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## The Impact of the Flower Industry on Kenya's Sustainable Development

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*ABSTRACT: The Kenyan flower industry is one of the largest in the world, but has been criticized for poor labour and environmental standards. We investigate these claims using data collected during research in Kenya from August – September 2010. Our investigation is divided into social, environmental and economic impacts to reflect the three aspects of sustainable development. We find that accreditation bodies have had a significant effect in improving working conditions, but that wages remain low and freedom of association is often limited. Furthermore we find that while accredited farms are improving their environmental footprint, urgent action is required to reverse the detrimental environmental effects of the industry. We conclude with a recommendation for consumers to buy Fairtrade and other accredited flowers and push companies and retailers to source their flowers from such accredited farms.*

**Keywords:** Flower Industry, Kenya, Sustainable Development, Fairtrade.

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## **1 Can Kenya hope to find sustainable development through its cut flower industry?**

The Kenyan flower industry is the 3<sup>rd</sup> largest flower exporter in the world (Rikken 2011), and is Kenya's top foreign exchange earner (Ksoll, Macchiavello and Morjaria 2009). It employs over 50,000 people directly and supports several hundred thousand indirectly (Ethical Trading Initiative 2005). It contributes to the country's status as a leading African economy and provides a source of income for many Kenyans. The industry has however been the focus of several damaging media exposés and academic research documenting extensive human rights and environmental abuses. Furthermore, changes in consumer behaviour in Western countries, the major importers of Kenyan flowers, are pressuring for a transition to more ethical business practices and credible accreditation. Industry stakeholders, NGO's and accreditation bodies have therefore taken steps to improve farm conditions. The flower industry promises to make important contributions to Kenya's economic development by providing rural employment, attracting foreign investment, and improving domestic technology and infrastructure. However, for this development to be sustainable, environmental impacts and social abuses must be addressed effectively in order for the industry to fulfil its potential positive effects.

To investigate these concerns and the attempts to improve conditions we conducted a research trip to Kenya in August and September 2010. We collected data through visits to farms, interviews with workers, unions and other industry players. This research attempts to answer whether the Kenyan flower industry can be a positive example of sustainable development. Using the theoretical framework of sustainable development we approach the analysis through its three components: the social, the environmental and the economic.

### **Key Findings**

On the social front our findings suggest that labour conditions are improving, with accreditation bodies having a significant impact. However, wages are significantly below a living wage, leaving workers and their families with limited or no disposable income. Finally, trade union membership is often discouraged and undermined.

Our environmental results show that increasingly more farms are looking into organic methods of pest control and those that implement water-recycling and waste disposal systems are able to decrease overall costs in the long run. Voluntary organisations are having some positive impact on regulating the water level in Lake Naivasha, however reliable government regulation is necessary.

Economic indicators show a steady rise in the importance of the flower industry to the Kenyan economy. However, without the necessary incentives and regulations, the benefits are likely to be skewed towards medium and large producers and not to small-scale producers, and workers. Rising consumer concern in Europe has pushed flower farms to join various accreditation bodies thereby raising social and environmental standards, which will ultimately allow for a sustained presence of Kenyan flowers in Western markets.

Western consumer pressure combined with trade union action has had a significant impact in improving workers' working conditions and environmental control. Together with growing credible involvement of accreditation groups in increasing emphasis on social and environmental standards of flower farms, water extraction can be made sustainable, the impact of harmful chemicals can decrease and wages increase. However, the percentage of farms complying to accreditation standards may still be too low to ensure sustainability of the whole industry. Government incentives should encourage more farms to join accreditation bodies and Fairtrade schemes and as well as improved coordination with trade unions.

### **Defining Sustainable Development**

In order to frame this research around the concept of sustainable development it is necessary to define what we understand by the term. Since the 1980s there has been a growing debates around the meaning and practice of sustainable development. The most commonly accepted definition is that of the World Commission on Environment and Development, also known as the Brundtland Commission, which states that development must meet the "needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987, p. 8).

The present report sees sustainable development as the combination of a type of economic development that is ecologically sustainable and which ensures a decent level of welfare for all members of society. Furthermore, economic profits need to be addressed as a way to look beyond mere economic growth and observe the holistic impact of economic and business practices (Pezzey 1989 & Jones and Klenow 2010).

## 2 Background

The Kenyan flower industry has been the focus of extensive media and academic research attention regarding its impact on workers' livelihoods, environmental sustainability and on the Kenyan economy. Flower farms have been accused of human and worker rights abuses, of diminishing Kenya's already scarce water resources (particularly in Lake Naivasha), and, for example, poisoning water supplies by the dumping and leaking of pesticides and chemicals.

Our overview of the existing literature has been divided into the appropriate categories. Our discussion includes some criticism and analysis, but is more fully developed in the results section. Furthermore we note the importance of negative press and investigative reporting in propelling change.

### Societal Impact

The conditions of workers in the flower industry have come under persistent attack in media and NGO reports. Typical statements include:

*"Someone always ends up paying the price for our cheap flowers"*

The Daily Telegraph (Birch 2008, February 13)

*"The bouquets you buy are likely to have been produced by a woman being exploited on a flower plantation"*

War on Want (2007)

*"The untold story is of workers' rights being steadily eroded for the cut-price demands of European retailers"*

Red Pepper (McGuirk 2008, April 15)

The Ethical Trading Initiative (ETI) carried out an extensive investigation from 2002-2004, *Addressing Labour Practices on Kenyan Flower Farms*, following accusations of abuses on farms supplying ETI companies (Ethical Trading Initiative 2005).

