CHAPTER THREE

A PROFILE OF GLOBAL ORGANIC AGRICULTURE

3.1 Introduction

This chapter gives an account of global organic agriculture within the context of a dynamic contemporary agriculture. As discussed in the previous chapter, organic agriculture is largely rooted in the emerging issues associated with evolution of contemporary agriculture in the post war era. The global organic agricultural perspectives set the framework for Kenyan organic agriculture.

The rest of the chapter is structured as follows: Section 3.2 gives some evolving definitions of organic agriculture followed by the principles and recommended organic techniques. Section 3.3 presents the emerging issues impacting on the global development of the sector namely; policy support, stringent standards and regulations, certification, corporatization of organic agriculture, increased global health awareness and organic products.

3.2 A Perspective of Global Organic Agriculture

As pointed out in the previous chapter, organic agriculture is an alternative agricultural system that addresses emerging contemporary agricultural issues. One of the main challenges confronting development of the organic system has been the definition problem as it tries to assert itself in a well established contemporary agriculture. This section gives the various definitions including the recent internationally accepted definition and it briefly outlines evolution of organic agriculture in the post war era.

3.2.1 Definition of Organic Agriculture

Organic Agriculture has been defined variously. Most definitions use the term “organic” to describe specific principles for the agricultural system. The definitions capture spatial related features of the system. Essentially, agricultural practices are localised, diverse and rich in ensuring that agricultural production takes place in different regions. These form the framework within which the available organic agriculture definitions have been developed and documented. The evolving
definitions are therefore informative as they bring light to the issues that the system has been addressing with time.

Prior to the coining of an internationally acceptable definition, the Codex Alimentarius Commission was the most acceptable and widely used organic agriculture definition. It states that: organic agriculture is a holistic production management system that avoids use of synthetic fertilizers, pesticides and genetically modified organisms, minimizes pollution of air, soil and water, and optimizes the health and productivity of interdependent communities of plants, animals and people (Scialabba and Hattam 2002).

The origin of the term organic according to many analysts was coined by Northbourne (1940) in his book “look to the land” where he envisioned a broad system as opposed to a restrictive definition that is often erroneously implied by many definitions (McRae 1990). As nations sought solutions to the problems arising from the tenets of the contemporary agricultural system, it is understandable that the focus had to be based on existing knowledge in different regions. While the initial definitions focussed on crop production, the evolving definitions portray increased scope by incorporating livestock and marine.

Scofield (1986:5) points out that organic farming does not simply refer to the use of living materials, but emphasises the concept of ‘wholeness’, implying the "systematic connexion or co-ordination of parts in one whole". Lampkin (1994) defines organic as a system designed to create integrated, humane, environmentally and economically sustainable production systems, which maximise reliance on farm-derived renewable resources and the management of ecological and biological processes and interactions, so as to provide acceptable levels of crop, livestock and human nutrition, protection from pests and disease, and an appropriate return to the human and other resources. Mannion (1995) refers to the system as a holistic view of agriculture that aims to reflect the profound interrelationship that exists between farm biota, its production and the overall environment. Rigby and Cereles (1997) point out that the contemporary organic farming is based on a number of different approaches which have blended over time to produce the current school of thought. Indeed, the author argues that seeking to provide the definition of any of these approaches has always been difficult. IFOAM defines organic agriculture in terms of its aims and principles.
For example, according to IFOAM 2002 Basic Standards, organic agriculture is a whole system approach based on a set of processes resulting in a sustainable ecosystem, safe food, good nutrition, animal welfare and social justice. The United States Department of Agriculture (USDA) 1980 defines it as a production system which avoids or largely excludes the use of synthetic compounded fertilisers, pesticides, growth regulators and livestock feed additives. It relies upon crop rotations, animal manures, legumes, green manures, off-farm organic wastes and aspects of biological pest control to maintain soil productivity.

IFOAM (2003) defines organic agriculture as a process that develops a viable and sustainable agro-ecosystem. According to Lang and Heasman (2004), organic movement aspires to protect environmental health and biodiversity as well as to develop traditional skills and techniques to improve agriculture. It is possibly that for this reason since the 1970s, support for organic agriculture has been an issue high on the public and political agenda in many industrialized countries (Dudgaard & Holst 1994). Environmental related benefits of the system seem to have attracted policy support.

On characteristics of organic systems, IAASTD 2008 notes that they are knowledge-intensive and based on replacing the use of synthetic inputs with ecologically based approaches to soil fertility and pest management. The report further describes organic agriculture as a system that includes both certified and uncertified production systems and encompasses practices that promote environmental quality and ecosystem functionality. Arguably, such a definition can be misleading since the organic system is based on production principles that allow certification. Certification seeks to proof that such principles have been adhered to. The difference between certified and uncertified agriculture largely lies in the institutional environment in terms of inspection, certification and labeling exercise. Given that both certified and non-certified farms rely on the same technology and principles implies that certification may not be a desirable criterion for defining organic agriculture.

Several other definitions tend to describe organic agriculture based on what the system does. This literature is captured in a study by Parrott and Marsden (2002). It outlines the techniques and management aspects of two key areas addressed by organic agriculture literature: soil fertility and pesticide management. The practices
associated with the maintenance and improvement of soil fertility include: mixed livestock and arable farming, use of farm compost, mulches and green manure, recycling and composting of vegetative matter (including ‘off-farm’ materials), use of crop rotation, fallows and strip cropping; use of nitrogen-fixing plants, mixed cropping to maintain soil cover and maximise nutrient availability, use of deep-rooting plants to recycle nutrients, Agro forestry, use of contour bunds, terracing and other mechanical methods to prevent soil loss. Those associated with management practices for pest and disease control include: crop rotation and intercropping (both of different species and geni), companion planting, use of resistant varieties, use of allopathic/antagonistic plants, use of physical barriers (e.g. tree breaks or insect traps), use of natural pesticides, use of biological controls, such as predators, control of carriers and hand picking. Depending on resource endowments, different regions tend to use different techniques in line with the principles of organic agriculture. The field survey conducted in central Kenya confirmed that some of these practices apply in the country.

The various definitions reflect variation in the system in line with the main aim of organic agricultural system. What seems to emerge from the dynamics of these definitions is that the issues arising from industrial agriculture have continued to play a key role in the development of organic agriculture. That is, as explained earlier, the advancement of industrial agriculture in the second half of last century has led to undisputed increase in agricultural produce and has solved the problem of hunger in many countries in the South. However, the success has been accompanied by the emergence of food insecurity, food safety and environmental related issues all of which form a major component of the organic agricultural promotional efforts package. Indeed, the reviewed definitions seem to largely point out solutions to some of these industrial agriculture issues.

