



## SC Johnson Pyrethrum Sourcing from Kenya

### SC Johnson

Founded in 1886, SC Johnson is a family-owned and family-managed business that manufactures products for home cleaning and home storage, insect control and personal care. Annual sales are estimated at more than US\$ 6 billion. The company, based in Racine, Wisconsin, US, employs 12,000 people and markets its products in more than 70 countries worldwide.

### Kenya and pyrethrum

The Republic of Kenya lies on the Indian Ocean coast of eastern African. While it is the most developed economy in East Africa, Kenya's population of over 30 million people realize a GDP per capita of only US\$ 390.

Employment in Kenya is largely dependent on the agricultural sector. The major export commodities in Kenya include tea, coffee, horticultural products including cut flowers, processed petroleum products, pyrethrum, and chemicals including fluorspar, soda ash, sodium carbonate and diatomite.

Kenya's development challenges are not unlike those of other developing economies. Long-term barriers to growth, such as the dominance of key sectors by the government, endemic corruption and a high population growth rate continue to retard development.

### Natural Pyrethrum and synthetic pyrethroids

Pyrethrins are the class of insecticides derived from the dried flowers of the pyrethrum daisy (*chrysanthemum cinerariaefolium*). Natural pyrethrins are not used widely in agriculture because they degrade easily upon exposure to sunlight. For this reason, several pyrethroids - synthetic chemicals with a molecular structure and biological activities similar to natural pyrethrins - have been developed for use in agriculture. The largest use for natural pyrethrum is in the manufacture of consumer household insecticides.

Pyrethrum was introduced to the highlands of East Africa in the 1920's and by 1938 Kenya had become a major world producer. It has been the largest source of natural pyrethrum for the last 60 years and currently produces over 70 percent of all pyrethrum traded in the world. Pyrethrum provides valuable economic and social benefits to more than 200,000 subsistence and low-income farmers in Kenya.

Pyrethrum is a perennial crop that requires renewal once every five years and is grown in highland areas enjoying moderate well-distributed rainfall, cool night temperatures and rich volcanic soils. In some areas where pyrethrum is grown, the climate and soil structure cannot support other cash crops such as tea or coffee.

Other advantages for farmers are that it grows with limited inputs, such as fertilizers and pesticides, and farmers can rotate it with other crops to compliment land use and avoid disease difficulties. The size of the land owned by pyrethrum growers in Kenya averages



three to five acres in which the homestead is located and where farmers grow pyrethrum and food crops such as maize, potatoes, cabbages and kales.

However, some growers do not own the land on which they grow pyrethrum and have to rely on either hiring land from neighbors, planting on government owned forestland, or even using road reserves.

For many Kenyan farmers, pyrethrum represents an important entry point to the monetized economy and provides considerable social benefits to farmers, their families and communities:

- The price remains stable for a one-year period;
- For more than 200,000 subsistence farmers, it is the only source of cash;
- It is well suited to the economic circumstances of small landholders, as input requirements consist only of readily available planting material and labor for planting, weeding and picking;
- Chemical inputs are not required;
- It has a favorable environmental profile because it consumes little chemical and fossil fuel inputs.

### The Pyrethrum Board of Kenya

The Pyrethrum Board of Kenya (PBK) is a parastatal agency that has been mandated to oversee all activities related to the production of pyrethrum in Kenya for the benefit of growers and consumers. The PBK is a cooperative body established in 1934 through an Act of Parliament. The Act gives PBK the responsibility of licensing and providing extension services to growers, and mandates the Board to purchase all pyrethrum grown in Kenya.



The PBK processes the entire crop into suitable products for sale to companies such as SC Johnson. Recently, the PBK's financial health has suffered due to market conditions, operational issues and government legislation that limits the Board in its abilities to source for bank credit and thus better manage pyrethrum inventory and supply. For instance, the PBK must seek government approval for funding from the parent ministry– the Ministry of Agriculture – to finance a buffer stock, which would bring much-needed stability to supply. Such approvals are required quickly to maintain the quantity of the supply, but the bureaucratic approval process is often too long to achieve this. Further, the Act demands that the PBK remit all surplus earnings in a given year to growers, thus leaving little working capital to provide for reserves.

Since 2002, the PBK has struggled with cash flow issues. This has caused a back-payment situation and a serious deterioration in the relationship between farmers and the PBK. However, the Board has now reorganized to include farmer representatives in the management of its affairs and hopes to return to the days when it provided transparency and consistency in crop pricing for growers. In previous years, the PBK publicly announced its annual price level in the media at the beginning of each year, a price that remained constant for 12 months.

The crop grown by farmers is delivered to PBK through intermediaries including cooperatives, self-help groups and PBK collection centers. Cooperatives operate at different levels: growers deliver the flowers to individual cooperatives who form a union that subsequently supplies the PBK; intermediaries between the growers and PBK deduct commissions for their services.

