustainable forms of agriculture in light of climate change considerations.
- Consumer Protection Act: 68 of 2008: Section 41 effectively outlaws false, misleading or deceptive representations through either words or conducts whether express or implied.
- National Environmental Management Act (NEMA): conservation of biodiversity and integrated environmental management.
- Policy on Agriculture in Sustainable Development
- Millennium Development Goals (MDG) (Millennium Declaration, signed by 187 world leaders at the Millennium Summit on 8 September 2000): Ensure environmental sustainability.
- Foodstuff, Cosmetic and Disinfectant Act (Act 54 of 1972)
- DAFF Sustainable Agriculture Strategy and the Declaration of Good Agricultural Practices (GAP)
- Pesticide Management Policy for South Africa.

5. PURPOSE AND OBJECTIVES

The purpose of this policy is to create a broad framework for the development of a prosperous organic sector that is globally competitive and capable of supporting government's commitments towards poverty alleviation, decent work creation, food security, improved health and nutrition and potentially genuinely sustainable economic development.

The objectives of the policy are:

- Support the wide-spread production of high quality and safe organic products for both community, local and export markets.
- To facilitate broad participation in the organic farming sector.
- To protect consumers against false, misleading and unfounded claims and create the obligation for all producers to indicate the levels of inputs used in their produce.
- To improve competitiveness and profitability of the organic sector both on community, local and export markets.
- To improve the health of our populace and our environment.
- To improve access to better nutrition for all.
- To uphold organic standards and prevent non-compliance.

- Provide a regulatory protocol framework to govern the organic sector and align the conventional sector on the same principles of transparency, compliance, traceability and accountability.
- Level the playing field for organic food production, by either removing direct and indirect subsidies to chemical agriculture or subsidising organic agriculture equally.

6. ORGANIC AGRICULTURE IN CONTEXT

6.1. THE ORGANIC FARMING CONCEPT

Central to the organic production system is the biological management of the fertility of the soil. Soil is managed in such a way as to optimise and improve soil health through the management of the inorganic and organic soil components to enhance biological processes that consequently improve plant health and enabling the return of organic material back into the soil. Crop combinations, ecological companionships and rotations are also managed in such a way as to improve plants' competitive ability and create a favourable environment for the presence of natural predators of crop pests. In livestock, animals are selected, bred and managed to enhance natural resistance to pests and diseases though good nutrition and management practices such as interrupting host / pathogen relationships. These practices ultimately eliminate the use of external inputs to manage disease and infertility.

Organic production aims at a sustainable production system based on natural processes. Key characteristics are that organic agriculture:

- relies primarily on local, renewable resources;
- maximizes food security at the micro and macro levels;
- maximizes the labour opportunities for workers, while ensuring their protection and well-being;
- makes efficient use of renewable and other sustainable energy and the production potential of integrated biological systems;
- builds and maintains the fertility of the soil;
- enhance and preserve the health of the surrounding environment and the agro-diversity of a specific region.
- maximises recirculation of plant nutrients and organic matter;
- does not use organisms or substances foreign to nature (e.g. GMOs, chemical fertilisers or systemic pesticides);
- maintains diversity in the production system as well as the agricultural landscape;
- gives farm animal's life conditions that correspond to their ecological role and allow them natural behaviour.

6.2. PRINCIPLES OF ORGANIC AGRICULTURE

According to IFOAM, the principles of organic agriculture are based on four fundamental principles:

a. The principle of health

- Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible. The health of individuals and communities cannot be separated from the environment.
- The role of organic agriculture is to sustain and enhance the health of ecosystems and organisms. Organic agriculture aims to produce high quality, nutritious food that contributes to preventive health care and well-being. It should avoid the use of fertilisers, pesticides, animal drugs and food additives that may have adverse health effects.

b. The principle of ecology

- Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them. It is rooted within living ecological systems and production is to be based on ecological processes and recycling.
- Organic farming, pastoral and wild harvest systems should fit the cycles and ecological balances in nature and organic management must be adapted to local conditions, ecology, culture and scale. Inputs should be reduced by reuse, recycling and efficient management of materials and energy in order to maintain and improve environmental quality and conserve resources.
- Organic agriculture should attain ecological balance through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity. Those who produce, process, trade, or consume organic products should protect and benefit the common environment including landscapes, climate, habitats, biodiversity, air and water.

c. The principle of fairness

- Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities
- Fairness is characterised by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings.
- This principle emphasises that organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties, should provide everyone involved with a good quality of life, contribute to food sovereignty and reduction of poverty. Animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behaviour and well-being.

- Fairness requires systems of production, distribution and trade that are open and equitable and account for real environmental and social costs.

d. The principle of care

- Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.
- Organic agriculture is a living and dynamic system that responds to internal and external demands and conditions. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the risk of jeopardising health and well-being. Consequently, new technologies need to be assessed and existing methods reviewed. Given the incomplete understanding of ecosystems and agriculture, care must be taken.