Similarly Working Women Worldwide (WWW) (2007) carried out research, *Promoting Women Worker's Rights in African Horticulture*, between 2005-2007 focusing on specific abuses against women. The principle concerns raised in these investigations were:

- Wages that are too low to live a decent life
- Serious sexual harassment and discrimination
- Limits on freedom of association
- The high proportion of casual workers
- Poor health and safety conditions especially regarding pesticide spraying

War on Want (2007) and Ogodo and Vidal (2007) both report average monthly wages of £23 and that this is not enough to cover “basic needs such as food, housing, transport, education and medical bills” (War on Want 2007, p.8). The ETI report gives a comprehensive list of failings including: “lack of adequate housing”, “unfair dismissal”, “excessive overtime”, “deductions from pay”, and “lack of severance pay” (Ethical Trading Initiative 2005, pp.8-10).

The flower industry has a much higher proportion of women than other sectors, making women’s issues particularly pressing. WWW described sexual harassment in the industry “rampant” (Working Women Worldwide 2007, p.22). War on Want argues that the nature of the work is to blame as “[w]omen often work in very isolated conditions, in huge greenhouses where workers are spaced far apart and no one can hear or see what is happening”(2007, p.9). Furthermore WWW argues that women are kept trapped in low-pay positions due to lack of training and education and negative cultural stereotypes, while management remains “dominated” by men (Working Women Worldwide 2007, p.18).

Trade union membership has been shown to be low, with membership in the main union, the Kenya Plantation and Agricultural Workers Union (KPAWU), at just 17% of total flower farm workers (Nelson, Martin and Ewert 2007, p.66). The ETI report raised concerns that workers are prevented from joining the trade union and that those who are able to join face discrimination by being moved from less senior positions. War on Want (2007, p.10) also argues that the use of casual labour makes increasing membership particularly difficult and research funded by the UK Department for International Development (DfID) shows that casual workers are worse off than

permanent workers in having less material wealth, lower pay and housing allowances, lower housing quality, and less medical care (Nelson, Martin and Ewert 2007 & Smith, et al. 2004).

Finally concerns have been raised over the use of chemicals in greenhouses and their effects on worker health, allegedly causing “skin lesions and allergies, respiratory problems, ... fainting, headaches, eye problems...chronic asthma...and repetitive strain injuries” and that those workers who do fall sick or are injured are subsequently dismissed (War on Want 2007, p.6). A particular focus of concern is the lack of appropriate Personal Protective Equipment (PPE) during pesticide spraying, picking and sorting, and that workers have not been adequately trained for those tasks. Furthermore farms have been accused of not leaving enough time between spraying and workers re-entering the greenhouse

### **Environmental Impact**

The Kenyan cut-flower industry in Kenya has been accused by NGOs and environmental agencies of having a negative impact on the country's natural resources and the perpetuation of polluting practices. The following quotes summarize the issues:

*"At this rate of consumption, we shall lose the lake completely within 10 or 15 years"*

The Guardian (Ogodo & Vidal 2007, February 14)

*"Unless they are stopped, the flower agribusiness operations on Lake Naivasha will destroy the lake itself, the community dependent upon it, and the entire ecosystem of the watershed."*

Food & Water Watch (2008, p.5)

*"We are concerned about the fertilizers and pesticides being used by the flower growers they could be using banned substances."*

BBC News (Goldsmith, 2001)

Articles concerned with the industry's environmental impact usually concentrate on the following topics:

- Unsustainable use of water resources
- Contamination of water and soil by harmful chemicals and pesticides

- Carbon emissions produced by long-distance transport
- Destruction of wetlands and original natural habitats.

The use of water for flower farming is of course inevitable, and it is an important issue to ensure that enough water is reserved for use of the communities. Lake Naivasha is a particularly delicate area, which due to its fertile conditions is home to 60% of Kenyan flower farms. Becht and Harper's (2002) report, *Towards an understanding of human impact upon the hydrology of Lake Naivasha*, bases its analysis on a model which accounts for the long-term meteorological data of rainfall, evaporation and river inflows. This model estimates that the annual abstraction rate approved in the 1980 largely underestimated the industrial impact and that it must be reduced to avoid unsustainable consequences for Kenya's water resources. Currently, all farms under the Milieu Programma Sierteelt (MPS) label are expected to strictly follow these guidelines, however, non-accredited farms are the primary worry.

The documentary film *A Blooming Business* (2009) furthermore accuses flower farms of being solely responsible for the pollution of Lake Naivasha and its reduction in water levels. Reports, however, have demonstrated that the death of fish in Lake Naivasha at the beginning of 2010 was not caused by chemical substances from the flower farms (Kamau 2010, March 7; Ngige 2010, February 25). One expert stated that it "is unlikely that pesticides were the main cause, as it would take several hundreds of drums of very toxic pesticide to increase the concentration of [toxicity] in the lake to levels high enough to cause the [death of about 700 fish]" (Butunyi, 2010, March 2). Nonetheless the industry should administer the use of pesticides and fertilisers responsibly and as we will see in the results section, many of the farms are looking into organic methods of pest management, which is a positive step.

Criticism has also been concerned with the potential negative externalities of CO<sub>2</sub> emissions from the high frequency of flower produce transport from Kenya to Europe and all over the world. Thus, local production and consumption has been advocated to European consumers. On the other hand, studies have shown that the use of heating in greenhouses used for flower production in Europe, uses up more energy and CO<sub>2</sub> emissions than transporting flowers from Kenya.

Some flower farms have been accused of setting up their grounds on protected wetlands with dire consequences for the original habitats. The area around Lake



Naivasha is considered a wetland of international importance whose management and conservation are based on the principles of the Ramsar Convention, to which Kenya is a signatory. The results section will explore how this issue is tackled by the industry.

