

Urban Community Development with Food Security Management: A Case of Bang Sue District in Bangkok

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Abstract

Community food security is a condition in which all community residents can obtain a safe, culturally acceptable, and nutritionally adequate diet through a sustainable food system that maximizes community's self-reliance and social justice. The objective of this research is to gain nutritional knowledge, build food security management and the sustainable development concept in order to develop quality of life for people in urban community. The population is the people in urban community at Bang Sue District in Bangkok. The sample group is selected by purposive sampling technique through the basis of their commitment to share experiences and ideas by participating and cooperating in the brainstorming session to gain nutritional knowledge and build food security management for people in an urban community, through the application of integrated Participatory Appreciate-Influence-Control (PAIC) technique in order to establish a nutrition knowledge based on community food security to meet sustainable community development, so that they can create action plans and practices for implementing project at the urban community level. The research design employed in this study is to assess nutritional knowledge, and food security management of the urban communities. The plans and project practices are evaluated with Participatory Performance, Assessment, Monitoring, Evaluation, and Impact (PAMEI)¹ (Thiengkamol, 2004, 2008).

Keywords: Urban Community Development/ Food Security Management/ Bang Sue District/ Bangkok

In order to meet the urban sustainable development, it's necessary to build the food system in aspect of food security in order to develop quality of life for people in urban communities. Food is an essential element of four basic needs to meet the healthy quality of life in both physical and mental states for urban people in their daily life. Generally, there are different important elements which help to accomplish food security for community people. They are community characteristics and food resources, food resource accessibility and food availability, and food production resources; but for the food security of urban communities, the emphasis might be on making food affordable and teaching nutritional knowledge.

In Thailand, particularly in an urban area, food security might be regarded as food being able to find affordable food and nutritional knowledge because people are able to access food resources and there is no need to be worried about food production at all. Especially in this study,

the urban community people selected for studying are defined as low income group who are facing the problems of not being able to afford adequate food for daily life and lack of understanding in appropriate consumption behavior. A household is considered food secure when its occupants do not live in hunger or fear of starvation.

According to the World Resources Institute, global per capita food production has been increasing substantially for the past several decades (World Resources Institute, 2007). In 2006, MSNBC reported that globally, the number of people who are overweight has surpassed the number who is undernourished - the world had more than one billion people who were overweight, and an estimated 800 million who were undernourished (MSNBC, 2006). The British Broadcasting Corporation (BBC) reported that China, the world's most populous country, is suffering from an obesity epidemic (BBC, 2004). China's first official nutrition and health survey shows that between 1992 and 2002 more than 60 million people became obese. The rate of obesity in China has increased by 97% in 10 years, according to a government report.

The biggest problem is in Chinese cities, where 12% of adults and 8% of children were classified as obese. Nevertheless, China and Brazil have been praised for their efforts to tackle hunger, in a development charity's report released to coincide with UN World Food Day. Meanwhile, in India, the second-most populous country in the world, 30 million people have been added to the ranks of the hungry since the mid-1990s and 46 percentage of children are underweight (BBC, 2009).

Meanwhile, worldwide around 852 million people are chronically hungry due to extreme poverty, while up to 2 billion people lack food security intermittently due to varying degrees of poverty (Food and Agriculture Organization: FAO, 2003). As of late 2007, increased farming for use in bio-fuels has taken precious agricultural land away from food production. It is the new face of hunger. A perfect storm of food scarcity, global warming, rocketing oil prices and the world population explosion is plunging humanity into the biggest crisis of the 21st century by pushing up food prices and spreading hunger and poverty from rural areas into cities (Smith & Edwards, 2008).

Community food security includes a general guide to community assessment and focused materials for examining six basic assessment components related to community food security. These include guides for profiling general community characteristics and community food

resources as well as materials for assessing household food security, food resource accessibility, availability, affordable prices, and community food production resources. Data collection tools include secondary data sources, focus group guides, and a food store survey instrument. The toolkit was developed through a collaborative process that was initiated at the community Food Security Assessment Conference sponsored by ERS in June 1999. It is designed for use by community-based nonprofit organizations and business groups, local government officials, private citizens, and community planners (Cohen, 2002).