Like other socially acceptable developmental oriented initiatives, development of the sector as depicted by the definitional changes initially started as a social movement which has gradually transformed into an industry with international coverage. The recognition that the contemporary organic agriculture has evolved from a number of different approaches which have blended over time and from different regions to produce the emerging school of thought has played a key role in the search for such an acceptable definition (Scofield1986, Lampkin 1994, Mannion 1995, Rigby and
Cereles 1997, IFOAM 1998). Guided by four themes drawn from past organic agriculture definitions across the world, search for a unified definition was initiated in 2007. Themes include principle of Care, principle of safety, principle of precaution, and principle of equity all of which jointly encompass the holistic nature of the organic agricultural system. These principles have since been considered as the core pillars in guiding developments in the system.

The Task Force entrusted with the synthesis task was to ensure the definition explained what organic agriculture is, reveal its true nature and address its principles in a concise manner. Several drafts open for the process captured a diversity of thoughts across the globe to finally come up with the current definition in 2008 which states that;

"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" (IFOAM 2009).

A notable feature of the definition is the positive manner in which it is framed, compared to earlier definitions that tend to have a negative tone and the exclusion of food and certification which have been associated with abuse of the organic system in the current corporatized world.

3.2.2 Evolution and Development of Organic Agriculture

Much of the present day organic ideology can be traced back to a series of lectures in Germany by Rudolf Steiner first published in 1924 and which led to biodynamic agriculture (DeGregori 2004). In the early 1920s, agriculture in Germany experienced a decline in yields and Steiner among other scientists sought a solution to the problem. The advice given was the use of manure to fertilize the soil instead of minerals arguing that the latter damaged soils. While it is not clear what impact the emerging school of thought may have had in the following decades due to dearth information, available literature contends that polarization of industrial and organic agriculture took place in the period between 1940 and 1978 mainly in the United States. This could be attributed to the media which played a key role in articulating
several issues related to the two agricultural systems. In particular, a magazine entitled ‘Organic Farming and Gardening’ was introduced in 1940 edited by Rodale & Howard helped diffuse and popularize organic concepts. Further, a publication entitled ‘Silent Spring’ edited by Carson in 1962 helped change the focus of contentious issues arising from industrial agriculture from Nitrogen use to environmental concerns. The two US publications culminated into the environmental debate of the 1980s and it continues to date as explained in the previous chapter.

In Europe, organic agriculture uptake took place in the late 1960s in response to environmental conservation awareness. In the late 1980s and early 1990s various market research reports pointed to strong and rapid growth in consumer demand for organic produce both in North America and in Europe, (William 1994). For example, the European Union Community adopted a legal framework in 1991 which helped give organic farming credibility in the quality products niche market. Prior to the regulation, Europe was following a self-sufficiency policy for the community and organic agriculture received if any, little public policy attention. Regulation (EEC) No 2092/91 acted as the official endorsement for the system which later spread to several other countries. Many European governments by early 1990 provided direct financial support for organic farming in recognition of its contribution to policy objectives (Lampkin 1994).

In Canada, organic agriculture started in the 1950s and it realized a slow development in the 1960s and 1970s. The 1980s witnessed increased growth of the system in the North due to increased policy support after it was realised that the system had a potential of achieving environmental objectives (Scialabba and Hattam 2002). In California modern organic agriculture began in the 1960s as part of the counterculture movement that rejected industrial values with consumer concerns on pesticide contamination leading to increased demand for organics (Constance 2010). The California Certified Organic Farmers was created in 1973 to help increase consumer confidence and limit fraud. In 1990 California Organic Foods Act established a legal definition of organics and it became a model for other states’ organic certification regulations and the national certified organic label (Ibid). These developments partly explain why US has the largest market for organic products today.
Indeed, state sponsorship of organic agricultural methods in Europe convinced a large number of people that organic agriculture was capable of achieving certain desirable objectives (Lohr et al 2000). Prior to 1980s, development in organic agriculture in Europe was slow and driven by grassroots organisations, farmers and traders. The organic community came up with several standards with the notable ones being the Soil Association in the United Kingdom in 1967 and IFOAM in 1980. However, it took time for these standards to be reflected in national policies until after the environmental debate era. A similar trend is observed in many other countries with the system initially promoted by the private sector and the public policy at a later stage. The same trend is unfolding in Kenya where the public policy initiative on organic agriculture is forthcoming as from 2010, two and half decades after introduction of the system.

International recognition of organic agriculture was realized in 1998 when IFOAM adopted basic standards for organic farming and processing. The following year, guideline for production and processing, labelling and marketing of organic products was adopted. In the same year, FAO came up, extending its support with the aim of promoting farming in the developing countries. This recognition has helped in the global development of the system and increased organic research in the last decade. Results from developing countries are scanty possibly due to lack of statistical data. According to Willer & Yussefi (2005), Asia, Latin America and Africa show that small farmers in these areas only needed marginal improvements to their technologies to make the shift to organic production. In Africa, adoption has been mainly in the Eastern and Southern part of the continent with the private sector and NGOs being the main stakeholders.

To help in the uptake of organic farming in Africa, IFOAM Africa service centre was created in 2004. One of its aims was to show that an organic approach meets all the three essential components of a sustainable world, namely; social equity, economic reliability and environmental health. Another aim was to create deeper understanding and awareness of the benefits from using organic agriculture, particularly how it supports and enhances traditional knowledge and innovations, and brings healthy and sustaining food within the reach of the poor.
Drawing help from the building international, East African region came up with a common organic agriculture standard in 2007. The standards were based on the experiences of individual country standards which had been in use in the respective countries and the EU regulation 2092/91. Additionally, the East African organic agriculture has to a large extent been influenced by the specific historical developments of each country since independence. While Kenya and Tanzania ended up with large-scale farmers and high input agriculture, Uganda land occupation remained with small-scale farmers, a factor contributing to organic agriculture being more developed in the country compared with the other East African countries (Kimemia 2006).

Overall, from a global perspective, analysts contend that organic agriculture has evolved from a movement to an industry owing to its scientific orientation in the recent past. Challenges identified in the previous chapter (environmental concerns, food scares, production subsidies and institutional reforms) have contributed substantially to the growth in organic production and sales in 1990s (IFOAM 2002). At the beginning of this century, organic farming was practiced in 120 countries with 730 associations (FAO 2002, IFOAM 2003).

While its formal origin has been associated with the coining of the word “organic” by Northbourne in the 1970s, the principles and tenets of organic agriculture draw largely from agricultural practices related to ever since man started working on the land to produce food. These have been reflected by the various definitions as explained above. Northbourne advocated a system made up of small self-contained units, a view that has continued to be relevant in modern-organic development efforts. Initial motivating factors for organic agriculture, and which continue to hold the development of the sector on course, include issues of soil health and structure, the exhaustible nature of artificial fertilisers, and human health (Scofield 1986).