7. OVERVIEW OF THE ORGANIC FARMING SECTOR IN SOUTH AFRICA

7.1. GENERAL INTRODUCTION

The South African organic sector has a long history. This country was one of the founders of International Federation of Organic Movements. The value of the organic produce in South Africa is estimated to be between R200 million and R400 million (2005), of this less than half is certified. Most of the products are exported, with Rooibos tea, organic wine and fruits as main products. The domestic market has developed rapidly the past five years and several supermarkets are actively promoting organic products. Organic agriculture will provide employment opportunities for millions of small farmers and for women and youth groups, together with economic and financial benefits

7.2. SIZE

According to current estimations there are about 45 000 ha of certified land which account for 0.05 % of the country's total agricultural area, with 250 farms in South Africa (IFOAM & FiBL, 2006)[3]. South African organic farmers produce a large variety of produce. These include various cereals; vegetables, roots and tubers; herbs and spices; fruits, nuts and Rooibos tea. The largest fruit crops in terms of hectares were bananas, avocado pears and mangoes, while the largest vegetable crops were cucurbits, tomatoes, asparagus, brassicas and potatoes.
Organic wine and olive oil is also produced and organic dairy farming has just started in some provinces.

[3] IFOAM & FiBL (2006): The World of Organic Agriculture. Statistics and Emerging Trends 2006. International Federation of Organic Agriculture Movements (IFOAM), Bonn & Research Institute of Organic Agriculture FiBL, Frick, pp. 27–35.

7.3. CERTIFICATION

South Africa does not as yet have an official certification system in place. Inspection and certification of South African organic farms is carried out by both international and domestic certification. There are about nine private certification bodies that are active in South Africa. Eight of these are accredited to ISO 65, the basic requirement for certifiers to ensure professionalism, impartiality and fairness, and all but two are European certifiers. There is one accredited local certifier.

Not all organic farmers in South Africa are certified as such, even though they follow the principles of organic agriculture. Thousands of subsistence farmers had been practising some of these principles for many years. These farmers do not use pesticides and fertilizers in their farming operations because they cannot afford the high prices attached to these inputs and many are aware of both the harm of such inputs as well as the benefits of organic production. The main markets for their surplus produce are local village markets or farmers markets. There are individuals and organisations involved in the certified organic sector that dismiss the validity of production systems of subsistence farmers as complying with the principles of organic production. This is largely due to the difficulties of small scale farmers in maintaining record-keeping to such a standard that certification bodies can ensure there is adherence to the organic standards. There are organisations which are not seeing the necessity or the obligation of an organic certification to supply their communities, local retailers, which will base their organic methodology as aligned to the National Organic policy, and for which a system of “equivalence” be established by the organic regulatory body**.** This could apply to system like Participatory Guarantee System (PGS), or a system of Artisan qualification which contains all the criteria as listed by the organic regulatory body. However, it must be remembered that a fundamental principle of organic systems is food security, so the so-called “non-commercial” sector is of critical importance. Further, there are well-proven community based certification systems that may be more appropriate for South Africa as they entail lower costs for the organic producer at all levels.

7.4. MARKETS

Organic products produced in South Africa are sold at both local and export markets. Exports are principally sent to European markets, United States and Far East include vegetables, plant products, processed fruits, sugar, wine, essential oils and Rooibos tea. Grapes are also exported to the United States. To enable international market access for RSA organic exports, any local legislation governing organic agriculture in South Africa should be regularly updated to be aligned with and compliant to prevailing standards in international markets. Within South Africa, the products are usually sold in supermarkets, as home deliveries, directly from the farmer, through specialized restaurants and through special organic markets. Some schools are also beginning to serve organic

foods. There is a robust but underdeveloped, local market for organic produce with limited premiums for organic products. Local retailers sell reasonable amounts of organic produce to the South African public. . For organic producers to enter the higher value chains of exports, it is essential that no differentiation between local and export organic standards exist. This will ensure the integrity of the RSA organic mark.

7.5. SECTOR LEADERSHIP

The organic sector in South Africa is greatly fragmented. There is no single body that represent the interests of the majority of organic farmers. There are many splinter organisations that represent particular farmers and there are many approaches and opinions as to which way is best for the sector.

The organic sector in South Africa is in a phase of institutionalisation, the main divisions are along the lines of the “have” and “have nots”, the fundamentalists of certification, and those who see that the unity of the sector will happen when there is a co-existence between the certified organic industry players, and those who want to practice organic agriculture for their own use, or to be marketed to a clientele which can trust them. The single Body, providing that it accommodates the different organic agriculture ideologies, will ensure the leadership of the sector. In this case; the sector is also to co-lead and share the platform of the regulations with the Government through a Public-Private Partnership (PPP) type of agreement.