This lengthy and complex supply chain is inherently inefficient, and the PBK is working with farmers and cooperative management to develop new, better and more efficient ways of managing the supply chain, and to encourage transparency within each cooperative structure. This is of particular importance as these cooperatives enable individual growers to



consolidate their often meager flower output into viable quantities for delivery to PBK, as well as providing communities with the opportunity to learn business skills and a reason to collaborate across tribal lines.

The pyrethrum industry is preparing for liberalization in line with current government policy as a result of International Monetary Fund (IMF) rules and directions. This is expected to change the ownership and the way parastatals are managed. The PBK looks forward to the day it can operate as a self-sufficient, commercial entity unfettered by government bureaucracy. It desires to operate as a market-oriented enterprise that is able to seek investment capital for property, plant and equipment, and to build a suitable inventory to stabilize supply through the creation of buffer stocks. While this will mean that farmers will be able to grow pyrethrum without requiring PBK licenses, the processing and refining equipment of the PBK is necessary to produce the saleable product. Unless an alternative group invests in this technology, the growers are likely to remain with the PBK.

### Industry structure

Initially, ground pyrethrum flowers were used as a raw material input for making mosquito coils and powdered insecticides and resulted in a limited customer base. Success in the extraction and refining of purified pyrethrins from the flower gave this natural insecticide much broader applications, such as water-based aerosols that SC Johnson pioneered. There has been increasingly greater recognition of the value of natural pyrethrum and pyrethrins for use in household insecticide products. The US is the single biggest market today, and only 6-7 major American buyers of purified extract remain, most of which are distributors who purchase from the PBK and later resell to manufacturers.

During periods of shortage, some pyrethrum consuming companies have shifted supplies, in full or part, to synthetic pyrethroids to reduce their supply risk and save costs. Currently the market is consuming approximately 60 percent synthetic pyrethroids and 40 percent natural pyrethrins.

### Project drivers and objectives

SC Johnson produces a variety of household insecticide product forms under the RAID® and Baygon® names, which utilize natural pyrethrum and synthetic pyrethroids. Due to corporate environmental objectives, SC Johnson prefers to use natural pyrethrins if an adequate supply can be reliably sourced. Less expensive, high-quality synthetic pyrethroids are also a viable option for product formulas since regulatory agencies governing the safety and marketing of insecticides characterize and regulate the natural and synthetic versions as the same.

The PBK processes and markets all of Kenya's pyrethrum, of which over 95 percent is exported. Kenya's production constitutes more than 70 percent of global supply. The reliance on a single supplier in any business presents a certain risk, so a high level of reliability and consistency of supply is required. For SC Johnson's RAID® and Baygon® businesses, this product supply stability is essential. The company needs to determine product formulas years in advance of actual manufacture and sale due to the rigorous and lengthy government registration and approval processes for household insecticide products worldwide. As a result, in some instances product formulas have been based on access to a stable supply of either natural pyrethrins or synthetic pyrethroids. For PBK, the more reliability they can provide, the more likely natural pyrethrins will be included in formulas, thus securing a higher level of sales.

While synthetic pyrethroid suppliers have proven to be reliable and consistent, Kenya and the PBK have not. Following an audit process, SC Johnson determined that the PBK needed to make serious improvements before it could become a satisfactorily rated supplier. As long as this issue remains, reliability and consistency will pose a threat to keeping natural pyrethrins in product formulas.



Therefore, as a result of SC Johnson's long-standing relationship with PBK and the preference for natural pyrethrins, an ongoing capacity developing effort has been undertaken to assist PBK in developing its capabilities as a global supplier.

## Project Detail

### History of involvement

Over the years, SC Johnson has become one of the biggest single-end users of natural pyrethrins. As a result, the company developed a direct purchasing relationship with the PBK rather than purchasing through an intermediary.

SC Johnson has worked directly with the PBK since 1970. This relationship has extended considerably beyond that of a normal supplier-purchaser relationship, and is increasingly characterized by a strong degree of knowledge and technology exchange. SC Johnson developed a solid commitment to this relationship and the provision of capacity building to address a range of issues and practices.

In the early days SC Johnson and the PBK focused on exchanging skills and knowledge pertaining to pyrethrum growing, crop husbandry, laboratory maintenance and pyrethrin analysis. Education and training was offered to the PBK's personnel in the late 1980's. The two entities also have in-depth dialogues and exchange of views and technical information, with SC Johnson helping the PBK to develop and maintain a state of the art manufacturing and quality assurance program in its factory.

