

GOVERNMENT OF BOMBAY



REPORT
ON THE
DIETARY STUDIES
IN
INDUSTRIAL CANTEENS IN BOMBAY STATE
(1950—56)

By

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REPORT ON THE DIETARY STUDIES IN INDUSTRIAL CANTEENS IN BOMBAY STATE (1950—56)

INTRODUCTION

It is now generally agreed that provision of suitable canteen facilities in industrial establishments is an integral part of Labour Welfare amenities. The provision of canteens in Industry gained greater impetus during the World War II. While the practice originated as a voluntary effort, the Government of Bombay enforced the necessary canteen laws for the State, in 1950. This, it may be stated, arose out of the attention given in recent years, to the relationship between nutrition, good health and industrial efficiency. Canteen feeding, at its best, emphasises the service of meals of high nutritive value, in a form and at a price attractive to the majority of the workers. Furthermore, it aims, through the provision of such facilities, at rectifying wrong food habits, if any, and disseminating knowledge on the principles of good nutrition.

Towards the end of 1949, the Ministry of Health, Government of India, issued a general directive to the State Governments that "The services of Provincial Health Departments and particularly Nutrition Organisations, wherever they existed, may be utilised, to advise the managements of the industrial canteens, on framing of nutritious and attractive menus and maintaining adequate standard of food hygiene in the kitchen, scullery and dining room and to render, whatever help the industrial canteens may need". In accordance with this policy of assisting the industrial managements, the Department of Nutrition has been actively engaged since 1950, in the study of existing dietary conditions, with a view to planning satisfactory meals and menus in canteens in Industry; one of the Senior Nutritionists (Kumari S. S. Corley) of the Department was specially detailed for this study.

In order to enlist the co-operation of the industries, the Department sent out an introductory circular letter (Appendix A) in the first instance. This letter was followed by the visits of the Senior Nutritionist. The response to the circular letter has been quite satisfactory; up to December 1956, a total number of 108 canteens have been studied and given advice and/or recommendations, on the provision of adequate nutrition, through well-planned meals, snacks, etc. It may be mentioned that in a number of instances, the Industries sought the Departmental advice even without the circular letter, mentioned above. On the other hand, the response from the textile group of industries in Greater Bombay has not been satisfactory.

The present report covers canteens in the main industrial towns of Bombay State. The details of the general canteen conditions and the dietary data are given in the text.

The dietary studies were carried out by Kumari S. S. Corley, Senior Nutritionist of the Department.

METHOD OF STUDY

Each industrial canteen is a study by itself. The study, therefore, includes the collection of data pertaining to the organisation and management of the canteen, economic conditions, dietary conditions, etc.

For the collection of the dietary data, two dietary schedules (Appendices B and C) were devised. These pertain to a study of sale of (i) 'tea and snacks' and (ii) 'full meal' in the canteen, for a period of ten consecutive working days. Data was collected for a period of ten days in order to obtain an average of sales and a representative meal. It may be mentioned that full co-operation was received from the various industries in the collection of the dietary data.

GENERAL CONDITIONS

The details of the general canteen conditions are summarised in Table 1. A brief description, however, is given below:—

Table I

GENERAL OBSERVATIONS ON CANTEEN CONDITIONS

Location.—Greater Bombay-81. Ahmedabad-9. Baroda-3. Poona district-3. Sholapur district-3. Thana district-3. Mehsana district-2. Nasik-1. East Khandesh-1. West Khandesh-1. Kolhapur-1.

Nature of Industry.—Textile Industry-42. Non-Textile Industry-66.

Number of Labourers.—Up to 250—17. 251 to 2,500—56. 2,501 to 5,000—25. 5,001 and above—10.

Canteen Premises.—Good—26. Fair—57. Poor—17. Unclassified—8.

System of Management.—Departmental—71. Co-operative—17. Contract—13. Dual System—2. Unclassified—5.

Subsidy.—Yes—36. No—35. If necessary—31. Unclassified—6.

System of Service.—In the canteen only—20. In the Department also—80. Unclassified—8.

System of Payment.—Credit—64. Cash only—36. Unclassified—8.

Food Service.—Tea and Snacks only—34. Tea, Snacks and 'Full meal'—19. Tea, Snacks and meal preparations—14. Tea, Snacks, 'Full meal' and meal preparations—41.

(i) *Location.*—Of the total number of 108 canteens visited, 81 are situated in Greater Bombay, 9 in Ahmedabad, 3 each in Baroda, Poona, Sholapur and Thana, 2 in Mehsana and one each in East Khandesh, West Khandesh, Nasik and Kolhapur. The majority of the canteens are located in Greater Bombay.

(ii) *Nature of Industry.*—The type of Industry covered a variety, such as textile, metal, chemical, pharmaceutical and food product industry; vehicular workshops like the railways, automobiles, aircraft, shipyards, etc. Since the textile industry forms a large group by itself, the various industries in this report are broadly grouped under textile and non-textile industries.

Of the 108 industries visited in the State, 42 belonged to the textile group and 66 were the non-textile industries. Of the 42 textile industries, only 25 belong to Greater Bombay, the rest are from Ahmedabad, Sholapur, Mehsana, Khandesh, etc.

(iii) Number of employees.—Section 46 of the Factories Act, 1948, empowered State Governments to make necessary rules for the provision and maintenance of canteens by employers, where there are more than 250 workers; and the rules, in this connection, have since been brought into force by the Government of Bombay. From the number of canteens studied, it is interesting to note that 17 canteens have been provided by factories, which are not governed by this rule. Such voluntary efforts, it was found, arose out of the difficulties experienced by the labour, to obtain their food from home, or from the vicinity of the factory.

(iv) Canteen premises.—Provision has already been made in the Factories (Canteen) Rules, 1950, regarding specifications for the site, structure and size of the canteen. In spite of these rules, only 26 of the canteens visited were found satisfactory in this respect. In 17 cases, however, the canteen conditions were almost deplorable. In some instance, the canteens were located in improvised structures, which were small, congested and ill-ventilated.

A note regarding the hygiene of the canteen or its personnel would not be out of place here. Apart from the absence of cleanliness in the premises, the personal belongings of the staff, such as clothing, were seen hanging in the kitchen. Moreover, the canteen staff, chiefly the cooks and vendors, were often found ill-clothed, either there was scanty clothing, or the clothing of those, who were adequately clothed required washing. This was also true of the linen used in the canteen. There were, however, a few industries, which provide free uniforms and soap for regular washing.

In spite of these observations, some of the leading Industries deserve compliment in regard to the establishment and maintenance of decent canteens, thus contributing their share in promoting the progress of Canteens in Industry in Bombay State.

The Factories (Canteens) Rules, 1950, make no provision for periodical medical check-up of the personnel employed in the canteens. Needless to state that as these workers come in direct contact with the food, 'carriers' of disease have to be excluded.

However, only a small number adopts this practice. Apart from the medical check-up before employment, periodical examination is also undertaken.

The inclusion of medical examination of the canteen staff in the Draft Factories (Canteens) Rules, 1948, was also recommended by this Department.

(v) System of management.—During the course of study, it was observed that the following four systems of management of the canteens were in vogue:—

- (a) Departmental—which was observed in the majority of the cases—65 per cent.
- (b) Co-operative—16 per cent.
- (c) Contract—12 per cent.

(d) Dual system—2 per cent. Here, both the systems, *viz.*, the departmental system and the co-operative or the contract system, were followed, for the 'full meal' and the 'tea and snack' services.

(e) Unclassified—5 per cent.

In the case of both the contract and the co-operative systems of management, it was observed that the Industry concerned did not have to either shoulder the responsibility of losses that may be incurred by the canteen, or, on the other hand, bear the high cost of establishment charges.

