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FOOD SCIENCE AND TECHNOLOGY INFORMATION SERVICE % A  
PROPOSED PLAN.

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A brief description of the CFTRI library, and the services it offers, is given. The need for the setting up of a national Information Centre for Food Science and Technology is briefly mentioned. A draft model for a five-year developmental plan for FOSTIS is presented. The organisational structure, documentation services, personnel annual budget, furniture and equipment required for the Central Unit of the FOSTIS is given.

## 0 INTRODUCTION

This paper deals with the development of the library and documentation services at the Central Food Technological Research Institute from its inception, and outlines a plan for the proposed National Information System to be established at this Institute during the Fifth Plan period. It discusses the structure and organisation of the documentation services in detail, and also deals with the personnel, finances, building, furniture and equipment that will be required.

## 1 CFTRI

### 11 Establishment of CFTRI

The importance of Food Technology and the value of the processed foods came to be better appreciated

in India during the World War II. The Bengal famine of 1943 and the famine that threatened South India in 1946 made people ask whether some substitute for common staples could not be produced from nutritious but hitherto unutilised raw materials. Based on extensive evidence the industrial research planning committee of the Council of Scientific and Industrial Research recommended the establishment of a food technological research institute whose objective would be to work out methods for making the best use of the food materials produced in the country, This recommendation was endorsed by the various food industries panels set up by the Government of India, and after a considerable amount of planning the Central Food Technological Research Institute was established at Mysore in 1950, In the beginning, it had only 7 divisions and a scientific staff numbering 30. During the past 23 years the Institute has grown and it now covers 14 disciplines and employs nearly 700 scientific and technical staff, (For details, see Table 1 in the next page).

## 12 Library

The Library was started in 1950 and along with the Institute's research activities, the library also developed considerably. It has at present 12,000 books, 14,000 bound volumes of periodicals and 25,000 micro-documents such as patents, standards, pamphlets, annual reports, reprints, etc. (For details, see Table 2 in the next page)

Table 1. Discipline-wise Distribution of Scientific and Technical Staff - 1973

SB	Discipline	Scien- tists	Scienti- fic Assts	Others
	Biochemistry and Applied Nutrition . .	16	21	17
2	Engineering & Maintenance	7	8	33
3	Flour Milling & Baking Technology	1	5	2
4	Fruit & Vegetable Technology	12	23	15
5	Infestation Control and Pesticides	11	16	0
	Information Research, Con- sultancy and Extension	21	21	14
7	Experiment Stations	15	39	22
G	Meat, Fish and Poultry Technology	8		
	Microbiology, Fermentation Technology & Sanitation	14	14	10
10	Process Development & Design	10	19	15
11	Protein Technology	9	17	19
12	Bice 8: Pulse Technology	4	13	8
13	Plantation Production and Flavour Technology	11	16	7
14	Training Centre	7	2	5
15	Others	1	8	43
	Total	143	231	275

Table 2, Statement showing the Development of CFTRI Library

BE	Description	1964	1965	1966	1967	1968	1969	1970	1971
1	Books	6,129	6,530	7,418	7,799	8,273	9,187	9,700	10,316
2	Periodicals	463						646	543
3	Bound volumes of periodicals	7,417	8,184	8,604	9,363	10,284	10,336	11,616	12,236
4	Pamphlets, re- prints, etc	2,580	3,276	4,000	5,600	6,000	6,318	6,584	
5	Patents	26,084	31,778	36,941	41,032	46,726	51,001	56,028	
6	ISI Specifications	1,679	1,984	2,333	2,837	3,561	4,170	4,758	4,815
	Reference Mate- rials								
8	Thesis and Disser- tations								
9	Readers	421	464	493	650	700	758	314	

\*Subs 560. Exchange; 80. Gratis: 103

### 13 library and Documentation-Services

Following the reorganisation of research work at the Central Food Technological Research Institute in the year 1964 into a number of precisely formulated projects, it became very essential to start a documentation unit to give documentation service. A title service covering 250 periodicals was started and was published monthly as Library Bulletin -(4). In the year 1966, with the collaboration of the Documentation Research and Training Centre, a depth classification in Food Technology was designed (2) which was used for the classification of entries in the monthly documentation list of CFTRI (5). To enable the seven CFTRI Experiment Stations and the industries — which do not enjoy library facilities — to keep track of the developments in Food Science and Technology, an abstracting service entitled 'Food Technology Abstracts' was started in the year 1966,