Environmental NGOs, self-regulating organisations, such as Lake Naivasha Riparian Organisation and the Kenya Flower Council (KFC), and government bodies, such as the National Environmental Management Authority (NEMA), have been called upon to increase pressure and encourage the industry to tackle problems related to water usage, waste disposals, leakage of harmful chemicals and pesticides into the ground and into water bodies. In the Results section we will assess the precautions and actions taken by farms to reduce their environmental impact

### **Economic Impact**

Despite the considerable focus on the negative aspects of the Kenyan flower industry, it is important to also examine the effects the industry has on Kenya's economy and how it indirectly can affect Kenyan communities. The following factors are discussed in our results section:

- The contribution of the flower industry to Kenya's economy
- Concerns over the sustainability of export-led growth
- Impact of consumer behaviour in Europe

Kenya has attracted substantial investment in floriculture for a number of key reasons: its ideal weather and natural conditions for flower cultivation, its concentration of expertise and years of experience in fresh produce exports, and increasingly favoured access to European markets. It is Kenya's top exchange earners, and it employs 50-60,000 people directly and around 2 million people through related economic activities. It plays a leading role not only as a domestic but also as an international player. For instance, Kenya is the top supplier to the Dutch flower auction, accounting for 44.6% of total supplies in 2011 (FloraHolland 2011). On a global level it is the 3<sup>rd</sup> largest flower exporter by value and volume behind the Netherlands and Columbia (Rikken 2011), having overtaken its rivals Ecuador and Israel through an average growth rate of 24% over the last 10 years (Ksoll, Macchiavello and Morjaria 2009).

Thus, the Kenyan cut-flower industry represents a rich and well-established contribution to the Kenyan economy. The Icelandic volcano eruption in March 2010, however, highlighted the vulnerability of the Kenyan flower industry to the global climatic conditions, as flights were cancelled, the produce could reach neither retailers nor the Dutch auction. In addition, the repercussions of the financial crisis were felt as western consumers' financial stability was threatened and therefore chose to buy less luxury goods such as flowers. There is criticism of an increased dependency of Kenya's exporting industries on European and Western markets and academics suggest that Kenya, as well as other African countries should concentrate on production for domestic consumption rather than export.

The unstable political situation of the past years and the poor handling of aid funds has meant that resources have often not been targeted towards the right practices, and many are now concentrating on the possible benefits of trade and of greater involvement of sustainable businesses in Kenya's development.

Of particular interest is the increasing importance of ethical standards and labels adopted by flower farms, such as the Fairtrade Label, GlobalGAP, MPS and the KFC. Trading labels are an important means for consumers in Western countries to use their purchasing power to support products coming from an ethical and sustainable source. By creating transparency through their accreditation logo, it is possible to recognise and support businesses taking part in meaningful initiatives for sustainable development.

### **3 Methodology**

#### **Procedure**

The project had three principal research and data collection methods: interviews with flower farm workers, visits to flower farms, and meetings with industry stakeholders. The first two were conducted using standardised questionnaires and the meetings were recorded where permission was granted. We travelled and worked in three main areas; Nairobi, Naivasha and Nakuru. Given the comparatively limited internet penetration in Kenya, little progress in contacting farms and organisations was made before arrival with many emails going unanswered for months. Once in the country

we were however able to make quick progress with direct phone calls and with the snowballing contacts effect.

Our Flower Farm Questionnaire had sections covering general farm information, living conditions, labour conditions, security of employment, women's issues, trade unions, health and safety, and environment and community projects. The usual procedure was for a farm representative to start with a tour of the farm, giving some of the information along the way, and then followed by an interview in their office to answer the remaining questions.<sup>1</sup> The Flower Farm Questionnaire was subjected to a few minor revisions after the second and third farm visit (Farm B and C). This mostly focused on clarifying questions, as well as adding and removing others. For example we were made aware that a significant aspect of a worker's wage is their additional housing allowance, which was then added to the questionnaire.

Another was that farms were unwilling to give out their revenue figures so we replaced it with a question on the average price per stem sold. Furthermore questions on their pesticide usage were changed to reflect what we learned about the flower growing process. Finally the ordering was changed to allow for a more natural flow in the interview and to build trust before asking more sensitive questions. In total 11 farms were visited in person. The flower farm worker interviews were organised by the KPAWU Naivasha Branch Secretary Mr. Peter Otieno, and held at the KPAWU offices in Naivasha. The Worker Questionnaire covered similar areas to the Flower Farm Questionnaire with the focus on the individual worker's conditions rather than the workers as a whole, and with the purpose to corroborate the latter. In total 20 workers were interviewed.

Finally individual meetings with stakeholders included Jane Ngige CEO of the Kenya Flower Council, Regina Dinkla Operational Manager for Fair Flowers Fair Plants, Marie-Laure Doyen Milieu Programma Sierteelt Co-ordinator for East Africa, and Sue Longley a Coordinator for International Union of Food workers (IUF). We were however unable to contact the Kenya Women Workers Union (KEWWO who)

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<sup>1</sup> The only exception to this was Farm L, which despite their offer to visit the farm in person was too far from Nairobi to organize a convenient time. Instead a farm manager filled in the questionnaire electronically.

featured heavily in our background research as they had closed down due to funding shortages.

### **Scope and Limitations**

Interviews with the stakeholders, farm visits and interviews helped to build an impression of the development impact of the Kenyan flower farms. However there are some limitations that should be kept in mind when analysing our results.

Due to time constraints we were not able to extend our sample of interviews and visits to non-accredited farms, which means that the visited farms are likely to have a positive bias as we contacted them through the KFC and would have high social and environmental standards in the first place. As can be seen in Table 2, 5 out of 12 visited farms had Fairtrade Labelling Organization (FLO) accreditation, considered the accreditation with the highest standards, however the percentage of FLO farms to the overall number of farms in Kenya is much lower. Furthermore, environmental questions in the questionnaires only served the purpose of certifying information from previous research.