In the departmentally-run canteens, it may be pointed out, that the industry has to pay high wages to the canteen staff, *i.e.*, a basic minimum wage of Rs. 30, plus the dearness allowance, which together sometimes amounted to Rs. 100 per month. Prior to the enforcement of the canteen rules, this staff, which mostly composed of the so-called 'kettle-boys' or vendors, who are employed in large numbers, were ordinarily satisfied with the food they received from the canteen, in addition to a little pocket money, ranging from Rs. 5 to Rs. 15 per month.

The contract and co-operative systems of canteen management, being independent of the industry, are exempted from the application of the Wages Act. In the case of the Ahmedabad Industries, practically all canteens visited, were managed by contractors or co-operative societies.

While the co-operative-run canteen has its own advantages, the worker, however, does not get the full benefit such as credit facilities, obtaining the maximum food at minimum cost, etc. The Society's plea, in this connection, is that it has to bear the cost of establishment and also, if possible, declare a dividend on the shares held by the workers so as to promote the growth of the Society.

The contract system of management of canteens is not desirable. While there have been some instances, where the contractor pays rent to the management for the occupation of the premises, in general, all these canteens are run on a purely profit-making motive.

(vi) Subsidy.—The question of subsidising the canteen organisation by the employer is still in the stage of a voluntary effort. Of the canteens visited, only a third were subsidised by the management. In practically all cases of contract and co-operative system of management, no subsidy is given. The others make no definite contribution, on the plea that the canteen is run on a 'no-profit, no-loss' basis.

(vii) System of food distribution.—It is common practice to have the canteen open and functioning during the working hours of the industry. But the practices actually existing in the canteens were variable and may be classified as follows:—

(a) Canteen serves food during specified hours only.

(b) Canteen is open for service throughout the working hours.

(c) Food is not served in the canteen; instead the vendors carry it to the various Departments in the factory.

The last practice was common to canteens serving 'tea and snacks' only. These canteens usually did not have dining halls and arranged the service of foodstuffs to workers in the different Departments, through vendors,

Majority of the canteens provided a dual system of service, viz., service in the canteen and service in the Departments. However, there were 20 canteens of the total number examined, which restricted the service of foodstuffs in the canteen only, i.e., no foodstuff was sent to the place of work.

The cafeteria system of service, viz., 'self-help' at the counter, was found in 15 canteens, and was reported to be working very satisfactorily. Needless to say that this system needs further promotion, for its many advantages: (a) it reduces the cost on establishment, as a result of employment of a lesser number of staff members, for service at the table; and (b) it inculcates better social habits among the workers, as a result of their developing a 'sense of belonging' to the canteen.

(viii) System of payment.—A common observation arising out of the study of canteen sales is that the sales are usually at their peak, immediately after pay-day; and gradually dwindle towards the end of the working month. As a general understanding of this problem, facility for purchase, against credit, is provided in many canteens. As sales are usually made against coupons, the coupon books are issued to the worker, on credit, to the extent of about Rs. 10 to Rs. 15 per month. This amount is later deducted from the workers' wages at the end of the month. About a third of the canteens visited did not provide the credit facility. A good number, however, had arrangements for the sale of foodstuffs on both the cash and credit basis, in which case, the cash system of payment was more applicable to casual diners, such as temporary employees.

DIETARY CONDITIONS

The study of the dietary conditions pertain to the existing food service system prevailing in the different canteens. These systems of food service may be classified as follows:—

- (i) Canteens serving 'tea and snacks' only.
- (ii) Canteens serving 'full meal'—a composite *thali*, in addition to 'tea and snacks'.
- (iii) Canteens serving tea, snacks and meal preparations, in the *a la carte* system (i.e. no composite *thali* is served).
- (iv) Canteens having all the categories of food service mentioned above.

(A) Food Service.—The following is a brief description of the system of food service mentioned above: (i) *Canteens serving 'tea and snacks'*.—The service of tea and snacks in the minimum of food service facility provided to the worker. Thirty-four of the canteens examined were found to restrict the food service to 'tea and snacks', only.

(ii) *Canteens serving 'full meal', in addition to 'tea and snacks'*.—There are 19 canteens which served 'full meal' in addition to the 'tea and snacks'. The 'full-meal', also termed 'rice plate', is usually sold in a *thali*, which contained rice, *chapatis* or *puris*, *dal*, vegetables, pickle, *papad*, etc.

(iii) *Canteens serving tea, snacks and the a la carte meal preparations*.—Fourteen canteens followed this system. It differed from (ii) in that the meal preparations are available, but no composite meal or *thali* is served. The worker, instead, is free to select the food of his/her choice. While the system is suitable to meet the taste of the individual worker, it has disadvantages from the point of view of nutrition.

At the present stage, with high cost of food and low standard of living, and with widespread malnutrition and undernutrition, the aim in canteen feeding is to make good or rectify the defects usually observed in the home diets of industrial workers, by providing well-planned balanced meals in the canteen. Such nutritious meals can reach the worker only through controlled feeding; by restricting the choice in the selection of food. It is for this reason that the *thali* service (or 'rice plate, as popularly called) is superior to the *a la carte* service, and wherever the latter practice prevailed, the managements were advised to replace it by the *thali* service at an early date.

(iv) *Canteens having all the categories of food service, mentioned above.*—In large canteen establishments, of which there were 41, the food service included all the three categories mentioned above. Thus, while the 'full meal' service existed, the individual items composing the 'full meal' were also made available freely. This facility, it was reported, was mostly provided to the group of workers who desired to supplement the food they carried from home, with the items available in the canteen. To a certain extent, this was found necessary, as the workers could not afford the high price of the meal.

(B) *Food Preparations.*—A study of the various food products available in canteens is given below: (i) *Beverages.*—Tea is available at all canteens. Most of the labour consumed tea. It has been observed that tea is consumed at odd hours and in between meals. While the majority of the canteens priced the tea at anna 1 per cup (5 ozs.), a few of them also sold it for half anna. Of the canteens visited, nine served free tea, once or twice a day, to all their employees.

The consumption of tea, which has considerably increased in recent years, may be attributed to its low cost, stimulating effect and the propaganda of interested organisations. The nutritive value of tea mainly depends on the milk and sugar added to it.

Among other beverages usually available in canteens are coffee, which is not so popular; and aerated waters which are in demand in the summer months only. Cold butter-milk has, somehow, not been in demand, except in Ahmedabad and Baroda.

(ii) *Snacks.*—A variety of snacks are available and they may be broadly classified as follows:—

- (a) Bakery products.
- (b) Salty snacks.
- (c) Sweetmeats.
- (d) Snacks consumed as meal substitutes.

(a) *Bakery products.*—These include baker's bread, cakes, biscuits, *nankhatais* (a kind of sweet biscuit), etc.

Bread is observed to have the maximum sales. It is sold as a whole loaf (3 to 4 ozs.), or a slice of it, for a varying price. It is consumed with tea early morning, before commencement of work; taken as a substitute for rice or *chapatis* at meal times, or taken between meal-hours, as a sandwich, with the *batata vada* as the filling.

The sale of other bakery products was variable. In certain factory canteens, the *nankhatais* were in demand; in others, biscuits were more popular.

(b) *Salty snacks*.—These include a large variety such as *bhajias*, *seo*, *papdi*, *ganthias*, *chivada*, *vadas*, etc. The *bhajias* are generally made with potatoes or onions; while the *vadas* are prepared from potato, onion and a variety of *dal*. Majority of the snacks are prepared from Bengal gram flour. The *batata vada* and onion *bhajia* were found to be the most popular at all canteens.

