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DEVELOPMENT OF PACKAGING TECHNOLOGY IN THE AGRO-INDUSTRIAL
AND RELATED INDUSTRIES IN THE ARAB STATES

DP/RAB/89/016

ARAB STATES

Prepared for the Governments of Arab States
by the United Nations Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of S. Elsayad,
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* This document has not been edited.

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Separate document

Project Document

Abstract

A job description for the project post of a packaging expert with specific experience in the planning and organization of packaging development programmes at national and international level in addition to former experience within UNIDO technical assistance on packaging to Arab countries was elaborated.

An expert with extensive experience in Arab packaging affairs was recruited and assigned to the project.

The expert undertook one month at the beginning of the mission and another month at the end of it at UNIDO headquarters. The joint consultations were done with the UNIDO headquarters packaging specialist and backstopping officer. The time in between was based in Cairo and was used for administering and conducting the field visits to eleven Arab countries, meeting industrialists and officials in research institutions and focal points.

I. Development problem and immediate problems attacked

Packaging related institutional support was created in many industrialized countries to deal mainly with training/education, information, technical advice, laboratory testing, etc. and applied research in addition to economics and marketing oriented designs.

However, similar establishment of institutional support to packaging has been slow in most Arab countries. A modern packaging institute exists in Morocco. Tunisia and Algeria are creating packaging units within the respective national standards' institutions. Saudi Arabia has an ongoing programme for the establishment of a packaging centre, also at its standards organization which will be intended to extend assistance to other Gulf countries. Egypt is to finish soon the implementation of a packaging testing laboratory. Other countries like Iraq and Jordan have already benefited from some technical assistance or advisory programmes to specific branches of the packaging industries. Bahrain, Yemen, Libya, Somalia, Sudan, Syria were all approached within an Arab regional project for the identification of packaging related technological institutions.

It is true that improved quality packaging contributes significantly to preserving goods, to minimizing wastage and to the successful marketing in foreign markets. It is also realized that development of manufacturing industries in general causes an increased demand for packaging.

In the Arab region, there have been quite a few recent economic/political/social components which are likely to influence the scene in the near future, in favour of packaging. Briefly the following can be pointed out:

- A general trend towards industrialization with an inclination towards better quality and lower cost. Manufacturing of capital goods is part of the local manufacture schemes. In Egypt, for example, there are plans to manufacture simple packaging and printing equipment and to install further production capacity in the paper/board, the plastics and the glass industries.
- A shift towards privatization and boosting of the role of the private sector in national economies.
- A stress on the role of and the priority for developing small- and medium-sized enterprises. This is considered a measure to combat unemployment.
- Appearance of competition as a new component in those markets where they became no more seller's markets. This necessitates emphasis on quality standards and product variation. Cost effectiveness became a new dimension too.
- An emphasis on exportation and expansion of export markets, hoping for correction of the unbalanced balances of payment. Almost all Arab exports need packaging in one way or another and as packaging for export plays a promotional role, the quality of packages and products must improve to meet international standards.
- Adoption of a policy for import substitution and a trend to manufacture locally as much as possible, emphasizing the use of local raw materials.
- The policy of food security adopted, calls for minimizing the wastage in the national produce.

- A policy of inter-Arab industrial co-operation with a trend towards complimenting each other. This is institutionally supported by the recently formed Arab Co-operation Council, Maghreb Co-operation Council and the well-established Gulf Co-operation Council.
- Energy conservation awareness and efforts to conserve it and to research alternatives.
- Increased attention to environmental issues where packaging and recycling form important parts of the current thinking.
- Increasing consideration to consumer protection issues.
- Arab Governments are all encouraging new industrial investment. To this effect, new laws and regulations have been issued.
- Steps have been taken by many Arab Governments to aid the paper/board, the plastics and the glass industries. Their modernization activities are included within investments considered in the national plans. Priority to foreign currency acquisition is given to the manufacturing sector of the economy. Meetings between Governments and business community are regularly held to discuss problems and solutions.

Greater production efficiency and reduction of production costs could be achieved through upgrading of technology, acquisition of new systems and upgrading of quality management procedures and apparatus. Design modernization and stringent quality control procedures together with well-defined standards enables the upgrading of product/package quality to international standards.

In view of ensuring proper and regular developments of Arab packaging industries; it might be necessary for a packaging service mechanism to be created, with a scope and an organization which is adequate and convenient not only for the real requirements of the participating countries, but also for their future development. Such a mechanism, if activated, will facilitate regional co-operation, exchange of packaging related information, establishment of communication links for sharing of knowledge. It will be a valuable contribution to the Arab regional collective aim of development.

The need had then been recognized to introduce the packaging network concept based on subregions (geographical groups of countries which have actually been co-operating together in the near past).

Preparation of a realistic and elaborated draft project document in the light of this new approach required preparatory assistance. Joint work had to be carried out in consultation with concerned institutions and authorities of the respective countries.

The development objective of the preparatory assistance was "The establishment of packaging research institutions or departments in the Arab states able to extend technical services to demanding packaging manufacturer and user industries all over the region".

Associated with this objective, at long term, existing institutions are to be reinforced or strengthened and some new ones will have to be established.

The immediate objectives of the preparatory assistance document were defined as: firstly, "The elaboration of a realistic project document for the development of packaging technology in the Agro-industrial and related industries in the Arab states, well in line with the priorities of UNDP for the region and in consultation with the concerned authorities in the countries which are expected to participate."

The second immediate objective states: "The planning and elaboration of all the required documentation like aide-memoire, call for papers, invitation of participating countries, note to participants, etc for an Arab packaging symposium to be implemented within the follow-up operational phase project on the development of packaging technology in the Agro-industrial and related industries in the Arab States.

A consultant was recruited to take over the preparatory assistance. The job description is attached as Appendix 1.

II. Outputs produced and problems encountered

Two outputs were foreseen in the preparatory assistance document, namely; "A fully fledged draft project document in compliance with the concerned rules and instructions, for submission to UNDP/New York", and;

"A complete set of all the basic technical and administrative documentation which will be required for the final organization and actual implementation of the packaging symposium."

The two outputs were fully achieved. Both the project document (to be found as separate document), and the symposium documents (Appendix 2) have been produced and became ready in appropriate time.

In addition, a third document which is rather a technical report on the findings in each of the countries which have been surveyed has been prepared and attached as Appendix 3.

The networking concept is formulated and exhibited in Appendix 4.

It is pleasing to confirm this achievement, as this mission coincided from its first week with the Gulf crisis. As this terminal report is under preparation the war has started and the whole region has been troubled. In other Arab countries there has been civil war (as in Somalia). The consultant was subjected to real dangerous moments. Due to the scarcity of scheduled flights between some of the countries, reductions, cancellations and limitations on tickets issued from non hard currency countries; the logistics and administrative matters took much longer and much more effort than originally accounted for.

In planning the field visits, the following factors were considered:

1. In selecting countries a blend was made of countries which have never been visited in relation to packaging assistance and those which were already part of previous fact finding missions. The least developed Arab countries were not neglected.

2. In selecting places to be visited within a country, the criteria was their relevance to the objectives and outputs of the preparatory assistance.

3. In discussing the project document, attention was given to interview also senior people, as an overall programme of a rather strategic nature was being discussed.

The programme of activities as in the project document was very well received and praised by industrialists and officials who took part in the discussions. Quite a few clever remarks were made by local specialists, which were taken into consideration in the preparation of the project document.

It is the consultant's conviction that other Arab countries (which were not visited) would welcome joining the network. It is recommended that all Arab Governments be asked to join the network.

In some countries a certain institution will have obvious boundaries and features which signifies it right away as a focal point, as in Tunis, Bahrain, and Libya for example.