8. POLICY INSTRUMENTS TO ADDRESS THE PROBLEMS

The organic sector in South Africa would be developed and supported through the following policy instruments:

8.1. EDUCATION AND TRAINING PROGRAMMES ON ORGANIC FARMING

The organic production requires higher level skills and efficient training. Education on all levels apparently plays a big role in shaping the future of the organic sector. Enhanced training of extension personnel and farmers and improved technology transfer systems are identified as of critical importance for improved production, natural resource management, and wealth generation for all agricultural stakeholders. Training could also be in the form of mentorship. This is a deliberate pairing of a more skilled or experienced person with a lesser skilled or inexperienced one, with the agreed-upon goal of having the lesser skilled person grown and develop specific competencies.

Critical policy actions are:

- Organic agriculture should be integrated in the curriculum for primary and secondary schools

- Specialised institutions that involved in training for organic agriculture should be supported.
- Creation of an Artisan organic food producer and a Mastercrafstman career path leading to academic qualifications.
- Higher education in organic agriculture should be developed (organic agriculture project management courses)
- Higher education in organic agriculture should be developed (SETA curricula have been approved).
- Training of key extension workers in organic farming, including certification procedures and required level of record-keeping.
- Development and implementation of targeted training programmes for farmers.
- Create a system that captures existing wisdom and knowledge from successful organic farmers and circulate this through on-farm learnership and mentor program.

8.2. AWARENESS PROGRAMMES

Many studies and surveys had shown that consumers are not well informed about the principles and the benefits of organic farming. In order to broaden the information available about organic farming, it is important that objective and reliable information is made available by government and other stakeholders. Information campaigns about the principles, the practices and the environmental and other benefits of organic farming should be established. They should target consumers as well as farmers, but also operators in the processing industry, retailers, large-scale kitchens as well as schools.

These programmes are aimed at raising awareness levels of both farmers and consumers of organic products. In case of organic products the awareness programmes are intended at creating information led demand for these products. The programmes would be based on various aspects of production of organic crops. They would also be aimed at promoting the image of South African organic farming. These programmes would ensure that technologies aimed at improving production are promoted and adopted by the farming communities. The awareness programmes would also assist consumers to make informed choices when buying products that are said to be organically produced. Nation-wide professional promotion of organic production and products is necessary to increase awareness. Collaboration between organizations and alliances in promotional activities or campaigns has been identified by market analysts as an important strategy. Food processors and retail businesses are target groups for promotion, since they are important actors in the supply chain.

Critical policy actions are:

- Development and implementation of multi-year and country-wide information and promotion campaigns aimed at informing consumers, public institutions,

schools and other key actors in the food chain about the merits of organic farming, especially its environmental and nutritional benefits, and to increase consumer awareness and recognition of organic products, including recognition of the South African organic logo.

- Launch tailored information and promotion campaigns to well-defined types of consumers such as the occasional consumer and public canteens.
- Development and implementation of a website, radio programs and targeted videos dedicated to organic farming.
- Key partnership with Proudly South African and the agencies responsible for the policing of the Consumer Protection Act 2010.
- Partnerships through the PPP recommended model, with the other relevant National Departments.

8.3. NATIONAL INSPECTION AND CERTIFICATION PROGRAMME

Consumers want assurance that products labeled “organic” are indeed produced according to organic production methods, and producers want to know that other producers also claiming to produce organic products are competing fairly. The “organic authenticity” of a product cannot be established by looking at the harvested product or by testing it. Rather, it is ascertained through documentation and inspection of the whole production process and the putting in place of a traceability program, so that any certification of labeling process is controllable and policed.

The Department of Agriculture, Forestry and Fisheries shall develop an effective and affordable certification programme for organic products as a matter of urgency. The programme will be made up of standards setting as well as implementation. The development of regulations shall remain the responsibility of DAFF, while the development of norms and standards will be the responsibility of OSSIC. The department shall assign the inspection and certification responsibility to the relevant bodies that comply with those standards deemed acceptable by the OSSIC. The regulation of the relevant certification bodies by DAFF will be clearly defined in the assignment document. The certification of organic products shall be for both local and export markets. International standards will be assessed by OSSIC and equivalence granted based on the outcome of adjudication.

South Africa has a well experienced and established institution entrusted with inspection and certification of perishable destined for export. It therefore makes business sense for all relevant certification bodies to participate in the Certification and inspection of organics intended for both the local and international market.

Other forms of certification that shall be implemented to cater for specific needs of farmers are:

- Group Certification: This type of certification allows farmers to organise themselves into groups by adopting an Internal Control System. With group certification the role of the external certification is mainly to verify that the Internal Control of the group is working rather than inspecting the individual farmers. Through group certification, producers can get access and assistance in the complicated organic certification. It can also result in substantial savings for small-holder farmers.
- Participatory Guarantee System (PGS): Participatory Guarantee Systems are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange. PGS does not only address the quality assurance of the product, but is linked to alternative marketing approaches (home deliveries, community supported agriculture groups, farmers markets, popular fairs) and help to educate consumers about products grown or processed with ecological methods. PGS ideally suited for local markets with short supply chain. A number of PGS systems are already in operation in South Africa, providing organic assurance to consumers and creating market access to small-scale farmers.

