

CHAPTER 2



LITERATURE REVIEW

There are three sections in this chapter, including effect of population nutritional status and food consumption behavior and economic study on nutrition analysis. Firstly, from microeconomics, macroeconomics and policy making point of view, to illustrate that nutrition was very important indicator to people's health, and also in socioeconomic improvement. Some economic studies on nutrition analysis were shown in second part, especially in emphasizing analysis methodology. Since this study will analyze the relationship between nutritional status and food consumption, we should take into account how people choose their food from foods market. As a part of microeconomic, some concepts of consumer behavior theory will be put in the third part within this chapter.

2.1 Effect of Population Nutritional Status and Food Consumption

Per Pinstrup-Adersen, Rajul Pandya-Lorch, and Mark W. Rosegrant (1997, Food Policy Report), they revised and updated global model, the International Model for Policy Analysis of Commodities and Trade (IMPACT), makes a forecasting to project the future world food situation under several scenarios. They found that views on the size and dominance of China's food economy in the 21st century vary widely, with some forecasting that China will be major cereal exporter and others cautioning that China might become a major cereal importer, if not the world's largest importer.

Alternative simulations suggest that only with extraordinarily rapid income growth, severe resource degradation, and failure to invest in agriculture would China's net cereal imports increase substantially and have a significant effect on world cereal prices. For instance, should there be no increase in government investment in the agriculture sector in China, cereal production could be 19 percent lower in 2020 relative to the baseline scenario. This could lead to net cereal imports of 85 million tons in 2020, more than double the volume forecast in the baseline scenario, which would cause world cereal prices to increase by 10 percent relative to the baseline scenario.

If the Chinese government adopts policies to promote the attainment of 100 percent self-sufficiency in cereals, world cereal prices are forecast to be 6 percent lower in 2020 relative to the baseline scenario. China's cereal production would be higher relative to the baseline scenario, while demand would be lower. And should the Chinese government pursue a policy of 95 percent self-sufficiency in cereals, world cereal prices would only be slightly higher relative to the baseline scenario.

Christopher L. Delgado, Mark W. Rosegrant, Henning Steinfeld, Simeon Ehui, and Claude Courbois (1999) mentioned that the Livestock Revolution was propelled by people in developing countries increasing their consumption of animal products from the very low levels of the past. Aggregate consumption grows fastest in countries where population was growing rapidly, where diets were changing with an increasingly urban population, and where high income growth enables more people to add variety to their diets. That mean per capita meat consumption was highly correlated with national per capita income. ... Policy was not very good at changing consumption patterns in developing countries, given the

structural nature of the changes driving the nutritional transformation (income growth, urbanization, and population growth). However, policy was critical to determining the costs and impacts of livestock production, whether the extra products were produced at home or abroad, and whether they were produced by smallholders or by large industrial enterprises.

Micheal C.Latham and Micheline Beaudry (1999) said that, government in developing countries might need to reconsider their policies and fight to allow regulations to limit competition of imported staple foods with the locally produced ones. A policy to encourage the local production of staple foods had many advantages. It reduced the use of scarce foreign exchange; it lessened dependence and uncertainty (and even short delays in supplied can had serious negative impacts on the nutrition of the poor); it could create employment, keep people on the land and reduce migration to the cities; it could help maintain national cultural practices; and often the local staple might be nutritionally superior to the imported staple. More emphasis on local sustainability and protection from unfair international competition in key areas was what allowed several countries of Asia to succeed over the last decades in substantially improving the food security of their population.

C.Gopalan 's lecture which at the 8th Asian Congress of Nutrition in Seoul on August 31, 1999. 'Better use of plant foods': With the discovery of a whole range of phytochemicals, and with nutritional and health-promoting values in plants, several new vistas have opened up. The importance of plant foods in health, nutrition and disease management is now being increasingly recognized. While the current emphasis in herbal pharmacology is on the discovery of herbal medicines and phytotherapy, distinction between the use of foods for better nutrition, health promotion, and for prevention of disease, are indeed faint. Any food that promotes health and helps prevent diseases is a 'nutritious food'. We

should indeed enlarge our concept of nutrients to include not only vitamins and minerals and the so-called proximate principles, but also phytochemicals with health promoting properties which act as adjuvants to conventional 'nutrients'. In view of their rich bio-diversity, Asian countries should accord highest priority to intensive research on plant foods.

Chen Chunming et al. (1990) pointed out that the rural, especially the low-income population should be the target for nutritional improvement. Nutrition was not only an outcome of socioeconomic development, it was also a major factor influencing and contributing resources to socioeconomic development. Thus was of great importance to involve nutritional considerations in national development plans. It was recommended that nutritional indicators, such as dietary energy intake, desirable dietary pattern, children growth and other indicators of nutritional status be included in the criteria for socioeconomic development.