In other countries, however, there is no obvious focal point nor there is an institution which has features of being a prospective one, like in Djibouti and Somalia. In such circumstances, the Ministry of Industry through its concerned department, having still a lot of say in controlling the national industry, and having also the contacts with all industrialists, appears to be currently the favourable place to make a focal point.

III. Project Approach

1. Background

Arab Governments accord an advanced priority to the development of industry in general, and particularly to food and agro-industries. Presently packaging industries are actually growing and it is anticipated that the demand for packaging food and other consumer goods will increase. The rate of increase in demand is expected to even accelerate due to the changing market characteristics.

It is to be noticed that the present quality of packaging is inferior, the production cost is high, the quality is not consistent within the same market, the ability to compete in international markets is greatly diminished.

Efforts are needed to combat the packaging problem areas, which can definitely lead to a distinct improvement in production practices, quality standards, national awareness and consumer protection too. At the end, this makes a substantial contribution to the national economy and to the improvement of the standards of living of the population as a whole.

UNIDO's advisory services on packaging and industrial printing over the last few years all recommended the UN support to this important sector of international aid, to improve the existing situation in packaging.

2. Preparatory Assistance Activities

The first part of this mission was conducted in UNIDO headquarters. Quite a few consultations and discussions were held with the backstopping officer on various dimensions of the project.

Reports, project documents and other information material available at headquarters were analyzed.

Data and pertinent information were selected to be used in the final elaborated conception, design and organization of the envisaged follow-up operational project.

The first tentative draft project document was elaborated.

Together with a copy of the preparatory assistance document, a communique was released informing UNDP Resident Representatives of the mission's aims and requesting their informing Governments to appoint counterparts, etc. This was sent in French to the French speaking countries.

Research institutions and prospective focal points in eleven countries including Algeria, Bahrain, Egypt, Djibouti, Libya, Morocco, Oman, Somalia, Sudan, Tunisia, UAE were surveyed. Joint work was done on discussing the elaborated first tentative draft project document. Remarks collected from field interviews were taken into consideration.

The tentative draft project document was again revised in the light of notes collected during the field visits, in consultation with the backstopping officer and the area officer concerned.

Three interim reports on the field surveys were regularly sent by the expert to UNIDO headquarters and continuous monitoring and support to the field missions was granted as was requested.

The finally elaborated fully fledged project document is attached as a separate document.

A tentative programme and aide-memoire for a high-level symposium was prepared by the consultant at UNIDO headquarters. Views were exchanged, discussions were conducted with specialists and officials during field visits on the tentative seminar programme. The theme "Arab packaging in the nineties" was selected for the seminar. This was fully supported by specialists in the field. Remarks collected from the field were taken into consideration.

The final seminar documents are attached as Appendix 2.

Technical assistance was rendered by the consultant on an adhoc basis both to industrialists visited and to institutions' staff.

The project document activities were designed with an integrated approach aiming at achieving highest long-lasting impact, while not neglecting the limited local resources.

3. Conclusions and Recommendations

1. In all the countries which have been surveyed interest was expressed by officials and industrialists in joining the network and in the project's programme of activities. At the same time, officials interviewed showed willingness to provide their share (input) as specified in the project document. There are some countries who will need financial assistance for acquiring the personal computer and/or the photocopying machine (Djibouti, Sudan, Somalia).

2. In most UNDP offices there has been a realization by Resident Representatives and UNIDO Country Directors of the relevance of packaging development to national economies of those countries and the local need for such assistance was emphasized.
3. It is recommended that all Arab Governments receive the project document as soon as it is approved, through UNDP offices with the request and appropriate recommendations for participation in the forthcoming Arab packaging network.
4. Some countries (like Oman and Djibouti) are launching industrialization programmes. It could be good timing that packaging development goes hand in hand with such plans and be integrated in them.
5. It was noticed in some countries that some officials are not aware of how the packaging industry in their country is really like. The need was obvious in such countries for a fact finding mission to record, analyze the situation, recommend future trends and future investment projects.
6. Least developed countries (like Djibouti) need assistance in identifying projects to produce some packaging materials or packages locally.
7. The Gulf Organization for Industrial Co-operation (GOIC) has previously identified projects for investment in GCC countries which contain some packaging or packaging related industries. Generally speaking those projects were never successful in promotion.
8. It was noticed that in some countries, due to local politico-economical problems, the industry is really in a bad shape, with no currency for raw materials, power cuts, no spare parts, etc. The majority of plants are very underexploited and are forced to use local inferior quality materials.
9. Product marketing seems to be the Gulf companies' major problem nowadays. It might have been the war effect, but generally most of the countries need training on the role of packaging in international marketing.
10. Competition is very strong in some Gulf markets coming not only from within the same market, but also from other neighbouring GCC markets where there are no barriers.
11. A lot of industrialists in Gulf countries are complaining about the absence of local industry protection schemes, making the competition unfair.
12. Printing in the Gulf is the best in the Arab region. Bahrain now is the best in the Gulf.
13. The need of all countries visited for training and education in packaging technology, printing and design aspects was evident. Actual training by experts will have a direct impact.
14. A striking comment coming from the field (Algeria in particular) is that many of the recommendations they receive in the experts' reports cannot be implemented as they do not take local conditions into consideration and also

that most solutions need foreign currency for their implementation. Solutions to problems should, in those countries, rely as much as possible on local resources alternatively on international funding.

15. Packdata packaging information system is known and appreciated. The choice of such system for focal points was right. A Packdata ITC Information Bulletin is attached (Appendix 5).

16. With respect to the training courses planned in the project document it is recommended to emphasize norms, regulations, legal aspects and standardization, in parallel with other packaging technology aspects.

17. As for the seminar it is recommended to recruit lecturers from industry (from Europe, USA, Latin America and Arab region). It is quite important that the majority of lecturers should have practical background. Participants should get from the seminar what they cannot get otherwise. The duration of 3 days was accepted as appropriate. Participants also should be from industry with a few years of experience in managerial positions. As regards the timing for the seminar start, it is recommended that it coincides - if possible - with one of the relevant trade exhibitions.

18. The danger to any focal point comes from its isolation from industry. To activate the network, each focal point should in the very beginning identify its own national network of customers on one hand. On the other hand, there should be a mechanism which would generate a sort of integration of the focal point with industry and provide grounds for the involvement of professionals from industry, other research or academic institutions. There are many ways to do this, amongst which is the formation of standing technical committees and the formation of a national packaging association.

19. Although usual UN assistance should always be channelled through Governments, care should be taken that these project activities reach direct to target beneficiaries.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT IN THE ARAB STATES

JOB DESCRIPTION

DP/RAB/89/016/11-01/J-13320

Post title Packaging Expert

Duration Five months

Date required As soon as possible

Duty station Vienna and Cairo, with travel through the Arab States

Purpose of project The development objective of the project is the establishment of a network of packaging research institutions or departments in the Arab states, able to extend technical services to the demanding packaging manufacturer and user industries all over the region. For that purpose, at long term existing institutions are to be re-inforced or strengthened and some new ones will have to be established, in order to assure appropriate coverage within each sub-region or group of countries with actual experience of close co-operation in the recent past.

The development of packaging technology in the agro-industrial and related industries in the Arab states is a shorter term development objective, which is expected to generate operational links and actual joint activities of the existing research institutions and nucleus for the establishment of new ones for the forthcoming regional packaging research and development network.

One of the two immediate objectives is the elaboration of a realistic project document for the development of packaging technology in the agro-industrial and related industries in the Arab states, well in line with the priorities of UNDP for the region and in consultation with the concerned authorities in the countries which are expected to participate.

The other immediate objective is the planning and elaboration of all the required documentation like aide-memoire, call for papers, invitation of participating countries, note to participants, etc., for an Arab packaging symposium to be implemented within the follow-up operational phase project on the development of packaging technology in the agro-industrial and related industries in the Arab states.