(c) *Sweetmeats*.—The sweetmeats include *laddos* prepared from *besan*, *rava*, *bundi*; *barfi*, *mysorepak*, *seera*, etc. The price per serving usually exceed an anna. *Mysorepak* and *bundi laddoo* were more in demand than other varieties. In recent years, it is interesting to note how the workers have developed a taste for sweetmeats, in spite of its comparative high price. These snacks are usually consumed during work hours and this may partly be attributed to the food's ready source of energy, in the form of its high sugar content.

(d) *Snacks consumed as meal substitutes*.—This group of snacks has been classified separately as it is available at a large number of canteens, and consumed by those workers who cannot afford the 'Full-meal'. Varieties include *puri* and *bhaji*, the latter would be either potato *suki bhaji*, mixed vegetables or *usal* (pulse preparation). Then there were the *upama*, *masaladosa*, *iddli sambar*, *dahivada*, etc. The price of the product varied with the quantity. *Puri bhaji* was available at all canteens.

While the above items indicate a large variety of snacks available in the different canteens, it may be noted that all canteens do not serve all the varieties of snacks. This was determined by the size of the canteen establishment. Smaller canteens usually restricts the service of food to *bhajias*, *batatavadas*, *seo*, *usal* and bread.

In evolving recommendations for improvement in the quality of snacks served in the different canteens, the characteristics of each industry had to be taken into consideration. This implied a study of the type of labour employed, their food habits, the demand and availability of foodstuffs, etc. In addition, the study of figures relating to sale of the individual snacks, determined the popularity of certain snacks over others. Based on the study, a list of nutritious snacks, scientifically planned to provide the essential nutrients and energy value, was prepared, for the industrial canteens.

From the study of the list (Appendix E), it may be observed that the service of popular snacks like *batata vada*, onion *bhajia* were allowed to be continued, but that their quality was nutritionally improved by incorporating in the recipes some quantity of green leafy vegetables which are a cheap and rich source of vitamins A and C and minerals like calcium and iron. Similarly, instead of the ordinary wheat *puri*, the *missi puri* or *missi chapati* (incorporating milk powder, gram flour, greens, etc) was advocated.

The snacks, mentioned above, were chosen in view of their high nutritive value and moderate price. Before they were actually recommended to the industry, various recipes were tried out to ensure their suitability and acceptance.

Canteens, which usually served a large variety of snacks, were advised to restrict them, mainly to those recommended by the Department.

(iii) *The service of 'full meals' in Canteens.*—Though 69 per cent of the canteens visited provided the meal service, 20 per cent of these followed the *a la carte* menu. As a result, the nutritive value of full meal in such canteens could not be assessed.

In the absence of any legislation to regularise the price of meals, it was observed that canteens serving 'full-meal', charged anywhere from annas 3 to 10 for a *thali*. Moreover, to meet the demands of different types of labour, certain large canteen establishments served meals at varying price levels, *viz.*, annas 6 and annas 4 or annas 8. Some canteens served vegetarian and non-vegetarian meals; the cost of the latter being usually higher by about annas 2.

Thus between 60 canteens, 79 types of 'full-meal' (or *thalis*) are served. Majority of them serve vegetarian meals, but two canteens catered for non-vegetarian meals only. Fourteen canteens served both vegetarian and non-vegetarian meals.

From the comparative study of the total labour employed in industries having facilities for 'full-meal' service in their canteens, and the total number of 'full-meals' actually served, it is observed that barely 5.2 per cent of the labour take the benefit of meals served through canteens. This is explained by the following. A good number of the labour live in the close vicinity of the factory and, therefore, go home for meals. Others, due to religious or economic reasons carry the lunch packet to work. Besides, there is the third group, which is habituated to taking several cups of tea with or without the snacks, throughout the working hours of the day, facilitated by the system of food service in the departments.

(iv) *Evaluation of 'full-meal' service in Canteens.*—Full particulars pertaining to the service of 'full-meal' in canteens were obtained from the managements concerned, and the average meal, based on data furnished, was analysed for the proximate principles, calories, minerals and vitamins.

As mentioned earlier, meals were served at varying price levels and the quantity per meal corresponded with the price charged. Generally, all meals composed of the following menu:—

Rice and/or *chapatis* or *puris*.

Dal preparation.

Fresh vegetables and/or *usal* (pulse preparation).

Koshimbir (onion/sourlime) and/or *papad*, and/or pickle.

Buttermilk or curds (in a few vegetarian meals).

Fish, meat or egg curry (in non-vegetarian meals).

Table II shows the average nutrient composition of meals served at the different price levels. Column 2 therein indicates the number of meal services available at these price levels. It is evident that annas 6 is the most popular price charged for meals at canteens.

Comparing the food value of the meals, in general, it is observed that the quality of the meal (in terms of calories, proximate principles, minerals and vitamins) improves with the increase in the price of the meal. Thus, the annas 10 meal appears to be superior in quality and quantity to meals served at lower prices.

Another important factor, which governs the quality of the meal service, is the extent to which the Industry financially subsidises the canteen scheme. This difference may be observed from the study of Appendix F (I to VI) showing the composition and nutritive value of the individual 'full meal', at the different price levels. For example, meals served for annas 4 appear to yield a higher caloric value than most of the meals served for annas 6.

As regards the provision of 'protective' foods in the meals, it is also evident from the appendix that foodstuffs like fruits, milk and milk products, fleshy foods and increased consumption of fresh vegetables, including leafy vegetables appear only in the more expensive meals. Thus, in the majority of cases, the meals are observed to be deficient in animal proteins, calcium and vitamins A and C.

The recommendations forwarded to the respective managements of canteens for the improvement of the 'full meal' were principally based on the study of the existing conditions in each canteen. In general, however, the recommendations were governed by the following principles.

The Committee on 'Nutrition in Industry' of the Food and Nutrition Board of the National Research Council, U.S.A., has recommended that the mid-day meal should supply *at least one-third* of the daily food requirement. The quantity, which the workers need daily, varies generally with the nature and extent of work. In the present study, most of the labour employed in the Industries was found to be engaged in 'moderately active' type of work which requires about 3,000 calories, per day. Hence, the mid-day meal for such workers should provide about 1,000 calories.

Moreover, attention is also paid to provide in the meal important nutrients such as proteins, minerals and vitamins, in adequate proportions, in view of the fact that the workers' home diets are generally found to be unbalanced and deficient in the 'protective' foods.

The details of the minimum requirements for the calories and essential nutrients for a 'moderately active' worker, for the whole day, and for a mid-day meal, are included in Table II (B).

Based on the above principles, suitable mid-day meals have been worked out and forwarded to the Industries concerned for implementation in their canteens. It may also be mentioned that the recommendations made, have been based on experience gained in the working of the Government of Bombay's Secretariat 'Square Meal' Canteen, where for the past 10 years, the service of a 'full meal' to about 500 to 600 diners daily is advised by this Department.

For the implementation of the recommendations made, the Department has been according full co-operation to the managements of canteens. At a time when milk was restricted for use only in tea, the Department made

arrangements with the Milk Commissioner to issue special milk permits for those industries who were agreeable to serve buttermilk or curds in the mid-day meals, through their canteens. Demonstrations on the preparation of the nutritious snacks, and assistance in putting into effect the general principles of the Balanced Diet, were also given.

SUMMARY

The Report covers a study of 108 canteens in industry, visited during the period 1950—56, with a view to study and improve the dietary conditions.

The canteens belong to various types of industries—big and small, such as textile, metal, chemical, pharmaceutical, food products and vehicular workshops, situated in the major industrial towns of Bombay State.