The sustainability debate in the 1970s and 1980s has largely contributed towards policy recognition of organic agriculture in many countries. Research findings contend that growth of the organic sector tend to take place upon legislation of the system in a given country or region. On the demand side, increasing awareness and knowledge seeking behaviour of consumers have led to changes in individual preferences as reflected in their demand for safer and nutritious food. Regarding the
Supply side, governments have come up with regulatory framework and different packages like conversion process subsidies to assist farmers take up the system. For example, policy support of European farmers stimulated small farmers to convert to organic following the adoption of the European Union Regulation No. 2092/91. Cuba adopted organic agriculture as a core official agricultural policy after its 1990s crisis and the full support given to small-scale farmers has led to successful organic agriculture in this Caribbean state.

Further, acceptance of the system has led to the recent fast growing rates in both developed and developing countries. In the North, growth rates in organic food sales averaged 20-25 percent per year for over 1990 decade. During the same period, land under organic was impressive in Europe, Latin America and the United States. Total area in Europe and United States tripled between 1995 and 2000. In Argentina, organic land increased by 1280 percent. Certified organic land and organic food sales at the global level were low by the turn of the century at less than 1 percent and 1-2 percent respectively (Scialabba and Hattam 2002). According to Willer et al., (2009) certified organic global lands stood at 32 million hectares in 2007, with 1.2 million farmers. In developing countries, a huge number of uncertified farms apply organic agriculture practices (e.g. polycultures) for their own subsistence purposes.

As explained in the last chapter, food safety concerns, mostly by consumers have been a key factor in triggering governments into embracing and supporting expansion of organic production in the North. This has consequently led to the opening up of markets for developing country exports with some producers benefiting from price premiums in the developed countries. On the other hand, non-certified organic agriculture has been an important source of local food requirements; it has provided protection and sustainable use of natural resources (Willer et al., 2009). In the South, governments are creating conditions in support of organic exports and this has led to many indigenous farmers going organic (Ibid). In the past two decades, indigenous NGOs have been challenging high external input agriculture and have offered sustainable agricultural alternatives for the rural poor in Africa, Asia, and Latin America (Kimemia 2006). Kenya is a key beneficiary of these developments.

Before turning to the principles of organic agriculture, it is good to mention at this point some of the alternative agricultural systems that have been developed to address the various sustainability issues resulting from the production processes of industrial

3.2.3 Principles of Organic Agriculture

Based on several guiding principles, organic agriculture provides a system whose practices can be tested and verified scientifically. The two main sources that stipulate the general principles and requirements of the system include IFOAM Basic Standards and Codex Alimentarius Guidelines for Production, Processing, labelling and Marketing of Organically Produced Foods (Scialabba and Hattam 2002). The presence of traceable scientific rules has facilitated acceptance of the system as an evolving industry.

The Codex Alimentarius Guidelines observes that the primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people. In consultation with its members, IFOAM defines and regularly reviews its Basic Standards. In 2002 there were more than 750 members in over 100 countries (IFOAM 2002). This is one feature that differentiates organic with other alternative agricultural systems which lack an international outlook due to absence of an elaborate scientific structure. Its scientific characteristic made the search for current international definition a reality.

The principles reflect the holistic character of the organic production system and at the same time act as the foundation guiding the development of organic agriculture. Initial comprehensive attempt to synthesize this diverse nature of the system was through the International Federation of Organic Agriculture Movements basic standards for production and processing and which continues to be useful to date (IFOAM 1998). The standards act as the framework within which the increasingly proliferating global private organic agriculture standards are drawn from. The Basic Standards are in form of an elaborate list and what is noticeable from the list is that the principles extend beyond simple biophysical aspects to matters of justice and
responsibility (Rugby and Cereles 1997). These interconnected areas are captured in four main principles highlighted below.

While IFOAM basic standards has a list of the principle aims of organic production and processing as shown in appendix 3.5, the definition synthesis process did come up with succinct principles which address issues related to health, ecological processes, care and fairness in the production process. The principles are based on the understanding that organic agriculture has many stages spanning from farming, processing, distribution, or consumption of produce. Following is an elaboration of the principles as explained by IFOAM 2010:-

**Principle of Health-** This principle points out that the health of individuals and communities cannot be separated from the health of ecosystems. For example, healthy soils produce healthy crops that foster the health of animals and people. Health in this context is taken to be the wholeness and integrity of living systems rather than simply the absence of illness. It entails maintenance of physical, mental, social and ecological well-being of those involved; that organic agriculture should sustain and enhance the health of ecosystems and organisms from the smallest in the soil to human beings. By this principle, organic agriculture is expected to produce high quality, nutritious food that contributes to preventive health care and well-being. In this regard therefore, the production system avoids use of chemical fertilizers, pesticides, animal drugs and food additives that may have adverse health effects.

**Principle of Ecology-** it emphasizes that production should be based on ecological processes and recycling. That organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them. For example, crop farming should ensure treating soil as a living entity to be enhanced and sustained, livestock keeping calls for working with the farm ecosystem while fish and marine organisms work within the ecological demands of the aquatic environment. While some cycles are universal, their operation can be location-specific like pastoral and wild harvest systems. Addressing this characteristic, the principle entails that organic management be adapted to local conditions, ecology, culture and scale. It advocates reuse of inputs, recycling and efficient management of materials and energy with the aim of enhancing and conserving environmental quality and resources. Additionally, it puts emphasis on protection of the common environment which includes landscapes, climate, habitats, biodiversity, air and water.
**Principle of Fairness** - Fairness is characterized by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings. Based on this principle organic agriculture is expected to build on relationships that ensure fairness with regard to the common environment and life opportunities. In other words, it emphasizes that those involved in production processes should conduct human relationships in a manner that ensures fairness at all levels and to all parties (farmers, workers, processors, distributors, traders and consumers). Organic agriculture should provide safe and good quality food and other products. Organic farmers are expected to make deliberate effort to ensure fairness. In addition, it insists on animals being treated fairly by providing them with conditions and opportunities of life that take care of their well being. Further, the natural and environmental resources utilised in the production process should be managed in a way that is socially and ecologically desirable to hand over the same to future generations in usable state. Fairness requires systems of production, distribution and trade that are open and equitable and account for real environmental and social costs.

