



Street foods in Calcutta

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Like many metropolises, Calcutta is in the grip of sudden and unprecedented urban growth, with an increase in the size of the city's labour force. Consequently, the demand for non-traditional services has increased; there has been a surge in service-oriented activities that are not part of the formal economic system. As the population pressure in the inner city grows, many people settle in suburbs and distant areas, and daily commuting has become a way of life. People have been forced to change their schedules, tastes and attitudes towards food consumption.

The eating habits of a considerable number of people in West Bengal have changed. In Calcutta the cheap eating houses which were in abundance 30 years ago have disappeared. The street vendors who sold only raw commodities in the past now sell prepared foods as well. Small shops have been replaced by transportable stands. Street foods are adopted because they are inexpensive, the taste is acceptable and they are conveniently sold wherever

people congregate (e.g. schools, marketplaces, railway stations and office centres).

In Calcutta the street food trade has shed its disorganized, lower-class image and is becoming a viable, important informal-sector industry. The activity provides income for people who would otherwise be unemployed, since entering the street food business only requires a few rupees and a location. Furthermore, street foods help meet the nutritional needs of a significant portion of the population. In spite of these advantages, street food vending is barely tolerated by many officials who view the activity as disorderly, untidy and an obstacle to traffic. Usually, there are no clear lines of official responsibility for street food vending and supervision is inadequate. Selling prepared foods in the streets also raises concerns about food safety.

THE PROJECT

The Calcutta Municipal Corporation and the All India Institute of Hygiene and Public Health (AIIPH) needed

better data on both food safety and the socio-economic aspects of the street food sector. Thus, the Government of India sought assistance under the FAO Technical Cooperation Programme in 1992 to assess the street food situation, to identify measures to reduce the health risks for consumers and to improve the street food sector. Studies covered such issues as the legal aspects of street food vending; the safety of foods prepared and sold in the streets; socio-economic factors affecting consumers and vendors; street food industry practices; street food contamination; and the environmental and sanitary consequences of the activity. The project, Improving Street Foods in Calcutta, also conducted field testing of actions such as training and improvement of street food infrastructure. AIIHPH was responsible for the project's execution. Advisory and technical committees comprising representatives from the government, local authorities and AIIHPH were formed to monitor, advise and assist the project.

The first setting for the survey was College Square and its adjoining areas consisting of Calcutta University, the Medical College Hospital and schools, with about 1.5 km of footpaths. Consumers belong primarily to the middle class, although there is a large group of students from other social strata. The second site was the Sealdah area, which includes shopping centres, a very big railway station, a medical college, a convent school for girls and a cinema. This area is a stretch between two main roads, with footpaths on both sides. The customers are mainly commuters and low-income people. The third area, Dalhousie Square, includes the Writers' Building and its vicinity. It is a central and very congested area of about 150 m², accommodating 65 stalls. The consumers there are office workers and visitors as well as sightseers. The fourth site was the Gariahat shopping and residential area in southern Calcutta. It comprises the

footpaths off Gariahat Road. Consumers are affluent and middle-class people from the residential areas.

The studies classified street foods into three groups (Figure 1): foods prepared in small- or cottage-scale factories and brought to the street food stall for sale; foods prepared at the home of the vendor and brought to the street food stall for sale; and foods prepared at the street food stall itself and sold.