Similarly, the interviewed workers were selected by our contact in the trade union, which may have lead to a bias towards less satisfied workers. The advantages however outweighed these concerns. Firstly, we had no direct contacts with workers willing to be interviewed, and, had we found them, it would have been unlikely that the workers would have responded positively for fear of their employers finding out. Secondly interviewing workers on the farm, which several managers offered us, would have faced the possibility of the reverse bias towards more satisfied workers.

Information collected from individual interviews was primarily qualitative in comparison to the questionnaires, but provided us with further contacts and invaluable insider insights into the industry, which are detailed in the results section.

We decided on the three approaches outlined above for two reasons. Many of the articles and research on the flower industry had focused solely on a few interviews with people of similar (and usually negative) views of the industry. Our aim was to encompass a wide spectrum of viewpoints, from farm owners as well as farm workers, in order for the project to be as neutral as possible. Secondly the questionnaire approach allowed us to collect quantitative data that could be used for

data analysis and comparison. For this reason we visited as many farms and interviewed as many workers as we could given the time constraint. Unfortunately this approach left little time to directly research the environmental effect of the flower industry. However this would have required specialised knowledge and equipment, which we did not have access to.

## **4 Results**

The results section is divided into an analysis of the three aspects of sustainable development. Due to the nature of our research the social results are largely based on collected data, whereas the environmental and economic results are based only partly on collected data and for the most part on observations and conclusions drawn from previous research.

### **Social Issues:**

Our three key findings are:

1. Labour conditions have improved, with accreditation bodies having a significant impact.
2. Wages are significantly below a living wage, leaving workers and their families with no or only limited disposable income.
3. Trade union membership is often discouraged and penalised.

There are clearly exceptions and caveats to these crude generalisations, which will be discussed below, but they are broadly consistent with much of the data. The principle quantitative findings of the research project are outlined in Table 3. One of the aims of the project had been to compare accredited and non-accredited farms; unfortunately (and perhaps unsurprisingly) we did not gain access to any non-accredited farms, although we were able to interview several workers from non-accredited farms. Thus even though accredited farms account for over 70% of the export market our findings may not necessarily apply to non-accredited farms. Furthermore based on anecdotal evidence and interviews with workers from non-accredited it can be safely assumed that conditions are worse on these farms.

1. *Improving Labour conditions and the impact of accreditation bodies*

The introduction laid out the some of the most glaring abuses in the flower industry. On many fronts we found improvements. Taking data supplied by the farms at face value:

- Female workers are guaranteed maternity leave of 3 months and male workers paternity leave of 14 days.
- The average paid annual leave is 23 days and even the minimum was 21 days.
- Only male workers interact with pesticides.
- Pesticides are clearly marked with warning signs, with greenhouses shut during spraying.
- Weekly hours are capped at 46 hours and overtime is limited and paid at an increased rate.
- Personal protective equipment is required and is provided freely.
- Gender Committees have been instituted that educated workers on sexual abuse and provide female workers with a complaints procedure.
- As the literature review already noted child labour is not an issue in the flower industry and farm owners confirmed this repeatedly.

Many of these points were reinforced and corroborated by workers. Particularly the length of maternity and annual leave, and the handling of pesticides for example were all confirmed by workers. In one case an unusually long 2-hour lunch break offered by Farm F was confirmed by a worker from that farm. Worker reports on the prevalence of sexual abuse were mixed. Of the 20 workers 8 reported cases of abuse on their farm, with one (male) worker reporting personal sexual abuse. In 4 of those cases it ended with dismissal or suspension of the abuser, including in the male worker's case. Workers repeatedly emphasised the role of the Gender Committees in encouraging and subsequently protecting workers who report abuse. However given the sensitive and "shameful" nature of sexual abuse workers might have felt uncomfortable sharing their personal stories of abuse or even those of their colleagues. Furthermore sexual abuse is nearly always hidden and many reported that they just did not know how widespread it was. Consequently a tentative conclusion is that sexual abuse still occurs but is seen as increasingly unacceptable by farm

management and other male workers. But without organisations like KEWVO actively monitoring the situation this is hard to verify.

Many of these improvements can be traced back to the influence of the accreditation bodies. In conversations with farm managers repeatedly emphasised that more and more of their buyers were demanding some form of accreditation. As a result the market for non-accredited flowers is shrinking, with the largest flower auction house in the world FloraHolland now listing the accreditation of the flowers on sale on its electronic auction display. This is probably the end result of the widely reported uncovering of abuses in the early part of the decade and the continued media focus and pressure. The increased consumer awareness has convinced many supermarkets and garden shops of the need to oversee their flower supply chains, and buying from only accredited farms is an effective way of doing so. This is born out in the growing number of farms with accreditation and is furthermore supported by the expanding number of accreditations available with the FFP label for example launching in 2005. Thus by joining an accreditation body and implementing their required standards farms owners act in their own interest by securing both market access and their long-term business prospects.

This is encouraging because joining accreditation bodies has a marked effect on labour conditions. Their codes of practices' specify many of the improved conditions outlined above, with the more accreditation a farm has the higher its standards. Oftentimes this is simply enforcing existing but not practiced government regulations or Collective Bargaining Agreements (CBA). Their annual and randomised audits for example take the role normally occupied by government labour and environmental inspections. In other matters the code of practices demand standards above (sometimes far above) local regulation. A welcome side effect of the increased accreditation of farms is that certain labour conditions outlined in the codes of practices take on the form of accepted minimum industry standards. For example farm owners often responded to questions about maternity leave, travel expenses, overtime and PPE with disbelief that they could be anything but fully paid for. The process of becoming industry standard was particularly clear with the Welfare and Gender Committees, which are required by the FLO, MPS-SQ and KFC codes of practices with farm owners eager to discuss their role in combating sexual abuse. Furthermore workers from non-accredited farms spoke wistfully of the benefits enjoyed by their

colleagues at accredited farms. Workers were particularly keen on what they had heard of the benefits of the FLO Joint Bodies.

