Food, livelihood and health

VITAA – lifesaver turns moneyspinner

"It's not often that a lifesaver turns out to be a moneyspinner for people in communities where it's saving lives," says Jowelia Sekiyanja, a Ugandan mother of eight. "But that is what's happening here. Many housewives are not only giving their families daily portions of vitamin A-

rich orange-fleshed sweet potato, but are also earning a living from the sale of roots and processed products. I myself make juices, doughnuts, cakes and chips that I sell from my kiosk. People like them too much."

Vitamin A is essential for normal development, especially in children and in pregnant and nursing mothers (see Box 6). CIP pioneered the Vitamin A for Africa (VITAA) partnership, which is thought to be the world's first large-scale food-based initiative to eradicate vitamin A deficiency (see Box 7). The principal thrust has been to encourage Africans to grow and eat orange-fleshed sweetpotatoes (which are rich in vitamin A) in addition to the white varieties (which have no vitamin A) that are widely grown in Africa. Since its launch in 2001, VITAA has made real progress – largely because its concerns are aimed at the section of society people care for most: young children, and harnesses the energy of a large and dedicated workforce: their mothers.

A sharply focussed project aimed at children

"We have made VITAA a sharply focused program," explains Regina Kapinga, VITAA's Africa-based co-ordinator. "There are 50 million children in SubSaharan Africa who are at risk from vitamin A deficiency. For all of them, eating just 100g – that's about half a cup – of orange-fleshed sweetpotato each day would solve the problem. And if children grow up with the habit of eating it as part of their staple diet they'll feed it to their children too. A vitamin A-rich diet will become part of the culture."

And the signs so far are good. "My children love it," says Florence Kiwendo, a farmer and mother of six in crowded central Uganda. "At first I wasn't keen myself, because it's not what I was brought up on. But now I'm getting to like it too. The nutritional advisor at our clinic says it will add a sparkle to my eyes!"

A major advantage of VITAA is that it does not ask people to start growing and eating a food they are not used to. Orange-fleshed sweetpotatoes differ from white varieties in taste (they are sweeter) and texture (more moist) – but they are not as different as carrots, for instance, and will grow wherever the white varieties will.

"Even so, persuading people to eat something they're not accustomed to was never going to be easy," says David Yanggen, agricultural economist leading a CIP initiative that is assessing the impact of orange-fleshed sweetpotato on health. "But the need is immense." In Uganda alone, a survey in 2000-2001 found that in most parts of the country, more than 50% of pregnant and lactating women were deficient in vitamin A. Among Ugandan children, nearly one-third were deficient. The good news is that a first-of-its-kind study conducted by South African scientists under the umbrella of VITAA confirmed that eating orange-fleshed sweetpotatoes really does make a difference. School children aged between 5 and 10 years who ate a daily portion of orange-fleshed sweetpotatoes (100-200 g) had significantly increased

Ugandan children in the sweetpotato fields

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levels of vitamin A after just 11 weeks.

"VITAA has the capacity to help massive numbers of people," says Yanggen. "The introduction of orange-fleshed sweetpotatoes has already had a significant impact in target areas of Uganda. What we're looking for now is that orange-fleshed sweetpotatoes will advance to become integrated in to African food production and consumption systems."

The sweetpotatoes offer women the chance of earning money

Although health is the primary incentive for the introduction of orange-fleshed sweetpotato, family economics are also helping to carry its potential over the threshold and onto the dinner tables of Uganda. The sweetpotatoes offer women the chance of earning money, as well as saving their children from vitamin A deficiency. "Sweetpotatoes are traditionally a woman's crop," explains Regina Kapinga. "And when you offer a woman something that is both good for her children *and* brings in some extra money you have a win-win situation."

Jowelia Sekiyanja is one of the many women throughout Uganda who are the living proof of this contention. Jowelia's active involvement in sweetpotato growing began in 1975, the year she was married. In customary fashion, she established a small garden (1/4 acre) and raised a growing family on its white-fleshed sweetpotatoes, bananas, maize, beans and cassava. The garden supplied food, while Jowelia's husband (a civil servant) provided money for household essentials. Jowelia had no income of her own. Things began to change, however, when Makerere University's Child Health and Nutrition Program told her and other mothers of the dangers of micronutrient deficiency in children – especially vitamin A deficiency. Through the VITAA program she learned of the new orange-fleshed varieties that could supply the missing vitamin A and began growing them. As the promotion of orange-fleshed sweetpotato as a means of combating vitamin A deficiency spread through

Box6

Vitamin A deficiency

Vitamin A is essential for a child's normal mental and physical development and for keeping the body healthy and strong Vitamin A deficiency is one of the leading causes of early childhood blindness and death in Africa. The lack of it can be a death sentence, in some cases directly but more often via a weakened immune system, which exposes victims to diseases such as measles, pneumonia and malaria. Vitamin A deficiency also reduces the ability to see clearly in poor light and can lead to blindness.