In addition, SC Johnson has helped a major PBK customer set up a factory to manufacture mosquito coils in Kenya utilizing Kenyan pyrethrum. SC Johnson purchases the pyrethrum-based coils from this PBK customer. To bring this project to fruition, SC Johnson provided a company scientist to work in Kenya with PBK's customer and has provided on-going periodic technical support over the years.

The focus of efforts has shifted in the last ten years, predominantly as a result of shortages experienced, as well as the increasing competitiveness of synthetic pyrethroids.

Initially, SC Johnson was sourcing primarily natural pyrethrins. However during the supply shortage of pyrethrum in the early 1980's, SC Johnson turned to synthetic pyrethroids that had improved in quality, price, and availability. A supplier was identified in Japan, which provided very high levels of customer service, efficiency and professionalism that made them an appealing supplier. This made the task of sourcing the input materials easier for SC Johnson Global Purchasing and Procurement team, and the Research, Development and Engineering (RD&E) team was able to alter and register product formulas for this synthetic input.

However, the company maintained a preference for using natural pyrethrins and felt strongly about maintaining the relationship established with the PBK. While formulation with only natural pyrethrins was not possible due to the shortages, the company looked to PBK to maximize their input. The decision to work with only one supplier entailed a certain level of risk, and it was in the company's best interests to consider how the PBK's output productivity could be improved, especially in relation to quality standards and reliability of supply.

The challenge then was to help PBK to reach higher standards as a supplier. The company had to address why PBK could not offer the same level of service that came from the synthetic suppliers, and consider what actions could be taken to improve the situation.

SC Johnson introduced its Quality Assurance Audit to PBK in 1995; at this time their processes were significantly below established criteria to be considered an SC Johnson "Partner in Quality". Efforts were then directed at helping PBK reach this global standard. This effort is still ongoing.



## **Understanding each organization**

An important part of this knowledge transfer and capacity building has been the initial and continuing process of exchange that has enabled each organization to better understand each other's business and operating constraints. Cultural differences and the structure of each organization have resulted in a clear disparity between the way in which each organization approaches the relationship and the resulting expectations that emerge.

The PBK does not operate with the same level of understanding of customer service that SC Johnson is more familiar with from other suppliers. The PBK differs from many of SC Johnson's other suppliers in that they are a parastatal organization, based in rural Kenya, and reliant on the output of 200,000 growers operating within cooperative social structures. Therefore they face different challenges and have different needs as a supplier. Due to a range of operational and institutional constraints, the PBK requires for example, a considerably longer lead-time for orders, which in turn requires adjustments from SC Johnson.

SC Johnson, on the other hand, operates in a noticeably different environment. The company is largely driven by the need to have consistent supply levels to enable effective production planning. It has therefore been helpful for the PBK to spend time with SC Johnson to understand how product formulas are developed and how large-scale production of RAID® is planned. The PBK also needed to better understand issues such as impurities and how they affect products.

Understanding and adapting to these factors has required reciprocal learning on both sides. In one effort, there was an opportunity for the Chief Chemist of PBK to spend 3-4 months with SC Johnson in the US. They also set up internship exchanges enabling PBK employees to spend 3–5 days at SC Johnson in Racine, and SC Johnson employees spent time with the PBK in their Nakuru research laboratories. These exchanges are valuable because they build skills and understanding for both PBK and SC Johnson personnel.

There are regular visits by PBK personnel to the US. This often includes two visits per year to SC Johnson headquarters. SC Johnson personnel also visit PBK in Kenya, on average twice a year. This provides an opportunity for SC Johnson to examine the PBK's operations and the pyrethrum growers, and better understand the hurdles they face. SC Johnson staff spend time in the fields with farmers and officials from cooperatives, field extension staff and other PBK employees.

In addition, the process of conducting quality audits has brought a better understanding and direction to PBK regarding the improvements necessary to upgrade their performance level.

## **Helping with planning and forecasting**

Strengthening the PBK's ability to provide a reliable level of supply has become a focus of capacity building efforts. This has required different levels of involvement and support, largely in an informal nature, rather than through a highly structured capacity building effort. SC Johnson has helped the PBK develop planning and forecasting abilities through sharing best practice examples and on-going advice regarding the establishment and maintenance of a safety stock to help offset harvest shortages. During visits to PBK, SC Johnson experts help the Board learn to better and more accurately forecast yields from dried flowers, a skill which is necessary for ensuring a reliable level of supply.

Recognition of the need for a greater understanding and appreciation of each organization's position has led to a constant exchange of feedback between the groups. Planning and purchasing personnel from SC Johnson conduct monthly teleconference calls with the PBK to address supply quantity, pricing and quality issues, and these issues are further addressed during the visits made by SC Johnson personnel to the PBK and vice versa.