- Regulatory body approval of organic agriculture methodologies as equivalent and able to issue their own audit, quality assurance, inspection, licensing and renewal of licensing.

Critical policy actions regarding certification are:

- Government should support the development of domestic certification bodies, by appropriate regulations, capacity building etc.
- Special considerations should be taken for certification of small-holders and their participation should be supported. Training programs for farmer groups to set up Internal Control Systems should be supported.
- Development and support of alternative quality control systems like group certification and PGS.
- More training at agricultural colleges and through SETAs should be encouraged.

8.4. SECTOR LEADERSHIP

The organic sector needs effective leadership at the national level with the ability to champion organics. The sector lacks a well resourced and credible organisation which has the capability to represent and advocate on behalf of the range of interests within the sector. The present structure within the organic sector is based on many organisations each with their own responsibilities, but none with an over arching national role. The sector needs to be assisted in setting up organisational structures that would represent the interest of all stakeholders.

Critical policy actions are:

- Promoting unity and harmony among all stakeholders in the organic sector.
- Facilitation and provision of support towards the establishment of a unified, strong and credible sector body that would be able to represent its interests.
- Establishment of a consultative platform between government departments and the organic industry.

8.5. RESEARCH AND DEVELOPMENT PROGRAMME

Organic agriculture is knowledge intensive sector. The development of the organic farming sector thus depends a great deal on research and technology development. There are still many aspects of organic farming that are major sources of contention and disagreements. These could be dealt with by putting more resources in research of this type of farming system. Organic sector needs research approaches that deal holistically with the organic production systems. The sector needs researchers with ability to think outside the boundaries of other agricultural methods and practices. It also needs proactive researchers able to champion research for the organics sector.

Research and technology development for organic farming should focus on the following:

- Production techniques and practices;
- Soil fertility management;
- Life-cycle analysis of all production techniques for comparison (excluding external costs);
- Nutrition analysis including micro and macro-nutrients;
- To research further on integrated pest and disease management;
- Processing techniques
- Development of effective and appropriate production inputs
- Soil health
- Pest and disease management

Critical policy actions regarding research and technology development for organic farming are:

- Development of a short, medium and long-term research agenda for organic farming between government and the private sector.
- Special research programs should be established for organic research and the sector should be involved in the priority setting.
- Research and Development in organic should be participatory, build on and integrate traditional knowledge and based on the needs of the producers.
- Establishment of special research programmes for organic farming with an emphasis on providing practical support to organic farmers and farmers in conversion to organics.

- Integration of Indigenous Knowledge Systems (IKS) as a foundation for building sustainable organic farming sector.
- Mobilisation of resources for research and technology should be prioritised.
- Computerised record-keeping systems for farmer groups.
- Organic agricultural research must become a part of the overall research done in South Africa. This must be linked with a digital database that is freely available to the public.

8.6. REGULATORY FRAMEWORK

An effective regulatory system is critical for development of a sustainable organic sector. There are currently two international standards for organic agriculture, the Codex Alimentarius Guidelines for the production, processing, labeling and marketing of organically produced foods and the IFOAM Basic Standards. Countries are expected to develop their own regulatory systems in line with these two international standards. Experience from most countries had indicated that the main push for organic regulations comes from producers or organic certification bodies that want to have fair competition; consumers are rarely involved.

Five main reasons are quoted for why mandatory regulations are considered to be the right policy response to develop the organic sector:

- The organic sector becomes the flagship and pilot program for sustainable Agriculture in SA.
- The organic sector becomes the official response of the Government for an effective and comprehensive mitigation and adaptation to climate change and global warming.
- giving organic agriculture a more respectable and credible image
- development of the local market
- access to export markets

Critical policy actions are:

- South Africa should prioritise the development of national legislation and regulations for organic products.
- Development of regulations should be done in close consultation with the organic sector to ensure that the regulation is enabling rather than controlling by nature.
- Regulations for local markets shall be based on local conditions, and not in the conditions expressed by export markets.
- Export market access shall be supported through capacity building and other support to certification agencies.
- Form partnership and the establishment of an organic farmers association.

8.7. SUPPORT SCHEMES FOR ORGANIC FARMERS

An important means of promoting organic production is to eliminate existing constraints that discourages new entrants. The government should use various incentive schemes to support the development of this sector and its farmers.

Critical policy actions are:

- Setting up of dedicated support systems at both national and provincial levels.
- Development and implementation of special incentive schemes for organic farmers.
- Setting up organic agriculture fund managed by the PPP between the Government and the sector.

8.8. NATIONAL ORGANIC MARK / LOGO

Several studies have shown that a uniform logo or mark increases consumer recognition of organic products. National unification of the certification system with a common standard and logo is considered a key factor to increase consumers' trust in and identification of organic products. It has been a successful tool to promote market development. It also has given the organic movement a common ground and a voice in the overall development process. Farmer involvement in the early stage of standard development is of major importance. The ownership and administration of a national logo should reside with the Organic Sector Body, and not with government.