Following the growth in consultancy services offered by the Institute, experts working in various food industries also started using our library. To have an idea of the size and output of the food industries as a whole, the Directory of Indian Processed: Food and Allied Industries was compiled and published in 1971. The Directory gives details of nearly 12,000 manufacturers as well as research organisations in the country,

The diploma course in Fruit Technology was expanded in 1965 to form the MSc course in Food Technology. The students from South-East Asian countries also joined this course. Along with the M Sc course in Food Technology, a number of short courses in

various subject fields, such as Fruit and Vegetable Technology, Infestation Control, Packaging were also introduced. To cater to the needs of the students and the trained, the library had to open a separate students section for their use.

#### H Need for a National Information Centre

The establishment of more and more universities, especially the agricultural universities which have courses in Food Technology, and the tremendous growth of the food industries in the country, have prompted the need for the establishment of a national Information Centre for Food Science and Technology. This is partly due to the fact that the library at the CFTRI with its limited facilities is unable to cope with the heavy quantum of work of catering to all the food and allied organisations in the country. However, the fact that there is already an infra-structure available in the form of the CFTRI Library, it was thought that it could be appropriately expanded and developed as a national information centre for food science and technology,

## 2 SCOPE OF PAPER

In this Paper, an attempt is made to give a draft model for a five-year developmental plan for the FOSTIS. The plan presents the objectives, the organisational structure, documentation services, personnel, finances, building, furniture and equipment of the Central Facility of FOSTIS.

### 3 FOOD SCIENCE AND TECHNOLOGY INFORMATION SERVICE

A report containing the outline of a five-year (1974-79) development plan for a Food Science and Technology Information Service (FOSTIS) was prepared in 1973, (4). In this report, FOSTIS is envisaged as consisting of a large central facility at the Central Food Technological Research Institute, Mysore with smaller regional facilities at some of the experiment stations of the Institute.

#### 31 Objectives of FOSTIS

The objectives of FOSTIS would be derived from, and be in conformity with, the nation's overall plans for the development of food industry and of research and development in Food Science and Technology. The three-fold objective of the centralised facility of FOSTIS would be;

(a) Provide documentation/information service to the CFTRI, Mysore, the food industry, and other organisations and individuals doing research and developmental work in food science and technology?

(b) Be a clearing house for information on all aspects of Food science and technology; and

(c) Be a partner in the integrated development of the various documentation/information systems in Food science, and technology and related systems in the country as a whole, and a feeder to similar international systems.

#### 32 Organisational Structure of FOSTIS

The FOSTIS has been envisaged as consisting of a large central facility in the CFTRI, Mysore, with small

regional facilities in some of the experiment stations of the Institute, The plan envisages five functional divisions of the central facility of FOSTIS., as shown in the organisational chart given (See next page)

### 33 Services to "be Rendered by the Central Facility of FOSTIS

The following varieties of documentation services will be provided by the central facility of FOSTIS:

- (a) Current Awareness Service
- (b) Selective Dissemination of Information
- (c) Abstracting of technical papers
- (d) Patent abstracts
- (e) Technical digest (in languages also)
- (f) Management digest
- (g) News brief (in languages also)
- (h) Product information bulletin (in languages also)
- (i) Data compilation and Service
- (k) Retrospective bibliography
- (l) State-of-art and trend reports

Details of the services have been discussed elsewhere (3). In addition to the above-mentioned services, translation and reprographic services will be provided to the clientele by the central facility of the FOSTIS,

### 34 Anticipated Somber of Documents

At the end of the Fifth Plan — that is, 1978-79 — the library of the Central Facility is expected to have about 45,000 volumes of books and bound periodicals, and receive about 750 periodicals including technical periodicals, house magazines (technical), government serials; etc. The following table gives the approxi-



## Organisational Charts Major Functional Unit3

Food Science & Technology Information Service (FOSTIS)
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Regional Facility			Central Facility
Document Acquisition and processing	Documentation Service and Facilities	Promotion of information use in industry, etc	Reprography Printing & publication
* Document selection	* Reference service	* Contact with industry to identify potential users of information services	* General office functions
* Document procurement including reprographic copies and translation	* Referral service	* Industry/product/users profile preparation	
* Technical processing	* Documentation work and services	* Directory preparation & maintenance : Research in progress; Sources of information	
* Document circulation	* Data bank	* Advisory service for establishing documentation and information cells in individual industrial enterprises and in Industrial estates for groups of industries	
* Liter-library loan	* Research in documentation		
* Maintenance	* In-service training in information service		
	* Appreciation and refresher courses in documentation		

mate number of different varieties of documents in the library of the Central Facility at the end of the Fifth Plan Period. The data includes the number of documents purchased and received through gifts and exchanges. By the end of the Fifth Plan, the basic collection of documents required for effective service by FOSTIS would have been built up. Therefore, the rate of growth of the collection in the subsequent years will be lower.