SC Johnson has also worked with the PBK to help develop a more customer service-oriented mindset. While there are many limitations to operating in rural Kenya as a parastatal



organization, it is important for them as a supplier to adopt more customer-oriented practices to enhance their competitiveness.

### Technical assistance

SC Johnson has also provided technical knowledge to the PBK. The company discusses the boundaries of various bio-efficacy testing methods, thereby enabling the PBK to ensure that biological performance matches the analytical quality of their production.

SC Johnson has shared its bio-efficacy testing protocols in order to allow for a better comparison of results between natural pyrethrin products tested at PBK in Kenya and at SC Johnson in the US. The company has also collaborated in the development of up-to-date analytical chemistry methods that have aided in the identification of new and different pyrethrum extracts, as well as enabling the more accurate determination of active ingredient levels in pyrethrins shipped to Racine from the PBK. The company also shares information on new product formulations utilizing pyrethrins with the PBK. This has been accomplished by SC Johnson scientists visiting the Board; by PBK scientists and representatives visiting the company's Entomology Research Center in Racine; and through discussions held at various international meetings.



### Project outcomes

As a result of this long-term capacity building effort, there has been a notable improvement in product quality and a rise in production standards. The PBK has made continuous improvements in their quality control programs, and they have passed supplier audits from SC Johnson, as well as by other buyers such as Aventis. Standards continue to rise and the PBK is now seeking ISO certification.

The PBK is now recognized as an SC Johnson "Partner in Quality." The company's quality audits rate supplier performance from 1.0 to 5.0. A 4.0 is the minimum audit score required to achieve "Partner in Quality" status, which the PBK accomplished after only three audits by working in collaboration with the SC Johnson Supplier Quality Audit team.

The planning systems SC Johnson introduced to the PBK were something they had not used previously and have led to an increase in the stability of supply levels. SC Johnson has also benefited through continued consumer-preferred products; more efficient use of the active ingredient; new product ideas that utilize natural pyrethrins; and access to a continued supply of this natural ingredient. While supply has become more stabilized, continuous improvements should be addressed and a diligent effort made to maintain consistency. The most recent shortage experienced may have created the most significant shift away from natural pyrethrin formulations than any time in the last decade, and it can take years for the industry to fully recover.

The company is also working to develop a sustainable business model for RAID®, and recently conducted a detailed field survey in Kenya to evaluate the financial and non-financial capital being gained by pyrethrum farmers. The total life cycle analysis of pyrethrum was a first step in designing a model for all SC Johnson businesses that value the financial and non-financial impacts of raw materials. Such a commercialization model will build on a foundation of economic, environment and social equity ("3E"), including supply chain and external stakeholder partnerships. This may have further impacts on the SC Johnson/PBK relationship.

Clearly, pyrethrum is a complex crop and industry, yet the PBK and SC Johnson have done well to bring so many subsistence farmers up to standards and given them the ability to manage this crop effectively and profitably.



## **Social benefits**

Today, 200,000 farm families benefit from pyrethrum as their primary cash crop, and the PBK employs 680 people, with an increasing number of women in management. Overall, approximately 300,000 jobs are attributable to the growth and stabilization of the industry.

Pyrethrum has been generating economic benefits for communities, with part of the income generated being used for social development, including building schools, health centers, roads and other rural infrastructure.

The profits from pyrethrum have had a considerable impact on schooling levels over the years. The income derived from two acres of pyrethrum is sufficient to pay the school fees for three children in primary school and one child in secondary school or college. So far, pyrethrum earnings have paid school fees for more than 300,000 children each year.

This cash crop has an enormous impact on subsistence farmers, and success can be gauged by evaluating the increase or decrease in the numbers of children attending schools in the areas where pyrethrum is grown as well as the pyrethrum farmers' overall standard of living.

The cooperative structure, while problematic as a tool for managing the marketing of pyrethrum at a community level, contributes positively to a sense of cohesion. Cooperatives are also bringing community members together to determine how funds should be allocated for investments such as building new schools, bringing a sense of participative decision making to communities. Pyrethrum also has a positive impact on families, as it is often a family enterprise that involves women and children as well. Many PBK employees have fond memories of picking pyrethrum after school and have pyrethrum to thank for their education. They stress how the children's role of weeding and picking pyrethrum is important in their social development as responsible members of their family and community. Pyrethrum is also grown in schoolyards and tended by students and teachers to raise funds to purchase supplies and equipment, and to improve facilities.

## **Environmental impacts**

Environmentally the impact of this crop is considerably lower than most other cash crops especially in comparison to other agricultural industries in Kenya:

- Chemical use is high for flowers, but negligible for pyrethrum;
- The crop grows well without fertilizer inputs, which in any case many farmers cannot afford or easily access;
- Weeding is generally done by hand and the plant itself is a natural insecticide;
- It is relatively easy for growers to rotate their way out of problems.