Critical policy actions are:

- Development and implementation of a national system of one or more marks under a common logo for South African organic products.
- Development and implementation of a promotion campaign to support the national mark system and logo for organic products on both local and export markets.

8.9. MARKET DEVELOPMENT

Consumer interest and willingness to buy organic food is the foundation for market development. Consumer awareness is built with availability of good quality products and positive promotion, and a common standard, logo and system of marks is an efficient tool for promotion. The media play an important role in spreading the values of organic, informing about the logo and presenting good examples. Market information is an important tool for all market actors, not least the public sector and the farmers.

Development of a diversity of market channels is essential for long-term growth of the organic sector and for the establishment of successful and sustainable

organic businesses. Large outlets such as supermarkets, as well as specialized stores and direct sales, complement each other and stimulate each other's growth rather than competing for market shares. Export often plays a big role, especially in the initial stage.

Research in most countries has established six (6) critical conditions for the development of organic markets:

- Strong consumer demand
- High degree of involvement by food companies
- Sales through conventional supermarkets
- Moderate organic price premiums
- One national logo or mark
- Nation-wide professional promotion

Some countries has applied a push strategy for the expansion of the organic markets and others a pull strategy. A push strategy focuses on measures to enlarge production, assuming that once there is more supply market demand will be created. The pull strategy has the market demand as driving force. A push strategy is based on generous payments to organic farms, something that is out of reach for most developing countries. On the other hand too forceful efforts in marketing can fail if there are no products to sell. South Africa should use a combination of both pull and push strategies.

Critical policy actions are:

- Public procurement of organic products should be encouraged, including featuring organic food in important public events.
- Consumer education and awareness should be actively promoted.
- Public sector procurement and consumption of organic food should be encouraged in government institutions such as hospitals, schools, clinics, prisons, and welfare establishments.
- A common national logo for organic products should be established and heavily promoted.
- Domestic market development should consider both the supply and demand side.
- The organisation of farmers in regards to joint distribution and storage should be supported.
- Bottlenecks for organic food packaging and processing should be addressed by relevant actions.
- Market information systems should be established.
- Education of organic agriculture should be added to school curricula.

8.10. INADEQUATE TECHNICAL SUPPORT BASE

Extension services are important in the growth and development of the organic sector. The current extension workers are largely biased in favour of conventional farming.

Extension support is important, for commercial and emerging farmers. Given the limited number of current organic farmers in South Africa, it makes sense that organic agriculture extension should be specialised service to begin with (point competency; point engagement). It is suggested that dedicated organic support staff are allocated from the department of agriculture, rather than diluted generalist knowledge of organic agriculture in all extension staff.

Critical policy actions are:

- Organic extension services needs to be established and the staff trained.
- Organic extension shall be developed and implemented in a participatory manner and have the farm and the farmer in the centre of attention.
- Organic modules to be developed for tertiary training institutions.
- Centres of excellence (e.g. sustainability institute) are established.
- Financial resources and best techniques are made available to emerging farmers to “heal” soil damaged severely by fertilizers and insecticides.

8.11. TRACEABILITY

Traceability is all about farming and keeping record of production system that occurred in the farm. It is important to implement traceability in organic farming for quality assurance issue. Most of organic foods get contaminated on the supply chain and to investigate the contamination, traceability should be done to keep the supply chain clean and to ensure clear chain of custody. It is also important to give confidence to the consumer and also describe the originality of the product.

Traceability is essential for farmers, brand-owner, manufactures and consumers, fast access to information describing the complete history of product include:

- Quality (nutrient content of the product)
- Safety (in terms of health)
- Social and environmental factors (environmental friendly product)
- Origin provenance and terroir
- Local content

Critical policy actions are:

- Promotion of best production and post-production practices

- Introduction of compulsory record keeping systems from production up to the retail levels.

9. POLICY OPTIONS

The policy options that could be used to address the challenges and promote the growth of the organic farming sector in South Africa are as follow:

9.1. GOVERNMENT LED APPROACH

With regard to this option the government would be responsible for implementation, financing and impact assessment of this policy. The industry and other stakeholders would be passive beneficiaries of these initiatives. Internationally, only one country Denmark has certification managed by government as a part of its extension services while Netherlands has a parastatals set up to manage the sector.

In most countries, certification bodies are independent but monitored by their governments, who ensure that adequate standards are met by the certification bodies. Everywhere, the certification bodies are required, as an absolute basic requirement, to be accredited to ISO 65 by a competent accreditation body (such as SANAS in South Africa)

9.2. SECTOR LED APPROACH

With regard to this option the sector would be responsible for implementation, financing and impact assessment of this policy. The government would play no major role other than oversight, standards and enforcement.