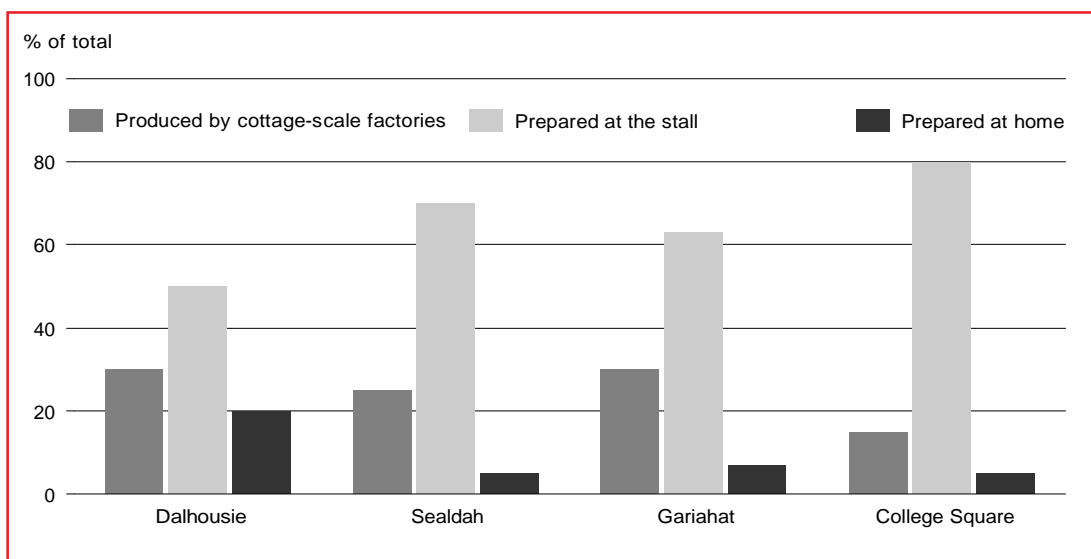
CONSUMERS

A total of 911 consumers were interviewed. All respondents were employed, and some were also students. Their monthly incomes varied from Rs 250 to Rs 10 000 or more (US\$1 = Rs 30 approximately). Approximately 80 percent of the respondents were male, ranging in age from 19 to 48 years, with an average age of 34 years. Women had "dual careers", working both inside and outside the home, with little time for culinary chores. To these women and their husbands, street food was a solution for their eating during the day. Many respondents were street traders themselves. Many of the consumers lived far from Calcutta, with daily commuting distances ranging from 20 to 100 km.

As many as 33 percent of the consumers interviewed purchased street foods on a daily basis, while about 23 percent patronized the stalls one to four times per week. Others interviewed were only occasional consumers. In the Writers' Building area, about 75 percent of the office workers obtained some of their diet from the street food stalls five days a week. Most of the consumers had bought street foods for a long time (ten months to 15 years). The majority consumed the foods on the spot and patronized different vendors.

Consumers spent Rs 40 to Rs 400 per month on street foods, according to their income and tastes. In Sealdah,

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Types of food prepared
in different areas
of Calcutta



1 to 2 percent of the consumers spent between Rs 700 and Rs 1 000 per month on street foods because these foods provided their total daily diet. On average, regular consumers spent Rs 250 on street foods per month.

Most foods were freshly prepared. Consumers felt that grilled hot snacks were safest. They were satisfied if the food was served hot. Consumers considered the quality of food, neatness, hygienic situation and set-up of the stalls inadequate. They supported government control for better quality, low prices and improved hygiene.

DIETARY ASPECTS

Street food vending provides a medium for integrating rural and urban areas economically, socially and culturally. There are many ethnic groups in Calcutta, and as a result the street foods represent a mixed cuisine including foods from the different Indian states as well as international fare. More than 50 items of precooked or instantly cooked foods were available at the stalls. A comprehensive evaluation was made of these foods with a record made of their common name, ingredients, serving dish, serving size and cost per serving.

The nutritional value of the food sold in the streets was assessed by analysing some popular meals. An average 500-g meal contained 20 to 30 g of protein, 12 to 15 g of fat (vegetable fat) and 174 to 183 g of carbohydrate and provided approximately 1 000 kcal. The meals cost between Rs 4 and Rs 8 (mean Rs 5). The analysis indicates that street foods may be the least expensive means of obtaining a nutritionally balanced meal outside the home, provided the consumer is informed and able to choose the proper combination of food. Rs 1 spent on street food provides approximately 200 kcal, of which 25 kcal are protein, 144 kcal are carbohydrate and 31 kcal are lipid (100 percent vegetable fat in a vegetarian diet; 80 percent vegetable fat and 20 percent fat of animal origin in a non-vegetarian diet).

STREET VENDORS

Although there are no official statistics, it has been estimated that Calcutta has approximately 130 000 street-vending stalls. Approximately half the vendors are stationary and the rest are itinerant. It was estimated that the number of people (owners and employees) operating fixed stalls was approximately 104 000.