Farmers that shift to pyrethrum are often moving away from such environmentally damaging activities such as deforestation for charcoal burning so it offers an environmentally preferable source of income for these individuals.

## **Project challenges**

### **Reliable Supply**

This natural agricultural product will always be subject to the vagaries of weather. Technological advances in clonal research have made the pyrethrum plant more drought tolerant and able to be cultivated in a wider range of altitudes, but the impact of weather continues to loom as a critical variable.

A predictable, consistent supply of high quality pyrethrum will likely continue to be the number one challenge facing this partnership.



**Value proposition and cost competitiveness**

A challenge for the industry remains regarding the value of natural pyrethrum. As long as natural pyrethrins and synthetic pyrethroids are considered equal by the US Environmental Protection Agency (EPA - US regulatory agency responsible for oversight on pesticides) and synthetic pyrethroids are available at a much lower price than natural pyrethrum, the growth of the pyrethrum industry is threatened.

**Pyrethrum in Kenya: Financial and non-financial capital impacts**

<b>Economic Capital</b>	<b>Environmental Capital</b>	<b>Social &amp; Human Capital</b>
US\$25 million in export sales value to Kenya	Rotation crop helps maintain soil in 17,600 to 32,000 hectares on Kenyan highlands.	200,000 farm families can educate up to three or four children each year through elementary and high school.
Natural compound. Broad bio-efficacy & food handling approval.	Little chemical and fossil fuel inputs versus other cash crops like coffee, tea and flowers	680 direct employees at PBK makes it the largest employer in Nakuru. Over 300,000 direct jobs are created by the pyrethrum industry.
200,000 farm families rely on pyrethrum as their primary cash crop.	Grows in the highlands, and does not tie up the land like other cash crops.	80% of proceeds returned to farmers via a cooperative structure.
900,000 Kenyans (farm families and day workers, PBK employees) access monetized economy through pyrethrum.	Marc, a production by-product once considered waste, is sold as mosquito coil filler. Remaining vegetable waste by-product is used as animal feed.	Primary support in agricultural husbandry, technical support for pyrethrum growing and cooperative business management.
A cash crop that enhances food security by growing in rotation with subsistence crops (potatoes, corn, beans & dairy).	Pyrethrum crop does not require irrigation under normal weather conditions. Relies on natural rainfall.	Women (and children) have primary role in pyrethrum harvesting. Women are beginning to be represented in management positions in PBK & cooperatives.

For this higher-cost naturally sourced material to be seen as competitive with its synthetic analogs, the market must consider environmental and social value throughout the supply chain and in the calculation of the value proposition. The challenge for the PBK as a long-term raw material source is to create greater awareness and demand for the natural product, in conjunction with increasing production of the crop. In the long-term, an inability to do so may threaten the overall sustainability of the industry and the ability for SC Johnson to retain natural pyrethrins in product formulas.

**Macroeconomic & social stability**

Kenya continues to be left behind by the global community due to the slow progress of economic market reforms. While there is no past history of pyrethrum supply disruptions due to these factors, Kenya is facing problems of real and perceived corruption and slow economic growth, bringing into question the PBK’s ability to provide a reliable supply of natural pyrethrins to the world market.

Currently the US EPA and other regulatory agencies consider natural pyrethrins and synthetic pyrethroids to be equal. As a result, differential labeling cannot be used on product packaging and advertising cannot highlight the use of natural pyrethrum. This limits the ability of the marketer to provide the necessary facts about natural pyrethrins to the broadest consumer audience. The PBK’s ability to grow the market would be greatly enhanced by a shift in the current position held by these agencies.



## Success factors & lessons learned

### Focus on market orientation

In an environment filled with subsidies and closed market policies, it is important to rely on open market principles and a competitive value proposition. Transparency, efficiency, technology and reliability will be the key success factors to gain global market share. Once liberalized, the PBK will be empowered to manage itself as a private business, requiring they make needed changes in staffing levels and pursue growth-oriented investments. As a private business, it will no longer be tied to government constriction, and will be better positioned to promptly seek investment capital whenever needed.

### Face to face meetings

No number of written reports can replace the learning that occurs both ways when business partners meet on each other's soil, especially with partnerships that transcend culture and economic resources. A one-way road with the supplier always meeting at the buyer's home turf is not sufficient. In this case, SC Johnson's knowledge of actual conditions faced in the growing, production and exportation of pyrethrum was key to finding opportunities to become better business partners. A common understanding of each other's strengths and weaknesses is one path to a synergistic partnership. For instance, SC Johnson shared detailed production planning, whereas PBK shared growing and harvesting data, so both partners can work to achieve the best production and make effective use of the PBK's limited working capital.