Duties

The expert will report directly to the project backstopping officer at UNIDO headquarters, who will perform particular monitoring and consultative functions with regard to this project during its preparatory assistance phase.

During his mission time in Cairo the expert will be expected to keep a continuous contact with the local Bureau of UNDP, which will be expected to play a main consultative and administrative support role during the life time of the preparatory assistance project.

The Expert will be specifically expected to:

1. Analyze existing reports, project documents and other information material at UNIDO headquarters, for selection of data and pertinent information to be used in the final elaborated conception, design and organization of the envisaged follow-up operational project.
2. Elaborate a first tentative draft project document to be discussed, commented and annotated in co-operation with the expected counterparts at each of the research institutions and other focal points, in the countries tentatively selected to integrate the Arab packaging network.
3. Prepare a tentative programme and drafts of the main documentation like aide-memoire, call for papers, invitation of participating countries, note to participants, etc., for an Arab Packaging Symposium to be implemented during the follow-up operation phase project.
4. Visit research institutions and other focal points in ten to fifteen Arab countries, for joint works on the discussion, commenting and annotation of the formerly elaborated first tentative draft project document.
5. During the same visits referred to above, to exchange views, discuss and annotate comments on the tentative programme for the Arab Packaging Symposium.
6. Revise the tentative draft project document at UNIDO headquarters in the light of the notes collected during the field visits, in consultation with the backstopping officer and the area officer concerned at UNIDO headquarters.
7. Elaborate the fully fledged project document to be submitted for appraisal, comments and approval by UNDP and Governments of the countries interested to join the project.

8. Elaborate definitive programme of the Arab Packaging Symposium and write out of all the required documentation like aide-memoire, call for papers, invitation of participant countries, note to participants, etc. at UNIDO headquarters.

The Expert will also be expected to prepare a final report, setting up the findings of the mission and his recommendations to the Arab Governments on further action which might be taken.

Qualifications

Packaging technologist with University degree or equivalent experience, specifically used to planning and organization of packaging development programmes at national and international level. Former experience within UNIDO technical assistance on packaging to Arab countries, either at national or regional level would be advisable.

Language

English and Arabic, also French would be an asset. English and French could eventually be acceptable.

**Background
information**

Description of subsector

Packaging industries in the Arab states have been undertaking a natural development according to each country's demands and opportunities, as well as locally available raw materials, manpower and know-how.

Some faster development has taken place during latter decades on the basis of technology from abroad and investment initiatives aiming at meeting the requirements of national and export markets.

In the meantime, a boom of packaging industries development has taken place in industrialized countries, based on and supported by fast scientific and technological developments. Related institutional support was created in many countries, mainly in terms of technical information and advice, applied research and development, laboratory testing and quality management, and training in packaging technology, economics, marketing oriented design, etc.

Similar establishment of institutional support to packaging industries has been slow in most Arab countries. However, a modern packaging institute exists already in Morocco. Tunisia and Algeria are strengthening packaging centers within the respective national standardization institutions. Saudi Arabia has an on-going programme for the establishment of a packaging center also at its standards organization, which will be intended to extend assistance within the Gulf countries. Other countries like Egypt, Iraq and Jordan already carried out some technical assistance or advisory programmes to specific branches of packaging industries. Bahrain, the Democratic Republic of Yemen, Lybia, Somalia, Sudan, Syria and the Yemen Arab Republic were also approached within an Arab regional project for identification of packaging related technological institutions:

Regional development strategy

Food availability, health and social development, exports trade and advanced technology are specific subjects of concern within the development strategy for Arab states.

The development of packaging technology in the agro-industrial and related industries is a specific sector pertaining to the broad field to be covered by technical assistance programmes for Arab states.

Prior or on-going assistance

Prior assistance to the development of packaging technology in Arab states has been implemented through the preparatory assistance project DP/RAB/80/013 and respective follow-up operational phase project DP/RAB/83/020, both under the title "Establishment of the Arab Regional Packaging Center" although mostly training oriented.

Packaging was also the technological field of the project DU/RAB/84/011, entitled "Seminar-cum-Study Tour within the frame of Inter-regional Co-operation between Latin America and the Arab Countries", which did not materialize immediate follow-up.

At the national level, the project DP/MOR/73/002 entitled "Establishment of the Moroccan Packaging Institute" had led to the existence of an institution at the level of "Center of Excellence" in packaging, which was intended to be converted into the Arab Regional Packaging Center through the first mentioned two regional projects. Geographical, contractual and other conditions of the parties involved did not allow effective materialization of the concerned recommendation of some meetings of Arab National Packaging Committees.

The International Trade Center and the United Nations Industrial Development Organization are associated in the execution of the project DP/TUN/87/008 entitled "Amélioration et Maitrise de la Qualité de l'Emballage pour l'Exportation" (Improvement and Management of the Quality of Packaging for Exports).

Egypt, Iraq, Jordan, Kuwait and Saudi Arabia are among other Arab countries, which have been object of prior small scale technical assistance projects from either ITC or UNIDO.

The large geographical extension of the Arab states' region raises difficulties with regard to countries' permanent contact and co-operation within the frame of a central packaging research and development institution.

Therefore, the establishment of a network of national and sub-regional packaging research and development institutions appears more realistic and advisable.

In this connection, former fact-finding work was carried out through one of the expert missions within the frame of the project DP/RAB/83/020, specifically aimed at identifying focal points, technological institutions and needs of technical assistance. Most of the research and development institutions which might be called to co-operate within the frame of a packaging technology development network were already approached in a more or less recent past, about their possible role within a technological framework all over the Arab region.

Project justification

On completion of the project DP/RAB/83/020 a follow-up draft project document under the title "Development of the Packaging Industries in the Arab States" was prepared and submitted to UNDP Regional Bureau for the Arab States. However, it appears that the need for a different approach was felt at that time.

A new project concept under the title "Development of Packaging Technology in the Agro-Industrial and Related Industries in the Arab States", more in line with specific priorities for the Arab region, was prepared and submitted for comments and advice in 1989.

In the meantime, it has been recognized the need to introduce the network approach concept, based on sub-regions and groups of countries which have actually been co-operating together in the near past.

Preparation of a realistic and elaborated draft project document in the light of this new approach, which essentially differs either from the regional central research institution or from the isolated national institutions, requires preparatory assistance.

Joint work has to be carried out in consultation with the concerned institutions and authorities of the envisaged participating countries. Advanced work could be developed simultaneously with a view to discuss and organize an inter-Arab packaging symposium for actual implementation within the follow-up operational project.

Packaging Seminar

with special reference to Agro-industries

on

"Arab Packaging in the Nineties -

Prospects in a changing world"

organized by

The United Nations Industrial Development Organization

in co-operation with

The Arab Packaging Network

to be held in

.....

During January 1992

"Arab Packaging in the Nineties-
Prospects in a changing world"

Seminar organized by UNIDO
in co-operation with the Arab Packaging Network

AIDE MEMOIRE

Background Information

During the eighties, there have been significant advancements in science and technology and their industrial applications. Such advancements were extensively used in industrialized countries and in developing countries being after all, purchasers of technology parcels. Arab countries are no exceptions.

The packaging industry, perhaps is one of the industries where there have been real significant advances in materials, machinery and systems. Practices for relying heavily or only on the use of single traditional packaging materials is no more the only alternative. It is no more just foil or paper/board or plastics, but rather a variety of combined materials, coatings, co-extrusions, laminations which would, as a combination, deliver performances which can never be obtained otherwise.

Regional seminars proved from past technical assistance that they are important events particularly in bringing together participants of common interests and sufferings, where they freely exchange views and experiences with one another and with the international experts.

The seminar usually results in establishing some recommendations to improve a currently prevailing situation. In this seminar it is also expected this time that there will be a chance to evaluate and comment on the network performance and on ways to improve both the network co-ordination, the packaging inter-Arab co-operation and the packaging industry in general.

