

## Malaria herb now turns top cash crop

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By Times Reporters

Tanzania is increasingly emerging as a major source of artemisinin, a key ingredient in the new generation of anti-malarials, which the World Health Organization (WHO) says are the key to fighting the killer fever.

The new, and highly effective, dual therapy is based on an ancient Chinese herbal remedy.

It is now known as Artemisinin Combination Therapies (ACTs), currently the most effective treatment against malaria.

Three years ago, Tanzania joined the first five countries in Africa to start using ACTs when the Global Fund to Fight AIDS and Tuberculosis and Malaria started to make funds available.

Artemisinin is an extract from the shrub *artemesia annua*, or sweet wormwood, currently grown mostly in China and Vietnam.

Evidence is emerging that Tanzania today is well placed to take advantage of the surging global demand for ACTs, which has led to a shortage of artemisinin.

Mr. Philip McLellan, the Managing Director of Kenya based East African Botanicals Ltd, told the medical journal *Horizon* at the end of last year that his company has successfully grown *artemesia annua* on both an experimental and a commercial basis in both Kenya and Uganda.

Tanzania is the only East African country that grows the herb on a large-scale, chiefly for export to Switzerland, where it is processed into drugs that are sold back to Tanzania and other African countries.

Sources in the Ministry of Health's department of traditional medicines have said *artemesia annua* grows well in all Tanzania's uplands including Arusha, Mbeya, Iringa, Njombe and around the Lake Zone, especially in Bukoba.

According to them, the shrub is widely available in Arusha region today.

Commercial farming of the plant is being carried out in the country's southern and northern highlands.

'Companies must be encouraged to increase the quantity of commercial cultivation and conservation of the plant to ensure a sustainable supply of the Artemisinin herb,' they said.

In 2003, experts from the World Health Organization (WHO) visited Tanzania and reported that the indigenous variety of the plant was 10 to 15 times more potent than that found in China and Thailand, making commercial production of the medicine in Tanzania a viable commercial proposition.

Tanzania's entry into *artemesia* farming could not have come at a better time, with the WHO

affirming, that at the end of last year, a rising global demand for ACTs had led to an artemisinin shortage.

The WHO notice followed communication from drug giant Novartis Pharma, which supplies the UN agency with ACTs at cost price, that they had only been able to get artemisinin supplies to satisfy 80 percent of its requirements.

A recent release by Novartis says from 2003 to 2004 worldwide demand for ACTs has quadrupled.

But health experts say it is costly to extract, and this has limited its use in Africa, where most cases of malaria occur.

In Tanzania, for instance, a single dose costs between 6 and 7 US Dollars, far beyond the reach of ordinary citizens who are in turn the majority hit by malaria.

Kenya has adopted Cortem, an ACT drug, as first line treatment for malaria, while Tanzania takes artemisinin, and other derivatives, as fourth line drugs in the treatment of malaria.

The first three are sulphadoxine (SP), amodiaquine, and quinine.

However, studies carried out across the country have shown a marked rise in SP resistance from 27 percent in 2000 to 38 percent in 2003.

Other studies put the rate of clinical failure at 50 percent.

Experiments have established that artemisinin's effectiveness arises from its ability to attack iron compounds.

It is for this reason that it is so successful in subduing malaria.

The parasite has a high iron concentration, which collapses when attacked by artemisinin.

Besides fighting malaria, artemisinin also plays a key role in the management of breast cancer because of its ability to kill iron-enriched breast cancer cells.

Other researchers say the drug is also likely to have anti-biotic, as well as anti HIV/Aids properties.

Tanzania spends about Tshs121 billion (USD121 million) annually, equivalent to 3.4 per cent of the GDP, to fight malaria.

Commercial farming of *Artemisia annua* could turn the country into a net exporter of both ACTs and artemisinin, and hence, mitigate the adverse economic impact malaria has on the country.

- SOURCE: Financial Times