

Vol. 9

ISSN 0126-3080

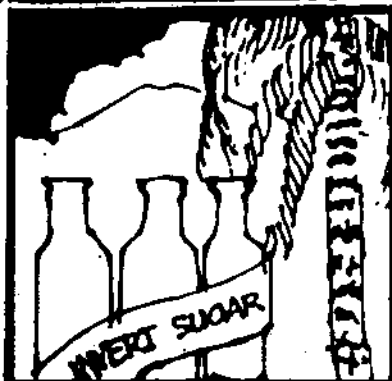
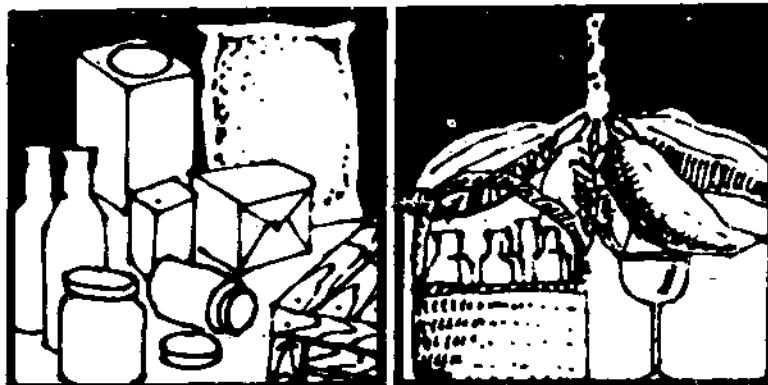
No. 20

Desember 1991

Buletin



**PENELITIAN DAN PENGEMBANGAN
TEKNOLOGI PANGAN**



PUSBANGTEPA/FTDC

DAFTAR ISI

Halaman

EDITORIAL ii

PENELITIAN:

PEMBUATAN BREM CAIR DARI SINGKONG (Brem Wine Making
from Cassava Tuber)
Djundjung Daulay dan Rosma B.S. Siahaan 1

MEMPELAJARI PROSES PEMBUATAN SIRUP GULA INVERT DARI
NIRA (*Arenga pinnata* Merr) (Study on the Processing
of Invert Sugar from Palm (*Arenga pinnata* Merr))
Rizal Syarief, Hermana, dan M. Chafied 17

TULISAN ILMIAH:

PENGEMASAN DAN LINGKUNGAN HIDUP
Rizal Syarief dan Sutedja Wiraatmadja 29

STREETFOODS: AN ASIAN PERSPECTIVE
With special reference to Indonesia
F.G. Winarno 41

PAKET INDUSTRI:

PEMBUATAN KERIPIK UBI JALAR SIMULASI
Tri Susilowati 59

INFO KEGIATAN PUSBANGTEPA LP-IPB:

DISAIN MESIN PENGEMAS VAKUM
Sutedja Wiraatmadja 63

LOKAKARYA PEGAWAI PUSBANGTEPA LP-IPB

Suhaemi 67

STREETFOODS: AN ASIAN PERSPECTIVE
With special reference to Indonesia*)
F.G. Winarno)**

INTRODUCTION: WHAT IS STREETFOOD

The Regional Workshop on Streetfoods in Asia, which was conducted in Yogyakarta, Indonesia (Anonymous, 1986) agreed to define streetfoods are as follows. "Streetfoods are ready to eat foods and beverages prepared and/or sold by food vendors or hawkers, especially in street and other similar public places". It should be noted that streetfoods in this discussion not include the prepackaged foods, and the streetfoods is not synonym for fastfoods nor "junk foods".

Like streetfoods, fastfoods is relatively low cost foods, sold by outlets but is usually franchises of International chains and future quick service and limited choice of menu.

"Junk foods" is prepackaged processed foods which contain mainly carbohydrates and additives, little or no balanced essential nutrients, and is often high in salt, sugar and colouring agents of non food grade (Allain, 1988).