With the exception of few canteens in major industries, the general conditions in the canteens are not very satisfactory. In some instances, the canteens were located in improvised structures, which were small, congested and ill-ventilated. The canteens were managed either departmentally or on co-operative basis. Some were run by contractors.

'Tea and snacks' is the minimum food service provided through canteens. While a third of them restrict the service to 'tea and snacks' only, the rest also serve 'full meal' or 'meal preparations'.

Tea is the popular beverage consumed by most of the labourers. Buttermilk is not in demand, except in Ahmedabad and Baroda.

The snacks include a variety of preparations, such as bakery products, salty snacks and sweetmeats. Baker's bread, *batata vada* and onion *bhajias* appear to be most popular.

The service of 'full meal' was equally variable, the prices ranging from annas 3 to annas 10 per *thali*. However, annas 6 appeared to be the most popular price charged for the 'full meal'. Majority of them served vegetarian meals.

The quality of meal improved with increase in the price. Meals costing annas 8 to annas 10 include more 'protective' foods, such as fresh vegetables, milk and milk products, fleshy foods, etc. However, canteens which were subsidised by the industry served better meals.

Based on the nature and extent of work, food habits, economic conditions and the nutritional requirements of the workers, suitable recommendations were made in respect of each canteen. These include nutritious snacks and well-balanced mid-day meals.

RECOMMENDATIONS

The present study has been made possible by the co-operation accorded to this Department by the various industries concerned. It has, however, been found during the course of the study that there have been several difficulties in the development of community nutrition and the promotion of feeding the worker through canteens.

The following proposals are, therefore, made for the development and promotion of industrial canteens in Bombay State:—

1. In order that each canteen benefits from the advice of the Department of Nutrition, Government of Bombay, it is necessary that all canteens in industry, without exception, shall be opened to inspection by the Department.

2. Up-till now, the recommendations made by the Department are only advisory. In view of the urgent need for improving the nutritional status of the industrial workers, through canteen-feeding, it is highly desirable to make it mandatory for the canteen establishments to implement all the recommendations of this Department.

3. For effectively developing this work, it is essential that a Factory Canteen Advisor be appointed in the Department of Nutrition. The main functions of the Factory Canteen Advisor will be to inspect the industrial canteens regularly and advise on the following:—

- (i) quality and quantity of food served ;
- (ii) planning of menus ;
- (iii) timings of meal service ;
- (iv) charges for food ; and
- (v) food hygiene.

This Officer, on the advice of the Assistant Director, in-charge, Department of Nutrition, and in collaboration with the Chief Inspector of Factories, Bombay State, will be responsible for the further development of the canteens in Industry. A trained person who has sound knowledge of Nutrition and Dietetics, with adequate experience in Community Nutrition work, is necessary for this post.

4. A State Advisory Committee consisting of the Chief Inspector of Factories, Assistant Director, in-charge Department of Nutrition, and representatives of Labour Welfare Administration, the Mill Owners' and other Industrial Associations, and Labour Unions, be appointed to formulate a uniform policy in the management of canteens in Industry and to co-ordinate their activities.

5. As per suggestions contained in paragraph 50 of the Final Report of the Industrial Conditions Enquiry Committee, the Labour Department of the Government should, if possible, conduct a model industrial canteen where the various aspects of canteen management, including experimental work for determining cheap and nutritious meals and snacks, could be undertaken.

The canteen should be fitted up with suitable modern canteen equipment. Such a unit will help serve as a guide to industrialists contemplating setting up of new canteens or reorganising old ones.

6. It is highly desirable that the persons in charge of canteens should have basic knowledge of nutrition and dietetics. This is necessary so as to make the best use of the available resources and to improve the dietary conditions in the canteens.

7. The co-operation of the industrial workers is essential for a successful implementation of the programme. For this purpose, suitable talks, demonstrations, etc., on the subject of nutrition and dietetics may be arranged periodically to create interest in them.

CONCLUSIONS

It is now generally agreed that the nutritional status of the industrial worker needs considerable improvement and that feeding the worker through canteens is the effective way of achieving this end.

The enforcement of the various measures recommended above is now all the more necessary in view of the fact that although the Bombay Factories (Canteens) Rules 1950, were brought into force from December 1950, the general progress in the development of the Canteens is still slow.

ACKNOWLEDGMENT

Grateful acknowledgment is made to the managements of the various Industries visited during the course of this study for co-operation accorded to this Department in the collection of the data.

Table II

Price of meal	No. of meal services available at	Proteins		Fats	Carbohy- drates	Calcium	Iron	Vitamins			Calories	
		Total	Animal					A	B1 (B ₁)	C		
		(g)	(g)					(I.U.)	(I.U.)	(Mg)		
<i>(A) Nutritive analysis of the average meal at the different price levels.</i>												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
3 Annas	1	14.6	..	8.3	72.4	0.15	7.0	966	132	30	422	
4 Annas	5	25.9	0.2	21.9	140.3	0.20	13.4	1,183	234	40	861	
5 Annas	5	24.8	2.0	20.3	127.9	0.17	10.2	503	217	33	793	
6 Annas	38	26.5	2.6	27.3	136.5	0.20	10.7	922	215	33	898	
7 Annas	7	28.4	2.6	32.0	147.9	0.27	12.8	1,339	229	44	993	
8 Annas	17	30.4	5.6	35.7	144.3	0.27	12.5	988	230	34	1,020	
10 Annas and over	6	36.7	7.8	36.4	173.4	0.34	15.3	1,180	272	46	1,168	
<i>(B) Recommended allowances for Calories and Essential nutrients for an adult man doing 'moderately active' work</i>												
Per day .. ..	..	82	27.3 (Approx).	90 (Approx).	465.5 (Approx).	1.0	30	4,000	666	50	3,000
Per mid-day meal (1/3rd) .. ..	..	27.3	9.1 (Approx).	30 (Approx).	155.2 (Approx).	0.33	10	1,400	222	17	1,000

APPENDIX A

An Introductory Circular Letter

Tel. No. 60132.

No.

Department of Nutrition,
C/o Haffkine Institute,
Parel, Bombay 12,

195

To

Dear Sir,

The question of feeding the worker in industries has been engaging the attention of this Department for the past four years. With this object in view, the Department has studied the working of various canteens in cities of Bombay and Ahmedabad.

It is now widely realised that, apart from satisfactory working conditions, the health and working capacity of the worker largely depends on sufficient and well-balanced food. Your effort in providing hot meal to the worker at the canteen is indeed a step in the right direction.

A number of diet surveys conducted among the labour class population have revealed a general shortage of 'protective' foods. These foods not only afford the worker protection from disease but also help in promoting his efficiency. Other facilities concerning canteen-feeding also require attention. As a matter of fact, some of the local employers of labour have been requesting us, now and again, to give them advice on the planning of satisfactory diets on scientific basis. If you are interested in the advice of this Department, I shall be glad to depute one of my trained Senior Nutritionists (Kumari S. S. Corley) to visit your canteen on any working day suitable to you.

Yours faithfully,

(Sd.) M. V. RADHAKRISHNA RAO,

M.B., B.S., Ph.D., B.M.S.(I),

Assistant Director, I/C
Department of Nutrition,
Government of Bombay.

APPENDIX B

DEPARTMENT OF NUTRITION, GOVERNMENT OF BOMBAY

Statement showing the total daily sale of foodstuffs at the "tea and snacks" canteen, on ten consecutive working days (dated: from _____ to _____)

Name and Address of the Canteen—

Total No. of employees—

Name of foodstuffs	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	8th day	9th day	10th day	Selling price per item	Approximate weight per item	Remarks
Tea .. (Cups)													
Coffee .. (Cups)													
Aerated water (No.) Bottles.													
Cakes .. (No.)													
"Nankhatais" .. (No.)													
Bread .. (No.)													
"Chivda" .. (Pkts.)													
"Sev and Papdi" (Pkts.)													
"Ganthia" .. (Pkts.)													
"Bhajias" .. (Pkts.)													
"Batata-vada" .. (No.)													
"Ladoos" .. (No.)													
"Mysore pak" .. (No.)													
"Puries" .. (No.)													
"Chapaties" .. (No.)													
"Suki Bhaji" .. (No.)													
"Patal Bhaji" .. (No.)													
Other preparations ..													