**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 (IFOAM 2006). Precaution and responsibility should act as the key concerns in management, development and technology choices in organic production. It recognizes that science is necessary to ensure that organic agriculture is healthy, safe and ecologically sound but scientific knowledge alone is not sufficient. Indeed, experience, traditional and indigenous knowledge are known to offer valid solutions which have been tested with time. With the principle of care, the system should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones. It is on the strength of care that organic agriculture has been lobbying against genetic engineering in the last one decade. Overall, the decisions taken should reflect on the values and needs of all who might be affected by the production processes.

These four principles portray what organic agriculture is all about and at the same time they help understand the several location specific techniques used in organic agricultural system. The next section presents the status of the system based on these principles.
3.2.4 Status of Organic Global Agriculture

The area under organic agriculture has been increasing particularly this century with its share of agricultural land and farms increasing in many countries (IFOAM 2010). Figure 3.1 shows the growth of organic land for the different regions from 2000 to 2007. Information from 141 countries show variation in the distribution of land devoted to the system across the globe. It supports the widely held view that there has been an increasing trend in the amount of land managed organically. Though there was a decline in the area in 2007 in almost all regions, provisional statistics indicate a notable increase of organic land area in 2008 with 35 million hectares managed by almost 1.4 million producers. This represents an increase in the area of organic lands compared with 32 million hectares in 2007 involving 1.2 million farmers (Willer et al. 2009). From 2008 data, regions with the highest area managed organically include Oceania (12.1 million hectares), Europe (8.2 million hectares) and Latin America (8.1 million hectares). The countries with the most organic agricultural land were Australia, Argentina and China while countries with the highest number of producers include India (340,000 producers), Uganda (180,000) and Mexico (130,000). Though statistics indicate that organic agriculture has the lowest area in Africa, analysts contend that underestimation and lack of data in the region may have led to such low figures.

Overall, there seems to be a turning point regarding the area devoted to organic agriculture as from 2005 where an increasing trend in all regions is observed. This may have been a consequence of increased global interest in the produce as well as data availability from the various regions following IFOAM concerted efforts to assemble such data. North America and Oceania has had consistently more area under organic farming over the years. Growth rate relative to other regions has also been the highest. Asia and Africa had the lowest area under the system with Asia having a notable leap in its growth in the year 2005 while Africa recorded a marginal change.
Figure 3.1: Growth of Organic Land in Hectares: 2000-2007

![Graph showing growth of organic land in hectares from 2000 to 2007 across regions.]


Figure 3.2a shows the growth of the total area under organically managed land. It shows variations across the regions with Asia exhibiting the highest fluctuations followed by Africa. While the trend helps in pointing out a picture of the unfolding scene on organic growth, it is good to note that specific organic data is scanty in most regions. This is not surprising since the system is in the process of having a global unified data collection. What this points at is that, the data available at this stage may be an underestimation of the true size of the sector. Nonetheless, it is believed that the extent of the system will be clear as data continues flowing particularly from the last five years.

Figure 3.2a: Growth in Organic Managed Land: 2001-2007.

![Graph showing % growth in total organic land by region from 2001 to 2007.]

Data source: Willer et al 2009

Further analysis of Africa and East Africa reveals similar trends. Figure 3.2b shows the trend of organic land in hectares in East Africa and Africa between 2005 and 2008. According to Willer et al 2009, most of the reported organic land in Africa is
certified land and the organic produce is destined for export markets. Most of the produce ends up in the European Union. The highest shares of organic land in Africa are in Sao Tome and Prince (5 percent), Uganda (2.3 percent) and Tunisia (1.6 percent). East Africa organic sector has been expanding following regional oriented initiatives that have resulted in the development of a second regional organic standard after European Union. In terms of land under organic, Kenya’s growth rate relative to Africa shows an upward trend. It increased from less than one percent in 2005 to about 1.7 percent in 2008 (Ibid).

Figure 3.2b: Organic Land in Africa and East Africa: 2005-2008

As shown in figure 3.2c, the percentage of organic land to total land in Kenya is low relative to global organic land. Nonetheless, compared with Africa and East Africa organic land, the land devoted to organic management increased between 2005 and 2008. This may have been the result of unified efforts to promote the sector following the creation of Kenya Organic Agriculture Network.
Another indicator of organic growth is the area devoted to crops. Figure 3.3 shows the percentage of area under crops between 2005 and 2008. The data excludes wild harvest, bee keeping and aquaculture. The results show slow growth rates in line with entire organic managed lands. Overall, there was a growth rate of 0.7 in total organic land under crops. Latin America recorded the highest growth rate between 2004 and 2009 relative to other regions followed by Africa. Crop land in Oceania seem to have declined during the period from a high of 41 percent change in area in 2006 to a low of 34 percent in 2008 giving a growth rate of 2.7. In Europe, growth remained stable at 1.6 growth rate per annum.

Figure 3.3: Percentage Growth of the Organic Cropland (Excludes Wild Harvest, Bee Keeping and Aquaculture): 2005-2008.

Data source: Willer et al 2009
Other than sustainable conservation of land allocated to organic management, the system contributes to other attributes of the well being of a society. It creates employment, conserves the environment and ensures food security. According to IFOAM 2009, more than one third of organic producers are found in Africa. It also notes that about one-third of the world's organically managed agricultural land is located in developing countries. Most of this land is in Latin America, with Asia and Africa in second and third place. About 31 million hectares are organic wild collection areas and land for bee keeping. This is in stark contrast to agricultural land, of which two-thirds is in developed countries. In Kenya, earnings from exportation of organic wild harvest have recorded rapid growth rates in the last decade. Further global organic agriculture has expanded to cover other production processes like aquaculture (0.43 million hectares), forest (0.01 million hectares) and grazed non-agricultural land (0.32 million hectares).

It is important to note that the reported area may be an underestimation of the organically managed lands since uncertified lands are not accounted for in most countries. In particular, a huge number of uncertified farms apply organic agriculture practices in developing countries (e.g. polycultures) for their own subsistence purposes (Taylor 2008). The farmers are normally in marginalized rural communities having neither access to agricultural input commodities like mineral fertilizers or pesticides nor market access to supply certified organic products. Such a potential rich base for organic development needs to be tapped by for example, drawing up policies that incorporate such producers into the commercial agricultural production. However, there is a major drawback in that for many countries, the governments are sceptical about the viability of organic agriculture due to lack of scientific support for such a system. It is therefore imperative that the status and performance of the sector be explored. Specifically, identification of location specific factors that are likely to impact on such a policy intervention need to be investigated on a regular basis to help in the development of the sector. This is expected to finally contribute positively towards the overall economic development of nations.