Streetfood sellers are also known as hawkers or vendors, are persons who prepare and sell streetfoods. Streetfood handlers are "invisible" workers who help to purchase, transport and prepare the raw material and

*) Paper presented at 8th World Congress of Food Science and Technology, Toronto, Canada, September 30 - October 4, 1991.

***) Senior Scientist, Food Technology Development Center, P.O. Box 61, Bogor, Indonesia.

ingredients for streetfoods production and to a certain extent also involve in selling.

PROSPECTIVES AND DISADVANTAGES OF STREETFOODS

A. PROSPECTIVES

Economic

The contribution of streetfoods to the national economy of the Third world countries is vastly underestimated or even ignored. Annual sales for the small city like Bogor, Indonesia (population 250,000) was reported amount to US\$ 67 millions (Cohen, 1984).

According to the study of Andriga and Kies cited by Allain (1988), in Malaysia the estimated average daily turnover per hawker is around US\$ 61 reported sales vary from US\$ 10 to 120 per day, with net income varies from US\$ 4 to US\$ 36 with an average of US\$ 16 per day. If one computes the average daily total sales from estimated 100,000 stalls in Malaysia, the annual sales of streetfoods amount to US\$ 2.2 billion. This is not negligible especially if one considers that the amount is practically entirely generated within the country, thereby promoting economic national self sufficiency.

The sad thing is that most of streetfoods activities in developing countries are not recognized yet. On the contrary the foreign controlled fastfoods chains are getting many advantages and much cooperation from the government and yet are geared to take as much profit as possible out of the country.

In reality benefits of the streetfood trade extend both up and downstream in the local economy.

Employment

Eventhough streetfoods industries are generally small scale in size, which require simple skill, simple

facilities and small capital, due to its enormous numbers of vendors they have significant potential in generating employments. For example, the town of Bogor, Indonesia has 18,000 streetfoods vendors or one vendor for every 16 people. About 26% of the informal sector in Bogor directly found in the streetfood vendor (Chapman, 1984).

The role of streetfood vendors are a positive factor in the local economy. They offer employment to lower educated individuals who may otherwise not be able to find employment.

An increased awareness of the limited opportunities for employment provided by large scale industrialization and the rapid growth of the population of many urban areas, have led to awareness by planners that the urban informal sector plays an increasingly important role in many cities.

Increase in urbanization caused by increasing population growth in urban areas and the movement of people from rural areas to urban centers have led to large increases in the number of vendors in many cities of the world.

People are attached to these occupations by possibility of earning relatively high incomes. The need for relatively low capital expenditures is also attractive for certain types of sellers. People are also able to work on their own time, with few constraints on their movement, and do not have to answer to a supervisor or employers. Most of the vendors were earning between three to ten times the minimum wage in the country.

Nutrition Source

The demand for low-cost prepared foods varies for among customers from various economic strata, but some

people with little or no income are almost exclusively depend on food supplied by streetfood vendors.

In some cases, it may even be more economical for customers to purchase food from streetfood vendors rather than paying for transportation costs and costs for cooking. Streetfood sellers can help supply an expanding urban population with relatively inexpensive foods due to low overhead costs.

For the low income worker, streetfoods are essential. In Asian countries, some workers, as well as students have their first meal of the day from streetfood vendors. Although there is no indepth nutritional studies in this regards. It is believed that many low income families would be worse off if there were no streetfood vendors to serve fast and inexpensive foods.

From the Netherlands-Indonesia Streetfood Project (1991), the nutritional values of streetfoods vary greatly. The average food energy of streetfoods may ranges from 5 Cal to 679 Cal per 100 gram. However based on the analysis and calculation of the normal condition of streetfood consumption, the Indonesia RDA energy requirements may easily be met by consuming streetfood of US\$ 1 cost.

Several items such as boiled and fried peanuts, fried tempeh, fried tofu, are proved to be a good source of both protein and fat. Several local dishes and preparation using vegetable and animal products also having good nutrition and balanced food if consumed in combination.