The actual amounts of vitamin A and other micronutrients required by the body are very small but, overall, micronutrient deficiency is a notorious 'hidden hunger' of the developing world. And along with the health issue there is an inevitable economic consequence. By affecting the learning ability of children and sapping the energy of working-age people, micronutrient deficiency causes billions of dollars of lost productivity in countries that can least afford it.

It is only since the 1980s that nutritionists have assembled compelling evidence that the diets of many children (especially young children) and adults in developing countries do not provide health-sustaining amounts of essential vitamins and minerals. Vitamin A deficiency is one of the most prevalent problems, particularly in SubSaharan Africa and South Asia, where "severe vitamin A deficiency has very high fatality rates (60%)," according to World Bank nutritionist Judith McGuire, and "even sub-clinical deficiency is associated with a 23% increase in pre-schooler mortality in areas with endemic vitamin A deficiency."

A massive international effort to combat vitamin A deficiency has been underway since the early 1990s. Emphasis in many countries was initially placed on supplementation programs, believing that the distribution of vitamin capsules could solve the problem quickly. However, experience has shown that although supplementation can be cost-effective, it must be repeated every 6 months and thus can be difficult to implement in countries with poorly developed health and road infrastructure. A second approach, that of fortifying common foods with a micronutrient, has been used successfully in some instances (iodised salt successfully treats iodine deficiencies, for example). But in countries where markets for food are not well developed, it has been difficult to identify appropriate foods to fortify and ensure they would reach the consumers who are most at risk.

A third approach is to improve dietary quality and quantity through diversification. Here the aim is to achieve and maintain an adequate intake of vitamin A (and the other essential micronutrients) as part of an adequate total diet. A food-based approach such as this requires an inter-sectoral perspective, which means providing agricultural and educational inputs, together with a keen awareness of cultural, socio-economic, market and health conditions – a challenging proposition but likely, economists believe, to be the most sustainable of the three available options. The advantage is that once achieved, food-based approaches are self-sustaining and by far the lowest cost approach.

Sweetpotato

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Box 7 The VITAA partnership

The VITAA partnership, winner of the 2003 CGIAR Partnership Award, is a novel initiative that is achieving a major impact in SubSaharan Africa (SSA). On 9 May 2001, an international group of 70 agriculturists, health experts and nutritionists launched what is believed to be the first crop-based initiative to attack the tragic consequences of vitamin A deficiency in the region.

Pioneered and led by CIP, more than 50 partner agencies from the health, nutrition and agricultural sectors are now working together to extend the impact of orange-fleshed sweetpotato in more than ten partner countries in the SSA region. The original VITAA countries included Ethiopia, Kenya, South Africa, Tanzania, Uganda, Mozambique and Ghana. CIP and partner scientists are working in this region, and for the larger global community.

the community, people were keen to buy roots from Jowelia, and the vine cuttings with which they could begin growing the orange-fleshed varieties themselves. Before long, 90 of the 95 households in her own community were growing and eating orange-fleshed sweetpotato regularly.

Jowelia Sekiyanja now had an income of her own, and as it grew, her status in the family and the community was transformed. She could pay the childrens' school fees instead of having to depend on her husband. "Before, the children would have to wait at home, missing school, until their father could bring the money. They don't have to wait like that anymore," she says. Jowelia bought a site in the nearby trading center, built a house for the family and bought clothes, a radio and a refrigerator. Her sweetpotato holding expanded to five hectares, and she is putting up a building on the commercial site she bought – all initially from the sale of fresh

sweetpotato and vines. Lately, though, there has been an added value element. Each day, Jowelia processes and sells juice, doughnuts, pancakes and cakes made from sweetpotato. "I've opened a savings account, and every day I put more money in it," she says.

"As a wife who was entirely depending on her husband I feel really proud for having made this," says Jowelia. And she is not the only one to have benefited in this way. In her community and across the country, "the arrival of orange-fleshed sweetpotato has been a moneyspinner for many women," she says.

"Orange-fleshed sweetpotato is definitely a life-saver first, and a money-spinner second," reflects Regina. "It is nice to see mothers making some money from providing vitamin A supplements, instead of the pharmaceutical industry," she adds, whimsically.

Villagers are now producing a variety of products from the orange-fleshed sweetpotato, increasing earnings and improving their livelihoods.

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