## 2. *Low wages and the need for living wages*

Wages however were in stark contrast to our finding on labour conditions. Farms did not misrepresent how much they paid their workers, on the contrary workers often corroborated the data given. The average wages in the flower farm and worker data were negligibly different at KES 5485 (£44)<sup>2</sup> and KES 5257 (£42) respectively. However, through the worker interviews it became clear that these did not amount to living wages.

We illustrate this point in Table 4, which shows the monthly breakdown of living expenses for an average worker with two children, one in primary school and one in secondary school. It is based on worker testimony and data on Kenya living expenses. Monthly expenditure comes to KES 9260 (£74). Even with the additional KES 1500 (£12) provided by the housing allowance this is well above the average wage. Workers cover the shortfall through loans (usually through workplace cooperatives), their spouse's income, occasional bonuses and second jobs. This leaves a very low savings rate with workers reporting saving on average between just KES 200 (£1.60) and KES 500 (£4) a month. Only a single worker reported being able to comfortably make monthly living expenses, and only because she lived with her mother who worked as a nurse. She was also the only worker to express satisfaction with her work. Furthermore while the housing allowance covered most workers' rents, this was usually only enough for a single 4x3m room, which had to be shared by an entire family. This was universally resented by the workers. The wages are low, and do not provide a standard of living that would be acceptable to Western workers, or even to middle-class Kenyans.

Farms C and L are noteworthy for paying nearly double the average wage and this is likely to be related to the extensive accreditation membership of both farms. Wages of this level are far more likely to give their workers a standard of living expected of living wages.

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<sup>2</sup> Kenyan Shillings to Pound Sterling conversion set at August 2010 exchange rate, KES 125:GBP 1.00



It is however important to point out that all the wages reported by the farms were above the national legal minimum wage for agricultural workers KES 3400 (£27), and of the workers who reported being paid below the minimum wage all worked for non-accredited farms. There is also little evidence that the wages are lower than non-export orientated agricultural jobs. It also cannot be ignored that in a country with a 40% unemployment rate and 50% of the population below the poverty line, jobs in the flower farm industry are still highly sought after for the simple reason that some income is better than none

This is a valid point that should not be forgotten in policy and consumption decisions. But at the same time the problem with these low wages (quite apart from the direct effect on the workers standard of living) is that without disposable income flower farm workers contribute little to domestic consumption and saving. This means that instead of workers buying consumer goods, saving money and investing they are just getting by. This might be preferable to unemployment, but their ability to contribute to Kenya's long-term economic development will remain limited.

### 3. *Limited freedom of association, and the interaction of KPAWU and accreditation bodies*

While all the farms reported complete freedom of association for their workers with the accompanying assurances that trade union representatives are given free access to the farm, in interviews with KPAWU and the workers these assurances were often contradicted. Frequent complaints included the denial of promotions to KPAWU members, continued discrimination, being more easily sacked and restricted access to the farms usually through various delaying tactics. In one case a worker reported how in 2007 every shop steward was summarily dismissed from the farm. Furthermore a KPAWU representative showed us how one farm had helped draft resignation letters from the union in exchange for company loans. Again however this was mostly a problem with non-accredited farms. Some of the farms were shown to be very cooperative with KPAWU, by for example deducting union fees from wages and paying them directly to the union. One farm owner described his good working relationship with the local KPAWU officer, which was then confirmed by the same officer. The latest CBA also forces all non-union workers to pay an agency fee, which should increase KPAWU membership.

Given the difficulties under which KPAWU operates it would seem prudent for it to work together with the various accreditation bodies, as has been the case in other developing countries. Unfortunately this is not always the case. Accreditation body representatives reported difficulties with the trade union participating in audits as observers. An IUF representative similarly spoke of the complications of coordinating international cooperation between the union and NGO's.

The reasons behind this can be thought of as in some respect as turf warfare. Workers, as we have seen have extremely tight budgets and KPAWU membership costs around KES 200 (£1.60) a month. Like any other expense it is subjected to a cost/benefit analysis and in a normal situation it would probably pass this test. But if the worker's farm is an accredited farm it is likely that their code of practice is more stringent than KPAWU's CBA. In this case there is little additional benefit to joining the union. This was pointed out by both farm owners and workers when explaining the low union membership. Also of note are the historical mistakes of the NGO and accreditation community by publicly entering the debate about Kenyan flowers in 2004 without properly consulting or involving KPAWU first (ETI 2005).

Pragmatically improved labour conditions are improved labour conditions regardless of what caused them. But trade unions have two unique roles compared to accreditation bodies. First, they empower workers through collective organisation putting workers in charge of their own improvement. Second, trade unions have the additional leverage of calling or threatening strikes which is often the only way to significantly increase wages. Thus if accreditation bodies are not careful they risk undermining the link of workers to their union reversing some of the progress they have achieved in other areas of worker's labour conditions.

