Nutritional Adaptation to Seasonal Climatic Change: A Study for Rain-fed Farmers in Northeast Thailand

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Based on the author’s study of anthropometry, energy expenditure and food consumption in four (pre-harvest, harvest, post-harvest and rainy) seasons among rain-fed rice growing farmers in Northeast Thailand, this article clarifies and discusses human adaptive (or maladaptive) strategies to seasonal climatic change. Total energy expenditure fluctuated markedly among the four seasons, but total energy intake did to a negligible extent. Change in body weight significantly differed between pre-harvest and post-harvest seasons, with a magnitude of 1.3 kg, or 2.3%, in males and 2.5 kg, or 4.3%, in females. Respiratory quotient (RQ) was the lowest in the post-harvest season when fat mass increased. These results demonstrated that physiological adaptation, through change in RQ in particular, to change in energy balance occurred in relatively short periods, and thus behavioral adaptation by means of changes in energy intake was observed not in specific seasons but in a year. The nutritional-ecological adaptive patterns of the rain-fed rice farmers were compared with those of various subsistence populations based on physical activity levels.

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