Total diet study have also been conducted in Bogor, Indonesia, for a group of 47 students in the age of 18 to 24 years old. Most of the respondent students came from the middle and low income families. This range of age were selected due to probably having the highest

food consumption as compared with the other age-categories. From that study it was found that, from total energy consumed by students, the streetfood constitutes the largest part of energy (78%), protein 82% and iron 79% intake respectively. This data could be used as indicator that the streetfood may play major and important role in the total diet for students in Indonesia.

B. DISADVANTAGES

From the negative aspect, the prohibited colouring agents are still widely used by the streetfood producers such as rhodamin B and methanil yellow and similarly the use of non permitted synthetic sweeteners for streetfood drinks. Other negative aspect were also reported for contamination of toxic substances, for example lead contamination (1.0 ppm - 9.63 ppm). It was found that 17% of streetfoods containing peanut components were contaminated with aflatoxin and some of them were reported to contain aflatoxin above 30 ppb a safety margin set up by FAO/WHO guidelines.

Pesticide residues were also detected in streetfoods particularly in the vegetable-base products. The extreme samples were reported to contain pesticide residues more than 80 ppb.

As far as microbiological quality as concern, it was reported that in general, drinks sold by stationary vendors have better microbiological quality than those sold by ambulatory vendors. Similar condition was found for the drinks sold in a better socio-economic environment as compare to crowded slums. This condition is directly affected by the nature of water they are using to prepare drinks. Some of the drinks presumably contain pathogenic bacteria.

Snacks are considered as safe foods since most of them are fried or baked during preparation. Besides they are usually consumed within few hours after preparation, except those snacks which known as wet snacks or watery snacks (asinan and rujak both are local foods in Indonesia) which are considered with high risk of contamination of pathogenic bacteria.

Eventhough, based on laboratory analysis, streetfoods may be considered as "risky", in practical sense of day to day life, only very few cases of food poisoning due to streetfoods have been reported. This probably due to the development of individuals immunity at certain extent.

As far as meals as concern, if it is served hot streetfoods such as noodles, meat balls, soto etc are considered as safe, while cold meals such as rice and dishes mixed together, are high risk foods due to high microbial contamination including pathogenic bacteria. Most of cold meals containing peanut sauce or coconut milk considered as high risk foods. The place of preparing and selling the streetfoods significantly affect their safety condition.

The health risk of food is not only determined by the concentration of various additives and contaminants in a food product, but also by the daily intake of a certain contaminant or additive through the consumer diet.

PRESENT STATUS OF STREETFOODS IN SOME ASIAN COUNTRIES

Increases in urbanization caused by increasing population growth in urban area have led to large increases in member of vendors in many Asian cities and town.

It was apparent that the streetfood industry in Asia, albeit informal was a vast industry in which involves tremendous amounts of capital and millions of people. It was an industry that provided employment to large segments of the population who might otherwise be unemployed, particularly women. It was also a source of unexpensive, quick nutritious food as well as a source of traditional foods. It is also an industry that in many Asian countries is not recognised or regulated but merely tolerated or ignored until the vendors became a nuisance. The followings are recent status of streetfoods in selected Asian countries as reported during the regional workshop (Anonymous, 1986).

A. PEOPLE'S REPUBLIC OF CHINA

Until 1970 the number of private food premises (mainly food vendors) was less than 1% of the total number of food premises. However, the number of food vendors is currently about 1 million, i.e. about 60% of the total number of food premises. The number of people involved is around 2 million.

The hygienic status of food vendors is being improved continuously by the implementation of local regulations, concerning the selection of sites for food markets and vendors, the food hygienic licences, separated places and requirements for ready-to-eat foods. Some positive results have been obtained to provide nutritious, hygienic, convenient and unexpensive food to consumers, based on the principle of "not only stimulating the development of economy but also strengthening management". Up to the current time there are 275 national and 705 local regulations on food hygiene.