Country papers reflecting the packaging situation in each country and presenting the problems and the obstacles that are encountered by the industry will be an important component of the programme. It is recommended that participants be top level managers (decision makers) mainly from manufacturing enterprises. They are asked to prepare a country paper in consultation with their national focal point, for presentation in the symposium.

With significant technological impact on industry and a changing world not only technologically but also economically, Arab countries are affected directly by all such changes. Consistent with this and with the functions of the network, the theme of the seminar is chosen to be "Arab Packaging in the nineties - Prospects in a changing world".

Objectives

The long-term objective of the seminar is to assist and encourage Arab countries in their efforts towards strengthening technical co-operation and co-ordination between them in the field of packaging. In addition, the seminar will also assist in the network co-ordination efforts.

The immediate objectives consist of:

1. Promotion of knowledge of the world situation of packaging and latest trends, also regional situation in addition to knowledge on the capabilities of packaging information, research and development, quality control and other facilities existing in each of the participant countries.
2. Stimulation of exchange of experiences and technical literature, relating to packaging technology and industries, between the participating focal points of the packaging network particularly with regard to the packaging of Agro-industrial products.
3. Patronizing of co-operation programmes between the afore-mentioned members of the network, on topics of bilateral and sub-regional interests identified during the seminar, through discussions, lectures, practical demonstrations and visits.
4. To help making the right decisions in packaging matters. Today, companies that succeed are those that work harder to gain and maintain a greater competitive edge. The decisions that need to be made are more complex, and the intense competition leaves less room for error. This is aimed at further support of the packaging training and managerial skills at key positions of the participating countries' economic society.

Tentative Location, Date and Programme

The seminar will take place in at and will last for a period of three full working days.

The proceedings will commence daily at 9:00 a.m. and end at 17:30 p.m., with a break for one and half hours for lunch.

The first day will start with an opening session attended by His Excellency the minister of Industry. A recommendations working group will be formed from the first day, to record and collect recommendations all along the three days and recommendations will be presented during the last session of the seminar.

A detailed programme including professional visits, opening and closing ceremonies and social events will be sent to each participant together with relevant notes on the seminar.

Topics to be covered:

1. Arab Packaging Network: the concept, activities, co-ordination, UNIDO's role, etc.
2. Country papers prepared by participants and focal points.
3. International economic outlook and impact on Arab economics.
4. Packaging forecast for consumer and industrial goods in selected markets, like USA, EEC.
5. Packaging machinery/equipment trends.
A look at the latest advances in packaging machinery and equipment with an emphasis on systems that can boost productivity and increase flexibility.
6. Packaging materials trends.
An overview of the technological changes that are boosting the performance and flexibility of packaging materials.
7. Packaging and the environment.
An overview of the technological changes that are driving change in packaging as it copes with increasing environmental demands.
8. Packaging information systems adapted to developing countries' needs with emphasis on legal aspects.
9. Extended shelf-life for food products.
10. Industrial printing as major aid to marketing and exportation.
11. Packaging and export promotion of agro-industrial products in the nineties (emphasis on the Arab region).
12. Packaging policy making, packaging economics and cost reduction.
13. Packaging procurement.
14. Arab markets - the features and realities.
15. African experiences.
16. South American experiences.
17. Arab experiences.

Each of these topics will be delivered by one or more of the invited specialists from both developing and industrialized countries, who will prepare and present their papers based on up-to-date information and relevant experiences. Other specialists will also participate in the relative round table discussions which will take place later, on the same day after the papers are presented.

Participants

Participants should be nominated by the Governments of the network member countries.

Participants will be high-level industrial managers, mainly of manufacturing enterprises, with years of experience, preferably of a technical background and must have a very good working knowledge of the English language. The nominee should have a strong involvement in packaging manufacturer or user industries or in professional centres involved in packaging technology on a high managerial level.

Each Government of the non-member countries will be free to nominate an observer to attend at no cost to either UNIDO or the seminar host country. The observer/his country will be responsible for paying travel, subsistence and any other related expenditure.

Working language

The working languages will be English and Arabic. Simultaneous translation will be provided in these languages.

Financial and Administration Arrangements

Financial arrangements for the participants and lecturers invited by UNIDO will be made in accordance with the financial rules and regulations of the United Nations and will cover:

- (i) Round trip economy class air transportation, between participant countries and , most of the air tickets being issued at and sent to participants through the UNDP offices in and the participating countries.
- (ii) A daily subsistence allowance to cover board, lodging and incidentals for the duration of the seminar will be paid out in by the UNDP office in upon the arrival of each participant.

Meeting facilities such as conference rooms, reproduction of documents and secretarial services will be provided by the host country.

The Governments of the participants' countries, or the participants themselves, if invited on the basis of individual capacity, will be responsible for the following costs:

- (i) All expenses in the home country incidental to travel abroad, including expenditures for passport, visa, medical examination, vaccinations and other such miscellaneous items as well as internal travel to and from the airport of departure in the home country.
- (ii) Continuation of salary and other benefits for the participants during the period of the seminar.

The organizers of the seminar, namely UNIDO and the Government of , will not assume responsibility for the following expenditure in connection with the participants' attendance:

- (i) Costs incurred by the participants with respect to any insurance, medical bills and hospitalization fees.
- (ii) Compensation in the event of death, disability or illness.
- (iii) Loss of or damage to personal property
- (iv) Purchase of personal belongings and compensation for damage caused to them by climatic or other conditions.
- (v) Travel or any other costs incurred by dependent who might accompany the participants.
- (vi) Costs incurred due to travel other than the direct and authorized route.

Documentation

The drafts of the papers prepared for the seminar must be sent to UNIDO for clearance or comments two months before the seminar date. The reproduction and distribution of the papers will be undertaken by the organizers who will also arrange the drafting and distribution of the final recommendations of the seminar.

Note to observers

It is much regrettable that owing to restricted funding for the seminar, the organizers are not in a position to bear any of the expenses incurred by the observers who will attend this seminar.

Enquiries concerning the seminar should be sent to:

Mr. Joao Belo
Vienna International Centre
P.O. Box 300
A-1400 Vienna, Austria
Tel. 21131 - 3839
Telex 135612A
Fax 232156

Arab Packaging Network

Call for papers

Dear Mr.,

Subject: DP/RAB/89/016 - Development of packaging technology in the Agro-industrial and related industries in the Arab States

It is my pleasure to inform you that UNIDO in co-operation with the Governments of Arab countries, members of the Arab Packaging Network through their respective packaging units, is organizing a seminar in the field of packaging with special emphasis on Agro-industries and under the theme of: "Arab packaging in the Nineties - prospects in a changing world".

The seminar is scheduled to take place in during the period from to 1992.

Please find attached a copy of the Aide memoire for the event, giving information on the background, objectives and programme of the seminar as well as on the conditions and arrangements for participants and observers.

Being aware of your active involvement in the field of packaging, it is my pleasure to invite you to take part in the successful conducting of the seminar by presenting two papers and by taking part in the round table discussions to be held at the end of each day. Your contribution in answering participants' questions will be appreciated. Papers are requested to be written comprehensively as technical reference for distribution to participants. Both the writing and presentation of the papers will be in English.

The following subjects are suggested:

UNIDO will finance a mission of days according to regular recruitment rules.

For your information, please find also attached a copy of UNIDO instructions concerning the preparation of papers for workshops. Bearing in mind the timing of different preparatory activities of the seminar, your paper should be received at UNIDO, Vienna, for clearance or comments and reproduction two months before the set date for the seminar.

It would be appreciated if you would kindly inform us at your earliest convenience of your availability and willingness to prepare and present the afore-mentioned papers, under the conditions clarified in this letter and in the Aide-memoire.