9.3. GOVERNMENT–SECTOR PARTNERSHIP APPROACH

This option advocates the pooling of resources by government and sector for the benefit of the sector. The two partners would be responsible for funding various elements. The government would be responsible for facilitating the implementation and continuous impact assessment of this policy. The industry will be given some responsibilities in terms of implementation of some programmes underpinning this policy.

Comparative analysis of various policy options is illustrated in the table below:

POLICY OPTION	ADVANTAGES	DISADVANTAGES
Government-led approach	• Government will be able to guarantee the implementation and success of the policy • Lower certification costs • Representative of whole	• Government will have insufficient funds to run the projects. • Government will face a challenge with regard to buy-in

	organic farming sector	from other stakeholders. • Skills shortage • Need to increase number of staff. • Inadequate public infrastructure. • Relatively long decision making processes
Sector-led approach	• Access to modern technologies. • Limited red-tape. • Access to wider skills pool • Representative of rural sector(small-holder farmers)	• Development, social and environmental agendas is not a priority, i.e. profit-driven. • Their actions may not be government priorities. • Organic produce will become more exclusive, or commoditised along value chains owned by the Industry, barring the access of the small producer to markets. • Insufficient funds for sector development (developmental agenda).
Government-Sector partnership approach	• Access to modern technologies. • No red-tape. • Access to the best skilled personnel. • Government will be able to guarantee the implementation and success of the policy. • Development, social and environmental agendas will be a priority. • Increased funding due to pooling of financial resources. • Create a united approach to the Sector, and reinforce its role as a solution to the shift to the green and clean economy and the Mitigation and adaptation to climate change. • A PPP regulatory body for the sector.	• Role clarity might be a challenge. • Alignment of decision making processes. • Some of the players (industry) might use the platform to save costs and be “subsidized” hence become more competitive.

The recommended policy option is 9.3.

10. INSTITUTIONAL ARRANGEMENTS

The implementation of the policy and its intents shall be achieved through the establishment of the following institutions:

- National Organic Commission [all relevant government departments and SOEs]
- National Sector Body [SAOSO]
- National Co-ordinating Committee [OSSIC]

11. MONITORING AND EVALUATION

The implementation of the policy document shall be monitored and implemented through the following performance indictors:

POLICY OBJECTIVES	INDICATORS	MONITORING TOOLS	FREQUENCY
Increase the production of high quality and safe organic products for both local and export markets.	• Increased yields and volumes • Increased number of hectares under organic farming	• Reports • Surveys	• Monthly • Quarterly • Annually
To facilitate broad participation in the organic farming sector.	Increased number of black farmers entering the organic farming sector	• Reports • Surveys	• Monthly • Quarterly • Annually
To protect consumers against false, misleading and unfounded claims.	• Increased number of people that are aware about organic agriculture • Increased prosecution of fraudulent claims	• Reports • Surveys	• Monthly • Quarterly • Annually
To improve competitiveness and profitability of the organic sector both on local and export markets	• Increased sales of South African organic products • Increased incomes for organic farmers and the sector	• Reports • Surveys	• Monthly • Quarterly • Annually
Provide a framework for regulating the organic sector.	• Development and promulgation of legislation and regulations for organic farming	• Reports • Surveys	• Monthly • Quarterly • Annually

	• Effective, inclusive and affordable certification system (credible and trustworthy) • Accreditation of all certification bodies according to ISO Guide 65 or IFOAM.		

12 . REFERENCE DOCUMENTS

Reference was made to the following base documents during the compilation of the policy:

- The Constitution of the Republic of South Africa, Act 1996 (Act No. 108 of 1996)
- Policy on Agriculture in Sustainable Development
- Pest Management Policy of South Africa, 2010
- Organic Agriculture: sustainability, markets and policies, 2003
- The Policy and Regulatory Environment for Organic Farming in Europe, 1999
- Developing Country Organic Policy
- IFOAM & FiBL (2006): The World of Organic Agriculture. Statistics and Emerging Trends 2006. International Federation of Organic Agriculture Movements (IFOAM), Bonn & Research Institute of Organic Agriculture FiBL, Frick, pp. 27–35.

13. POLICY OWNERSHIP

The ownership of this policy and its implementation rest with the Directorate: Plant Production.

