A SYSTEM OF MEAL PLANNING FOR SELF-IMPROVEMENT OF THE DIET OF VILLAGERS IN NORTHEASTERN THAILAND

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ABSTRACT

A method for self-improvement of nutritional status was developed for the villagers in Northeastern Thailand using the raw materials already available in the villages with cowpeas as a protein supplement. A low cost and nutritionally balanced 7-Day menu was designed for a family unit; it was based on the foods and food dishes already eaten in the villages, the present eating pattern of the villagers and protein maximised dishes. It was designed and introduced using a three stage system - study of the present foods eaten, development of the cowpea dishes and the 7-Day menu and introduction of the 7-Day menu to the villages.

A survey of eating habits was conducted in ten villages in Khon Kaen Province, to find information on the types of food raw materials available in the villages, the types of foods and food dishes eaten throughout the year, the legumes and legume foods eaten in the villages. Twenty five cowpea recipes were developed from the traditional dishes and protein maximised using linear programming. They were highly acceptable to a taste panel of villagers. The protein content of 22 commonly eaten food dishes were also maximised using linear programming. These protein maximised dishes together with the other foods eaten by the villagers were used to develop a 7-Day menu in the traditional village meal pattern. A system was developed using mixed integer programming to select an acceptable daily menu pattern which could supply an adequate quantity of food for a family of 7 persons and meet their requirements for 26 essential nutrients. The 7-Day menu consisted of 6 daily menus of 29 foods and food dishes including 11 cowpea dishes and steamed glutinous rice. The 7-Day menu was found highly acceptable by the villagers.

Three Introduction Models fitting with the village life style were developed for introducing the 7-Day menu and the cowpeas to 6 villages in Khon Kaen Province. Each model was tested in two villages during a 21 week introduction period. The most successful introduction method was to firstly explain the whole menu to the village headman, and then

with his help organise a party for the villagers to introduce the menu and the cowpeas and to give nutritional information. Video demonstrations were used to teach the cooking methods for the various dishes and a cooking competition encouraged the villagers to cook the dishes and to follow the menu. This method of introduction created a large increase in the number of villagers using cowpeas.

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