The project surveyed 300 vendors, representing 30 percent of all stalls in the four study areas. Of the vendors surveyed 90 percent were male, and the vast majority of employees were male as well. On average, half the stalls had an employee. The age of male vendors ranged from 20 to 45 years, while the age of female vendors was 30 to 45 years. Educational levels among street food vendors were low in

general, and 21 percent of vendors were illiterate. This figure is higher than the average for urban people but lower than that for rural situations, because 40 percent of the vendors were from the rural areas. A sizeable number of vendors were commuters. Often, they had to carry their wares by train, travelling distances of 25 to 30 km.

ECONOMIC ASPECTS

Male and female vendors sold meals of all types. Females tended to sell traditional Bengali foods, while males sold foods of a cosmopolitan character. The vendors' food purchases ranged from 2 to 20 kg per day, with an average of approximately 7 kg. The raw food costs ranged from Rs 30 to Rs 300, with an average of about Rs 100.

Generally, there were no real differences in prices among the four areas. Prices were slightly higher where local people could afford to have costly items if quality and taste met higher standards. The prices charged by vendors were very competitive in comparison with the formal food sector. However, there was little competitive pricing among the vendors themselves. When prices were increased, it was because of genuine increased costs in operation, and the prices charged by all vendors rose.

Stalls were usually open from 10:00 to 21:00. The hours of operation were adapted to the characteristics of the consumers in the area. All the vending stalls were stationary and semi-permanent. The length of time that vendors had occupied the footpath space ranged from six months to ten years. No further room was available, and the vendors who were already entrenched resisted newcomers.

The individual vendor started his or her street food trade with an initial non-recurring expenditure of Rs 1 000 to Rs 2 000; the recurring monthly expenditure came close to Rs 200 to Rs 300 for small vendors. The vendors were unwilling to disclose details of their daily sale proceeds. However, based on the monthly profit (again a conservative and concealed statement) it was estimated that daily proceeds amounted to Rs 1 500 to Rs 4 000. This profit is more than the minimum wage earned in the formal sector.

The employees earned between Rs 600 and Rs 1 600 per month, with a mean of Rs 900. Female employees earn slightly lower daily wages than their male counterparts, particularly in stalls owned by men. Employees in the street food sector receive daily or weekly wages, while employees in the formal sector receive monthly wages.

Based on these figures, the impact on the local economy was estimated. The mean monthly profit among vendors was about Rs 2 500 per month. As a conservative hypothesis, it was assumed that the vendors work only ten months each year, obtaining an income of Rs 25 000 per year. Considering

the estimated number of fixed stalls, the Calcutta street food trade would involve some US\$60 million a year.

Notwithstanding the small size of the units of operation, these microenterprises are extremely successful at capital generation.

FOOD CONTAMINATION

The study examined various hazards to food safety and the environment. The most significant findings are described below.

In India, a regulation pertaining to artificial colours lists the approved colours, the foods that can contain them and the amount that can be used (not to exceed 200 ppm). However, vendors were not aware of these regulations. For instance, metanil yellow (a textile colour) had a long history of use as a substitute for saffron. Many users of metanil yellow did not know that it was not permitted. Samples that were suspected of contravention were collected for analysis, and unauthorized use of food additives was detected in 30 of the 50 samples, especially in such foods as sherbets (cold sweetened milk-based desserts), *jalabi* (extruded cereal batter fried and dipped in sugar syrup) and other sweets such as *laddu*, *kamalahog* and *pantua*, cut fruits and curry juices.

In addition to containing very bright non-permitted colours, various food samples, especially certain sherbets, also contained saccharin. Saccharin is generally not permitted in Indian foods except in a small amount of 100 ppm which can be added only to carbonated water. The foods containing saccharin were mostly bought by poor people.

There was no contamination from heavy metals in the samples analysed. Aluminium and ironware were used for cooking and heating foods, which were then served on plastic and ceramic plates. Tumblers of glass, steel and brass were used for drinking-water and tea. Cheap ceramic and earthenware cups and bowls were also used for tea. The ceramic teacups were glazed in home furnaces at a lower firing temperature than is used in commercial operations. Because of concern regarding heavy metals, the cups had been evaluated earlier and were found to be safe. Examination of water samples found no arsenic.