Increasing the uptake of organic agriculture has been a main concern for many promoters of the system. However, adoption of the system has been facing different sets of challenges in the last three decades. First, as noted earlier, organic methods
have emerged as alternatives to contemporary agricultural system. This has brought organic promoters in direct confrontation with promoters of the well established conventional system particularly with the major players in the global food economy. Control of global food supply by corporate sector has been a major challenge in a globalized world. As explained in the previous chapter, development of organic agriculture is taking place within a wider context of corporate agriculture which is increasingly being controlled by TNCs. Evidence from research findings suggests that globalization of agriculture has had major implications on the viability of organic food supply chains (Clark L F). It is for this reason that organic trade has recently been referred to as having become a billion dollar business. Increasing participation of corporate in organic food chains is leading to concentration in the sector as witnessed in the last decade in the same vein as corporate agriculture. This has raised concern in the recent past among organic agriculture agents as the trend poses as a major threat to the sector development yet it is understandably in its initial stages of development.

Despite the challenges, adoption of organic production has been increasing with its uptake varying across continents and within countries. The response has been relatively higher in the North compared to the South with research efforts in the North tending to influence the outcome. There were more organic based research efforts in the 1980s in the North while it is also picking up in the South particularly from the beginning of this century. It is widely held that the outcome of the studies have influenced policy formulation currently in force in the developed countries and which are indirectly finding their way into the organic promotional efforts in developing countries. Among the several facets of organic agriculture that have attracted research efforts include environment, health, and uptake of the system, performance and productivity mainly on a comparative analysis base.

Further, it has been observed that land devoted to organic agriculture and the number of farmers continues to increase in the global South. While certification of produce has been a welcome idea which supports the scientific orientation of organic system, the process has been criticised for acting as a potential barrier to the growth of the system by excluding the small-scale farmers from participating and giving an easy entry for the corporate firms into the sector thereby destabilising the promotional efforts. Nonetheless, the bulk of the global land devoted to organic agriculture mainly
focuses on the certified lands. Table 3.1 shows distribution of the organic land in the South at the turn of the century.

Table 3.1: Certified Organic Land by Country (Hectares)

<table>
<thead>
<tr>
<th>Latin America</th>
<th>Africa</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 Million ha.</td>
<td>Argentina (3M)</td>
<td></td>
</tr>
<tr>
<td>100,000-1 M ha.</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>25,000-100,000 ha.</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>5,000-25,000 ha.</td>
<td>Paraguay, Peru, Costa Rica, Bolivia, Guatemala</td>
<td>Tunisia, Uganda, Turkey, China, Japan</td>
</tr>
<tr>
<td>1,000-5,000 ha.</td>
<td>El Salvador, Chile, Nicaragua, Uruguay</td>
<td>Tanzania, Egypt, Zimbambwe, Cameroon, Mauritius</td>
</tr>
<tr>
<td>&lt;1,000 ha.</td>
<td>Suriname, Colombia</td>
<td>Papua New Guinea, Israel, India, Taiwan</td>
</tr>
<tr>
<td>Organic production</td>
<td>Ecuador, Honduras</td>
<td>Burkina Faso, Ghana, Zambia</td>
</tr>
<tr>
<td>But no figures available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Parrot and Marsden 2002

Kenya did not have any recognizable organic certified land at the turn of the century and thus does not feature in the reports.

Additionally, there has been increased involvement in the promotion of organic production in developing countries. Among other drivers, there has been growth in the number of local, national and regional organic institutions promoting the system by training farmers or lobbying for policy recognition. Representatives from such bodies have also been involved at the international front as shown in appendix 3.6. It shows that developing countries are involved in the global organic development through IFOAM membership. India had the highest number of members with 39 followed by Argentina with 18 and Kenya comes in third position together with China with 16 members each and Senegal with 10 members. Others have less than 10 members.

Markets
Market for organic food products has been increasing. In developed countries, the steady growth has been driven by rising consumer awareness for health and environment (Willer et al. 2009). Farmers have had a chance to produce for premium price markets and hence, an opportunity to increase their farm profitability and livelihoods. Most of the organic sales take place in North America and Europe.
However, production is global with developing countries share showing an upward trend (World Bank 2007). According to Echevarria (2007), there were 30.6 million hectares under organic pastures and crops certified in the world, with Australia 11.8m ha (2.7% of agricultural land); Argentina 3.09 M ha (2.41%); Italy 1.06 m ha (8.4%); United States 1.6 M ha (0.5%) and Costa Rica 0.01 M ha (2.5%).

Global markets for certified organic products have been growing rapidly over the past two decades while there is dearth information regarding non-certified organic products in most regions. In 2005/2006, sales of certified organic products increased recording 30 billion Euros representing a 20 percent increase in sales (World Bank 2007). For developing countries, the markets for certified organic products are small but growing (Willer et al. 2009). Notably, Argentina and Brazil have the most developed domestic markets in the South while Asia, China, Malaysia, the Philippines, India, Singapore and Thailand have been experiencing a steady expansion in organic agriculture production and sales. Africa seems to be lagging behind with respect to certified organic agriculture where the subsector is relatively underdeveloped but growing in East Africa, Egypt, South Africa and in Tunisia (WDR 2008).

3.3 Emerging Trends in Global Organic Agriculture

One of the main tasks confronting organic agriculture in the post war era is raising the uptake of the system. This has led to increased interest in adoption related research. From the growing literature, several challenges confronting the technology have been identified. They include lack of policy support, concentration in the global food economy, high cost of standards and certification process that excludes small-scale farmers, contaminated information arising from distortion of findings by the corporate advancing industrial agriculture, attributes of the technology, general status of farmers, institutional arrangements in a globalised agriculture and dependence on external purchased inputs. The challenges have been less for countries that have formulated effective organic policy thereby acting as a motivating factor for the uptake of the system in other countries. The research findings seem to have increased lobbying from private agencies and concerted efforts from a wide spectrum of environmentally conscious bodies. The outcomes and responses to the emerging issues are addressed below.
Increasing Policy Support

Organic agriculture is increasingly being embraced in many countries relative to other alternative agricultural systems. One of the main reasons could be its uniqueness in terms of adhering to internationally recognised tenets. According to Lampkin et al. (1999), it is the only approach to farm assurance, agri-environmental sustainability and agricultural sustainability that is supported by a legal definition and backed by international agreements. Like other agricultural technologies, formulation of policies governing organic agriculture started from countries in the North and they are slowly being taken up in the South. They include Oregon State (US) (1974), California (US) (1979), France (1985), European Countries (1992), Australia (1992), Switzerland (1999), Japan (2000), and United States (2000). Indeed, there has been noticeable increase in policy recognition with countries that were at some stage of regulating the organic sector in 2002 numbering 56 (Scialaba and Hattam 2002) while the number increased to 70 in 2005 (Rundgren 2008). However, there have been differences in scope of regulations and variation in their implementation across countries and this has raised a number of questions in the past. Some of the main concerns include the import discrimination through standards, multiple accreditations of certification bodies in order to access the three main organic markets (Europe, the United States and Japan), difficulties to traders and delays for authorities to negotiate bilateral equivalency. Consequently, search for solutions to these issues has led to the streamlining of organic certification process by the organic community through IFOAM Accreditation Programme. More specifically, the International Organic Accreditation Service (IOAS), an NGO was established in 1997, to accredit certification bodies (Rundgren 2008).