The concept of food security has been undergoing an evolutionary change during the last 50 years. In the 1950s, food security was considered essentially in terms of production. It was assumed that adequate production would assure adequate availability of food in the market as well as in the household. In the 1970s, it became clear that availability alone did not lead to food security, since those who lacked purchasing power were not able to have access to balanced diets. Purchasing power again is related to jobs or livelihood opportunities. Recently, it is becoming evidence that even if availability and access are satisfactory, the biological absorption of food in the body is related to the consumption of clean drinking water as well as to environmental hygiene, primary health care and primary education. Additionally, there are micro and macro issues that cause food insecurity such as political instability, poor economic government, poverty, and lack of sustainable household income (GECAFS, 2008).

Food security for many people, particularly those in the poorer parts of Africa, Asia and Latin America, remains a difficult goal to achieve, due to a combination of social, economic and environmental stresses. Future global environmental changes such as increased climatic variability, land degradation, and loss of biodiversity, in the context of social, political and economic changes, may bring unprecedented stresses to bear on food systems and food security (Ericksen, 2008).

Finally, even if physical and economic accesses to food are assured, ecological factors will determine the long-term sustainability of food security systems based on the above considerations and nutritional knowledge (Vepa et al., 2001; Ericksen, 2008; Thiengkamol, 2009). Therefore, to achieve better quality of life of urban community people with the sustainable development in term of food security, all community residents should obtain a safe, culturally acceptable, nutritionally adequate diet, and understanding nutritional knowledge for

food security management should be included in the research designed to cover all aspects of these deficiencies. In particular, strengthening urban community capability that maximizes community self-reliance and social justice through empowerment of people to increase their income, nutritional knowledge, and proper food consumption behavior.

As far as it has been recognized, the sustainable urban development should be implemented in both developing and industrialized countries. The appropriate techniques to meet the goal of better health status via the training with Participatory-Appreciate-Influence-Control technique (PAIC), it is a brain storming process integrated with SWOT (Strength-Weakness-Opportunity-Threat) analysis to solving their problems of food insecurity (Thiengkamol, 2004; Thiengkamol, 2009; Langly, 1998; Weiss, 1993; Sproull, 1995).

In order to build food security to develop quality of life for people in urban communities based on the sustainable development concept, the cooperation among the stakeholders from the urban communities was needed. They created action plans and practiced for implementation in order to increase their income, nutritional knowledge, and proper food consumption behavior. Nevertheless, each urban community might have some different contexts so they need to understand their own cultural acceptability, attitudes, beliefs, and environmental context, as well as defining priority among these variables.

The main concept of community food security is a condition in which all community residents will obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food security that maximizes community self-reliance and meets sustainable development. All these aspects will be accomplished after the urban people perform brain storming activities to understand the nutritional knowledge and increase their household income, thereafter putting these plans into actions and practices. These will enable them to reach the goal of sustainable development through food security management (Cohen, 2002; Thiengkamol, 2005). The proper management of community food security will lead to community competency building, self-reliance and sustainable development as well (Thiengkamol, 2005).

After the training process is done, participants from stakeholder will be assessed with the Three Dimensional Evaluation (TDE)². TDE included evaluation: self-evaluation, group-evaluation, and trainer-evaluation. Participatory Performance, Assessment, Monitoring, Evaluation, and Impact (PAMEI)¹, is used as systematic evaluation in order to assess, monitor,

and evaluate the participants performance and impacts, and the quality and success of the rural network development will be evaluated both quantitative approach with questionnaire and observation forms.

Methodology

The research design is implemented in step by step as follows:

1) The preliminary survey is done in order to search the basic information of the population demographic characteristics, increase their income, nutritional knowledge, and proper food consumption behavior to achieve community food security.

2) Tools, the questionnaires for evaluating nutritional knowledge, and proper food consumption behavior to meet food security management of participants, and the forms of Three Dimensional Evaluation, and Round Dimensional Evaluation are constructed.

3) The questionnaires to determine the reliability of each question and the whole paper was measured by determining the alpha coefficient (α -coefficient) (Sproull, 1995).