B. MALAYSIA

The multi-racial character of the Malaysia population provides an endless variety of streetfoods avail-

able in the country. Ready-to-eat foods are most important as they are readily consumable and are sold in more than 60% of the foods stalls in Malaysia. Public celebrations are usually associated with the increase in the amount and variety of these foods.

There are more than 100,000 licenced food vendors in Malaysia and a considerable number of unlicenced ones. Depending on the location some vendors are adequate in the availability of basic facilities, such as potable water, sanitation and refuse disposal, while other lack these facilities in various degrees.

The Ministry of Health and respectively local authorities are directly responsible for maintaining and enforcing codes of practice of food hygiene and the by-laws of the country. Realising its economic significance, the sale of streetfoods is being encouraged through licensing, provision of basic facilities, regular inspections, assistance in the form of subsidies and loans where appropriate, and proper setting and relocation. It is hoped that efforts can be continuously made to improve the sale of streetfoods in Malaysia so that it is conveniently available for Malaysians as well as tourists and visitors.

C. SINGAPORE

In 1971, Singapore embarked on a national programme to build food centres to resettle licensed street hawkers. With the recent completion of this programme, hawkers are no longer allowed to sell food in the streets.

Essential necessities such as piped potable water and electricity supplies are provided in food centres. The centres with bulk bins are also provided for the disposal of refuse. The removal of refuse is carried out daily. Mechanical exhaust system is also provided in

food centres within enclosed buildings.

The overall strategy in the control of hawkers involves various aspects such as health education, inspection of stalls, vaccination against typhoid, sampling of food, law enforcement, etc.

While the structural upgrading of food centre will remain a strategy to improve existing facilities, hawkers in Singapore are expected to upgrade their operations and introduce more equipment such as food warmers, drink dispensers, chillers, etc. in keeping with the challenges of the fast-progressing society.

D. THAILAND

Streetfoods have been in Thailand for a very long time and especially in all the large cities. In Bangkok, the streetfood vendors are about 12,695 according to latest statistics. They play an important role of food suppliers in the city. As people go out to work, they need food in easy and economical ways particularly for their lunch which is especially obtained from streetfood sellers.

There are 4 means of selling streetfoods:

- (a) Carrying readily cooked food in baskets and selling them by walking place to place.
- (b) Setting up temporary foods stalls in front of the market for a certain time while the market is opened.
- (c) Carrying food by pushed carts, motorcycles, and automobiles, moving from place to place and selling next to the side of walks in front of large department stores.
- (d) Carrying foods by boats and gathering in various locations. This selling and buying practice is called the "floating markets". They are also an attractive spot for the tourist.

The city and central government of Thailand have been faced with a big problem involving the streetfood sellers, which has required careful handling. It is not related only with the unemployment and political problems resulting from urbanization. Because of this it has required time to compromise the confrontation between the low income population and the governing bodies. However, the policy appears to be finally set and it is expected that there will be gradual improvement of the current streetfood situation. The applied policy emphasises 3 aspects:

- (a) Clean food preparation, material used and method of preparation.
- (b) Clean utensils, dishes and clean water to be used.
- (c) Clean surrounding area, during and after services.

STREETFOODS IN INDONESIA

There were three major studies conducted recently on streetfoods conducted in Indonesia mainly involving the city of Bogor and its surrounding areas as the site for study. These activities were conducted by Bogor Agricultural University (IPB) in cooperation with FAO, EPOC (Equity Policy Center) and Technical Cooperation of the Netherlands through TNO and VU. The studies covered the aspect of socio-economy, processing technology, wholesomeness, and nutritious value of streetfoods.