APPENDIX 1: ACRONYMS

ARC: Agricultural Research Council

DAFF: Department of Agriculture, Forestry and Fisheries

DTI: Department of Trade and Industry

FAO/WHO: Food and Agricultural Organization/World Health Organization

IFOAM: International Federation of Organic Agriculture Movement

GAP: Good Agricultural Practices

GHG: Greenhouse gases

HIV/AIDS: Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

OPAP: Organic Produce and Agroecology Practices

OSSIC: Organic Sector Strategy Implementation Committee

PDA: Provincial Department of Agriculture

PGS: Participatory Guarantee System

PPP: Public-Private Partnership

RSA: Republic of South Africa

SANAS: South African National Accreditation System

SAOSO: South African Organic Sector Organisation

SETA: Sector Education and Training Authority

SOEs: State Owned Enterprises

QCTO: Quality Council for Trade and Occupation

APPENDIX 2: DEFINITIONS

1. **Additive:** An enrichment, supplement or other substance which may be added to a foodstuff to affect its keeping quality, consistency, colour, taste, smell or other technical property;

2. **Audit:** A systematic and functionally independent examination to determine whether activities and related results comply with planned objectives;

3. **Certification:** The procedure by which approved certifying organisations provide written or equivalent assurance that a product, process or service is in conformity with certain standards;

4. **Certification mark:** A mark or a symbol, that has been registered by the delegated authority, indicating that compliance with these standards has been verified;

5. **Certification programme:** An approved system of rules, procedures and management for carrying out certification;

6. **Certifying organisation:** An approved organisation performing certification;

7. **Crop rotation:** The practice of alternating the species or families of annual and biennial crops grown on a specific field in a planned pattern or sequence so as to break weed, pest and disease cycles and to improve soil fertility and organic matter content;

8. **Labelling:** Any written, printed or graphic representation that is present on the label of a product, accompanies the product or is displayed near the product;

9. **Operation:** A farm, production unit or project involved in the production and/or processing of products;

10. **Operator:** Any person who is involved at any stage of the chain of production, processing, storage, packaging, transporting, retailing, displaying, importing or exporting of organic/organic in conversion products or who markets such products;

11. **Synthetic:** A substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal or animal sources, except that such term shall not apply to substances created by naturally occurring biological processes; and

APPENDIX 3: DIFFERENT METHODOLOGIES OF ORGANIC AGRICULTURE

The organic sector is characterised by a diversity of views, many held with a strong passion. There are various versions of organic farming and there are disagreements among the proponents of various versions about which should be regarded as true organic production. The six main versions are discussed below:

A. BIODYNAMIC FARMING

Biodynamic agriculture is the first (1924) scientific method of organic farming. It uses specially prepared compost and field preparations and the farm is treated as a unified and individual organisms, emphasizing balancing the holistic development and interrelationship of the soil, plants, animals as a self-nourishing system minimizing external inputs insofar as this is possible.

Biodynamic agriculture advocates the combination of animal husbandry and crop production (mixed farming) and it uses biodynamic field and compost preparations (naturally occurring plant, animal and mineral materials which are combined in specific recipes) in order to vitalize the soil and to enable it to transmit this vitality through life-processes to plants and subsequently to animals and human beings. As a methodology all activities such as seed sowing, cultivation and harvesting are timed according to cosmic and seasonal rhythms. Biodynamic agriculture is based on anthroposophy and the ideas formulated by the Austrian Dr. Rudolf Steiner (1861 – 1925). The maintenance and furtherance of life-processes in the soil and in nature in general as well as the harnessing of cosmic energy and other formative influences from the sun, the stars, the moon and other planets, are basic principles.

B. PERMACULTURE

Permaculture is an approach towards designing human settlements and agricultural systems that mimic the relationships found in natural ecologies. The intent is that, by rapidly training individuals in a core set of design principles, those individuals can design their own environments and build increasingly self-sufficient human settlements that reduce society's reliance on industrial systems of production and distribution that had been blamed as fundamentally and systematically destroying earth's ecosystems. In permaculture, practitioners learn from the working systems of nature to plan to fix the damaged landscapes of human and agricultural systems. Permaculture practitioners apply everything deemed necessary to build a sustainable future.
Modern permaculture is a system design tool. It is a way of:

- looking at a whole system or problem;
- observing how the parts relate;
- planning to mend sick systems by applying ideas learned from long-term sustainable working systems;

- seeing connections between key parts.

C. BIOLOGICAL FARMING

Biological farming is a system that uses nature and science to build the quality of the soil with the understanding that healthy soil will be able to support healthy crops and livestock. It takes advantage of natural processes, which promote good soil, healthy crops, and healthy animals. These natural processes include: crop rotations; best tillage methods; growing green manures; proper livestock manure use; reducing toxins; promoting soil life, and balancing the soil's minerals. These terms mean using natural systems to improve soil structure; control weeds, pests, and diseases, and improve crop quality.

Biological farming works with natural systems and methods to build optimum soil, plant and animal health, while incorporating the best of conventional farming methods to maintain production levels and quality. Ultimately it also looks for outcomes in food nutrition and improved ecosystems. Biological farming methods present a viable way of producing high quality, nutritious produce without the use of non-organic fertilisers, pesticides or gene modification.

D. NATURAL FARMING

Natural farming involves the use of all inputs from natural materials, observes the law of the Nature and respects the rights of crops and livestock. Natural farming heals the soil slashed by chemicals, herbicide and machines. Basic idea of nature farming is to keep the soil as pure as possible, without using artificial fertilizers of any kind, chemical or non-chemical. Where natural farming is practiced, the soil and water become clean and ecology is recovered.