To be filled in and returned to:—

The Assistant Director,
In-charge Department of Nutrition,
C/o Haffkine Institute, Parel, Bombay 12.

Signature—

Designation—

Date—

APPENDIX C

DEPARTMENT OF NUTRITION, GOVERNMENT OF BOMBAY

Statement showing the total daily issue of foodstuffs for the full-meal served at the canteen on ten consecutive working days

(Date : From _____ to _____)

Name of the Canteen :

Address :

Total number of employees :

Name of foodstuff	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	8th day	9th day	10th day	Remarks
Rice .. Lbs.											
Wheat .. Lbs.											
Other cereals* .. Lbs.											
Pulses* .. Lbs.											
Leafy vegetables* Lbs.											
Root vegetables* Lbs.											
Other vegetables* Lbs.											
Fruits*											

Sugar and Jaggery Lbs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vegetable oils/fats Lbs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ghee and butter Lbs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milk, curds, etc. Lbs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Meat and Fish .. Lbs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eggs .. No.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other foods ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Number of meals served daily.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

•Please give names in detail.

APPENDIX C—cont.
THE MENU FOR TEN CONSECUTIVE WORKING DAYS

	Serving Time	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	8th day	9th day	10th day
Mid-day meal ..											
Evening meal ..											

To be filled in and returned to—

The Assistant Director,
 In-charge Department of Nutrition,
 C/o Haffkine Institute, Parel, Bombay 12.

Signature :
 Designation :
 Date :

APPENDIX D

List of Industrial Canteens Studied

Greater Bombay.

1. Air India Ltd.
2. Allied Chemicals Ltd.
3. Bombay Dyeing Textile Mills Ltd.
4. B. E. S. T. Bombay Central Depot.
5. B. E. S. T. Colaba Depot.
6. B. E. S. T. Kingsway Depot.
7. Bombay Glass Works, Ltd.
8. Bombay Port Trust Alexandra Docks.
9. Bombay Port Trust Workshop.
10. Bombay Talkies Ltd.
11. Bombay Telephone Co., Ltd.
12. Boots Pure Drug Co., Ltd.
13. Bradbury Mills Ltd.
14. Britania Biscuit Co., Ltd.
15. Burmah-Shell Oil Co.
16. Burmah-Shell Refineries Ltd.
17. Burmah-Shell Refineries, Ltd. (Staff Canteen).
18. Central Railway Printing Press.
19. Central Railway Matunga Workshop.
20. Central Railway, V. T.
21. Century Mills Co., Ltd.
22. Collins and Company.
23. Corn Products Co., Ltd.
24. Crown Spinning and Manufacturing Co., Ltd.
25. Devidayal Metal Industries, Ltd.
26. Eastern Wooden Mills, Ltd.
27. Edward Textile Mills, Ltd.
28. Empire Dyeing Co., Ltd.
29. Firestone Tyre and Rubber Co., Ltd.
30. Garlick and Co., Ltd.
31. Geoffry Manners Co., Ltd.
32. Glaxo Laboratories, Ltd.
33. Godrej Boyce Co., Ltd.
34. Godrej Soaps Co., Ltd.
35. Golden Tobacco Co., Ltd.
36. Hind Cycles Co., Ltd.
37. Hindustan Mills Co., Ltd.

APPENDIX D—*cont.*

38. India Govt. Mint.
39. India United Mills Ltd., No. 1.
40. India United Mills Ltd., No. 2 and 3.
41. India United Mills Ltd., No. 4.
42. India United Mills Ltd., No. 5.
43. Indian Hume Pipe Co., Ltd.
44. Indian Manufacturing Co., Ltd.
45. Indian Naval Dockyard.
46. Indian Standard Metal Industries, Ltd.
47. Jasmine Mills, Ltd.
48. Jayanand Khira and Co. (Private), Ltd.
49. Kaiser-i-hind Mills, Ltd.
50. Kamala Mills, Ltd.
51. Kamani Metals and Alloys Co., Ltd.
52. Khatau Makanji Mills Co., Ltd.
53. Khatau Makanji Mills Co., Ltd. (Staff Canteen).
54. Kohinoor Mills Co., Ltd.
55. Lever Brothers India, Ltd.
56. Mazagaon Dock (Workshop).
57. Metal Box Co. of India.
58. Mukund Iron and Steel Works.
59. Mukund Iron and Steel (Kurla) Works.
60. Office of the Controller of Telegraphs.
61. Ordnance Depot.
62. Oriental Metal Pressing Co., Ltd.
63. Premier Automobiles, Ltd.
64. Pure Drinks, Ltd.
65. Pure Products and Madhu Canning Co
66. Raptakos Brett and Co., Ltd.
67. Seksaria Cotton Mills, Ltd.
68. Shree Ram Mills, Ltd.
69. Shree Ram Mills Ltd., (Staff Canteen).
70. Standard Vacuum Oil Co., Ltd. (Mazgaon).
71. Standard Vacuum Oil Co., Ltd. (Sewri).
72. State Transport Depot (Tardeo).
73. Swastik Oil Mills, Ltd.
74. Swadeshi Mills Co., Ltd.
75. Tata Oil Mills Co., Ltd.
76. Tata (Textile) Mills Co., Ltd.
77. Times of India Co., Ltd.
78. Tobacco Manufacturing Co., Ltd.

APPENDIX D—cont.

79. Volkart Brothers.
80. Western India Mills Co., Ltd.
81. Western Railway Carriage Workshop.

Ahmedabad District

82. Ahmedabad Advance Mills Co., Ltd.
83. Ahmedabad Jayabharat Mills Co., Ltd.
84. Arvind Mills, Ltd.
85. Calico Mills Co., Ltd.
86. Jupiter Spinning, Weaving Co., Ltd.
87. New Commercial Mills Co., Ltd.
88. Rohit Mills, Ltd.
89. Shorrock Spinning, Manufacturing Co., Ltd.
90. Shri Ambica Mills Ltd.

Baroda District

91. Jyoti Ltd. (Manufacturers and Engineers), Baroda
92. New India Industries Ltd., Baroda.
93. Western Railway Workshop, Pratapnagar.

Poona District

94. Ammunition Factory, Kirkee.
95. High Explosives Factory, Kirkee.
96. Vehicle Depot, Dehu Road.

Sholapur District

97. Jam Shree Ranjitsinghji Mills Ltd., Sholapur.
98. Lakshmi Cotton Manufacturing Co., Ltd., Sholapur.
99. Lokmanya Mills Ltd., Barsi.

Thana District

100. Asbestos Cements Co., Ltd., Mulund.
101. CIBA Pharma Co., Ltd., Bhandup.
102. Shangrila Food Products Co., Ltd., Bhandup.

Mehsana District

103. Bharat Vijay Mills Ltd., Kalol.
104. Nav Jivan Mills Ltd., Kalol.

Nasik District

105. India Security Press.

East Khandesh District

106. Khandesh Spinning and Weaving Co., Ltd., Jalgaon.

West Khandesh District

107. New Pratap Spinning and Weaving Co., Ltd., Dhulia.

Kolhapur District

108. Shree Shahu Chhatrapati Mills, Ltd.

APPENDIX E

Nutritious Snacks recommended for Industrial Canteens

1. *Missi chapati or Puri*—

Ingredients.—Wheat flour 1 lb. ; gram flour 2 ozs. : coriander, *chawli*, or *methi* leaves 2 ozs. ; salt and chillies, to taste.