Yours sincerely,

J. Belo
Industrial Development Officer
Engineering Industries Branch
Department of Industrial Operations

Arab packaging network

"The high-level seminar on Arab packaging
in the nineties - prospects in a changing world"

Country Papers' Guidelines

Each participant from each country is required to submit a country paper. This is to be prepared jointly with the respective focal point and is not more than five pages and submitted in 30 copies, if possible.

The paper should cover the following points:

It should deal broadly with the status of the packaging industry in the respective country highlighting any research work that is being carried out in areas related to packaging.

- Types of packaging materials used in the country and their local availability.
- Consumption/local production estimates of each.
- List of major food or industrial products locally produced and the types of package systems used for each.
- Assessment of the level of quality, level of designs, level of printing of locally produced packages, also level of machine maintenance and level of training of managerial personnel in charge of packaging operations.
- Trends in the market.
- Research and development institutions involved in packaging.
- Major problems and complaints of the packaging industry (by sector).
- Recommendations.

Arab Packaging Network

Letter to UNDP Country office

Dear Mr.,

Subject: DP/RAB/89/016 - Development of packaging technology in the
Agro-industrial and related industries in the Arab States

I am pleased to inform you that UNIDO, in co-operation with the Government of through their packaging unit of the is organizing a high-level regional seminar in the field of packaging.

Special emphasis will be on Agro-industries and the seminar will be run under the theme of "Arab packaging in the Nineties - prospects in a changing world". Participants from all Arab countries are invited.

Please find attached two copies of the Aide-memoire for this event, giving information on the background, objectives and programme of the seminar as well as conditions and arrangements for participants and observers.

It would be appreciated if you would kindly inform the Government of of this seminar and request national co-operation through the nomination of one national delegate who would preferably hold a high-level managerial position in industry. He/she must have involvement in the packaging producing or using industries. UNIDO is financing his/her travel costs and DSA.

We would expect to receive some sort of answer at the latest two months before the seminar date.

Yours sincerely,

J. Belo
Industrial Development Officer
Engineering Industries Branch
Department of Industrial Operations

Arab packaging network

Provisional programme of the seminar

"The high-level seminar on Arab packaging
in the nineties - prospects in a changing world"

First day	7:00 - 8:00	Registration
	8:00 - 9:00	Opening Ceremony
	9:00 - 9:30	Tea break
	9:30 - 13:30	First session (5 presentations)
	13:30 - 15:00	Lunch
	15:00 - 17:30	Second session (3 presentations)
	Evening	Reception with business society
Second day	8:00 - 11:00	Third session (3 presentations)
	11:00 - 11:30	Tea break
	11:30 - 13:30	Fourth session (2 presentations)
	13:30 - 15:00	Lunch
	15:00 - 17:30	Fifth session (plant visits)
Third day	8:00 - 11:00	Sixth session (3 presentations)
	11:00 - 11:30	Tea break
	11:30 - 13:30	Seventh session (2 presentations)
	13:30 - 15:00	Lunch
	15:00 - 16:00	Conclusion and Recommendations

Arab Packaging Network

List of topics to be covered during the seminar

1. Arab Packaging Network: the concept, activities, co-ordination, UNIDO's role
2. Country papers
3. International/economic outlook and impact on Arab countries
4. Packaging forecast for consumer and industrial goods in selected markets, USA, EEC
5. Packaging machinery/equipment trends
6. Packaging materials trends
7. Packaging and the environment
8. Packaging info systems adapted to developing countries
9. Extended shelf-life for food products
10. Industrial Printing as an aid to marketing and exportation
11. Packaging and export promotion of agro-industrial products
12. Packaging policy making, packaging economics and cost reduction
13. Packaging procurement
14. Arab markets - the features and realities
15. African experiences
16. South American experiences
17. Arab experiences
18. Asian experiences

There are two expert vacancies to be filled, perhaps in the last four topics (field experiences).

Recommended name:

- Dr. Saluoa Ferjani (Tunis)

List of recommended lecturers

Mr. Carl Verbanic	Associate of Rauch Associates, USA Editor of Waxdata Independent Consultant
Ms. Kim Kennedy	Senior economist with Cahners Publishing Co. Editor Market Strategy Forecast Editor Pharmaceuticals Review Newsletters
Mr. R. Bruce Holmgren	Editorial Director of Packaging Magazine
Mr. Robin Ashton	Editor in Chief of Packaging Magazine
Mr. Greg Erickson	Managing Editor for Packaging Magazine
Ms. Melissa Larson	Senior Editor, Packaging Magazine

The above names took part actually as speakers in a one-day seminar organized by PACKAGING Magazine in 1990 entitled "1991 packaging forecast and planning seminar".

They or some of them are the best candidates to cover the part of the programme from topic 4 to 7.

Then, from 8 to 18, we have ITC staff Mr. Selin and Mr. Robson; they would be very useful and will make significant and relevant contributions. Then we have Mr. Madi, Mr. Elsayad, Mr. Tula Ramsland and Mr. Kurt Garmin. In case ITC staff bears their own cost and as the project document allows recruiting of eight experts, we shall have two more vacancies to fill. It is suggested to use them for the last four topics of field experiences.

Consultant notes on country visits

GENERAL

It is a fact that the packaging industry started to play and is potentially able to play a vital role in the economy of, perhaps, all countries of the region through its inter-relation with all other sectors being developed.

Specialized technical advice and services related to product performance tests, new products and processes, identification and analysis of development opportunities and the increase of productivity and efficiency, can be provided only in a very few countries and with varying degrees of proficiency.

There exists a general lack of regulations, standards and specifications, which is creating problems and a loss of communication between producers and users of packaging materials and packages. This is a hazardous situation especially in the food industries. Such lack also makes certification an impossible task. Common terminology to create a common language between the producers and the users is also absent, a complaint which was repeatedly mentioned in more than one place.

The quality of packaging production in both the manufacturer and the user industries is below standard, naturally influenced by the lack of quality control and lack of standards and specifications.

Considering the fast evolution of new technologies, industrialists complain on the national level of deficiency of information and technical documentation services that could help them in matters of packages, products, machinery, techniques and systems. Moreover, they complain about lack of knowledge even of the sources of information. On the regional level, however, the complaint comes from absence of exchanged information and experiences between various Arab countries.

Almost all countries visited have a priority for exportation. Related to this, the inadequate printing and graphic design require a lot of upgrading. Although seemingly acceptable by local markets in some countries of the region, it is nevertheless far from the international standard.

There are problems in other links of the packaging chain, i.e. in marketing, storage, and in transport mainly due to absence of a system for distribution. Thinking of packaging for decision makers is in many places fragmental, it should not be thinking of a packaging, but rather thinking of a system.

In this respect, any efforts to recognize the potentialities of local raw materials and to use them, even in combination with foreign raw materials is considered a real support to the national packaging cause. This is something being handled by some research and development institutions and hopefully the focal points would be able to motivate further research.

Due to the lack of trained personnel, there is a strongly expressed need everywhere of the region for general and specific training. But unfortunately there is almost non-existence of either proper regular academic education in packaging or reference books in packaging technology in Arabic language.

A planned institutional support could be an important component in the development of the packaging field through well educated, trained and experienced cadres. Training is another activity, professionals in the field hope that the focal points will be involved in.

Energy conservation and environmental control is an area now closely monitored in most countries of the region. Packaging is called upon to contribute towards a cleaner and safer environment. Glass packaging is gaining increased consideration in respect of cleaner environment (100 % recycling), and of its locally available raw materials.

Consumer protection is gaining growing concern of some Governments and packaging is looked at as a major component in this through labelling and label information and through compatibility and food grade materials.

In discussing the project document, the networking mechanism was looked at as a means to facilitate regional co-operation, exchange of packaging related information, establishment of communication links for sharing of knowledge. It will be a valuable contribution to the Arab regional collective aim of development.