The study found that the street foods were prone to microbiological contamination. As expected, the standard plate count (SPC) of samples of *lassi* (sweetened and sometimes flavoured buttermilk), *idli* (fermented rice and black gram flour dumpling) and *dahi vara* (gram flour balls fried and dipped in yoghurt) which are made by fermentation was very high in comparison with samples of other products tested. *Dosa* (fermented rice and black gram flour pancake), although a fermented product, had a much lower SPC than *lassi* or *idli*, presumably because of heat

treatment (frying) during its preparation. Although the pH of *dosa* and *lassi* is low and not favourable for the growth of *Salmonella* spp. or *Shigella* spp., these bacteria were still detected. The contamination probably occurred after processing and is of great concern. One of the probable sources of *Salmonella* sp. may be the ice used in the preparation of *lassi*.

Escherichia coli, chiefly an indicator of faecal contamination, was detected in 55 percent of the samples tested. Although not all serotypes of *E. coli* are pathogenic in nature, some are enteropathogenic. The presence of *E. coli* raises a suspicion of improper food handling practices. The presence of coagulase-positive *Staphylococcus aureus* indicates that enterotoxin may be present in the foods.

A few unfermented dishes, for instance, vegetable curry, *ghugni* (pea or Bengal gram boiled, sometimes with potato or meat, and then flavoured) and *alu kabli* (boiled potato with a highly seasoned sour preparation) also had high SPCs, and some contained pathogenic organisms. The hazards in these samples presumably arose because of poor personal hygiene, prolonged holding, repeated handling and the use of substandard water and implements at different stages, which had been observed in the diagnosis of street food practices.

Water used for cooking, drinking, dishwashing, etc. came from pipes or hand-operated tube wells supplied to different localities by the Municipal Corporation of Calcutta. Each locality has secondary water treatment stations for chlorination. There was no certainty that the water of all the stalls within the same area was from the same source. The vendors stored water in buckets or drums of galvanized iron which were refilled as needed. Some stalls separated water for drinking from water for washing and cooking. The drinking-water was kept covered.

Bacteriological examination of the drinking-water revealed that the majority of the samples were unsatisfactory as drinking-water. The water samples were inferior in quality to those in a previous survey involving the analysis of 1 122 samples of drinking-water in Calcutta, where 988 samples were found to be excellent, 34 were satisfactory, 17 were suspicious and 83 were unsatisfactory.

The water used for drinking, cooking, washing of fruits and vegetables, dishwashing, hand washing, etc. was found to be contaminated in 47 percent of samples analysed. It should be noted that the water was safe coming from the source but became contaminated through poor handling practices.

FOOD CONTROL REGULATIONS

In Calcutta, an infrastructure exists to license, inspect and regulate the food service industry. However, the street

food sector is not a legal entity in Calcutta, and food control activities are limited to the occasional complaint. With consumers' imperatives as their guides, vendors try to satisfy their clients' demands regardless of the food inspection rules.

Three regulations can be used in the control of street foods. The first is the Indian Penal Code regulating public nuisance, negligent or malignant acts leading to dangers to life, fouling of water and adulteration of food and beverages. This regulation is executed by the enforcement branch of the police, if necessary, with the help of the forensic laboratory. The second is the Calcutta Municipal Act regulating urban environmental and sanitary conditions, the sale of food and drink and the authorization for operating under the Prevention of Food Adulteration Act. The municipal authorities deal with these matters with the General Calcutta Police assisting and supporting the municipal council. The third regulation is the Prevention of Food Adulteration Act and Rules, which is a very comprehensive set of regulations providing details of procedures for food inspectors and for food analysis by a public agent. It is the responsibility of the food or health authority designated under the act. The Calcutta Municipal Corporation Health Officer is the designated local health authority for Calcutta.

The study revealed that licensing the street food vendors would appear to be a prerequisite for controlling street foods, that is taking samples, analysing the food, reporting and taking action as necessary. However, it is felt that even without licensing, food inspection can be carried out if the vendors are and remain traceable.

Recognition of the need to control street foods originates with the municipal authorities concerned with consumer health and the impact of street foods on the city environment, including traffic nuisances for both vehicles and pedestrians, illegal trash and waste water disposal and overloading of municipal services which already face difficulties.