Number of documents

Document	Number at the end of	
	1973-74	1978-79
1 Books and bound volumes of periodicals	26,000	45,000
2 Technical reports	4,500	10,000
3 Standards and Specifications	5,500	15,000
4 Patents	14,500	17,000
5 Current periodicals	550	750
6 Reprints, Pascimile, Microfilm, Microfiche	2,500	3,000
7 Approximate number of publications to be processed each year during the plan period 1974-75 to 1978-79		7,000*

\*The actual number of documents added during the five-year period 1974-75 to 1978-79 will be about 37,000. But not all the documents will require full processing — such as, accessioning, classification and cataloguing. Hence the slightly lower figure for the average number of documents to be processed each year, given against SN 7 in the table.

## 35 Personnel Required

The estimate of professional man-year using a simplified staff formula given elsewhere (3) is given in the following table.

Section	Formula	Per Annum
1 Book Section-	7000/6000	1,2
2 Periodicals Section	750/1500	0,5
3 Technical Section	7000/1500	4.7
4 Reference Section	100/50	2.0
5 Circulation Section	3904/1500	2.6
6 Documentation Section	1.5 x 10	15.0
7 Maintenance Staff (Semi-professional)		2,0
8 Reprography Section		2.0
9 Translation Section		2,0
10 Data Bank		2.0
11 Publication (including Printing Unit)		5.0
12 Supervisory Staff		5.0
	Total	44.0

351 Category of Professional Personnel

The following table gives information about the different category of professional personnel, their respective major functions, and the number of persons required in each category in the Central Facility of FOSTIS,

SIT	Category of Personnel	Number of Persons
1	Scientist-E (Head) .. ..	1
2	Scientist C In-Charge Acquisition, Processing, Circulation, Maintenance (library Work)	1
	Documentation and Preference Service	
	Data Bank - . . . .	1
	Publications . . . .	1
3	Scientist B	
	Acquisition and Processing ..	2
	Documentation and Reference ,..	6
	Reprography .. -.	1
	Translation .. ,	1
	Publications .. ..	1
4	Senior Technical Assistant	
	Acquisition and Processing . . .	3
	Documentation and Reference ..	9
	Reprography . . . .	1
	Translation .. . .	1
	Data Bank . . . .	2
	Publications . ... . .	2
5	Junior Technical Assistant	
	Acquisition and Processing ..	2
	Circulation .. , ..	2
	Documentation and Reference ..	2
	Maintenance .. .. ,	2
	Publications .. -	2
	Total	<b>44</b>

### 352 Unit-Wise Distribution of Professional Personnel

Following table gives the number of persons in each category of personnel in each of the units -of the Central Facility of FOSTIS

SN	Category of personnel	Head	Acquisition processing and other library work	Documentation and reference service	Reprography	Translation	Data Bank	Printing and publication	0
1	Scientist E						-	-	1
2	Scientist C		1	1			1	1	4
3	Scientist B		2	6			-	1	11
4	S T A		3	9			2	2	18
5	J T A		&	2			-	2	TO
	<b>T o t a l</b>		<b>12</b>	<b>18</b>					<b>44</b>

### 353 Auxiliary Supporting Staff for the Technical Work

The following table gives information about the auxiliary supporting staff necessary in each of the units of the Central Facility of FOSTIS.

	Category of personnel	Number of Persons in Each Unit				Total
		Head	Acq, Proc, Lib work	Doc and Ref	Secretariat	
1	Technical Officer	-			1	1
2	PA-cura-Steno	1			1	2
3	STA (Accounts)	-	2	2	1	5
4	Typist-cum-Clerk		1		1	2
5	Helper	1	2	2	1	6
	<b>Total</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>16</b>

## 36 Annual Recurring Expenditure

361 Salary

The following table presents data about the annual expenditure on salary of each category of personnel in FOSTISj that on the existing personnel in CPTRI Library and IRC & E Discipline who may be absorbed into FOSTIS staff, and the additional expenditure on personnel during the Fifth Plan Period,