## **Environmental Issues**

Our findings generally point towards an improvement in tackling environmental issues given that the farms have adopted Fairtrade and self-regulation. Other types of self-regulation are slowly affecting flower farms' environmental choices, however more needs to be done in order to fully tackle the issues. This section refers to Table 5. Our key findings are:

1. Voluntary industry and accreditation bodies have had some impact in regulating water use.
2. Accreditation bodies are slowly encouraging farms to use fewer and less harmful pesticides.
3. While preservation is being taken more seriously too few farms are members of the necessary accreditation bodies.
4. CO<sub>2</sub> emissions are lower than European greenhouses; farms should try to grow more food on their land; governmental regulation is necessary to overcome the shortcomings of voluntary compliance.

### *1. Water Extraction*

Previous research and our interviews point towards increasing influence and pressure from various organisations to actively tackle the problem of water extraction, implementing regulation systems and raising awareness. The FLO, MPS and KFC all have water extraction conditions that flower farms need to comply with in order to be members. In addition, farms industry representatives have set up the Lake Naivasha Riparian Association, a voluntary body of self-regulation to administer the amount of water extracted from Lake Naivasha by each farm, based on water cubic meters per hectares.

Problems arise in the limitation of self-regulatory systems, which are related to the transparency of the auditing system. The FLO and MPS have displayed significant accountability in the management of water usage and auditing system. In particular, MPS offers technical advice in the implementation of a software updated automatically through the farms' irrigation system, which records levels of water being used and therefore also contributes to substantial savings for the farm's finances. The KFC is in the process of negotiating with MPS to improve technological expertise in order to also implement the software.

Technological advances have allowed for a reduction in water usage. Two important methods employed by most visited farms are rain water collection and a water recycling system.<sup>3</sup> Table 5 shows that the highest percentage of water for irrigation comes from recycled water in Fairtrade farms.

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<sup>3</sup> This system consists of collecting clean water used for irrigation and pumping it back into the system

## 2. *Pollution and use of chemicals*

MPS was established by the Dutch floriculture sector in 1995 in response to worldwide criticisms to the flower industry's negative environmental impact. Since its inception, the KFC has included environmental points in its Code of Practice, however its environmental regulation system is usually considered less sophisticated than MPS. The MPS software forces producers to keep records of the amounts of crop protection agents and fertilizers used, the energy consumed and the amounts of waste produced.

Concerns are however are not limited to just the amount of pesticides used or the prevention of it leaking into water bodies, but also the type of pesticides used. Farms reported that they are pressured by accreditation bodies to not only reduce the use of pesticides and chemicals, but also aim to use only “green label” pesticides

Important progress can be observed from the fact that 10 of the visited farms either have adopted Integrated Pest Management (IPM) or begun researching its implementation. As Farm B declared, the IPM system reduced pesticide usage by 50% in 3 years, which has positive implications for the business' long-term costs.

## 3. *Preservation of Natural Habitats*

There seem to be improvements in relation to conservation of natural habitats carried out by farms. 10 out of 11 farms claimed to engage in tree planting and/or preserving forests in the surrounding areas. Furthermore, for the last few years, NEMA must now execute an impact assessment before the establishment of a farm as well as annual environmental impact reports.

In the past, some Kenyan farms have been established on wetland areas, which should have been preserved in their natural state. One promising sign of the KFC's integrity is that farms situated on wetlands are prohibited from becoming members.

The MPS labelling organisation has set environmental habitat standards for its member farms, however less than 50% of Kenyan farms have an MPS certification, and it remains uncertain whether.

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in order to use it for additional irrigation.

#### 4. CO2 Emissions, the Food Crisis and Governmental regulation

In regards to CO2 emissions from flower transport the point is neatly summed up by the former DFID Secretary of State, Hilary Benn, that *"the emissions produced from growing flowers in Kenya and flying them [to the UK] can be less than a fifth of those grown in heated and lighted green houses in Holland"* (BBC 2007, February 13). Thus if consumers in Europe do buy flowers it seems better from the standpoint of CO2 emissions to buy Kenyan flowers.

Additionally, due to the food crises Kenya has periodically experienced, it is sometimes difficult to justify the use of fertile land for flower production. Two of the Fairtrade farms have however dedicated part of the farm area for food crops production. In order to build social responsibility all farms should be encouraged to establish this practice, which is not very costly and can be easily sustained with little effort from the farms' management.

Finally, regarding environmental regulation, one issue that was repeatedly mentioned during our interview was that the governmental body NEMA is often regarded as ineffective. The need for non-governmental bodies like the KFC and MPS, is a response to its inefficiency. Despite the slow success in improving environmental impact for the member farms of the various bodies, other farms are still potentially able to free ride on water usage and use harmful polluting agents. Thus, effective and prompt government regulation is necessary in order to ensure that every farm complies with sustainable standards.

### **Economic Development**

This section refers to our collected information shown on Table 4 I as well as individual interviews with industry stakeholders. We conclude that:

1. Shifting to sustainable environmental and social practices will have long-term economic benefits for the industry
2. Agricultural and manufacturing production should be diversified to avoid foreign shocks

In recent years, consumer choice of flowers and roses in Western countries has increasingly shown a tendency towards flowers with reliable accreditation, such as

Fairtrade. This has increased pressure on Kenyan flower farms to work towards improving the industry's image by adopting accreditation schemes in order to communicate better working conditions and decreased environmental impact to their buyers. However, as mentioned in the previous section, government intervention is important to ensure social and environmental sustainability.

At the same time, the majority of interviewed farm owners admitted that by investing in higher environmental standards, such as adopting water-recycling methods or introducing IPM, overall costs were reduced in the long run. Higher wages and bonuses may also function as motivation for workers to increase productivity and increase loyalty to the company they work for.