Vendors were unaware of food regulations and had no training in food-related matters. Most were very vocal about their desire that the sector be recognized and licensed even if this should necessitate compliance with specific regulations, guidelines, inspection and food sampling. Some vendors complained of harassment from some officials in different quarters of the city. They were reticent to discuss the payment of "protection" money which may represent an appreciable portion of their income. The majority of vendors would welcome licensing, although some feared that it would provoke more harassment.

Many vendors have joined organizations so that they will

have a unified voice and political clout for meeting their needs. There are quite a few unions, for instance, the Centre for Indian Trade Union (CITU), the All India Trade Union Congress (AITUC), the India National Trade Union Congress (INTUC) and the United Trade Union Congress (UTUC). Most street food vendors have aligned with CITU. The West Bengal Hawkers' Union of the Forward Block is another union for hawkers in general. The vendors and unions seek a formal structure as a means of protecting their business. A structure could control the mushrooming growth in the number of street food vendors, the location of stalls and vendors and the type of infrastructure and could lead to an overall improvement of food quality.

IDENTIFICATION OF POSSIBLE INTERVENTIONS

A symposium was held in May 1993 at AIIHPH to consider the results of the survey of street foods in Calcutta. Participating in the seminar were representatives of the Government of West Bengal, the Calcutta Municipal Corporation, the Calcutta Metropolitan Development Authority, the Calcutta Metropolitan Water and Sanitation Authority, the Calcutta Police, the Legislative Council, street food vendors, the All India Institute of Hygiene and Public Health, other academic institutions and FAO.

The participants concluded that measures were necessary to control the growth in numbers of street food vendors. They believed that action was necessary to improve the safety of street foods, particularly with respect to the provision of an acceptable water supply and kiosks for vendors, along with other supportive services such as rubbish disposal and upgrading of pavements. The participants agreed that more wide-ranging studies on street food were needed.

Some possible measures such as improvement of kiosks (Figure 2), pavements and access to potable water were field tested. Training programmes and materials were developed based on the study results and field tested. Training for inspectors and vendors was delivered by AIIHPH. The programmes were innovative in their means of presentation and included open-air lectures, exhibitions, posters, street plays, video presentations and discussions. In addition, the training of Calcutta police personnel involved in street food inspection and control was organized to increase their awareness of their role in this sector. The Calcutta Police Commissioner proposed action programmes in this matter as well. AIIHPH also tested a consumer education campaign on street foods within the project areas.

IMPLEMENTATION OF STREET FOOD POLICY

All of the preceding activities assisted the local and state authorities in developing a street food control policy for

Calcutta. A plan of action for the regulation of the sector was prepared, and actions are being taken to implement the plan. The policy recognizes that because of the lack of jobs in the formal sector, activities in the informal sector must not be thwarted by the municipal bodies in the name of maintaining the population's health and the city environment. Within the context of the government's efforts to ease the suffocating unemployment situation for the city's burgeoning population, it is recognized that the street food sector is a source of employment and that it provides hundreds of thousands of people with cheap and convenient food every day.

To promote street food employment, the introduction of the differential rate of interest (DRI) at banks is proposed. This measure will help vendors to settle down and to improve their stalls for more hygienic food and a better environment. The authorities have arranged for the design and standardization of street food stalls to be used in specific authorized areas in the city. Banks as well as vendors' associations are associated in this endeavour.

In addition, the study showed the willingness of vendors to be regulated. The plan of action promotes close cooperation among the authorities responsible for food control, consumer groups and street food vendors in order to advance the recognition of the street food sector. The plan includes the elaboration of proper regulations, guidelines or rules on licensing and inspection procedures. At present, these points are under consideration with proposals from the vendors and authorities.