A project document was elaborated and was jointly discussed with concerned institutions and authorities of the respective countries, introducing the networking concept and inviting comments on the programme, etc in eleven Arab countries.

In planning the field visits, the following factors were considered:

1. In selecting countries a blend was made of countries which have never been visited in relation to packaging assistance and those which were already part of previous fact finding mission. The least developed Arab countries were not neglected.
2. In selecting places to be visited within a country, the criteria was their relevance to the objectives and outputs of the preparatory assistance.
3. In discussing the project document attention was given to interview also senior people as possible, as an overall programme of a rather strategic nature was discussed.

The programme of activities as in the project document including the symposium was very well received and praised by industrialists and officials who took part in the discussions. Quite a few clever remarks were made by local specialists which were taken into consideration and were included in the project document.

This report deals with findings of a rather technical nature, other than those incorporated already into the project document and/or the seminar documents.

The objectives defined in the project document of the preparatory assistance and the mission's job description define the visits to discussing the draft project document and the documents of the seminar, and collecting data relevant to formulating the final project document.

Hence, it is to be made clear that the objectives of the visits were not to survey the technological institutions because this has been already done in the near past. Certain focal points were even recommended then.

The profile of institutions which were repeatedly visited in this mission and in previous assistance programmes will not be repeated here. Reference can be made to previous reports within the project DP/RAB/83/020. In drawing the profiles only new additional information and changed statutes are being mentioned.

The draft project document and the seminar Aide-memoire and programme were thoroughly reviewed jointly with persons interviewed. The concept of Arab packaging network was fully explained. The objectives, outputs and activities in addition to UNDP and country inputs were thoroughly reviewed and discussed. The commitment of the countries accepting to join the network and risks of any incomplete fulfillment was made very clear to all parties met and to UNDP/UNIDO concerned personnel in the field.

In all the countries visited, the project document, its activities, were commended, also the high level seminar with its selected theme. They were all enthusiastic to participate. There was also enthusiasm shown to attract some of the coming activities to be run in their country.

ALGERIA

Recently the efforts were joined under the auspices of the ministry of economy and a new identity appeared with the name of "Centre Algérien du Contrôle de la qualité et de l'emballage" at new premises in 4 Rue Mechedal (ex des ecoles), Alger.

As it is the national institution involved in packaging development and assistance to the packaging industry, it is now the prospectus focal point for Algeria.

Discussions were held with Mr. Alem, the Director General, Mr. Bou Absa, the responsible for packaging in the centre, Mr. Acheli, the centre's Secretary General, and Mr. Assoul, chemical engineer, who attended a previous training in a seminar organized in Morocco by IMEC/FAO.

The role of the centre was defined in relation to local conditions and a few lines of action that can be taken in the early stages of the centre's formation were stressed by the consultant, (examples are the formation of active technical committees in co-operation with professionals from industry with specific tasks and timetable, surveying the locally available raw materials and the type of packaging systems in use). This means to start the build-up of information data base on the existing industry.

It was noticed that the centre's management was busy with other aid from other countries too (projects of UNIDO and EEC). There is a risk, things may overlap and get delayed.

It seemed that commissions related to packaging formed by the Department of Regulations and Normalization in the past were very insignificant and that no regular meetings were held nor there were any outcome.

Within the centre there is an IBM compatible Personal Computer available. A small project with ITC focusing on a limited information and consultancy assistance was recently done, but with no full packdata. The centre has received some diskettes from ITC which they were not sure what they contained. In any case they said they were affected by a computer virus in Algeria.

There was a complaint of absence of information on other Arab countries' achievements in packaging regulations, and of the generally missed co-ordination between Arab countries.

Connected with this, the consultant delivered to Mr. Alem a list of regulations prepared for Morocco given by Mr. Zaki, General Director of IMEC. There is interest in starting standards and regulations activities but obviously there is no previous experience, and training on this subject for two technicians would be needed.

The Packaging Industry

It is noticeable that the percentage of goods being marketed packed is low. The packaging quality level is poor. Major plants existing are: Two plants for metal coating (carnaux licence), two plants for plastic materials, two plants for paper/board making, one plant for glass and one plant for printing ink.

Local paper/board/corrugated board and printing ink were accused of inferior quality. The poor quality of corrugated board was attributed to the poor quality local fluting. 70 % of the paper/board consumed is imported. In paper converting, industries for bumpers and sanitary towels do not exist.

Export is much appreciated, there is indeed exportation from a few companies (e.g. the "Manufacture Algérienne d'Enveloppes et Cahiers").

The food industry is estimated to consume approximately 80 % of the plastic converted packages, approximately 95 % of the glass containers and 50 % of the metal cans.

Manufacturing plants are suffering from the non-availability of raw materials and the non-availability of foreign currency to buy them.

Algeria's needs

The centre's management were hoping to have a special programme for Algeria within the Arab packaging network, including industrial sectorial studies and surveys to identify their problems.

- Due to the poor quality of printing and design, it was requested that Algeria gets consultancy assistance in the field of industrial printing, preferably to be followed by a graphic design consultancy assistance. A major part of the two missions should be directed to lecturing and running training courses in establishments on those subjects.

- The need was also expressed for an assistance in the area of training and education with emphasis on actual lecturing in industry and in various institutions.

An interest was shown in establishing an Arab packaging school granting BSC and MSC degrees.

- Other areas of interest for consultancy assistance are the areas of regulations and normalization, and sectorial studies of specific packaging materials namely plastics, metals, glass, etc. Related to this particular request, it was mentioned that previously they had received a corrugated board expert who made a report, but they say nothing was done with it. According to them, the reason was that they did not have the trained educated national counterpart to receive the know-how from the expert.

INAPI

It is almost common in the North African countries that regulation and standards organization or centres do not have laboratory support of their own. This applies to Algeria and also Morocco, Tunisia and Libya.

National Chamber of Commerce

The Graphic Arts Section looks after packaging and printing. They are aware of the industry sufferings. They have contacts with the industry, however, in the business of collecting information rather than disseminating information. A chamber for packaging as such does not exist.

Paper/Board Industrialists Association

Active in formulating complaints of industrialists either from customs, hard currency allocations, quality of imported raw materials, etc. They organize regular meetings.

Ministry of Economy

The Quality Department in the Ministry of Economy has interest in packaging and confirmed its backing to the packaging centre and to the Arab packaging network activities.

List of contacts in Algeria

Mr. Alem	General Director	Centre Algérien du Contrôle de la Qualité et de l'Emballage
Mr. Abdelhalim Ashli	Secretary General	Centre Algérien du Contrôle de la Qualité et de l'Emballage
Mr. Bou Absa El Mounir	Chief Packaging Division	Centre Algérien du Contrôle de la Qualité et de l'Emballage
Mr. Moustafa Assoul	Engineer, Packaging Division	Centre Algérien du Contrôle de la Qualité et de l'Emballage
Mr. Ahmed Tibaoui	Director of Quality	Ministry of Economy
Mr. M. Kerkouche	Under-Director of Quality	Ministry of Economy
Mr. Haddag Abdel Kader	Engineer	Ministry of Economy
Mr. Hadj Zoubir	Chairman	Paper/Board Association
Mr. Akkoush		National Chamber of Commerce
Mr. Nickels	UCD - UNIDO Country Director	UNDP - United Nations Development Programme
Mr. Kaeser	Programme Officer	UNDP - United Nations Development Programme

BAHRAIN

Out of its conviction of the need for diversification of sources of income, the Government of Bahrain has been working to develop the industrial sector. Industrialization is considered vital for boosting production and providing job opportunities for the coming generations.

Bahrain is a small country. One of the reasons which delayed further investment in packaging projects is that the market is small. Major national production includes fish, chemicals (acids), petrochemicals. Cement is one of the major consumers of paper (as sacks).