The studies have indicated that streetfoods play an important role in providing inexpensive, and nutritious foods, particularly for middle and low income families. Besides, it has demonstrated that streetfoods can accommodate approximately 26% of total informal sector employment. From the wholesomeness point of view, the studies found high count of bacteria in some streetfood samples. Addi-

tionally, lead contamination and non-permitted chemical additives were also found in some samples, particularly snacks and drinks. Poor quality of water generally leads to poor sanitation and unhygienic practices of the streetfood vendors. Most of the street vendors have not received any training in food handling. However, they reported their willingness in having such training.

The following is the activities concerning streetfoods in Indonesia in more detailed information, particularly the IPB-TNO-VU project which is entering the fourth or the final years of the study.

A. SET UP AND ORGANIZATION

The project has been set up into two phases. The first phase (1988-1990) consisted of research activities to inventory relevant characteristics of the target population consisting of street food producers, vendors and consumers. and to identify vulnerable food items and problems in the food pathway and food handling practices. In the second phase (1990-1992) findings from the first phase are used to develop preliminary intervention programme in cooperation with the target population and the local administration, while research and experiments are continued.

In general based on the type of selling places, streetfood trade (enterprises) could be divided into three categories:

- a. Stationary vendors, which are operating in concentrations of strategic locations such as in front of schools, offices, etc. (STAT).
- b. Stationary outlets, which are scattered in Kampung and residential areas (RES).
- c. Ambulatory vendors, who peddle their wares around (AMB).

Various types of peddlers and ambulatory vendors have been an important feature of town and cities throughout history.

Meanwhile, base on the size of the enterprises there are three categories:

- a. One person enterprise (OPE)
- b. Household enterprises (HE)
- c. Larger enterprises with five or more persons involved (LE).

Above terminologies will be used throughout this paper. The streetfoods are grouped into three categories e.i. snacks, drinks and meals.

B. THE ROLE OF WOMEN

Studies in a number of countries have shown the role of women in streetfood activities is very important. They involve not only in the preparation of food but also in its production and sale. In Honduras, Indonesia, and Nigeria, more than 90% of all vendors were women. In Philippine, Senegal and Thailand the figures are somewhat lower but still over 50%. However, it is interesting to note that due to social custom of the population, it was found that in Pune, India 95% streetfood vendors were male (Anonymous, 1988).

It is generally assumed that women play an important role in the streetfood business, particularly in purchasing raw material and ingredient, preparation, and sale. Finding from the base line survey (Table 1) showed that the participation of women is largely (76.7%) concentrated on residential outlet (RES). Table 2 shows that female labourer are predominantly family labours whereas the non family labour is overwhelmingly male.

The majority of the streetfood micro business employ one women labour in their business (Table 3).

Those figures showed in the tables indicate how important and significant are the role of women in streetfood micro business in Indonesia.

Table 1. Women occupation (%) in streetfood selling in Bogor area.

Sex	Type of business			Average
	STAT	RES	AMB	
Man	68.3	23.3	71.3	71.7
Women	31.7	76.7	28.3	28.3
Total	100	100	100	

Table 2. Family and non family labour by size of enterprise and sex (FTDC-TNO-VU, 1990).

Enterprise Sex	HE(22)		LE(10)		Total=22	
	M	F	M	F	M	F
Family labour	6	12	3	12	9	24
Non-family labour	16	7	65	3	81	10
Total	22	19	68	15	90	34

Table 3. Number of women working in different types of streetfoods enterprises.

Number of women	Type of business		
	STAT	RES	AMB
0	21.3	27.1	32.5
1	56.4	50.0	50.0
2	16.0	14.3	12.5
3	2.1	7.1	5.0
4	4.3	1.4	-

C. REGULATION

From the outcome of the International Expert Consultation on Streetfoods, conducted in Yogyakarta, Indonesia in 1988. It was shown that in general the authorities ignore both the socio-economic factors involves as well as the realities of the economic significance of streetfoods. For that reason the streetfood sector had still not been recognized in many countries and continued to be treated as a so called "informal sector". Before any regulation could be applied to street vendors, the local authority, local bodies or city officials need to recognize the streetfood vendor existency as an important economic and social activities, which deserves acknowledgement research and assistance.