### Proactive and frequent communications

Many traditional supplier-purchaser relationships are still based upon limited information sharing, perhaps in the hopes of protecting a negotiating position. However, true supplier partnerships go beyond this to up front and rapid information sharing. This is especially key to allow advance warning of potential problems. An environment must be created where potential bad news can be delivered early in the process without fear of losing the business.

### Creativity and innovation work both ways

Multinational partners should not expect to have all the answers, but rather be prepared to be both teacher and student. This is the best way to find the most effective solutions as well as to leverage the unique creative solutions that generally come from living in developing countries with somewhat less predictable conditions. The PBK's clever uses for pyrethrin production waste as animal feed and by-products such as mosquito coil filler are but two examples.

### Long-term commitment

The major challenge in working with PBK has been their lack of a reliable predictor of pyrethrin supply and demand. Equally problematic has been their difficulty in responding to shortfalls in production given the nature of the crop system. However, SC Johnson's relationship with PBK can certainly be characterized as successful. One of the quintessential success factors in such a relationship is the necessity of a long-term commitment from both the supplier and the customer. Trust, mutual respect, and a quality product are key ingredients in any successful relationship.



## Raising household income levels of small scale pyrethrum farmers in Kenya

In July 2004, SC Johnson entered into a partnership with ApproTEC, to improve their pyrethrin supply chain reliability. ApproTEC is an international NGO, with its origins in Kenya. Its mission is to promote economic growth and employment creation in Africa by developing and promoting technologies that dynamic entrepreneurs can use to establish and run profitable small-scale enterprises. Over 38,000 micro-enterprises in East Africa are now using ApproTEC technologies to make aggregate profits of more than US\$ 36 million per year. Over the last 12 years, ApproTEC has developed and successfully promoted several technologies, the most successful being the *Moneymaker* series of human powered micro-irrigation water pumps. Currently, there are more than 28,000 of these pumps being used by small-scale farmers in Kenya. This collaboration with ApproTEC and the PBK initiated a 12-month project on raising household income levels of small-scale pyrethrum farmers in Kenya by supplying them with irrigation pumps. SC Johnson's objectives for the program are to:



- Ensure the long-term availability and lower cost of natural pyrethrum for the insect control business;
- Support two of SC Johnson's four sustainability platforms:
  - Using the Earth's raw materials responsibly;
  - Social equity/public health.

### Why Kenyan pyrethrum farmers?

Pyrethrum has a positive sustainability profile due to its characteristics. In the industry, however, there is stagnant demand, a global glut of pyrethrum and a need to consolidate an industry where there are few producers and buyers.

Kenya's most pressing problems are stagnant demand and a need to improve the efficiency of the PBK's operations. In addition, recent unpredictable weather has created conditions for greater crop failure. Heavy rains and prolonged periods of drought present a problem for pyrethrum farmers, not only for agricultural production, but also for health care as a growing number of regions are experiencing malaria epidemics for the first time.

For the market to remain sustainable, the quantity and quality of pyrethrum needs to be enhanced and maintained. A package of both irrigation and the best clonal seed will have the greatest impact on pyrethrum crop production and yield. Appropriate crop irrigation generally improves crop production because it provides a reliable supply of water at critical times in the planting and cropping cycle. Additionally, clonal seeds optimized for a growing region are a critical factor in yield. Expert plant breeders believe that Kenyan clonal research is properly selecting seeds for local highland growing conditions, but many farmers do not understand the value of buying specialized seeds.

A long-term partnership with ApproTEC will reduce risk, improve crop production & yield and diversify income for pyrethrum farmers. SC Johnson will also gain knowledge by engaging with farmers, an important aspect of a sustainable livelihoods project.

The project aims to:

- Introduce and promote micro-irrigation technologies to pyrethrum farmers as a means to boost their economic and social condition.
- Evaluate the impact that micro-irrigation and clonal seeds has on improving the quality and quantity of Pyrethrum being grown.

This project covers five geographical areas in Nyandarua and Nakuru districts of Kenya's Rift Valley: (1) Kinangop/Kipipiri in Nyandarua District, (2) Naivasha/Gilgil, (3) Kamara/Elburgon,



(4)Njoro/Molo, and (5) Kireneti in Nakuru District. Combined, these areas have in excess of 54,400 pyrethrum farmers.

The expected outputs from the project are:

- At least 600 pyrethrum farmers in the target areas will have purchased irrigation pumps and will be using them to irrigate pyrethrum or other food/staple crops or both;
- The net household incomes of the new pump owners/users will be increased significantly from \$100 or less per annum to as much as \$750-\$1,000;
- The diversity of the income sources will increase, providing pyrethrum farmers with more financial security and decreased survival risk;
- For the families of the new pump owners/users, food security, health and nutrition will have measurably improved;
- Tens of thousands of farmers will be aware of the existence of the micro-irrigation pumps, and their economic value. Of these, a significant proportion will be preparing to purchase;
- The quality and quantity of pyrethrum grown by targeted farmers will improve.