With many organic sector developments in the developing countries; having been tested in the North, it is not difficult to understand that some of the policy related developments have come up in response to issues facing the global organic markets in the past. For example, with the help of international bodies, developing countries are coming up with local organic certification bodies which have resulted to reduction in production costs for small-scale farmers. This has been made possible through capacity building efforts in these countries by investing in ensuring there are qualified certifiers. Additionally, farmers have been organising themselves into farmer groups that have ended up reducing cost of certification in many countries. The group sizes
vary across the world, ranging from ten to thousands of growers. Despite lack of official recognition of the sector in the South, realization of the export potential of organic produce in these economies has acted as a motivating factor for NGOs in their effort to promote the system. In Kenya, the private sector has been contributing to the development of the sub-sector by supporting and encouraging small-scale farmers. This is expounded in the next two chapters.

**Standards and Regulations**
Several countries have come up with organic standards in the recent past. As explained in section 2.3.1, increasing food safety concerns have led to a shift from product standards to process standards. These developments tend to reflect the wider shifts in thinking as exemplified in the World Summit on Sustainable Development in 2002. In general terms, the standards can be categorized terms of performance, procedural or process orientation. Performance standards measure the performance against a specified set of criteria and indicators and they were popular until recently. However, they are increasingly being criticised for being too static, and for encouraging performance to be measured on a pass or fail basis on the final product (Blowfield 1999). As a consequence, a number of international labelling initiatives are adopting standards that focus on production process.

Following the emergence of numerous private sector standards and government regulations, organic agriculture markets are increasingly facing challenges that require response from producers and agribusinesses along the value chain. To start with, there are two international voluntary standards and a host of conformity assessment and accreditation systems for organic agriculture (CBTF 2007). Developed countries with organic standards include Canada, the United States and Japan while those in developing countries include China, Brazil, India, Tunisia, Costa Rica, and Argentina among others (CBTF 2007).

To access export organic markets in some countries requires demonstration that the organic production standards of the importing country have been met. The standards and regulations guiding the sector range from production, importation, marketing and labelling of organic products. It is essentially for this reason that certification, which is associated with these requirements, has become a dominant characteristic in the international organic market. Indeed, the argument has been that growth in global
organic agriculture is largely based on this criterion. The system allows verification of produce from input stage to the plate unlike other alternative systems. However, not all organic products are certified suggesting underestimation of the size of this sector. In other words, certification is a necessary condition depending on the production relation agreements but not a sufficient condition for organic production. A sufficient condition requires that the principles of the system be followed. Overall, though important in creating a niche for the system, certification is seen as having a distortion effect on organic produce market.

Several initiatives, under the umbrella of global partnership for organic agriculture, have been put in place in different parts of the world to promote production and trading opportunities for organic products. In East Africa, such an initiative was launched in 2005 which facilitated the launching of East African Organic Products Standards (EAOPS) on May 29th 2007. EAOPS is the world’s second regional organic standard after European Union which was defined and endorsed by EU countries in the early 1990s as spelt out in Regulation EEC 2092/91. The standard has since changed to 834/2007 standard following its adjustments in 2007 to embrace more stringent rules and regulations in line with emerging issues facing the sector. This can also be seen as being in tandem with the experiences with the wider economies of the East African Region. For example, in order to secure the already established European market for East African products, the East African Community (EAC) initialled Economic Partnership Agreement (EPA) deal in 2007. The negotiations are ongoing. The EPA deal is meant to replace Preferential Trade Agreements which translates into helping the economies continue tapping benefits of the agreements. In the absence of the EPA, Kenyan exporters may end up paying a duty of between 8.5 to 15.7 percent unlike other EAC economies that are classified as least developed countries.

Another notable contribution has been the Grolink training initiatives which started in 2003. The aim has been that of building capacity in organic agriculture development in Africa. The East African organic sector has greatly benefited from the Grolink capacity building efforts. For example, training and support of organic standards and certification workshop in Tanzania with the help of key organic stakeholders has played a key role in the establishment of the East African coordinating bodies. The establishment of KOAN benefited greatly from the outcome of the training members in attendance being in the formulation of the institution team. Consequently, Kenya
has had success stories regarding conformity with the standards and this has helped the economy secure long held markets.

Table 3.2 shows regulations status in the different regions. Europe had the highest number of regulations across the three levels analysed. It had over 70 percent of the global regulations that were fully implemented, while it was 1 percent in Africa, 3 percent in America and 7 percent in Asia. In the same year, Europe also led in terms of ready to implement regulations but not yet implemented and those at draft stage. The distribution changed slightly in 2007 as more countries came up with the regulations as shown in table 3.3. There was a 50 percent increase of fully implemented regulations in Europe between 2003 and 2007 having increased from 26 in 2003 to 39 in 2007. It also increased in other regions with Asia, America and Africa recording 57, 467 and 200 percent respectively. Overall, there was a 91 percent global increase from a total of 37 regulations in use 2003 (table 3.2) to 70 regulations in 2007 (table 3.3). The trend indicates the increasing recognition of the system.

Table 3.2: Status of Organic Agriculture Regulations across Regions by October 2003 and in 2005.

<table>
<thead>
<tr>
<th>Region</th>
<th>Fully Implemented</th>
<th>Finalised but not Implemented</th>
<th>Drafting Stage</th>
<th>Total in 2003</th>
<th>Total in 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>26 (70)</td>
<td>2 (25)</td>
<td>4 (27)</td>
<td>32 (53)</td>
<td>37 (52)</td>
</tr>
<tr>
<td>Asia and Pacific Americas and the Caribbean</td>
<td>7 (19)</td>
<td>1 (12.5)</td>
<td>3 (20)</td>
<td>11 (18)</td>
<td>13 (18)</td>
</tr>
<tr>
<td>Africa</td>
<td>3 (8)</td>
<td>4 (50)</td>
<td>4 (27)</td>
<td>11 (18)</td>
<td>15 (21)</td>
</tr>
<tr>
<td>Middle East</td>
<td>n/a</td>
<td>n/a</td>
<td>2 (13)</td>
<td>2 (3)</td>
<td>2 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37 (100)</strong></td>
<td><strong>8 (100)</strong></td>
<td><strong>15 (100)</strong></td>
<td><strong>60 (100)</strong></td>
<td><strong>71 (100)</strong></td>
</tr>
</tbody>
</table>