4) Construction of handbook for the training: it contains the nutritional knowledge, food security management and the sustainable development concept (CEDPA, 1999; Cohen, 2002; InWent-DSE-ZEL, 2002; Thiengkamol, 2004; Thiengkamol, 2009).

5) The stakeholders will be selected with purposive sampling from the target urban community in Bang Sue District, Bangkok. They will be recruited according to the setting criteria (willingness, time, devotion, and public mind).

6) The 30 participants were recruited for determination of nutritional knowledge, and proper food consumption, and the sustainable development concept. The systematic operation of 30 participants was trained with Participatory-Appreciate-Influence-Control (PAIC). Moreover, they would be able to develop action plans and projects for practicing through brain storming at training seminar period. The brain storming included SWOT (Strength-Weakness-Opportunity-Threat) analysis (Langly, 1998; Weiss, 1993; Sproull, 1995).

7) The Pretest – Post-test One Group Design was used to test for before and after training process with Participatory-Appreciate-Influence-Control (PAIC).

8) The Three Dimensional Evaluation (TDE) is used to determination the congruence of three aspects evaluation; self-evaluation, group-evaluation, and trainer-evaluation for training

participation, nutritional knowledge achievement, understanding of food consumption behavior, and community food security management.

9) PAMEI¹ technique is employed to identify the performance, assessment, monitoring, evaluating of participants performance on food consumption behavior, including the cooperation of operation and management on the community food security project at Bang Sue District, Bangkok.

Research Results and Discussions

The results of one group pretest – post-test are designed to determine the training achievement of 30 participants with PAIC technique for nutritional knowledge achievement. The results showed that post-test mean scores of participants were significantly higher than the pretest mean scores ($p < .001$) (table 1).

Table 1: Achievement of the Pretest - Post-test of 30 Participants

Experimental Group	Number (n)	Mean	S.D.	S.E.	t
Pretest	30	19.13	3.19	.58	3.726*
Post-test	30	21.30	3.46	.63	

* $P < .01$

The results of Three Dimensional Evaluation of 30 participants was employed for determination the congruence of three aspects evaluation; self-evaluation, group-evaluation, and trainer-evaluation, by using One-way ANOVA Analysis to investigate the mean scores difference of three aspects evaluations. The results of One-way ANOVA Analysis showed that there were no different of mean scores about understanding of food consumption behavior, and community food security management (table 2).

Table 2: Three Dimensional Evaluations of 30 Participants

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Group	.048	2	.024	.453	.640
Within Group	1.484	28	.053		
Total	1.532	29			

Therefore, it might indicate that the participant understood and gained more knowledge about nutritional knowledge, food security management and the sustainable development concept.

Moreover, they were able to propose the action plan and projects for practicing through brainstorming at the training seminar using SWOT (Strength-Weakness-Opportunity-Threat) analysis to indicate that the strength of their urban communities was the community food security in terms of food resource accessibility, food availability and food production resources but the weakness of urban community was in term of affordable food, nutritional knowledge, and consumption behavior. In aspects of opportunity, they had more chances to gain nutritional knowledge and consumption behavior from mass media communications through different channels such as television, radio, magazine, newspaper, and personal media in the community. In the aspect of threats, they were faced with high cost of living and no area for household cultivating and farming of basic essential food such as rice, vegetables, and fruits unlike rural community.

During PAIC training process, most of the participants realized that they had the wrong idea about consumption behavior because they lack of knowledge on food nutritional component. Particularly, they should stop consuming fast food dishes and they should improve their eating habits by returning to their original Thai menu since it composes of variety of vegetables, herbs, and fruits. Also, they commit themselves to share their new nutritional knowledge, to distribute to their families and neighbors and they plan to hold a project to educate the students in the schools nearby their houses as well. All participants agreed to hold a monthly meeting to discuss and monitor their consumption behaviors including evaluating their health states by checking up

at the primary health care unit every six months. Then they will share their health reports and plan to improve their by holding an exercise club in the community such as aerobic dance, classical dance and jogging by PAMEI technique.