The extraordinary ability of streetfood vendor to produce cheap and nutritious traditional meals must be safeguarded, encouraged and assisted.

Consumers and consumer organizations have as much of a role to play as government authorities, hawker's association and scientists. Better consumer information and education can help authorities to take quick preventive and remedial action. Consumer participation and advocacy can help to prevent food born diseases. In this case consumers have a right to be represented.

Rules and regulations for safe streetfoods production and sales need to be established and enforced. Information and education are the bases of enforcement.

D. INTERVENTION AND RECOMMENDATION

The intervention program have three targets of goal:

- a. To improve the quality and safety of streetfoods
- b. To strengthen the socio-economic position of street-

- food enterprises and
- c. To formulate policy recommendations for local and central government.

The intervention programme could be approached through first by: a) General Intervention and b) Product Specific Intervention.

The second by technological findings that can be applied by all kind of streetfood producers and vendors will be included in the general intervention, while those adjustment that are specific for certain streetfoods will be included in the product specific intervention.

In addition, there should be included in the intervention program a close cooperation with local government and extention program for consumer.

General Intervention for Producers and Vendors

Objectives:

1. Awareness of food based diseases.
2. Reducing microbial and chemical contaminations:
 - a. Improvement of working environment;
 - b. Personal hygiene;
 - c. Water-use and cleaning of materials/utensils;
 - d. Improvement of storage, packaging, display and transport;
 - e. Adjustment of equipment and utensils;
 - f. Prevention of using non-food additives.
3. Improvement of entrepreneurship skills, marketing and credit facilities:
 - a. Dividing of tasks and responsibilities;
 - b. Use of budget;
 - c. Bookkeeping;
 - d. Money saving programmes and credit facilities;
 - e. Self promotion.

4. Stimulating cooperation and forming interest groups (eg. in order to facilitate promotion, money saving and credits; cost reduction, buying raw materials and selecting safe additives; and management of group.

Product Specific Intervention for Producers, Vendors on Specific Products

Objectives:

Reducing microbial and chemical contaminations:

- a. Improvement of food handling practices;
- b. Modification of processing especially on critical points;
- c. Improvement of storage, packaging, display and transport;
- d. Upgrading of equipment and utensils.

Cooperation with Local Government

Objectives:

1. Foster a positive attitude towards streetfood vendors.
2. Forming and strengthening a task group, consisting of relevant departments and institutes.

Extension for Consumers

Objectives:

1. Make consumers aware about possible contaminations of streetfood.
2. Provide information how to distinguish between good and bad food handling practices.
3. Provide information about nutritional value of food and daily necessities or requirement.

CONCLUSIONS

Streetfood microbusiness is an activity which contributes significantly to the economy of many Asian developing

countries. It supply the major foods requirements for low and middle income people. In the near future the presence of streetfoods will always be significant. Therefore streetfoods enterprises deserve to be recognized and appreciated by the outhorities.

There are many changes to improve, the situation of streetfood business qualitatively and economically through appropriate intervention and regulation.

REFERENCES

- Allain, A. (1988). Streetfoods: The role and needs of consumers. Expert Consultation on Streetfoods. Yogyakarta, Indonesia, FAO.
- Anonymous (1986). Streetfood in Asia: Proc. Regional Workshop. FTDC-Bogor Agricultural University. Bogor, Indonesia.
- Anonymous, (1988). Expert Consultation on Streetfood. FAO December, Yogyakarta, Indonesia.
- Chapman, B. (1984). Streetfoods in Indonesia, The influence of streetfood trade on women and children. Equity Policy Center.
- Cohen, M. (1984). The urban streetfoods trade: Implementation for policy, Equity Policy Center, Washington D.C. 20009, 40p.
- FTDC/TNO/VU (1990). Streetfood enterprises: Cases studies of producers and vendors in Bogor, West Java. Streetfood Project Working Report No 4, 61p.