Method.—Wash and cut the leaves fine ; mash the chillies. Mix this into the wheat and gram flours. Add water and knead the ingredients into a smooth dough. Prepare *chapati* or *puri* as desired.

NOTE.—For every pound (lb.) of flour, 2 ozs. of dried milk powder may be added, to increase the nutritive value.

2. Vegetable preparations that may be served along with *missi chapati* or *puri*—

(a) Brinjals, tomatoes, potatoes, beans, drumsticks, etc. These may be cooked singly, or in combination of two or three varieties.

(b) Leafy vegetables, such as *chawli*, *methi*, *palak*, drumstick leaves, may be preferably cooked along with *dals*, potatoes, tomatoes, etc.

(c) *Usal* out of sprouted pulses such as *mung*, *math*, *chana*, etc.

3. *Dahi vada*—

Ingredients.—Green gram (*mung*) *dal* and black gram (*udid*) *dal*, $\frac{1}{2}$ lb. each ; curds 2 lbs., ghee or oil for frying, salt and condiments to taste.

Method.—Mix the *dals* and soak in water overnight. Grind the *dals* (after draining the water) into a soft dough, adding salt and condiments to taste. Shape the dough into small balls, flatten a little and fry in deep oil.

Season the curds with mustard seeds and chillies and put the fried balls in curds.

4. *Batata vada*—

Ingredients.—Gram flour 6 ozs. ; potatoes 1 lb. ; *chawli*, *methi* or *palak* leaves 2 ozs. ; coriander leaves $\frac{1}{2}$ oz. ; coconut $\frac{1}{2}$ oz. ; green chillies, ginger, dry coriander, *garam masala*, *hing*, salt, etc., to taste. Oil for frying.

Method.—Prepare the gram flour with the addition of water into a batter of a suitable consistency. Boil and mash the potatoes. Wash and cut the green leaves and chillies fine. Add the leaves, condiments and salt to the mashed potatoes. Mix well. Prepare small balls, dip into the batter and fry, till golden brown, in deep oil.

5. *Onion bhajia*—

To enhance the nutritive value of the ordinary onion *bhajias*, green leafy vegetables up to 10 per cent may be incorporated into the ingredients.

6. *Pachadi* (vegetable salad with curds)—

Ingredients.—Curds $\frac{1}{2}$ lb., cucumber $\frac{1}{2}$ lb., salt and chillies to taste.

Method.—Cut cucumber in slices and put into curds for two to three hours. Add a little salt and chillies to taste. Season with mustard seeds or garnish with coriander leaves, if desired, and serve.

Similarly, *pachadi* may be made with a mixture of ripe tomatoes and/or carrots and/or sprouted *mung*.

Lettuce or cabbage leaves may be steam-cooked for a short time and then mixed in curds for two or three hours, and seasoned, if desired.

7. *Tomato omelet*—

Ingredients.—Rice flour $\frac{1}{4}$ lb.; gram flour 14 ozs.; tomatoes (ripe) $\frac{1}{2}$ lb.; coriander, *methi* or curry leaves $\frac{1}{4}$ lb.; salt and condiments to taste; oil for frying.

Method.—Clean and cut the vegetables fine, and mix into the rice and gram flours. Add salt and condiments to taste. Add water to make a thin batter. Fry small quantities of the batter in oil, in the shape of an omelet.

8. *Vegetable sandwiches*—

Ingredients.—Baker's bread 14 ozs.; tomatoes $\frac{1}{2}$ lb.; grated coconut 2 ozs.; lettuce or cabbage leaves 2 ozs.; chillies and salt to taste.

Method.—Cut the bread into slices of $\frac{1}{3}$ inch thickness. Cut vegetables and chillies into small pieces. Add and mix the coconut and salt to the vegetables. Prepare sandwiches by putting small quantities of the vegetables preparation between two slices of bread. (To avoid waste, do not cut the crust of bread.)

9. *Upama*—

Ingredients.—Semolina or *wari* 1 lb.; potatoes $\frac{1}{4}$ lb.; brinjals $\frac{1}{4}$ lb.; onion 2 ozs.; oil 1 oz. Salt, chillies, *haldi*, *dhana-jecra*, to taste.

Method.—Peel and cut the vegetables into cubes. Fry the semolina or *wari* in oil on slow fire. Add the vegetables, salt and condiments to the semolina or *wari*. Stir well, adding sufficient hot water to cook.

10. *Chiki*—

Ingredients.—Groundnuts 1 lb.; jaggery $\frac{3}{4}$ lb.; *rajgira* $\frac{1}{4}$ lb. and white *til* 1 oz.

Method.—Make the jaggery into a syrup till it reaches a stage, when it forms into a crust, when a little is put into cold water. Add the groundnuts, *rajgira* and *til* and mix well. Spread the mixture on a greased pan and cut into pieces.

APPENDIX F
Details of "full meals" served at different price levels

Composition of meals in Ozs.

S. No.	Name of Industry	Composition of meals in Ozs.								
		Cereals	Pulses	Leafy vegetables	Non-leafy vegetables	Fruits	Sugar and gur	Oil and ghee	Milk	Fleshy food
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>I.—Details of 'full meal' served at annas 3 per plate.</i>										
51	Khatau M. Mills	2.0	1.0	0.5	3.5	..	..	0.25	..	..
<i>II.—Details of 'full meal' served at annas 4 per plate.</i>										
1	Air India.. .. .	3.2	1.0	..	2.6	..	..	0.4	..	..
20	Century Mills	4.5	1.5	..	2.2	0.5	0.2	0.6	0.8	..
35	Hind Cycles	4.5	2.4	0.8	0.8	..	..	1.0	..	..
49	Kamala Mills	5.9	1.1	0.3	2.2	..	..	0.7	..	..
105	India Security Press	7.0	1.3	2.0	2.0	..	0.5	0.5	..	..
<i>III.—Details of 'full meal' served at annas 5 per plate.</i>										
6	B. E. S. T. Kingsway Depot	5.7	0.4	0.1	1.3	..	..	0.3	..	1.3
37	India Government Mint	4.5	1.8	..	4.0	0.4	0.1	0.7	..	..
45	Indian Standard Metal	4.6	2.2	0.4	3.4	..	0.1	0.6	..	..
50	Kamani Metals	3.8	1.0	..	8.7	..	0.1	1.0	..	..
76	Tata Textile Mills	3.3	0.8	0.5	4.7	0.7	..	0.6	2.1	..

Nutrient analysis of meals

S. No.	Name of Industry	Proteins		Fats	Carbo-hydrates	Minerals		Vitamins			Calories
		Total	Animal			Ca.	Fe.	A	B1	C	
		(g)	(g)	(g)	(g)	(g)	(mg)	(I.U.)	(I.U.)	(mg)	(21)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
<i>I.—Details of 'full meal' served at annas 3 per plate.</i>											
51	Khatau M. Mills	14.6	..	8.3	72.4	0.15	7.0	966	132	30	422
<i>II.—Details of 'full meal' served at annas 4 per plate.</i>											
1	Air India.. .. .	16.7	..	11.5	90.8	0.10	7.0	235	151	16	534
20	Century Mills	24.1	1.0	20.1	140.4	0.18	8.9	298	181	13	839
35	Hind Cycles	30.2	..	29.9	136.3	0.21	13.5	1,224	256	21	935
49	Kamala Mills	23.9	..	22.7	154.4	0.13	9.3	618	193	19	918
105	India Security Press	34.5	..	25.1	179.4	0.36	28.4	3,538	389	52	1,081
<i>III.—Details of 'full meal' served at annas 5 per plate.</i>											
6	B. E. S. T. Kingsway Depot	26.0	9.3	11.2	121.0	0.06	8.0	203	149	11	689
37	India Government Mint	26.3	..	22.3	140.7	0.16	11.8	269	293	26	869
45	Indian Standard Metal	29.0	..	15.1	148.0	0.19	11.7	294	208	30	880
50	Kamani Metals	22.7	..	30.2	126.0	0.21	10.2	701	252	53	866
76	Tata Textile Mills	20.1	0.5	18.6	103.6	0.24	9.5	1,048	182	46	662

APPENDIX F—cont.