From the point of view of farms' finances, start-up costs and production costs necessarily rise with improved wages and working conditions. This has undermined the competitiveness of smallholder farmers, who are slowly disappearing. At the same time, a few farm owners have commented on the significant burden presented by the import of greenhouse equipment from Europe. Trade imbalances between industrialised and developing countries was one of the concerns mentioned by KFC CEO Jane Ngige. Together with rising fuel costs, such imbalances pose a threat to the economic sustainability of flower farms. Thus, long-term policy should encourage manufacturing industry related to agricultural production in order to avoid tariffs, travel costs as well as environmental costs.

Sustainable development should be in the interest of flower farms. Improved social conditions and higher wages would expand internal markets and decrease dependence on western markets.

## **5 Conclusion**

Based on our findings we conclude that given certain changes the flower industry can contribute to Kenya's sustainable development. The three principle changes required are (1) increased wages, (2) effective management and regulation of Lake Naivasha water, and (3) better insulation against foreign demand shocks.

The average wage was KES 5485 (£44) and as Table 4 illustrates this is barely sufficient to meet basic needs. This means that workers have a negligible savings rate

and no disposable income. A low savings rate restricts the long-term growth of any economy, and on an individual level means families cannot save up to buy their own house, car or start a business. Having no disposable income means flower farm workers contribute only minimally to domestic consumer demand, again a component of long-term growth and also leads directly to an increase in workers' quality of living. Thus the Fairtrade and MPS requirements for a living wage are a vital step in both improving Kenya's economic prospects but also the lives of individual workers.

The use of Lake Naivasha water is in urgent need of governmental regulation. While it may be impossible to fully ascertain the extent of the effect of the flower farms on the water level, it is also hard to argue that they are having no effect. Given that the industry is dependent on the Lake it is in their interest to find an effective solution. This is particularly urgent as the industry could grind to a halt if effective regulation is not introduced.

The volcanic ash crisis and the world financial crisis have shown the extent to which the flower industry depends on fluctuating foreign demand. This can have devastating effects on farms and their workers, and in the absence of domestic demand there are few fall back options. One farm manager even estimated that the entire domestic demand of Kenya could be met by the production of a single farm. Unfortunately this does not look likely to change in the near future as flowers are a non-essential good that Kenyans are unlikely to be able to afford until income significantly increases. This means that while the flower industry can contribute to economic growth its instability suggests diversifying into other industries.

Our investigation has found the impact of accreditation bodies to be positive. They have forced the industry to improve their working conditions and decrease their environmental impact. They have also contributed to entrenching norms that spill over even onto non-accredited farms, as workers see the benefits and demand them for their own farms. However we also noted the danger of accreditation bodies undermining the trade unions. Additionally accreditation is only a stopgap solution for poor government regulation, and while these standards remain voluntary there will be farms that do not adhere to them with all the negative effects outlined above. Finally this should not distract from one of the key recommendations that consumers should

buy accredited flowers wherever possible and pressure their supermarkets and garden shops to source their flowers from accredited farms.

Our final note is the impact of NGO and media pressure. On the whole it has been positive: exposing abuses, raising consumer awareness and forcing industry changes. While some of it may have been somewhat opportunistic, with many articles released on or around Valentine's Day, it has resulted in significant improvements for workers and the surrounding environment.

The present report hopes to generate further interest and involvement in the issues raised throughout the research. Examples for further action in Kenya would be to work towards improving relations between flower farms stakeholders and trade unions for the benefit of the workers; and in Europe flower costumers are advised to search for accountable labels and to reflect on the impact of their purchases.

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## Appendix

**Table 1. Acronyms**

<b>CBA</b>	Collective Bargaining Agreement
<b>DFID</b>	Department for International Development
<b>ETI</b>	Ethical Trading Initiative
<b>FFP</b>	Fair Flowers Fair Plants
<b>FLO</b>	Fair Trade Labelling Organization
<b>FPEAK</b>	Fresh Produce Export Association of Kenya
<b>Global-GAP</b>	Global Good Agricultural Practices
<b>IPM</b>	Integrated Pest Management
<b>IUF</b>	International Union of Food workers
<b>KEWWO</b>	Kenya Women Workers Union
<b>KFC</b>	Kenya Flower Council
<b>KPAWU</b>	Kenya Plantation and Agricultural Workers Union
<b>MPS</b>	Milieu Programma Sierteelt
<b>NEMA</b>	National Environmental Management Authority
<b>PPE</b>	Personal Protective Equipment
<b>WWW</b>	Working Women Worldwide

**Table 2. Farm Accreditation**

<b>Farm A</b>	KFC Silver
<b>Farm B</b>	KFC Silver, FPEAK
<b>Farm C</b>	KFC Silver, MPS A, MPS-SQ, FLO, FFP
<b>Farm D</b>	KFC Silver, MPS A, MPS-SQ, FLO, FFP
<b>Farm E</b>	KFC Silver
<b>Farm F</b>	KFC Silver, MPS A, FPEAK
<b>Farm G</b>	KFC Silver, FLO, FPEAK, MPS A
<b>Farm H</b>	MPS A, FLO, FFP
<b>Farm I</b>	KFC Silver
<b>Farm J</b>	KFC Silver, MPS A
<b>Farm K</b>	MPS-SQ, FFP
<b>Farm L</b>	KFC Gold, FLO, GlobalGAP, BOPP, ETI