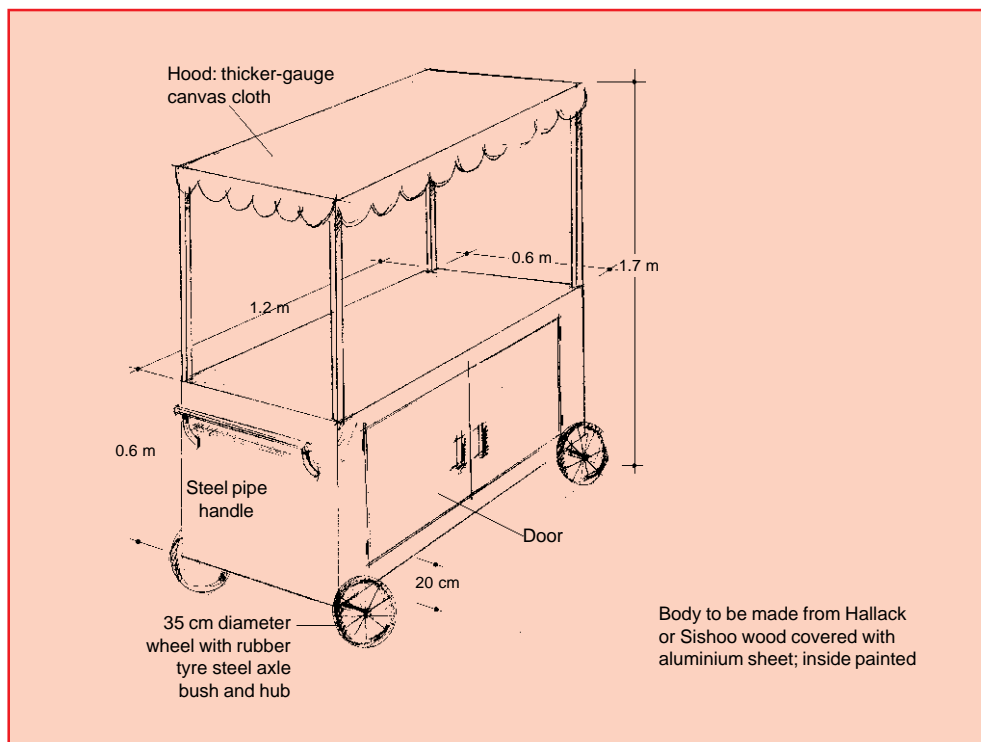
The vendors' associations have developed a set of demands. For instance, they seek the issuance of licences to hawkers and the cessation of harassment of hawkers by a section of police and Municipal Corporation authorities. They want kiosks to be introduced and hawkers to have free passage for vehicle movement. Hawkers are asking for one side of the road to be free for pedestrians. They are demanding bins in all places for rubbish and wastage for a neater and cleaner city.

Guidelines on rules and regulations covering licensing and inspection procedures on street foods were developed by the authorities based on the results of the Improving Street Foods in Calcutta project as well as the vendors' associations' requests.

The authorities have proposed specific locations for hawkers. The police require that all permanent structures on the pavements be removed from the streets, and this notification has been issued. The area and timing of operation will be fixed. Uniformly designed kiosks will be used by the hawkers, and smaller kiosks will be allowed on narrow pavements. Kiosks should be properly placed, 50 ft (15.25 m) away from important crossings or bus-stops. All kiosks will be removed from the pavements after the specified hawking hours.

Only one side of the pavement will be allowed for hawking. Hawking will not be allowed in carriageways, bridges or flyovers, areas where traffic and pedestrian volume is very high or areas where pavements are narrow. Hawkers can be removed from the specified areas at any time.

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Street food hawker's kiosk



EDOUARD SAOUMA AWARD

The Edouard Saouma Award is presented biennially to an institution that has implemented with particular efficiency a project funded by the Technical Cooperation Programme (TCP) of FAO. The award is named after a former Director-General of FAO, Edouard Saouma, and is directed towards the goals he served.

The Edouard Saouma Award for 1994-1995 was presented jointly

to three national institutions, in Chile, India and Kenya, for their outstanding contribution to the implementation of TCP projects. The All India Institute for Hygiene and Public Health in Calcutta, India received the award for the project described in this article, which improved food quality and safety in street foods in Calcutta using a thorough and innovative approach.



Author Chakravarty accepting the Edouard Saouma Award from FAO Director-General Jacques Diouf

The police suggest that a photo identity card for each food hawker be issued by the hawkers' union. Demarcation of pavements for hawking has already been made by Calcutta Police with the help of the representatives of the hawkers' union.

Bins will be provided for waste disposal. Water supplied by the Calcutta Municipal Corporation will be provided for washing, cooking and drinking. Washing of utensils will not be allowed on the pavements. Illegal electrical connections will not be allowed, and no generators will be allowed.