Other industrial companies include beverages (Hassan & Habib Co.), tissues and paper cups (Maskati Bros & Co.), yoghurt (Bahrain dairies), potato chips and fruit juices (Delmon food factories, Bahrain food industries).

A new ambitious petrochemical project is in the pipeline. This will produce thermoplastic polypropylene among other things. It is expected to encourage the setting-up of approximately 200 downstream industries in Bahrain.

In thinking of investing, investors of Bahrain usually think of a joint venture, so that the foreign partner resumes responsibility of marketing part of the production. There has been a study being conducted, now temporarily discontinued, to establish a pan-Arab plant in Bahrain for pharmaceutical packages. In the pipeline there is also a project for Aluminium foil and a project for corrugated board.

A general realization by various organizations was sensed that training should have priority over anything else, especially among Bahrainis in order to be able to Arabize the workforce. Currently almost all the manpower is Indian.

Strong competition in printing and packaging products was confirmed by many. This could be tied up with difficulties in marketing facing industrialists.

Bahrain Centre for Studies and Research

- It was created in 1981 aiming at conducting studies and scientific research in various disciplines and encourage other places in Bahrain to participate. It also conducts comparative studies with successful experiences of other countries. Energy conservation and environmental issues, sociological issues are among the centre's interests. Training and information is another activity.

Governing Council

General secretary

Finance/Admin. Dept.	Scientific Research Dept.	Library/Information Dept.	Economic/Social Studies Dept.
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- The Centre performed already few studies among them are:
bread in Bahrain, industrial poisonous wastes, flourides and minerals in drinking water, energy situation in Bahrain, development of palm trees, lead content in household paints, paper making from palm trees.

- The centre has very limited facilities, no experimental laboratory facilities, limited contacts with industry.

Industrial Development Centre

The centre belongs to the Ministry of Industry and it employs 25 persons.

General Director

Prcmotion
Dept.

Information & Projects
Dept.

Planning
Dept.

It is mainly involved in the identification of investment opportunities, in attracting investors and in taking part in feasibility studies and in solving as many problems as possible facing the industry.

The centre has good contacts with industrialists and good lines of communication with other departments of the Ministry of Industry as for example the Industrial Protection and Registration Directorate.

The centre with its library backing can make a good focal point. They have shown enthusiasm to join the network and to participate in the programme activities. There have been no problems in providing their country the input required. They are increasingly interested in the packaging and related industries.

Date factory

Originated by FAO to produce 500 tons/year. Currently it is - like many other industries - working at a lower efficiency. The plant manager, Mr. Haroon, was a participant in a seminar organized by IMEC/FAO in November 1988 in Casablanca. The consultant was then one of the recruited lecturers.

Gulf Marketing Association

Have membership from business people society, involved in training and information, professional meetings, etc. Will be interested in a seminar or a training course on the role of packaging in marketing.

Oriental Press

Very modern offset press, very well organized and professionally managed. High quality printing of labels. In some of the Gulf countries one can get very good printing. Bahrain is the best of the Gulf countries. Oriental press is the best in Bahrain.

Chamber of Commerce and Industry

An active body within the business society. Their commercial involvement may be overshadowing the industrial involvement a little. It is the first such association to have been set up in the Gulf region, established 50 years ago.

The chamber is equipped to guide new investors with information on policy matters, size of the market and related economic intelligence.

Bahrain's needs

- UNIDO assistance has been requested for a consultancy mission to survey the market and assess present situation, analyze trends, identify investment opportunities and recommend future actions (1 to 2 m/m).

- It will be necessary to arrange training fellowship for two of the centre's technicians on packaging fundamentals and science and technology of packaging. Alternatively this can be done through a consultancy training expert.

List of contacts in Bahrain

Mr. Jassim Alshatti	General Manager	Bahrain Chamber of Commerce and Industry
Dr. Nasser Al Relooshi	Director, Economic and Social Research Department	Bahrain Centre for Studies and Research
Dr. Sami Abdallah	Director, Scientific Research Department	Bahrain Centre for Studies and Research
Eng. Sager Shaheen	Director General	Industrial Development Centre
Mr. Khalid Rabia	Senior economist	Industrial Development Centre
Mr. Rashid Al Dhubaid	Director, International Protection and Registration	Ministry of Development and Industry
Mr. Ali Haroon	Factory Manager	Date factory
Mr. Majeed Alzeera	Director	Oriental Press
Mr. Ahmed Dhakkar	Resident Representative	UNDP - United Nations Development Programme
Ms. Sair Sarwat	Senior Programme Officer	UNDP- United Nations Development Programme
Tel. conference with		
Dr. Khalik Kutran	Member of the Board	Gulf Marketing Association

DJIBOUTI

A round table discussion was organized in the Minister's office attended by various concerned officers and in His Excellency's presence.

It was made clear from the beginning by the Ministry of Industry that the country lacks institutional infrastructure and the existence of research and development bodies. There is no standards organization.

The Chamber of Commerce exists in a nice premises but seemingly with limited role yet. The chamber's library is yet very small, they are however interested in training their members.

Great interest in the technical assistance envisaged in the project document was shown by all officials and by the Minister.

Out of the country inputs, they will provide space and personnel but will need finance for the personal computer, the photocopying machine, etc.

It must be mentioned here also that the knowledge of packaging and the packaging awareness is very limited. A lot needs to be done in training and educating the packaging and packaging related personnel and officials.

The Ministry of Industry presently represents the best possible place as a focal point. It keeps its contacts with the, so far limited, industrial sector, and can perform the focal point task for some time, probably until an industrial development institution is created.

There are two main departments in the Ministry of Industry, namely the Energy Department and the Industrial Development Department, whose responsibilities cover packaging too.

The country is just starting its industrialization. An ideal situation is when the packaging activities can go hand in hand with the industrial planning and implementation projects, in a sort of co-ordination to complement new projects with projects on packages or packaging materials.

Presently, there is an on-going UNIDO project to study industrial problems at large, and is active issuing guidelines and educative handouts.

The Government policy is to encourage the private sector and create healthy environment. The Government is expecting soon UNIDO's expert assistance to study the establishment of a free zone. It is to be mentioned here that the country has been so far service oriented rather than production oriented.

The Packaging Industry

Djibouti is a small country of approximately 400,000 to 500,000 inhabitants with limited economic resources. There is no university in the country and local education goes up to the secondary school only. University education is done elsewhere abroad, mainly in other Arab countries. This led to the fact that the country's resources of qualified personnel will be limited.

Almost all packages and packaging materials are imported. The industry as a whole is limited and the major packaging establishments include:

- A dairy plant, public sector, was financed from Kuwaiti Fund (1 milliard Djibouti francs).
- A mineral water bottling plant was partly financed as a gift from Saudi Arabia (with 450 million Djibouti Francs).
- A printing press which changed hands recently to the private sector. Assistance is desperately needed by the Ministry of Industry to help planning the printing house's rehabilitation, modernization and operation.

Qualitywise local yogurt cups are good, the water bottles are good, but the labelling operation obviously lacked precision.

Other institutions include foam polystyrene, ice cream and wheat mills.

The Ministry of Industry has issued a list of projects being considered for implementation. Among the list there are projects for soap, cement, food products, biscuits, carton boxes, confectionary, varnishes and adhesives, plastic thermoforming, etc.

Djibouti needs

- A fact finding consultancy assistance, surveying the industry, assessing the situation, defining sectorial needs, indicating priorities for future development, etc.
- A consultancy assistance in printing to study the rehabilitation and upgrading of the Djid printing house.