Composition of meals in Ozs.

S. No.	Name of Industry	Composition of meals in Ozs.									
		Cereals	Pulses	Leafy vegetables	Non-leafy vegetables	Fruits	Sugar and gur	Oil and ghee	Milk	Fleshy food	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
<i>IV.—Details of 'full meal' served at annas 6 per plate.</i>											
3	Bombay Dyeing Textile Mill	3.3	2.0	0.7	5.1	..	0.1	0.8	1.0	..	
5	B. E. S. T. Colaba Depot	4.0	1.2	..	3.1	..	..	0.5	..	..
6	B. E. S. T. Kingsway Depot	6.1	0.4	1.1	6.7	..	..	0.7	..	3.8
12	Boots Pure Drug Co.	2.9	1.1	..	3.7	..	..	0.6	..	..
12	Do.	2.9	1.1	..	2.3	..	..	0.6	..	0.8
15	Burmah Shell Refinery (Workers)	6.0	1.5	0.25	5.0	..	..	1.5	..	..
15	Do. do.	6.0	..	0.25	5.0	..	..	1.5	..	2.0
16	Burmah Shell Refinery (Clerical Staff)	5.6	1.3	0.25	5.0	..	..	1.8	..	(Beef)
16	Do. do.	5.6	..	0.25	5.0	..	..	1.5	..	2.0
23	Crown S. and W. M. Co., Ltd.	4.7	2.1	..	4.1	..	0.1	0.4	..	(Beef)	
24	Devidayal Metal Industry	3.6	1.3	0.3	2.0	..	..	0.6	..	..
25	Eastern Woollen Mills	3.0	1.3	..	2.5	..	..	0.9	..	..
29	Garlick and Co., Ltd.	3.8	1.4	..	5.9	..	0.5	0.9	..	..
32	Godrej Boyce and Co.	3.7	1.4	..	3.8	1.0	0.5	1.0	..	..
38	India United Mills, 1	5.6	1.4	0.3	5.0	..	0.1	1.0	0.6	..	
39	India United Mills, 2 and 3	6.6	1.3	..	3.5	..	..	0.2	3.0	..
40	India United Mills, 4	3.8	3.1	..	5.6	..	0.2	2.1	3.9	..	

S. No.	Name of Industry	Nutrient analysis of meals										
		Proteins		Fats	Carbo- hydrates	Minerals		Vitamins			Calories	
		Total (g)	Animal (g)			Ca. (g)	Fe. (mg)	A (I.U.)	B1 (I.U.)	C (mg)		
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
	<i>IV.—Details of 'full meal' served at annas 6 per plate.</i>											
3	Bombay Dyeing Textile Mill	28.4	1.3	26.6	123.5	0.29	12.2	1,318	205	46	847	
5	B. E. S. T. Colaba Depot	20.4	..	16.9	114.7	0.13	8.3	361	193	18	693	
6	B. E. S. T. Kingsway Depot	45.0	23.6	25.4	168.7	0.12	9.4	847	253	87	1,084	
12	Boots Pure Drug Co.	16.3	..	18.1	91.3	0.11	6.7	285	126	21	593	
12	Do.	19.7	4.2	20.7	87.5	0.12	6.9	1,481	132	13	615	
15	Burmah Shell Refinery (Workers)	28.8	..	44.5	170.8	0.23	11.5	727	260	32	1,198	
15	Do. .. dq.	31.9	12.8	45.3	146.0	0.18	9.2	695	247	32	1,120	
16	Do. (Clerical Staff)	26.1	..	52.2	159.4	0.22	10.5	706	234	32	1,212	
16	Do. .. do.	30.6	12.8	45.1	137.9	0.17	8.6	683	227	32	1,080	
23	Crown S. and W. M. Co., Ltd.	27.4	..	14.8	153.2	0.20	12.9	328	185	24	856	
24	Devidayal Metal Industry	19.3	..	18.4	106.8	0.13	7.6	602	147	18	670	
25	Eastern Woollen Mills	18.6	..	26.8	91.0	0.11	7.0	218	159	16	680	
29	Garlick and Co., Ltd.	22.8	..	25.9	132.5	0.16	10.6	371	184	38	855	
32	Godrej Boyce and Co.	24.0	..	30.6	129.7	0.17	10.5	1,803	160	14	890	
38	India United Mills, 1	28.8	0.7	31.5	161.3	0.23	12.6	866	277	37	1,043	
39	India United Mills, 2 and 3	33.3	3.2	9.6	172.3	0.27	12.2	309	304	24	909	
40	India United Mills, 4	38.8	4.4	65.0	155.3	0.42	12.9	496	265	37	1,361	

APPENDIX F—cont.

S. No.	Name of Industry	Composition of meals in Ozs.								
		Cereals	Pulses	Leafy vegetables	Non-leafy vegetables	Fruits	Sugar and gur	Oil and ghee	Milk	Fleshy food
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>IV.—Details of 'full meal' served at annas 6 per plate</i>										
42	Indian Hume Pipe	5.2	1.5	..	3.2	..	..	0.7	0.5	..
46	Jasmine Mills, Ltd.	5.8	1.8	..	2.7	..	..	0.6	..	..
47	Jayanand Khira and Co.	4.8	1.8	0.5	3.5	0.1	0.1	1.1	1.1	..
55	Mazagaon Dock	4.1	1.2	0.7	1.4	..	0.2	0.8	0.5	..
56	Metal Box Co.	4.6	1.4	..	3.6	0.5	..	0.8	..	0.5
57	Mukund Iron and Steel Work.. .. .	4.6	1.7	0.6	4.5	..	0.3	1.0	..	..
	Do. do. , Kurla	3.3	1.0	1.2	1.8	..	0.6	1.0	..	..
	Ordnance Depot	7.5	1.4	1.1	2.5	..	..	0.8	..	..
60	Do.	7.5	1.4	1.1	0.5	..	..	0.8	..	2.7
62	Premier Automobile	5.0	1.5	..	2.3	..	0.1	0.8	0.1	..
70	Standard Vacuum Oil, Mazagaon	4.9	1.2	0.9	3.5	..	0.1	0.8	1.4	..
71	Do. , Sewari	4.4	1.3	..	3.1	..	0.2	1.0	3.0	..
72	State Transport Depot	5.6	1.4	1.0	3.1	..	..	0.3	..	..
73	Swastik Oil Co.	6.0	1.2	0.2	3.5	..	0.1	0.5	..	..
77	Times of India Press	3.9	2.4	..	3.3	..	..	1.5	..	..
80	Western India Mills, Ltd.	4.1	1.6	1.8	2.9	..	..	0.1	..	..
95	High Explosives.. .. .	5.1	1.0	..	3.0	..	..	0.5	..	..

