

## **CROPS FOR THE FUTURE RESEARCH CENTRE**

### **PROGRAMME CONCEPT NOTE**

### **FOODPLUS**

*The use of underutilised plant species to improve nutritional security through production, agroprocessing and marketing*

#### **Problem Statements**

- Human health depends on nutrients sourced from plants, especially through the intake of fruit and vegetables. However, despite their global diversity, most consumers utilise very few fruit and vegetable species as food sources.
- Lack of dietary diversity may be due to a range of factors including; social customs, poor awareness and absence of supply chains for a greater variety of crop products.
- Fruit and vegetables are perishable goods. There is considerable loss of nutrients through their improper handling and lack of post-harvest and agroprocessing technologies.
- The uptake of micronutrients by plants at the field scale affects their subsequent bioavailability in the food chain. Where crops are grown on impoverished soils and under poor management, this can significantly affect the bioavailability of micronutrients in harvested products.

#### **Objective**

To improve community nutrition through diverse products from underutilised fruits and vegetables, especially in relation to; micronutrient availability and uptake, reduced postharvest losses, appropriate agroprocessing and strengthening of supply chains from farmer to consumer.

#### **Outcomes**

- Improved nutritional status through the processing, preservation and consumption of underutilised plant species, especially fruits and vegetables.
- Knowledge of supply chain constraints and their impact on nutritional status and food security.
- Better methods to reduce postharvest losses of fruit and vegetables.
- Techniques to increase bioavailability of nutrients from underutilised plant species.

#### **Programme Concept**

- Through systematic reviews and a series of baseline surveys, develop an understanding of the current nutritional status of communities, especially in Malaysia and South East Asia.
- Assess what, why and how different sectors of the community consume food, especially in relation to underutilised fruit and vegetables.
- Examine the effects of production, harvesting, preservation and processing of underutilised plant species on their nutritional quality, shelf life and micronutrient availability for different communities.

#### **Potential CFFRC partners**

University of Nottingham, international and regional collaborators in Malaysia, Indonesia and Thailand and University of Reading.

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**Programme Activities**

FoodPlus is a multidisciplinary programme that links CFFRC with partners in Malaysia and beyond. Its purpose is to diversify the food basket and so enhance the nutritional security of communities, initially in Malaysia and South East Asia with upscaling to other regions, especially in the developing tropics.

Programme activities will include the four main areas of biofortification of plants, bioavailability of nutrients, post harvest processing and supply chain management of underutilised plant species that contribute to the overall goal of sustainable nutrition through increased utilisation of plant species.

The programme will incorporate data into the CFFRC CropBase web-based platform.

