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DIRECTORY OF RESEARCH

AND DEVELOPMENT INSTITUTIONS

S E C T O R: FOOD-PROCESSING AND STORAGE WITH EMPHASIS ON FRUITS AND VEGETABLES

Prepared for
the Industrial and Technological Information Section
UNIDO-Industrial Promotion, Consultations and Technology Department

by
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CONTENTS

Objectives of the Directory

Part of the work programme of the Industrial and Technological Information
Section and within the framework of the Consultation Meeting on Food-proces-
sing and Storage with emphasis on Fruits and Vegetables is the preparation
of a directory on R&D institutions concerning fruits (tropical and non-
tropical) and vegetables.

This directory has to provide, in particular the following information:

(i)   sphere of activity of the respective R&D institution with
      particular former, current and anticipated projects;
(ii) essential extent and purpose of operation together with
      the corresponding research equipment (pilot scale);
(iii) identification of possibilities and interest for technical
      co-operation and availability of organizing training programmes;
(iv) number of staff and relation with other organization(s);
(v)   budget and source of funds.

It is hoped that the above outlined objectives of the directory in
question will contribute to develop co-operation among R&D institutions/
centers etc., working and/or supporting work in similar fields, and
strengthen substantially the technological capabilities of R&D facilities
in developing countries.

How to obtain the necessary Information

All the information in the directory under preparation has to be elicited
by means of a professional questionnaire. The preparation of the question-
naire constitutes a very substantive part within the framework of the pre-
paration of this directory. The major problem how to cover, as systematically
and comprehensively as possible, the various possibilities of activities
related to fruits and vegetables industries has been tackled by designing
a table with properly defined code-numbers. By means of this system it is
intended to obtain an abundance of information from every questionnaire
be replied.

Indexes

Three indexes will provide full access to the descriptive listings in the

main body of the directory. These will be:

(i) Country code index.

(ii) Activity index to provide access to research units by specific field of activity.

(iii) Technical co-operation index to provide access to R&D units carrying out training programmes or requesting training and/or assistance.

Entry Format

Each institution of research and development willbe given a separate entry. Each entry will be introduced with the full title of the institution. In detail the following subject fields will compose the the information profile corresponding to eacn entry and will confine the format lay-out. These are:

- Name
- Acronym
- Address
- Telephone - Telex - Cable
- Director
- Contact person
- Staff
- Budget - Year - Sources of funds
- Relationship with other organization(s)
- Former projects on Research and Training
- On-going projects on Research and Training
- Anticipated projects on Research and Training
- Availability of pilot installation / equipment
- Technical co-operation given
- Technical co-operation requested
- Publications
- Notes
- Country chapter
- Index entry

Appendix: Questionnaire

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

17 September 1987

Dear Sir,

Directory of Research and Development Institutions:
Food-processing and Storage with Emphasis on Fruits and Vegetables

The United Nations Industrial Development Organization is in the process of compiling a Directory of R & D institutions concerning food-processing and storage with emphasis on fruits and vegetables.

The information obtained from research and training together with its proper evaluation and dissemination are pivotal elements in the industrialization process of developing countries, but a number of factors that contribute to the development of an appropriate technological infrastructure in industrialized countries are either insufficient or totally lacking in these countries.

Research and development co-operation is typically an area where a number of ideas, both old and new, still have to be fully tested. The promotion of twinning arrangements leads to direct channels of communication between R & D institutes and organizations in industrialized and developing countries. These arrangements also provide a framework for various types of training facilities and longer-term collaboration. Efforts might also be made to launch co-operative research programmes aimed at developing new technologies from which both industrialized and developing countries could benefit.

UNIDO's activities in this field are aimed at promoting the underlined objectives of technical co-operation, assistance and the exchange of industrial and technological information, and within the framework of the

../...