Nutrient Analyses of meals

S. No.	Name of Industry	Nutrient Analyses of meals										
		Proteins		Fats (g)	Carbo-hydrates (g)	Minerals		Vitamins			Calories	
		Total (g)	Animal (g)			Ca. (g)	Fe. (mg)	A (I.U.)	BI (I.U.)	C (mg)		
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
<i>IV.—Details of 'full meal' served at annas 6 per plate</i>												
42	Indian Hume Pipe	27.5	0.6	22.1	139.8	0.17	11.2	251	252	22	868	
46	Jasmine Mills, Ltd.	27.8	..	18.6	159.5	0.14	11.3	222	258	26	917	
47	Jayanand Khira and Co.	28.0	1.3	34.7	151.7	0.26	11.7	993	189	34	1,031	
55	Mazagaon Dock	21.3	0.6	25.1	117.1	0.18	10.2	1,053	177	24	780	
56	Metal Box Co.	26.2	2.4	26.4	139.1	0.17	9.4	417	215	27	899	
57	Mukund Iron and Steel Work.. .. .	26.1	..	30.6	154.6	0.15	11.7	1,075	264	48	999	
58	Do. do., Kurla	17.7	..	29.9	110.6	0.14	10.8	1,196	206	49	782	
60	Ordnance Depot	32.3	..	25.3	191.1	0.22	14.9	1,607	284	40	1,121	
60	Do.	45.2	14.3	34.7	187.3	0.29	16.2	4,105	325	28	1,243	
62	Premier Automobile	25.4	0.1	25.9	139.5	0.15	11.6	343	238	12	893	
70	Standard Vacuum Oil, Mazagaon	25.8	1.6	25.7	141.5	0.27	13.4	1,444	217	41	901	
71	Do. do., Sewari	29.9	8.6	29.9	129.2	0.44	8.4	299	195	20	906	
72	State Transport Depot	28.4	..	12.2	153.8	0.23	13.6	1,561	263	40	838	
73	Swastik Oil Co.	26.0	..	16.2	158.5	0.16	11.4	443	223	27	884	
77	Times of India Press	28.5	..	45.2	133.7	0.14	9.7	233	218	24	1,056	
80	Western India Mills, Ltd.	23.7	..	6.3	125.5	0.25	14.9	2,672	221	75	653	
95	High Explosives.. .. .	22.4	..	16.0	129.9	0.11	9.8	197	213	30	753	

APPENDIX F—cont.

Composition of meals in Ozs.

S. No.	Name of Industry	Composition of meals in Ozs.									
		Cereals	Pulses	Leafy vegetables	Non-leafy vegetables	Fruits	Sugar and gur	Oil and ghee	Milk	Fleshy food	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
<i>IV.—Details of 'full meal' served at annas 6 per plate</i>											
96	Vehicle Depot	5.0	1.5	..	4.0	..	..	1.0	..	..
100	Asbestos Cements, Ltd.	2.6	1.4	..	1.1	..	..	0.2	2.3	..
102	Shangrila Food Products	3.1	0.2	0.6	6.0	1.2	..	0.9	..	0.9	
102	Do.	3.1	0.2	0.6	8.6	1.2	..	0.9	..	..
<i>V.—Details of meals served at annas 7 per plate.</i>											
6	B. E. S. T. Kingsway Depot	5.6	2.0	0.7	7.2	..	..	0.7	..	..
44	Indian Naval Dockyard	4.0	1.0	1.0	3.0	..	..	1.0	..	..
66	Raptakos, Brett and Co.	3.3	0.9	0.3	9.6	..	..	0.9	3.5	..
75	Tata Oil Mills, Ltd.	4.2	1.7	1.3	4.9	..	..	1.4	..	..
75	Do.	4.2	0.8	..	1.4	..	..	1.4	..	2.0
81	Western Railway Carr. Workshop	5.9	1.9	..	4.1	..	..	0.8	..	..
105	India Security Press	7.0	1.3	2.0	2.0	..	0.5	0.6	3.0	..	

S. No.	Name of Industry	Nutrient analysis of meals										Calories
		Proteins		Fats (g)	Carbo- hydrates (g)	Minerals		Vitamins				
		Total (g)	Animal (g)			Ca. (g)	Fe. (mg)	A (I.U.)	B1 (I.U.)	C (mg)		
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
<i>IV.—Details of 'full meal' served at annas 6 per plate</i>												
96	Vehicle Depot	25.4	..	30.2	144.3	0.15	9.7	495	236	36	951	
100	Asbestos Cements Ltd.	19.4	1.9	8.7	83.3	0.15	6.0	182	121	7	491	
102	Shangrila Food Products	20.8	4.3	30.3	95.0	0.23	10.2	2,094	138	62	736	
102	Do.	18.2	..	27.1	100.2	0.22	10.7	2,055	144	80	717	
<i>V.—Details of meals served at annas 7 per plate.</i>												
6	B. E. S. T. Kingsway Depot	29.2	..	22.6	188.5	0.15	11.5	580	233	71	1,074	
44	Indian Naval Dockyard	18.7	..	29.4	118.8	0.18	9.3	1,543	133	37	815	
66	Raptakos, Brett and Co.	26.7	4.2	31.6	113.5	0.43	12.9	1,344	145	67	846	
75	Tata Oil Mills, Ltd.	27.1	..	41.7	136.5	0.28	14.6	1,949	267	49	1,030	
75	Do.	30.9	10.7	47.9	111.5	0.19	10.0	308	240	7	1,001	
81	Western Railway Carr. Workshop	31.2	..	25.1	168.6	0.16	12.3	257	272	24	1,025	
105	India Security Press	35.3	3.6	25.4	198.2	0.50	19.2	3,395	311	52	1,163	

APPENDIX F—cont.

Composition of meals in Ozs.

S. No.	Name of Industry	Cereals	Pulses	Leafy vegetables	Non-leafy vegetables	Fruits	Sugar and gur	Oil and ghee	Milk	Fleshy food
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>VI.—Details of meals served at annas 8 per plate.</i>										
1	Air India, Ltd.	4.8	2.2	..	2.7	..	..	0.8	4.0	..
1	Do.	4.8	1.5	..	2.8	..	..	1.1	..	3.2
2	Allied Chemicals, Ltd.	5.4	0.6	..	3.0	..	..	0.6	3.0	..
5	B. E. S. T. Colaba Depot	4.0	0.2	..	3.9	..	..	0.9	..	1.6
15	Burmah Shell Refinery (Workers)	6.0	..	0.25	5.0	..	..	1.5	..	2.0
16	Do. (Clerical Staff)	5.6	..	0.25	5.0	..	..	1.5	..	2.0
19	Central Railway, V. T.	3.5	1.8	..	4.8	..	..	1.0	3.0	..
28	Firestone Tyre and Rubber	4.0	0.8	1.0	4.2	..	..	1.5	..	..
30	Geoffery Manners Co.	4.9	0.9	1.0	3.7	2.6	..	0.9	..	..
35	Hind Cycle, Ltd.	3.4	1.2	2.0	3.1	0.3	0.3	1.0	2.0	..
44	Indian Naval Dockyard	4.0	0.3	0.8	2.2	..	..	1.0	..	3.0
61	Oriental Metal Press Works	5.4	1.8	..	5.2	..	0.2	0.9	1.9	..
79	Volkart Bros.	4.3	2.6	..	3.2	..	..	1.0	1.3	..
84	Arvind Mills, Ltd.	7.2	3.3	1.2	4.7	0.4	0.7	1.8	0.3	..
85	Calico Mills, Ltd.	4.0	2.2	0.2	6.1	0.9	0.8	1.0	0.3	..
94	Ammunition Factory	4.9	1.7	0.2	2.2	..	0.1	0.5	1.0	..
101	CIBA Pharma, Ltd.	6.2	1.8	..	5.0	..	..	0.7	..	..