The high concentration of the regulations in Europe suggests that producers in the developing countries relying on these markets may have been affected by the changing landscape. It is expected that with limited alternative markets, the economies do adjust accordingly in order to safeguard continued access to these markets with the emerging requirements. For example, there was fresh and stringent
demand from European powerful retailers in Europe at the turn of the century that exporters secure EurepGAP certification. The EUREP-GAP protocol is an example of a private regulation where European food retailers came up with the standards primarily with food safety, social and environmental issues in mind. According to the protocol, the Good Agricultural Practice (GAP) stipulates that “all growers must demonstrate their compliance with national or international law. The change led to exclusion of many growers in the South who were unable to meet the new requirements (Humphrey and Memedovic 2007). Frequency of changes in regulations and standards and the imposition of varying regulations and standards across different markets cause diseconomies of scale and reduce the likelihood of accessing many of the export markets (Ignacio 2007, Lyakurwa 2007).

Table 3.3: Organic Regulations by Continent as at 2007

<table>
<thead>
<tr>
<th>Continent</th>
<th>No of countries with regulations</th>
<th>No of Countries per continent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>39 (56)</td>
<td>41</td>
<td>95%</td>
</tr>
<tr>
<td>America &amp; Caribbean</td>
<td>17 (24)</td>
<td>35</td>
<td>49%</td>
</tr>
<tr>
<td>Asia and Pacific</td>
<td>11 (16)</td>
<td>62</td>
<td>18%</td>
</tr>
<tr>
<td>Africa</td>
<td>3 (4)</td>
<td>55</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>70 (100)</td>
<td>193</td>
<td>36%</td>
</tr>
</tbody>
</table>

*Source: Huber B (2008); Figures in parenthesis are column percentages*

As the tables 3.2 and 3.3 shows, there is a notable development of operational organic regulations in Latin America. Out of the total regulations, its share increased from 8 percent in 2003 to 24 percent in 2007. The percent share remained low in Africa with its percent share increasing marginally from 3 to 4 percent. However, despite these developments, mutual recognition on international level is not yet achieved and as the regulations become more and more complex, the farmer continues to bear the costs (Huber 2008). In addition, national registration of organic agriculture does not necessarily facilitate recognition by importing countries. Despite harmonization attempts by IFOAM, UNCTAD and FAO the National legislations are defining and restricting the sector. This is a major challenge especially for small-scale farmers in the South.
The increased number of public and private standards worldwide has led to the need for certification. The next section presents the organic related certification perspectives.

Certification

Organic certification assesses whether the agricultural practices under examination are carried out according to the laws of natural systems. The process involves deliberate effort to check ecological processes against the organic agricultural practices. The emphasis upon ecological processes has led to the use of ‘ecological agriculture’ for organic agriculture in many European countries. It is concerned with the contribution of organic agriculture to biodiversity and natural capital and to components of systemic health where people are seen as stewards of nature, helping to guide and maintain the system.

The organic certification process has been regarded as an example of social certification. Key players include IFOAM and few private initiatives, for example, EUREPGAP (Euro-Retailer Produce Working Group – Good Agricultural Practice) and SAI (Sustainable Agriculture Initiative). These stakeholders provide support to organic producers and processors like the establishment of an entire production, processing and distribution chain which is both socially just and ecologically responsible. An important feature of the initiatives is that they incorporate some of the ILO Core Conventions.

Though certification makes organic agriculture distinct from other sustainable agricultural approaches it has been embraced with mixed results. On one hand, it is expected to enhance trust between trade partners thereby adding value to the production process besides the economic and socio-ecological benefits. On the other hand, it has been criticised for its relatively high costs and its role in encouraging corporatization of the system. Critics fear the certification process is likely to derail progress already made by the organic sector.

Nonetheless, in overall, the certification process continues to be practiced and it is likely to persist despite the criticism and it has ended up affecting different countries differently depending on the stage of development of the sector. It has been observed
that organic markets are well established in developed economies while they are in the formative stages in many of the developing countries (Rundgren 1998). A possible reason for the persistence of certification is the demand oriented considerations. Farmer confidence about the organic products is a crucial factor in the sustenance of organic market. If handled well, certification is likely to build this trust.

It is therefore important to note that with certification becoming a common global phenomenon, farmers in the North and those in the South face different challenges when it comes to its requirements. Notably, farmers in the South face rapidly growing organic market in the North which calls for certification of produce and sometimes labelling of the produce as "organic" from local and international producers. With standards and regulations concentrated in the North as pointed out earlier, certification for exports from developing countries has in the past been carried out by certification bodies of the importing country. However this is slowly changing as these countries are partnering with international certification bodies for capacity building. For example, AfriCert certifying company in Kenya has gained accreditation status with the assistance of GTZ in Germany. AfriCert is the first certification company in East Africa based in Nairobi and its seal of approval confirms that producers subscribe to good agricultural practices. The practices include resource conservation, safe use of pesticides, good post-harvest protection, hygiene, and occupational health and safety (Humphrey and Memedovic 2007).

Table 3.4 shows the distribution of certification by continent. The number of certification bodies increasing by 29 percent globally between 2003 and 2007 having increased from 364 to 468 bodies. With the exception of North America which recorded 18 percent fall within a span of five years, other continents in general posted an increasing trend within the period. Comparing 2003 and 2007 figures, there was a 77 percent increase in Asia while during the same period there was 14, 32, 42 and 10 percent increase in Africa, Europe, Latin America and Oceania respectively. The overall increase in the number of bodies tends to suggest the increasing importance that the certifying bodies play in the development of organic agriculture.
Table 3.4: Certification Bodies by Continent: 2003-2007

<table>
<thead>
<tr>
<th>Region/Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>% change*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Asia</td>
<td>83</td>
<td>91</td>
<td>117</td>
<td>93</td>
<td>147</td>
<td>77</td>
</tr>
<tr>
<td>Europe</td>
<td>130</td>
<td>143</td>
<td>157</td>
<td>160</td>
<td>172</td>
<td>32</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>33</td>
<td>34</td>
<td>43</td>
<td>43</td>
<td>47</td>
<td>42</td>
</tr>
<tr>
<td>North America</td>
<td>101</td>
<td>97</td>
<td>84</td>
<td>80</td>
<td>83</td>
<td>(18)</td>
</tr>
<tr>
<td>Oceania</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>364</td>
<td>385</td>
<td>419</td>
<td>395</td>
<td>468</td>
<td>29</td>
</tr>
</tbody>
</table>

Source: Adapted from Huber B (2008); *Percentage change between 2003-2007

Kenya is one of the 8 countries in Africa which have managed to come up with home-based organic certification. Others include South Africa, Uganda, Tanzania and Egypt (Rundgren 2008). Notably, half of these certification bodies in the continent are found in East Africa region which happens to be the second region to come up with a regional organic standard, EAOPS as explained in chapter five. However, the new regulations on imports of organic products to the EU that were changed in 2006, according to some analysts, are likely to influence the growth of the certifying bodies in the South.

