

Villages of Hope



Where Security means Food, Ricemakers feed Dreams

Thousands of kilometers apart, near the northern and southern curves of Vietnam's S-shaped land, four villages share a common bond. Thanh Gia near north Vietnam's Red River Delta and Dong Tien in south Vietnam's ethnic uplands are villages of hope. So are Bau Don and Cu Chi villages nearer the bustling economic centre, Ho Chi Minh City.

Village farmers there team with scientists called "ricebreeders" to improve their harvests and livelihoods. Working together, the farmers and breeders form a modern legion of "ricemakers," helping to shape the future for 82 million Vietnamese men, women, and children.

For village families, rice fills their lives and feeds their hopes and dreams. Life is hard but looking up. Over the past decades, many families have almost doubled their incomes. They still live on less than \$2 a day, but are aiming for three. The country's per capita income is about \$550 a year, and rising incrementally.

Though poor in income, the village families are rich in impact — their work feeds a country, and more. In little more than a generation, Vietnam has become one of the world's top rice producers. Today the nation exports rice to Switzerland and two dozen other countries around the world.



Fears of food shortages have given way to strategies for greater food security and markets. Through it all, the Vietnamese remain among the world's most optimistic people. A 2005 UN survey of Vietnam's households found that eight of ten families say their living conditions are improving day by day.

Nuclear Science & Changing Fortunes

Nuclear science is among reasons why fortunes are turning. It is helping to accelerate the age-old process of plant breeding that leads to better crops.

Farmers in Vietnam and other countries of Asia live in the cradle of rice cultivation. Rice farming started there thousands of years ago, when wild rice was first domesticated. From season to season, farmers improved their harvests, by selecting and saving the best seeds from the highest yielding crops in their fields.

Today more modern tools and methods accelerate nature's way. Rice breeders often apply a process that includes the laboratory irradiation of seeds and plant tissue cultures — usually called induced mutation breeding — to alter plant traits and characteristics. Research yields promising lines of new crop varieties — some that tolerate drought or poor soil conditions, others that resist disease, and still others that meet quality standards for export. In Vietnam, the best are screened and selected in field trials at agricultural sta-

A rice breeder's log book records each detail of a new seed's life. From the laboratory to the field, new varieties of rice take years of research, development and testing before they are cleared for commercial cultivation.



tions and in villages like Thanh Gia, Dong Tien, Bau Don, and Cu Chi.

Mr. Pham Van Diep and his wife, Pham Thi Quang, at their family farm in Thanh Gia village near Hanoi in Vietnam. The village is home to about 400 families whose livelihood is bound to rice and farming the earth.



The IAEA — through its technical cooperation programme, scientific laboratories, and joint research division with the UN Food and Agriculture Organization — has played a strong catalytic role in Vietnam and other countries. Worldwide since the 1960s, plant breeders have won approval for more than 2300 mutant varieties of crops, including nearly 440 varieties of rice.

Joint IAEA/FAO projects fund, equip, and train scientists in crop production and improvement, as well as in soil science and other areas. Over the past 15 years, more than 30 national, regional and interregional projects have helped improve rice varieties and production systems in poor countries. The assistance is timely and needed — at a time when agricultural land use is shrinking, experts project higher demand for rice to feed growing populations in developing countries.

Vietnam's progress points the way forward to greater food security. From the north's Red River valleys to the south's Mekong Delta, 21st century ricemakers achieve results entire villages can see. They help to feed a nation and its hopes and dreams.

Written and photographed by Lothar Wedekind, IAEA Division of Public Information.