Natural farming is about working with natural energies rather than trying to conquer wild nature. The problem of agriculture long pre-dates modern industrial farming methods. Everywhere farming has been widely practiced soils have been eroded and depleted and the natural biodiversity has been reduced. Understanding of soil is central to natural farming. Soil is far from an inert substance, it is a complex living ecosystem comprising innumerable microorganisms that enable plants to take up nutrients essential for their growth and help defend them against diseases and insects.

E. TRADITIONAL FARMING

Traditional farming is an indigenous practice of cultivating land to produce crops, breeding, and raising livestock while managing natural resources in order to produce nutritious and continual food supply without external contribution but using self-reliance and locally available resources. Traditional knowledge is knowledge that has been preserved from generation to generation through oral and practical means. For many years our ancestors have tried to find ways of making good use of natural resources, to appreciate our natural environment,

and learn to preserve it. From the use of herbs/plants for medicine to the utilization of astrological movements to tell time and weather, these traditions where ever they might have originated has become part of our culture and has contributed to who we are, how we learn, and has shaped our views.

Traditional farmers developed sustainable agriculture practices which allowed them to produce food and fiber for thousands of years with few if any outside inputs. Many of these practices have been forgotten or abandoned in developed countries, but are still used by many traditional, subsistence, or partially subsistence farmers in rural areas of South Africa and in some of the developing countries. Most traditional methods of agriculture were developed through millennia of trial and error, natural selection, and keen observation. These practices aim to conserve energy, maintain natural resources, and eliminate chemical use. Today, perhaps over half of the worlds' arable land is farmed by traditional farmers. Many of their techniques are unknown or poorly understood, but have allowed them to produce crops and animals with minimal or no purchased inputs. Traditional farming systems often resemble natural ecosystems. Their striking diversity gives them a high degree of stability, resilience, and efficiency.

APPENDIX 4: BEST PRODUCTION PRACTICES

There is a need to promote adoption of best production practices for both plants and livestock as discussed below:

A. PLANT PRODUCTION

Organic farming in terms of plant production refers to exclusion of synthetic fertilizers, herbicides and pesticides. It is more dependent on active improvements, such as crop rotations and green manure. Organic crop farmers also employ natural pest controls; e.g. biological control, plants with pest management and control properties rather than synthetic/systemic pesticides which, when usage, are known to kill beneficial organisms, cause pest resistance and often pollute communities, water and land.

Organically produced crops should be produced according to the following production practices:

- Soil fertility and crop nutrients are managed through tillage, crop rotations, cover crops, green manures and animal and crop waste with diversion of organic resources from towns and cities being a critical component;
- Physical, biological, and mechanical means are used to control pests, weeds, and diseases.
- Conversion period from conventional should be over a period of 2 (for annual crops) to 3 years (for perennial crops).

- Organically open-pollinated propagated seeds and other propagating material and the use of bees should be given preference.
- The use of modern biotechnology, food radiation, and/or sewage sludge is prohibited.
- Scouting and monitoring pests.
- Plant succession management from pioneer to climax phases.
- Use of pest resistant plants and planting in areas suitable for the crops.
- Use of composts and composted manures as a substitute for inorganic fertilizers.
- Use of biological pest control methods
- Avoidance of farming practices that degrade soil and water quality
- Introduction of shelterbelts as wildlife corridors, carbon sequestration and moderation of climate and humidity.
- Incorporate water harvesting techniques and other soil hydrating methods for effective utilization of the water cycle.

B. ANIMAL PRODUCTION

The basis for organic animal production is the development of a harmonious relationship among soil, plants, animals and humans. Organic animals should be provided with the conditions and opportunities that accord with their physiology and natural behaviour. Organic livestock production methods enhance the sustainability of agricultural production systems. Organic livestock production methods produce healthy animals and quality livestock products that enhance human health.

Organically produced livestock should be produced according to the following production practices:

- Use of breeds that can both copulate and give birth naturally.
- Animals should have access to grazing that is appropriate to their type.
- Feed products must be 100% organic – vitamin and mineral supplements allowed.
- Animals should have sufficient free movement and should not be confined or restricted in an undesirable manner.
- Poultry, rabbits and pigs should not be kept in cages.
- Dairy animals must have organic management for at least 12 months before their products can be sold as “organic.”
- No hormones can be used to promote growth. No antibiotics and GMOs feed can be used for any reason.
- No conducting of painful procedures on animals, such as tail docking, castrating, dehorning, and debeaking without the use of anaesthetic.
- Cannot withhold treatment of sick or injured animals. If treated with prohibited product, cannot be sold as organic.
- Must have access to outdoors. Ruminants must have access to pasture.

- Temporary confinement allowed for health, safety, inclement weather, animal's stage of production, or protection of soil or water quality.
- Embryo transfer techniques are not allowed.
- Integrated appropriate animal interventions.
- Adequate provision of shade for animals.