The impact of the certification process is not clear. For example, the certification debate about its role in the uptake of organic system owing to the difference between the tropical and temperate lands may have led to the unsatisfactory implementation of the EU Regulation requirements in Third World Countries. Further, in a lot of Third World Countries the conversion period is hardly applied (Huber 2008b). In support of the uncertainty shrouding its role, deliberations at the General Assembly of IFOAM dropped the certification process from the terms of reference to be used by the World Task Force in the search of a global definition of organic agriculture in 2007 as explained in the previous section. Borrowing from the foregoing, the current study has excluded certification as a criterion for organic agriculture.

The next sub-section gives a brief account of the role of corporations in the sector.
**Increased Participation of Corporate/TNCs in Organic Agriculture**

As organic agriculture industry acquires widespread recognition there is a gradual entry into the system by multinationals. Participation is taking place at all levels with production and marketing of organic foods through supermarket chains attracting relatively few players (Echevarria 2007). Companies with over a century trading experience have been using the organic brands to remain relevant in a global world that is becoming increasingly sensitive to food safety issues. Some of the main corporations owning organic food brands include Coca Cola, Kraft, Kellogg, Dole, Heinz, Norvatis, and General Mills among others. It is unlikely however, that the participation of these companies will impact on the production levels of organic, rather, they may contribute by reducing consumer confidence in instances where they may fail to conform to the standards as in the emerging court cases of Monsanto across the globe.

Most of the TNCs are headquartered in the US. An understanding of the role they play in the development of the organic industry in the US economy may throw some light on how the corporate world is likely to shape the organic sector at the global level. Specifically, interest in scuttling the development of organic industry by big industrial agribusinesses was triggered by the precarious situation that these firms were subjected to with increased consumer awareness that culminated into tremendous growth of the industry following the ban of DDT in 1973. A strategic release of a report on research findings conducted over a decade articulated and released into the public domain the environmental and health dangers that consumers were increasingly being exposed to by corporate agriculture. The increased efforts against organic agriculture by corporate firms led to delay in policy support for the sub-sector. This was followed by an unprecedented growth in organic foods which led to the passing of Organic Production Act (OFPA) in 1990 attached to the Farm Bill and established the initial framework to create National Organic Standards which set the legal standards for organic foods. According to Frank (2005), USDA officially began labelling foods that met the agency's definition of 'organic' products with 95 percent organic content or higher in October 2002. However, defining what is “organic” has since been the link through which big agribusinesses have been manipulating the organic industry to their advantage owing to their economic power giving them an upper hand in the control of global food supply.
Overall, policies aimed at recognising organic agriculture have faced hostile corporate reception in the US. They have been using political and economic power to scuttle any efforts to promote the system. Given that the same Transnational’s are operating in other countries, it is expected that they have the potential of influencing policy support for organics in the respective economies. Evidence may not be available since the lobbying process is not obvious and more so in countries where the information network is not well developed. However, the trend of political influence by agribusiness is not uncommon especially when it comes to political election process. In line with the above US experience and elsewhere, it is in such times that corrupt deals are struck and policies that are not in the interest of the society come into being.

Several arguments have been advanced as to how and what has encouraged the corporations into the organic industry. One is lack of public policy support. Many governments have cited lack of supportive evidence about organic production and other alternative systems as the main reason for policy formulation. However, there are cases where concerted efforts by the corporate world and lack of political will power hindered support for such systems even with enough evidence like explained above. Literature has been building with cases in support of this argument. For example, Magdoff et al (2000) argue that the corporate firms have been using their economic power into the sharing of profits derived from global food chains including the organic industry. Additionally, through political influence, some of these corporations have been found to influence policies that have endangered the credibility of organic agriculture. For example, in 2005 the corporate world (Monsanto and ConAgra) almost succeeded in their plan to influence US organic policy to create a loophole where use of some chemical inputs were implicitly allowed before lobby groups came in to revert the ruling within two months.

Another argument is the aggressive corporate efforts being witnessed to slander and suppress research findings as well as conducting research with the aim of discrediting organic agriculture (Weis 2007). They have also been intensifying their ownership of intellectual property rights thereby threatening food security by making farmers dependent on corporate-owned seeds and chemical inputs. With globalisation, indigenous knowledge and protection of centres of seed diversity has been undermined over time.
Large investments into organic sector have been another entry point. As organic food becomes a big business, there has been increasing amounts of capital pouring into the sector, contributing towards large-scale production units (Gillespie 2001). Large farms have taken up organic farming as one of the columnists in the US is quoted as having expressed how shocking it was to come across large-scale organic farm in California in 2001 contrary to the existing view then, that organic farming is only possible with small-scale farms. This was a situation where the farm was applying both conventional and organic farming both on large-scale concurrently. Eager to earn more profits due to premiums and promising future of organics, corporations have ventured into organic farming raising fears that this trend is “conventionalizing” organic farming (Buck et al. 1997, Guthman 1998).

In summary, from the foregoing, organic agriculture continues to entrench itself globally within the well established industrial agriculture despite many challenges. There has been a low adoption rate in almost all regions but at an increasing trend as the issues of industrial agriculture become clear to the stakeholders. In developing countries, the system has been associated with being more appropriate for small-scale holders. Overall, the unfolding scenario has attracted research efforts particularly in the last decade mostly addressing adoption and economic viability of the system. The building literature has documented several benefits and constraints facing organic farmers with the intensity varying across economies. The constraints include lack of knowledge, access to markets, certification, agricultural inputs and lack of organization (Kilcher 2007). For benefits, those identified as accruing to developing countries include sustainability and diversity, conservation of resources particularly soil and increased performance as farmers convert from low input traditional systems as explained in last chapter(Ibid). Regarding production, comparison between the performance of organic and conventional agricultural system is a dominant feature with yields and profitability used as indicators. While most findings show low performance by organic system, the outcomes have been criticised for having failed to incorporate the social and environmental dimensions into the analysis. It is believed that organic agriculture’s performance is mostly underestimated in such studies due to inherent measurement problems.

Before addressing organic agriculture in Kenya, the next chapter presents the agrarian structure in Kenya within which organic agriculture exists.