Li dan and Chang ying(1991) wrote article to introduce a new method for integrate nutritional evaluation – D D P (Desirable Dietary Pattern), which was advanced by specialist committee of Asia-Pacific Food and Nutrition Network in 1988. They said, in the past, most methods in nutritional evaluation was expressed through percentage of energy intake in some major nutrients, that was not only very difficult to understand by non-nutritionist ,but also more complication in calculation. DDP was a new method that used food category to get the nutritional evaluation, the totally score of DDP was 100, more close to 100 means the nutritional status was very well, if there were some cases was less than 70, then that means the nutritional evaluation and food pattern of those cases were poor. They used DDP to assess the nutritional status in Asia-Pacific developing countries in tow period from 1979 to 1981, 1986 to 1988. The research pointed out, the DDP score of many developing countries in this area were still lower than 70, such as Bangladeshi, Myanmar, Nepal, Cambodia, and Vietnam, that means

the people's nutritional status in those countries were very poor. On the other hand, there were another group, such as Philippine, Korea, India, Thailand, Fijian, and Sri Lanka, the DDP score of these countries were higher than before, that means the nutritional status in these countries got a obvious improvement. To compare with them, later one that means DDP was more easy to be comprehended by non-nutritionist, such as nutrition policy maker, food and agriculture planning maker and public.

2.2 Economic Study on Nutrition Analysis

Yang Dongni, Yang Ye, and Per Pinstrup-Aderson (1990) carried out a study about the effects of food price changes in 1990 on incomes and food consumption by urban household in China. They showed us that the price increases implemented for pork, eggs, vegetables and sugar in 1988 resulted in significant decreases in the consumption of pork, vegetables and sugar. The price increase for eggs was small and the impact on the consumption was correspondingly small. Consumers responded to the increasing prices by substituting towards foods for which prices did not increase and the net impact on the consumption of energy, protein and fat differed considerably from the impact on the consumption of the four major commodities. The impact of the price increases on real incomes was most severe among the low income households. Income distribution as well as absolute poverty deteriorated, although the effects on both were small. Thus the policy decision to increase pork prices both in absolute terms and relative to poultry appears to have been very successful in term of its potential health effects and its effect on future grain demand.

Barry M. Popkin et al. (1998) pointed out that the nutrition transition in many low income countries was associated with an increasing polarization of the

population into those faced with obesity and other diseases linked with over-nutrition and those faced with problems linked to dietary deficit.

China is a classic example of this situation, but many others exist. Over the past two decades, China has achieved remarkable economic progress. From 1979 to 1987, income per capita quadrupled in rural areas and tripled in urban sites. Accompanying these changes was a rapid improvement of food supply and consumption. The emerging food consumption pattern represent a marked shift not only toward more food products perceived to provide a higher quality diet but also toward higher fat food and more processed food products.

Fengying Zhai, et al. (1996) studied in health and nutrition survey – an eight-provinces case study, China. They said the remarkable transition of the Chinese economy has led to significant shifts in government price policies concerning grains, livestock and processed commodities such as edible oil. Since 1988, the Chinese government has initiated a series of price policies for gradual abolition of government grain procurement and urban rationing systems. The price policies regarding income support and poverty alleviation have different effects across different income groups.

Xuguang Guo, Barry M. Popkin, Thomas A. Mroz, and Fengying Zhai (1998) studied in 'Food Price Policy Can Favorably Alter Macronutrient Intake in China'. That study presented a policy analysis concerning how food price changes could affect dietary intake. It estimated the price effects on diet (presented as elasticity or the effect of a 1% change in price on the percentage change in dietary intake). The overall price elasticities were estimated for different income population.

2.3 Economic Theory in Consumer Behavior

Robert S. Pindyck and Daniel L. Rubinfeld in 'Microeconomics'(fourth edition) shown us, consumer behavior was best understood in three steps. The first step was to examine consumer preference. Specifically, we need a practical way to describe how people might prefer one good to another. But preferences ignore prices. Therefore as a second step, we must account for the fact that consumers face budget constraints – they had limited incomes that restrict the quantities of goods that they can buy. The third step is to put consumer preferences and budget constraints together to determine consumer choices. In other words, given their preferences and limited incomes, what combinations of goods will consumers buy to maximize their satisfaction? The answer was, if we assumed that consumers made this choice in a rational way – that they choose goods to maximize the satisfaction they can achieve, given the limited budget available to them.