In order to move towards these outputs, several marketing and monitoring activities were planned for implementation over the course of the 12-month period.

### **Relations between ApproTEC & PBK**

The implementation of this project depends upon, among other things, a close and cooperative relationship between ApproTEC (an independent non-profit) and PBK (a parastatal agency of the Kenya government). Before the project could kick-start properly, arrangements were made to bring the two teams together. ApproTEC staff (mainly monitoring and marketing personnel) made a series of trips to Nakuru where PBK is headquartered. A number of meetings were held during which a greater understanding of each organization's mission, strategy, and interest in this project was developed, and the specific objectives of the project were discussed and agreed upon. Contacts were established between the PBK's and ApproTEC's field staff so as to facilitate promotion efforts to the pyrethrum farmers. The initial circumspection of both teams was overcome and trust established at various levels of management for both organizations. This early "forming, storming and norming" exercise was very useful, and enabled the teams to put together a well-integrated set of marketing and promotion activities in the field. Open-minded discussions have been made possible and a highly positive team work spirit established.

The PBK provided ApproTEC with the database of farmers growing pyrethrum both in the Nyandarua and Nakuru districts. The list was used to send promotional mail to farmers advising them of the project and the value of the ApproTEC micro-irrigation pump.

### **Sales July – September 2004 period**

During the first quarter, a total of 148 pumps were distributed to the dealers in the project area. By the end of August, 56 were sold to pyrethrum farmers as verified by the returned guarantee forms. At least 62 more pumps have been purchased since September 10, but the company awaits the receipt of the guarantee forms to verify sales to pyrethrum farmers. The rate of sales is expected to go up as the marketing activities (listed below) are further implemented and start producing results. The results also indicate that the program is on track to achieve the target of 600 pumps in one year, with first quarter estimates running at 24.7 percent. It is anticipated that sales percentage during the coming months will exceed the project time line.

### **Marketing**

*Pyrethrum clonal seeds:* ApproTEC collected the pyrethrum clonal seeds from the PBK offices and bundled them with





pumps. Every pump sold in the target areas is supplied with the right variety of seeds for that growing region.

*New dealerships:* In order to cover the selected areas more effectively, four new dealers were opened up, bringing the total number to 16. The new dealers are in Miharati in Nyandarua District, and Elburgon, Kamara and Njoro in Nakuru District. By opening new dealerships in remote areas, more farmers can see these pumps close to where they live. This is important as the interiors of both Nyandarua and Nakuru districts have very poor road infrastructure, especially in areas with greater irrigation potential. Most of these dealers have a promotion assistant to physically demonstrate the pump to the potential buyers.

*Promotional mailing:* ApproTEC has posted 700 newsletters to the pyrethrum farmers using the database provided by PBK. The marketing team in the region is distributing 400 more. The PBK was also supplied with over 1,000 copies of the same newsletters for the field people to distribute through the pyrethrum collection centers.

*Broadcasting:* There are regular adverts in two most popular FM radio stations in the area "Citizen" and "Inoro" stations. Two languages - Kiswahili (the national language) and Kikuyu (the predominant local language in the target area) - have been used with four advertisements running everyday on each channel. The effects of these are being felt with the dealers in the region registering increased sales and more enquiries being made.

*Posters:* Posters have been supplied to all the dealers in the region of operation. A variety of posters have been prepared with complementary messages and each is posted in a strategic public place. The promotion assistants at the dealerships issue fliers to provide more information on the pumps to potential buyers. All posters include the names of the three organizations (SC Johnson, PBK and ApproTEC).

*Pump Challenge Competition:* In order to give even the poorest farmers a chance to own a pump, ApproTEC has equipped one of its marketing vehicles with a specially designed platform and all the necessary equipment for carrying out the "pump challenge" competition. Two competitors each fill a 60-litre drum. To easily determine the winner, a flag comes up with the water as the drums are filled. The first flag to fall signals the winner. Prizes include *MoneyMaker* pumps, farm tools, clonal seeds and SC Johnson products. During the first quarter four competitions have been held, two in August in the Nakuru district and two in September in Nyandarua. Two competitions will be held every month. SC Johnson's local Kenya subsidiary organized and ran the pump challenge for September as a part of their employee volunteerism initiative. Staff from all three organizations worked as a team in organizing and discharging the activities in these events. In order to attract as many pyrethrum farmers as possible, the PBK staff is heavily involved in the meetings and making announcements for the pump challenge. Questions that relate to pyrethrum are raised and answered in the session in order to give the farmers greater value for their attendance.