The police suggest that hawkers be provided with bank loans to obtain kiosks, which will cost around Rs 8 000 each (US\$242). Three banks (United Bank of India, State Bank of India and United Commercial Bank) have helped by initiating steps in this regard. However, the entire cost of the kiosks can be provided to hawkers under the Government of India Scheme for Urban Microenterprises. Repayment must be made within three to five years.

Training is a main component of the street food policy. The project tested training programmes to provide street food vendors with better knowledge of proper hygienic practices and the use of food additives. Such training would improve

the safety of the foods prepared and sold by vendors. The training programmes tested through the project were found to be adequate. Efforts are being made to allow the continuation of these training programmes to improve the vendors' knowledge of good food handling practices.

The policy also includes plans to provide overall management and upgrading of the street food sector at municipal level. Key elements of the plan are the provision of ready access to potable water, the continuing development and proper organization of rubbish and waste water disposal and collection and the upgrading of footpaths.

The advisory and technical committees regularly assess the implementation of the policy. The project resulted in the establishment of a dialogue and cooperation between the vendors of street foods and their representatives, the consumers' representatives, the municipal authorities, the police and AIHPH. This cooperation proved to be the condition *sine qua non* for the success of the street food policy implementation in Calcutta. ♦

Street foods in Calcutta

The huge street foods sector in Calcutta has induced much concern among consumers and national, state and municipal authorities as well as among the hawkers themselves. A two-year study was carried out by the Calcutta Municipal Corporation, the All India Institute of Hygiene and Public Health and the FAO Technical Cooperation Programme to improve the conditions in the street food trade. A street food survey was undertaken in 1993 to provide information about the main socio-economic, nutritional, legal and sanitary characteristics of the sector.

The project has encouraged a strong relationship among the authorities and the hawkers' representatives, which led to the preparation of policy guidelines for the regulation of street foods in Calcutta. A number of efforts are being undertaken to promote the sustainable development of the street food sector in the city according to sound administrative, hygienic and environmental requirements.

Le commerce des aliments sur la voie publique à Calcutta

Le vaste secteur du commerce des aliments sur la voie publique à Calcutta est une importante source de préoccupation pour les consommateurs, le gouvernement national et les autorités au niveau des États et des services municipaux, ainsi que pour les marchands eux-mêmes. Une étude a été conduite pendant deux ans par la Corporation municipale de Calcutta, l'Institut national indien d'hygiène et de santé publique et le Programme de coopération technique de la FAO afin d'améliorer les conditions du commerce des aliments sur la voie publique. Une enquête a été effectuée en 1993 sur le commerce des aliments sur la voie publique pour obtenir des renseignements sur les principales caractéristiques socioéconomiques, nutritionnelles, juridiques et sanitaires de ce secteur.

Ce projet a encouragé l'instauration d'une relation étroite entre les autorités et les représentants des marchands ambulants, ce qui a conduit à l'élaboration de directives générales pour la réglementation du commerce des aliments sur la voie publique à Calcutta. Diverses initiatives ont été prises afin de promouvoir la valorisation durable du commerce des aliments sur la voie publique dans cette ville, dans le respect de certaines conditions administratives, d'hygiène et environnementales.

Alimentos callejeros en Calcuta

El sector de los alimentos callejeros en Calcuta es un fenómeno de enormes dimensiones que suscita mucha preocupación entre los consumidores y las autoridades nacionales, estatales y municipales, así como entre los propios vendedores ambulantes. Con el objeto de mejorar las condiciones del comercio de alimentos callejeros la Corporación Municipal de Calcuta, el Instituto de Higiene y Salud Pública para toda la India y el Programa de Cooperación Técnica de la FAO han realizado un estudio durante dos años. En 1993 también se llevó a cabo una encuesta sobre estos alimentos que ofreció información sobre las principales características socioeconómicas, nutricionales, jurídicas y sanitarias del sector.

El proyecto fomentó una estrecha colaboración entre las autoridades y los representantes de los vendedores ambulantes que se tradujo en la preparación de directrices normativas para la regulación de los alimentos callejeros en Calcuta. Se están realizando diversas iniciativas para promover el desarrollo sostenible de los alimentos que se venden en las calles de la ciudad en condiciones administrativas, higiénicas y ambientales satisfactorias. ♦