Consultation Meeting on Food-processing and Storage with Emphasis on Fruits and Vegetables we plan to compile and disseminate the above mentioned directory throughout the Organization's Member countries. This is part of the work programme of the Industrial and Technological Information Section and it is hoped the technological capabilities of R & D institutions in developing countries will thereby be substantially strengthened.

By means of the attached questionnaire, UNIDO will be able to compile a list of your activities and to identify priority areas of common interest for co-operative activities. I would, therefore, kindly ask you to submit the completed questionnaire to UNIDO not later than the end of November in order that the first draft of the directory will be available by January 1988.

I would greatly appreciate your co-operation in this matter.

Yours sincerely,

V. Podshibyakin
Chief
Industrial and Technological
Information Section

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Q U E S T I O N N A I R E

Co-operative arrangements among R and D institutions

(Sector: Food-processing and storage with emphasis
on fruits and vegetables)

1. Country

2. Name of institution	3. Acronym

4. Address in full

5a. Cable	5b. Telephone	5c. Telex

6. Director/Head	7. Contact person(s)	8. Total number of professional staff

9a. Approximate budget in 1986 (give approximate equivalent in US$)	9b. Source of funds

10. Relation with other organization(s) (please indicate relation(s) with particular governmental organization(s), private enterprise(s), etc.)

(1) Table with the fields of activities on <u>processing and storage</u> of fruits and vegetables.*)

Technology	Tropical fruits	Non-tropical fruits	Vegetables
– Preparation of raw materials	TF1	NF1	VE1
– Canning	TF2	NF2	VE2
– Dehydration (Drying)	TF3	NF3	VE3
– Freezing	TF4	NF4	VE4
– Preservation	TF5	NF5	VE5
– Pickling	TF6	NF6	VE6
– Extraction	TF7	NF7	VE7
– Frying and toasting	TF8	NF8	VE8
– Fermentation	TF9	NF9	VE9
– Utilities and equipment for processing	TF10	NF10	VE10
– Packing	TF11	NF11	VE11
– By-products	TF12	NF12	VE12
– Other	TF13	NF13	VE13
Management/Technology			
– Economics	TF14	NF14	VE14
– Energy	TF15	NF15	VE15
– Environmental control	TF16	NF16	VE16
– Manpower and safety	TF17	NF17	VE17
– Recycling and recovery	TF18	NF18	VE18
– Process control and automation	TF19	NF19	VE19
– Process instrumentation	TF20	NF20	VE20
– Quality control	TF21	NF21	VE21
– Other	TF22	NF22	VE22

*) Please use above defined code-numbers (TF1 to VE22) to answer the following items 11. to 16.; fill in the
respective spaces with the appropriate code-number(s).

11. Please list your former projects**) (field of activity and project title) according to the following classification and by means of the code-numbers from page 2 (table (1)):

Research		Training	
Field (in code number)	Project title	Field (in code number)	Project title

**) Carried out during the last four years.

12. Please list your ongoing projects (field of activity and project title) according to the following classification and by means of the code-numbers from page 2 (table (1)):

Research		Training	
Field (in code number)	Project title	Field (in code number)	Project title

13. Please list your _anticipated projects_ (field of activity and project title) according to the following classification and by means of the code-numbers from page 2 (table (1)):

Research		Training	
Field (in code number)	Project title	Field (in code number)	Project title

14. Availability of pilot installation or equipment: YES [ ]   NO [ ]

If YES, please fill in the following table with the suitable code-number:

EXTENT OF OPERATION	PURPOSE OF OPERATION		
	Research	Training	Industrial application
For technical co-operation			
For technical assistance			
For own use			

15. **Technical co-operation given**

15a. Availability of your staff as consultants or experts for UNIDO field

assignments: YES [ ]   NO [ ]

15b. Availability of organizing training programme at your institute or

organization: for own nationals: YES [ ]   NO [ ]

for other nationals: YES [ ]   NO [ ]

If YES, please explain details of possible programme:

Field (in code-number)	Duration	Language(s)

16. Technical co-operation requested

16a. Immediate technical co-operation requested from international

organizations or other countries:

(1) Training

(Do you need your staff trained overseas?)   YES [ ]   NO [ ]

(ii) Experts

(Do you need experts from overseas?)   YES [ ]   NO [ ]

(iii) Equipment

(Do you need equipment from overseas?)   YES [ ]   NO [ ]

If YES, please specify:

Field (in code-number)			Duration	Language(s)
Training	Experts	Equipment		

16b. Any assistance obtained in the past:

(i) from bilateral co-operation: YES [ ]   NO [ ]

If YES, please specify (from whom):_____

_____

(ii) from international organization: YES [ ]   NO [ ]

If YES, please specify (from whom):_____

_____

Enclosed herewith		Type of publication	17. P u b l i c a t i o n s			
YES	NO		Title	AVAIL	Language of publication(s)	UPD
		Brochure				
		Dissertation				
		Newsletter				
		Project document				
		Report				
		Other				

AVAIL = Availability of publication(s)
    D = Distribution on request
    S = For sale

UPD = Update frequency
    Y = Every year
    Q = Every three months
    M = Every month
    O = Other (in this case, please specify)

**Appendix: Fields of Entry Format
and Lay-out**

1. NAME :		2. ACRONYM:	C O U N T R Y C H A P T E R
3. ADDRESS :		4. TELEPHONE : TELEX : CABLE :	
5. DIRECTOR:	6. CONTACT : PERSON(S) :	7. STAFF :	
8. BUDGET/ : SOURCE : OF FUNDS : YEAR :	9. RELATIONSHIP : WITH OTHER : ORGANIZATION(S) :		

10. FORMER PROJECTS (CARRIED OUT DURING THE LAST FOUR YEARS)

FIELDS OF ACTIVITIES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	PROJECT TITLE	R	T

11. ON-GOING PROJECTS

FIELDS OF ACTIVITIES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	PROJECT TITLE	R	T

12. ANTICIPATED PROJECTS

FIELDS OF ACTIVITIES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	PROJECT TITLE	R	T

13.	AVAILABILITY OF PILOT INSTALLATION/EQUIPMENT									

PURPOSE OF OPERATION : a. RESEARCH				b. TRAINING			c. INDUSTRIAL APPLICATION		
FIELDS OF ACTIVITIES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES

14.	TECHNICAL CO-OPERATION — GIVEN			

STAFF AVAILABILITY AND TRAINING	FIELDS OF TRAINING PROGRAMME	TROPICAL FRUITS	NON-TROPICAL FR.	VEGE-TABLES
Availability of staff as consultants or experts for UNIDO field assignments :				
Training programme available for own nationals :				
Training programme available for other nationals :				
Training languages :				
Duration :				

15. TECHNICAL CO-OPERATION – REQUESTED

FIELDS OF TRAINING REQUIRED	OVERSEAS TRAINING FOR STAFF			EXPERTS FROM OVERSEAS			EQUIPMENT FROM OVERSEAS		
REQUIRED	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES	TROPICAL FRUITS	NON-TROPICAL FRUITS	VEGE-TABLES

ASSISTANCE OBTAINED IN THE PAST		DURATION	LANGUAGES
FROM BILATERAL COOPERATION	FROM INTERNATIONAL ORGANIZATION		

16. PUBLICATIONS

TYPE OF PUBLICATION	TITLE	AVAILABILITY		LANGUAGES OF PUBLICATION(S)	UPDATE FREQUENCY
		DOR	FS		
BROCHURE					
DISSERTATION					
NEWSLETTER					
PROJECT DOCUMENT					
REPORT					
OTHER					

17. NOTES

CODE	DESCRIPTION
R	Research (Tables 10, 11 and 12)
T	Training "
1	For Technical Co-operation (Table 13)
2	For Technical Assistance "
3	For Own Use "
9	ALL of above (1, 2, and 3) "
DOR	Distribution On Request (Table 16)
FS	For Sale "