## Monitoring

Information regarding the true economic and social impacts of the irrigation pump will be measured throughout the pilot period and recorded in ApproTEC's existing computerized monitoring and evaluating systems. About 40 farmers will be closely monitored throughout the pilot. Evaluated elements include:

- Change in income generated from the farm
- Number of irrigation start-ups
- Change in area under irrigation among pyrethrum farmers
- Diversity of crops grown- increased number of crops (both cash crops and food)



- Number of children going to school and type of school (public or private)
- Ease of paying school fees
- Investments in other income generating activities (buying a dairy cow, shop etc.)
- Acquisition of more household amenities (e.g. bicycles, TV, radio, solar panels, etc.) as a result of irrigated agriculture
- Change of social capital (status in the community)
- Sources of water, depth and common usage in various places
- Promotion activities most suitable to different areas and people within the region
- The PBK will monitor quality and quantity of pyrethrum grown by 40 farmers.

## Reporting

ApproTEC's computerized system provides an easy and up-to-date tracking and feedback mechanism.

*Specialized guarantee forms:* Specialized guarantee forms were designed and distributed to all dealers. Specific questions address whether the pump buyer grows pyrethrum and whether they will plant the clonal seeds bundled with the pump.

*Database:* A database has been started for those buying the pump in the region. It shows whether the farmer is already growing pyrethrum or is intending to plant the clonal pyrethrum seeds. This database will be shared with PBK so that their field staff can follow up with these farmers to determine the status of the pyrethrum plant.

*Site Selection:* A survey was done from late July to the 1st week of August to identify the areas with the greatest potential for success – places where pyrethrum cultivation is high and where the ApproTEC pumps can work. Discussions were held with PBK staff and visits were made to all divisions and existing dealers. The information collected has been very useful in guiding the marketing staff to those areas with greater potential for micro-irrigation and high population of pyrethrum farmers.

*“Zero age” Survey:* During late September the Monitoring team spent two weeks following up with 30 pyrethrum farmers who had bought pumps. The team aimed to determine their socio-economic status before they made any monetary gain from the use of the pump. This “zero age” survey and the data collected will be used as the basis for measuring changes that farmers experience over the year. Several indicators will be used as parameters to reflect the changes. Key highlights from the survey include a 4 to 1 ratio of men to women ownership and a demonstration of the intricate linkages between the issues of health and food security for these farmers. The survey also confirmed that pyrethrum growers have lost trust in the PBK due to lack of payments and some are abandoning their crop or intercropping to feed their families. The exploitative role of middlemen is also of great concern, as farmers are desperate to sell their pyrethrum even at low prices to receive some cash payment.

*Case studies:* During the “zero age” survey, 10 farmers were identified as case studies and subsequent follow-ups will be made once every quarter.

## Other activities

The partnership has grown beyond its initial expectations and created new opportunities thanks to the initiative of the local teams.

*Relationships with SC Johnson's Kenyan subsidiary:* The three entities have worked on enhancing their partnership and taken things a step further by including a can of Baygon® insecticide with every pump sold. This gives the package greater value.

*Credit for Equipment purchase:* Recently, many farmers have requested that a credit scheme be set up to enable them to acquire a pump on lease-purchase terms. Farmers would like to see a situation where the money they are currently owed by the PBK is used as collateral to buy an ApproTEC MoneyMaker pump. The possibilities of instituting such a program are being explored.



## Conclusion

The SC Johnson/ApproTEC/PBK partnership is the latest innovation in SC Johnson's thirty-year supply chain relationship. The project has had a successful and encouraging start, and is on course to meet and perhaps beat its targets. Useful lessons have already been learned during this initial stage, and will be critical to help the partnership grow and evolve as it moves forward. While a unique flower grown by hundreds of thousands of smallholder farmers in the highlands of Kenya will always face challenges, SC Johnson's long-term commitment to improving the reliability and quality of its raw material supply has demonstrated the opportunity to increase positive social and environmental impacts while addressing a strategic business issue.

---

### About the WBCSD

The World Business Council for Sustainable Development (WBCSD) is a coalition of international companies united by a shared commitment to sustainable development via the three pillars of economic growth, ecological balance and social progress. Our members are drawn from more than 35 countries and 20 major industrial sectors. We also benefit from a Global Network of 40 national and regional business councils and partner organizations involving more than 1,000 business leaders globally.

4, chemin de Conches  
CH – 1231 Conches-Geneva  
Switzerland

Tel: +41 (22) 839 31 00  
Fax: +41 (22) 839 31 31

E-mail: [carpenter@wbcsd.org](mailto:carpenter@wbcsd.org)  
Web: [www.wbcsd.org](http://www.wbcsd.org)