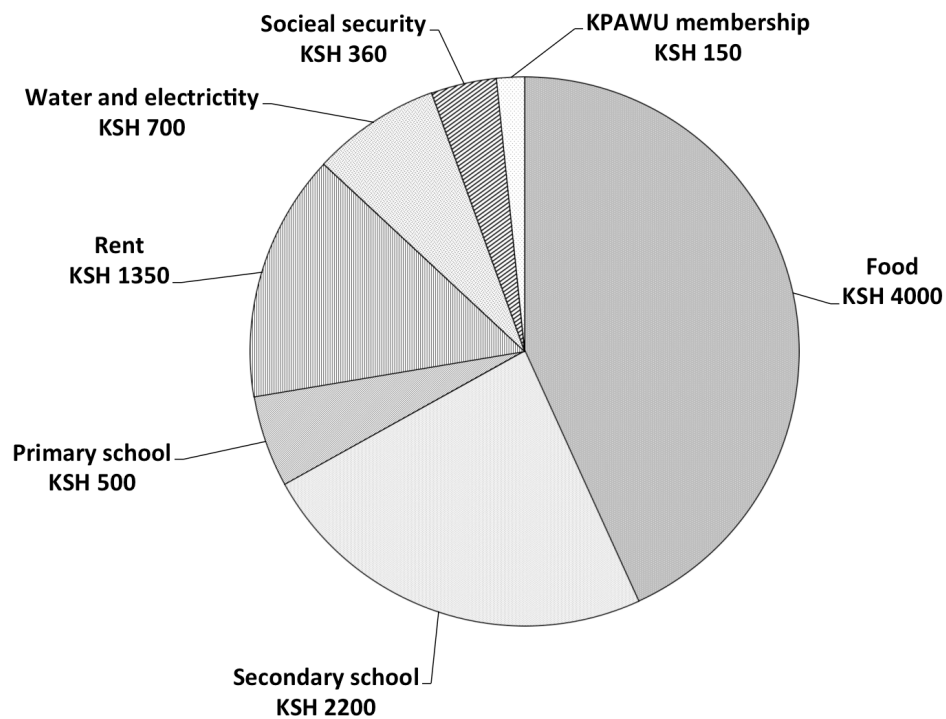
**Table 3. Social Results**

Farm	Quantity of flowers produced annually (millions)			No. workers employed	Starting monthly wage	Monthly housing allowance (KSH)	Min. annual leave	Total break per day (hrs.)	Female workers	Female supervisors	KPAW membership
	2007	2008	2009								
<b>A</b>	0.0	0.0	10.0	540	5500	-	23	1:20	59%	45%	0%
<b>B</b>	80.0	110.0	145.0	3200	6800	-	21	1:45	60%	65%	0%
<b>C</b>	13.0	13.0	13.0	253	8000	1800	22	1:20	50%	66%	50%
<b>D</b>	30.0	30.0	34.0	483	3920	2000	20	1:30	46%	44%	100%
<b>E</b>	15.6	15.6	23.4	250	5500	1200	26	1:30	80%	80%	0%
<b>F</b>	7.2	6.8	2.0	123	4500	-	23	2:00	52%	50%	73%
<b>G</b>	34.0	33.0	29.0	430	3800	-	22	1:30	65%	60%	9%
<b>H</b>	55.4	54.6	63.0	1030	5120	1200	24	1:15	75%	74%	45%
<b>I</b>	6.0	16.0	16.0	274	4500	1350	22	1:00	75%	50%	0%
<b>J</b>	-	25.9	29.6	369	3600	1500	23	1:00	56%	35%	0%
<b>K</b>	104.0	120.0	155.0	1400	6800	-	26	1:30	36%	-	26.7%
<b>L</b>	84.3	92.1	103.1	2541	7776	1500	25	1:00	41%	40%	58%
<b>Average</b>	<b>39.0</b>	<b>43.1</b>	<b>51.9</b>		<b>5485</b>	<b>1507</b>	<b>23</b>		<b>58%</b>	<b>55%</b>	<b>30%</b>

**Table 4. Monthly Worker Income and Expenses**

Assuming:

- Family of four
- No spousal income
- No transport costs
- 1 child in primary school
- 1 child in secondary school
- School fees based on annual costs



Expenditure	KSH	GBP
Food	4000	£32
Primary school expenses	500	£4
Secondary school expenses	2200	£17.6
Rent	1350	£10.8
Water and electricity	700	£5.6
Social security	360	£2.88
KPAWU membership	150	£1.2
<b>Total</b>	<b>9260</b>	<b>£74.08</b>

Income	KSH	GBP
Wages	5000	£40
Housing allowance	1500	£12
<b>Total</b>	<b>6500</b>	<b>£56</b>

Table 5. Environmental results

Farm	Location	Founded	Size (ha)	Water use from rain water	Water recycling system	Pesticide leakage prevention	IPM usage	Natural habitat conservation	Food crops grown on farm
<b>A</b>	Nakuru	-	23	60%	Yes	-	No	Yes	No
<b>B</b>	Isinya	-	115	0%	No	Reverse osmosis	Yes	Yes	No
<b>C</b>	Nairobi	-	8.9	70%	Yes	Wetlands filter	No	Yes	No
<b>D</b>	Nakuru	1995	27	80%	Yes	Wetlands filter	Yes	Yes	Yes
<b>E</b>	Naivasha	2005	20	0%	No	Soak pits	Yes	No	No
<b>F</b>	Naivasha	1996	7.2	1%	No	-	No	Yes	No
<b>G</b>	Limuru	1994	18	85%	Yes	Soak pits	Yes	Yes	No
<b>H</b>	Naivasha	2001	50	0%	No	Regular maintenance	Yes	Yes	Yes
<b>I</b>	Naivasha	2006	21.75	20%	No	Soak pits	Yes	Yes	No
<b>J</b>	Naivasha	1993	20	10%	No	Wetlands filter	Yes	Yes	No
<b>K</b>	Naivasha	2004	75	5%	No	Wetlands filter	Yes	Yes	No
<b>L</b>	Western	1989	90	60%	Yes	Wetlands filter	Yes	Yes	No
<b>Average</b>			<b>39.7</b>	<b>33%</b>					