PAMEI technique is employed for identifying the performance, assessment, monitoring, and evaluating for participants performance on food consumption behavior. This includes the cooperation of operation and management on community food security project at Bang Sue District, Bangkok. Some of them periodically participate in the food security project because of their involvement in numerous community activities but most of them realize the importance of food security management.

The results indicated that the community people at Bang Sue District in Bangkok gained more nutritional knowledge after participating in the PAIC training (Thiengkamol, 2004; Thiengkamol, 2005; Jansab, 2006). This might imply that the PAIC technique is an effective for raising knowledge in various aspects and for different target groups.

The results of TDE of 30 participants was employed for determining the congruence of three aspects evaluation; self-evaluation, group-evaluation, and trainer-evaluation. It showed that there were no differences of mean scores in understanding food consumption behavior, and community food security management (Thiengkamol, 2004). This confirms that PAIC training is effective for brainstorming for developing vision and concepts in various issues such as food consumption behavior, community food security, sustainable development, energy conservation, natural resource conservation, and community strengthen (Thiengkamol, 2004; Thiengkamol, 2005; Jansab, 2006).

SWOT (Strength-Weakness-Opportunity-Threat) analysis was integrated to implement in PAIC training process. These clearly expressed the strength, weakness, opportunity, and threats of urban community food security. Finally, it is obvious that they need to search the way to overcome the low income with different ideas being suggested during this training process in order to meet their four basic needs. Particularly food security in their daily lives, which should be regarded as the most essential element to meet a healthier quality of life and sustainable development due to changing their consumption behavioral back to Thai traditional food which are rich in protein, carbohydrates, minerals and fiber, also having less fat. Additionally, they can

spend less money on Thai food than they would on fast food (Thiengkamol, 2005 & Jansab, 2006).

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Abbreviations

(1) Definitions of PAMEI technique

Participatory Performance (P) means to observe and examine the participant performance in the training course of MML techniques in two phases: first during the period of participation in the training course and secondly as trainer performing after training was received, by expressing their capability as a facilitator, educator and trainer individually or collectively with the network or other groups in the community and other societies.

Participatory Assessment (A) is a method for determining, from the participant point of view: what activities are needed and can be supported; they have identified the right problem and right solutions via using the application of Appreciate-Influence-Control Process (AIC) with integration of the SWOT analysis technique for seek a shared vision to set plan and project to implement to accomplish the objectives of environment and energy conservation.

Participatory Monitoring (M) is a systematic recording and periodic analysis of information that has been chosen and recorded by participants with the help of researcher team, with the main purpose being to provide information during the life of the project, so that adjustments and/or modifications can be made if necessary.

Participatory Evaluation (E) is an opportunity for both researcher team and participants to stop and reflect on the past in order to make decisions about the future. Participants are encouraged and supported by researcher team to take responsibility and control of planning what is to be evaluated, how the evaluation will be done, carrying out the evaluation, and analyzing information and presenting evaluation results, since the participants already intuitively and informally evaluate, in light of their own individual and/or group, the objectives. The evaluation was done by employing the invented Three Dimensional Evaluation (TDE) for the training course achievement and invented Four Dimensional Evaluation (FDE) or Round Dimensional Evaluation (RDE) techniques for trainer performances of participants.

Participatory Impact (I) is an activity to be practiced by participants, in order to perform as trainers or for participation in training courses to provide knowledge for different groups or institutes in the communities on the issue of energy conservation and network development process, including getting the community people to participate in activities such as meetings held in the community for giving knowledge about environment and energy conservation and taking part in a campaign of electricity and pipe water use reduction.

(2) Three Dimensional Evaluation (TDE)

Three Dimensional Evaluation (TDE) is a mean to be employed for determining the congruence of three aspects of evaluation: self-evaluation, group-evaluation, and trainer-evaluation, by using One-way ANOVA Analysis to investigate the mean scores difference of three groups.

(3) Four Dimensional Evaluation (FDE)

Four Dimensional Evaluation (FDE) or Round Dimensional Evaluation (RDE) is a mean to be employed for determining the congruence of four aspects of evaluation: audience-evaluation, self-evaluation, group-evaluation, and trainer-evaluation, by using One-way ANOVA Analysis to investigate the mean scores difference of four groups.