The estimate of salary given in the table is based on the current allowances and PF contributions for the respective scales of pay. Three increments have been added to the starting pay for each category, except in the case of the binder and helper; and one-eleventh has been added as leave salary. This would work out close to taking the mid-point in the salary scale,

## Estimate of Annual Salary

SN	Category of Personnel	Estimated requirement		Number	Total Salary per annum	Existing sanctioned Posts		Additional requirements	
		Per month	Per annum			number	Total Salary per annum	Number	Total Salary per annum
1	Scientist E	1,800	21,600	1	21,600	-	-	-	21,600
2	Scientist C	1,250	15,000	4	60,000	3	45,000	1	15,000
3	Scientist 3	850	10,200	11	112,200	3	30,600	8	81,600
4	S T A	500	6,000	18	108,000	4	24,000	14	84,000
5	J T A *	380	4,560	10	45,600	4	18,240	6	27,360
6	Technical Officer	850	10,200	1	10,200	-	- ;	1	10,200
7	PA-cum-Stenographer	500	6,000	2	12,000	-	-	2	12,000
8	Typist-cum-Clerk	380	4,560		22,800	3	13,680	2	9,120
9	S T A (Account..)	500	6,000	1	6,000	-	-	1	6,000
10	Binder *	220	2,640	1	2,640	-	-	1	2,640
11	Helper	190	2,280	6	13,680	<b>3</b>	6,840	3	6,840
		Total			414,720	138,360		276,360	
		Leave Salary (1/11)			37,702	12,578		25,124	
		Grand total			452,422	150,938		301,484	

362 Summary of Additional Expenditure

## Recurring Expenditure

SN	Particulars	Additional Expenditure	
		Per Annum	Plan Period 1974-75 to 1978-79
1	Documents	250,000	1,250,000
2	Furniture & Equipment	10,000	50,000
3	Salary (including leave salary) . . . . .	302,000	1,510,000
4	Services, such as printing, production, binding, dis- tribution and computer time	25,000	1,125,000
		587,000.	2,935,000

## 37 Furniture and Equipment

371 library and Office Furniture

It is estimated that the Library of the Central Facility will house about 45,000 volumes of books and bound periodicals and receive 750 periodicals at the end of the Fifth-Plan. By then, it will also have some 10,000 technical reports, 15,000 standards and specifications, 17,000 patents, 3,000 reprints, fascimile s etc.

During the Fifth Plan period, the library of the Central Facility is expected to have built up the nucleus collection of documents. The estimate for the furniture and equipment mentioned below, is for the Fifth Plan period only. The requirements of furniture and equipment for the new library building have been determined on the basis of the recommendations contained in the Indian Standards IS: 1829 and IS;1553.



372 List of Furniture for New Library

Slr	Furniture	N of Units	Approximate Cost	
			Per Unit	Total
1	Unit Book Rack (45,000)	65	1,000	65,000
2	Display Rack for 750 periodicals ..	12	500	6,000
3	Storage Rack for Current Issues	6	1,000	6,000
4	Vertical file	20	750	15,000
5	Microform storage cabinet	1	1,000	1,000
6	Catalogue cabinet	10	1,000	10,000
7	Work table	30	250	7,500
8	Chair	50	50	2,500
9	Charging tray ..	6	10	60
10	Book trolley	4	350	1,400
11	Catalogue card,.box ..	30	10	300
12	Reading room table	25	400	10,000
13	Reading room chair	00	50	5,000
14	Side rack	24	100	2,400
15	Seminar room furniture: Table		500	1,000
16	Exhibition & Display fittings			2,000
17	Committee room furnitures Table	1	2,000	2,000
	Chair	25	50	1,250
18	Notice board	3	100	300
19	Black-board (For Seminar and Committee rooms)	2	250	500
20	Charging counter	1	1,000	1,000
			Total Rs 118,960	

373 Office Equipment

SN	Equipment	ft of units	Approximate Cost	
			Per Unit	Total
1	Typewriter.- library	2		
	Documentation	:		
	Admin i stration	3	6	1,500
2	IBM Typewriter			
	Library	1		
	Documentation	1		8,000
3	Miscellaneous office items (such as, tray, waste-paper basket, etc)			1,000
			<u>Total</u>	<u>26,000</u>

374- Reprography Equipment

Reprography and audio-visual equipment (import-duty on the imported goods.has not been included in the cost quoted)

