



## Leads in Ecological Energy Use

*Energy plays a crucial role in development of economies. In Kenya, electricity and petroleum are the most critical energy sources and main drivers of socioeconomic development. Electricity is the most sought for industrialization owing to its versatility in application.*

As Kenya moves towards becoming an industrial state by 2030, the economy is gradually turning energyvore. Unfortunately, the rate of industrial growth outdoes hydro-electric generation, the main source of Kenya's electricity.

The most challenging issue in the whole equation of energy use is the effects of global warming on energy production. An imbalance is resulting from heavy use of fossil fuels.

Fossil combustion is the number one source of CO<sub>2</sub> and other Greenhouse Gases (GHGs) emissions. As the atmospheric GHGs concentration

increases, water levels, the core of hydro-electric generation, diminishes.

Energy prices are escalating and sometimes, they go up unexpectedly; lamentably consumers are not assured of constant supply.

Therefore, it is very important for consumers of energy to come up with ways to ensure sustainable consumption of energy aimed at maintaining an ecological balance and reducing carbon footprints.

It is through these concerns that Kenya Association of Manufacturers (KAM) is organizing its members to adopt a strategy for collective action

on climate change adaptation, mitigation, energy efficiency and conservation.

Red Lands Roses, a flower farm located in Ruiru, producing 120 varieties of exquisite roses, priding in its strength of 50 sprays is one of the earliest adopters of this innovation to conserve energy.

According to the farm's Executive Director, Aldric Spindler; energy use in the farm presented challenges that had to be tackled from various angles. After consultation with the Centre of Energy Efficiency and Conservation (CEEC) various measures of direct and indirect

cutting of energy used in the farm were conceptualized.

“All neon lights have been replaced with LED’s in the farm”, Spindler said. Neon bulbs produce 80% heat and 20% light; therefore in a big flower farm with many lights, so much of electricity is wasted. Although LED lights cost four times of neon lights, they perform better in energy saving and last longer. The initial cost might be higher, but the long-term benefits exceed the initial cost.

In the use of newer and efficient energy technologies, the farm also uses LED lights together with solar for security lights. The habit of switching off lights and any other electric gadgets when not in use is strictly observed

and integrated in the company’s culture of quality time and resources management.

Collection of flowers from greenhouses to the grading and packing hall is no longer made by diesel consuming tractors. In place of tractors, the farm now uses sliding container mechanism. This method can be compared to a railway line, but the difference is the type of energy used. A container is hanged on rails using pulleys all the way from greenhouses to the grading hall and are easily pushed by a male workers.

Mowing around the farm is another trajectory. Red Lands Roses has replaced automated mowers with sheep and geese.

“We have invested in a lined dam for rain water harvesting from all greenhouses and any building in the farm. This way we do not have to use energy to pump water about 3 Km away”, said Aldric Spindler.

The entire 28 ha under greenhouse rose cultivation is on hydroponics. Via this system excess water and fertigation fluid fed to roses in the greenhouses is collected, recycled and reused. This cuts the amount of power used to pump water within the farm.

Besides energy conservation, Red Lands Roses does its flower cultivation while adhering to other ecological agri-industrial practices. These include: use of Integrated Pest Management (IPM),

composting of green matter generated from greenhouses and grading hall and recycling of grey water using a wetland.

Use of IPM in the farm started 15 years ago and is highly developed to a point that they are producing dudu of their own. They use Phytoseiulus and Amblyseius to combat mites in the greenhouses instead of using chemicals.

All the grey water generated within Red Lands Roses (from the packing hall, washrooms, toilet, hand washing points as well as vehicle washing) is collected in a wetland.

In the farm they have planted many indigenous trees and together with

# Congratulations

Dudutech congratulates Red Lands Roses for implementing an energy saving efficiency program thus enhancing their environmentally friendly growing techniques.



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*Mr. Aldric Spindler, Red Lands Roses Executive Director*



*A Red Lands Roses worker, ferrying flowers from greenhouse*

the community they plant trees every year. They have planted many indigenous trees along Ruiru River bank to mitigate erosion and siltation.

Besides, caring for the environment, the farm also takes decent and respectable care of its employees. Over 600 people are employed in the farm.

There is a clinic in the farm with two nurses, where employees get medical care; additionally, employees are insured for in and outpatient Medicare. The farm has a vibrant HIV/AIDS Workplace Programme.

Sixty percent of their employees are women.

Besides, maternity leave, all women employed in the farm benefit from a baby day care fully paid for by the company. When mothers resume work after maternity leave, they are given 1 hour off each day to breastfeed.

To finance this baby day care, Red Lands Roses has founded a local flower shop in Muthaiga. Flowers are sold here under the burner "Flowers sold to support charity baby day care centre". With the love of Kenyans, Spindler affirmed that the shop is supporting 60-70% running cost of the baby day care.

Two children of every employee are sponsored

for primary and secondary education. Post secondary sponsorships are done on a special case basis, but there are plans to move it to this level.

Other things done within the farm to enhance employees' welfare are: establishment of Red Lands Roses Sacco Society and allowing employees to join workers union. The farm has been having a Chief Shop Steward for COTU since 1996.

Spindler is optimistic of the Kenya horticulture industrial growth. He says the current prevailing conditions in Europe favours this. Kenya Floriculture is the main source of cut flowers for European

markets and government should give more incentives to investors as currently we are losing more of them to Ethiopia and Kenya's climate is better than Ethiopia's.

USA and Canada are viable gigantic markets that Kenya should conquer. Thus, it is crucial for the government of Kenya to tighten security in the country so as to allow for direct flights to these destinations. Spindler notes that this is very much possible because Kenya infrastructure is well developed. For instance through JKIA the main airfield in East and Central Africa one can reach 8 Europe destinations any hour.