SN	Equipment	N of Units	Approximate Cost	
			Per Unit	Total
1	Microfilming Unit	1	25,000	25,000
2	Microfilm processor	1	11,000	11,000
3	Enlarger ..	1	3,000	3,000
4	Microfilm reader	2	1,000	2,000
5	Microfilm/Microfiche Micro-card reader/Printer	1	7,000	7,000
6	Microfilm/Microfiche/Micro- card reader	1	5,000	5,000
7	Xerographic copying equipment (Indian)	1	35,000	35,000
8	Gestafax	1	15,000	15,000
9	Slide projector	1	2,000	2,000
10	Epidiascope	1	7,500	7,500
11	Overhead projector	1	2,500	2,500
12	Printing press (treadle type)	1	25,000	25,000
13	Process camera	1	20,000	20,000
			Total	<u>160,000</u>
			Existing/Order placed	<u>42,000</u>
			Additional expenditure	<u>118,000</u>

375 Data Processing; Equipment

The cost of data processing equipment on monthly rental and outright purchase of it from the International Computers (India) Ltd is given elsewhere (3).

## 38 New Building

381 Space Required

Given below is an estimate of the built-in space required for the Library at the end of the Fifth Plan.

SN	Space for	Basis	Area in Sq Meters
1	Stackroom for 60,000 vol	150 vol per sq meter	400
2	Reading room for 100	3.3 sq meter per reader	330
3	Head and three Senior Professionals	15 sq meter per person	60
4	Other staff (43)	9 sq meter per person	387
5	Office		30
6	Library counter		30
7	At service point (15)	5 sqmeter per person	75
8	Seminar room		20
9	Committee room		20
10	Reprography Section		350
10	Printing press		350
11	Visitors room		15
12	Store etc.		30
Total			1,787

Add about 40% space for passage, etc

Total space required

2,500 Sq M

## 382 Cost

Taking the cost of building at about Rs 500 per sq m the total cost of it will be about Rs 12.50 lakhs. This does not include the cost of land,

## 4 TOTAL EXPENDITURE FOR THE CENTRAL FACILITY

The estimated total expenditure on the Central Facility to be set up in the CFTRI, Mysore, is given below,

1	Annual recurring grant for 5 years ..	Rs 29,35,000	
2	Non-recurring grant to fill up gaps in the present holdings of CFTRI Library to meet nation-wide demand on FOSTIS, .. .. .	5,00,000	
3	Equipment		
	(a) Reprography, Printing, Audio-visual .. .. .	102,000	
	(b) Office equipment .. .. .	26,000	
	(c) Lata processing (Unit recording machines) ..	86,000	2,14,000
			<u>2,14,000</u>
	Sub-total (excluding new library building) .. .. .		<u>36,49,000</u>
	Or approximately .. .. .		36,50,000
4	New Library		
	(a) Building .. .. .	12,50,000	
	(b) Furniture and fittings .. .. .	1,20,000	<u>13,70,000</u>
	<b>Grand Total .. .</b>	<b>Rs 50,20,000</b>	

## 5 MEMBERSHIP AS SOURCE OF REVENUE

## 51 Membership

When the value of the services rendered by FOSTIS is appreciated, by industries, say, after one or two

years after its establishment and functioning, it may be possible to tap the industries to pay for at least a part of the operational cost of FOSTIS on a staggered scale of membership. The categorisation for membership may be as follows:

- large-scale industry
- Medium scale industry
- Technical centre for industrial estate
- Small scale industry

Each such member will receive some of the documentation services, For example,

- Technical digest
- Current awareness list
- Newsbrief
- Management digest
- Short reading list

For services given on specific demand, such, as Retrospective Bibliography, Trend Report, and Data Compilation, extra charges may be made on the basis of the actual cost of the services rendered-

## 52 Non-Members

Non-members will receive free only advance documentation lists and newsbrief on specific request. For services such as those mentioned above, a non-member may be charged.

## 6 ACKNOWLEDGMENT

This paper is based on the FOSTIS report — the draft of which was prepared by DRTC on the basis of the methodology and model developed by them — prepared by the members of the Ad-hoc Committee

constituted by the Director-, CFTRI. The authors<sub>3</sub> therefore, wish to acknowledge the members of the Ad-hoc Committee for their cooperation in preparing the FOSTIS report — specially Prof A Neelameghan (Chairman) —, and Shri S Seetharama of DRTC for their assistance in preparing the draft plan.

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