List of contacts in Djibouti

Mr. Salem Yehya	Minister of Industry	Ministry of Industry
Mr. Farah A. Ainan	Head of Energy Department	Ministry of Industry
Mr. Ali Latini	Head, Industrial Development Department	Ministry of Industry
Mr. Ali Dini	Head, Information Service Department	Chamber of Commerce and Industry
Mr. Sherif Toure	CTA - Chief Technical Advisor	UNIDO Industrial Development Project
Mr. Hassan	UNIDO Programme Officer	UNDP - United Nations Development Programme

EGYPT

Egyptian Export Promotion Centre (EEPC)

The Egyptian Export Promotion Centre has been established in November 1979 under the perview of the Ministry of Economy and Foreign Trade.

The general functions of the EEPC are:

- Storing and disseminating trade information apt to serve export sector at home and abroad.
- Carrying out of studies and analysis on export potentialities and on the absorbing capacities of foreign markets.
- Preparation of technical and organizational recommendations required for the development of production and elimination of obstacles in the way of exportation at home and abroad.
- Organizing training programmes for export sector at home and abroad.
- Collaboration with international and national organizations in the field of export promotion.

EEPD has also the following specific functions:

- Organizing trade missions
- Participation in specialized trade fairs and exhibitions
- Organizing buyers and sellers meetings
- Organizing orientation tours for Egyptian manufacturers and exporters.

The Centre has been previously involved in an ITC directed project for the creation of an Export Packaging Institute with bilateral financial aid from Finland and the Netherlands.

The project was discontinued and is now reduced to a packaging unit, a small outfit information/documentation oriented. The unit is being supported with a personal computer, a library and the rest of the ITC Packdata system.

Two qualified persons are working in the unit and are receiving proper training in Europe.

EEPC is also engaged in helping various exporting industries. Among the many places in Egypt which can be considered focal points, EEPC makes the most prospective place to join the network, especially that it has already the Packdata soft- and hardware, and as the country is emphasizing industrial productions exportation.

The Egyptian Organization for Standardization

This organization is mainly involved in the formulation of standards and in certification packaging and packages materials are included.

The organization has laboratories for textiles, building materials, petroleum, paints, paper/board, plastics, etc. However, the equipment is not modern and the labs need to be upgraded and rehabilitated.

There is no packaging lab as such but there are current plans to establish one. The staff is not trained in handling packaging tests and a lot of knowledge upgrading is required. Presently efforts are being directed to the modernization of the organization's support laboratories.

Egyptian Packaging Development Association (EPDA)

EPDA is a non-governmental organization engaged in the promotion of the packaging cause in Egypt. Its members include both packaging and packaging materials manufacturers and users in addition to representatives from academic institutions, universities and ministries. The association is run by a board meeting monthly and a yearly general assembly. It is considered very active in the packaging field in Egypt and its activities have been for many limited to the running of packaging seminars and a periodical publishing of the proceedings of the seminars.

Ministry of Supply (Shemto Food Packaging Company)

"Shemto" Co. is a public sector co. which belongs to the Ministry of Supply. In the process of rehabilitating the company a new package and packaging material testing laboratory was created in co-operation with the French Laboratoire National d'Essais. This laboratory has facilities for package performance testing, climatic chambers, physical and chemical testing. However, it is not yet operational.

Ministry of Industry (General Organization for Industrialization GOFI)

They are aware of the importance of good packaging and are keen to strengthen any packaging development efforts. The organization is an authority granting licences for the establishment of new industrial establishments. The two departments within GOFI interested in packaging development are the chemical industries and the food industries departments.

Academy of Science and Technology

Within the Academy of Science and Technology a special committee for packaging was formed. It is currently engaged in a national study to assess present situation and to give guidelines as to future directions in four major topics:

1. Education and training to raise self capability.
2. Surveying of local production of packaging raw materials and future expansions.
3. National laboratory support (what equipment and where?).
4. Standards and regulations.

It is not yet clear whether the committee will be a permanent one in future. But generally speaking the academy is another body encouraging efforts to develop packaging.

Egypt needs

- A consultancy assistance in the formulation of packaging standards and regulations. (1 to 2 m/m).

- A consultancy assistance in the area of packaging graphic and/or structural design. (1 to 2 m/m).

LIBYA

The Packaging Industry

The majority of packaging raw materials are imported. It is anticipated that in future stage tinplate will be available locally. Polyethylene is also planned for local production, currently PVC is manufactured in Libya.

There is no pulp and paper plant, however, there is a corrugated board plant with a capacity of 12000 tons/annum in three shifts.

In the pipeline there is a study for a cement bag plant using polypropylene.

There exists only one plant for tinplate printing (Ain Zara Plant), conversion takes place in a different plant (Almaamoura Plant).

Estimated consumption of some packaging 1990:

PP bags	2500 tons/annum
paper bags	800 "
metal cans	11000 "
board	4000 "
plastic bags	1400 "
plastic crates	80 "

Samples of some using industries:

1988

Dairy	50,000 litres/annum	use tetrapaks
Fruit and Vegetables	24,000 tons/annum	use metal cans/glass jars and tetrapak for juice
Macaroni	65,000 tons/annum	use cellophane
Beverages	18 million crates/annum	use glass bottles and cans
Cement	3,5 million tons/annum	use paper bags
Biscuits and Sweets	24,000 tons/annum	

Industrial Research Centre (IRC)

A research and development organization engaged mainly in the development of industry at large in Libya, particularly research related to substitutes to imported raw materials. IRC incorporates various sections like: food industries section, chemical analysis section, documentation/information section, technical and economic studies section, metal and surface protection lab, etc.

The Food Industries Section incorporates a lab for packaging. Presently it is only a paper/board lab (however unairconditioned). IRC is planning to further extend the packaging facility with a plastic lab and a metal can lab, both already been negotiated with Italy. Testing of transport packaging is also to be incorporated. A list of relevant testing equipment was obtained by them from IMEC, Morocco. At the moment, for any metal can work, the metal and surface protection lab is used.

The IRC has quite a few supporting instruments such as scanning electron microscope and spectrophotometers.

IRC is selected focal point for Libya. It is definitely the most suitable place assuming that a mechanism will be found to associate with industry.

The packaging lab is manned by two technical persons (both are food technologists) graduated from the Food Industries Department of the University. The lab equipment includes: crush tester, tearing tester, oven, microscope, digital micrometer, Bendsten smoothness tester, tensile breaking strength, wet strength, bursting strength.

It was recommended by the consultant that an additional electrical engineer joins this lab's team to be responsible for the instruments and their maintenance. However, the two persons in charge need themselves a condensed training to be arranged for them on general fundamentals of the science and technology of packaging in addition to training for one of them in paper and board labs in one of the specialized institutions in Europe or in a developing country. This can be arranged to be in Egypt's National Research Centre. For the other one, training on plastics testing and food compatibility is needed.

Later, it is recommended that one of them takes up the network information training to look after the packaging information activity in IRC.

The activity should also be separated, if possible, from the general library of IRC and be attached directly to the packaging unit. The library of IRC in itself is a very good library, comprehensive and well organized.

Actually there has been no significant activity of IRC's packaging unit yet. Relations with industry are still far from what is hoped for after the network is operational. The packaging facility of IRC needs to be marketed to the industry. They should announce their existence and their role.

One possibility suggested to them is the organization of one or two one-day seminars on packaging. Directors from industrial companies and professors from the university can be invited for lecturing as speakers. The audience invited are to be professionals from manufacturing and using industries.

The National Standards Centre

The National Standards Centre is involved in the formulation of standards for locally produced products. A packaging standards committee is formed including representatives from the industry, the Industrial Research Centre IRC, university, etc.

In 1990 the National Standards Centre updated and approved a standards (No. 1990/53) on labelling of prepacked and canned foods giving indications of what information should appear on a label.

The Standards Centre has no testing lab facility. It relies on the labs of IRC, so convenient, as it occupies part of the IRC building.

A local conference was prepared for to be held in November 1990 in co-operation between the National Standards Centre, the Industrial Research Centre, on "small industries". Two papers on packaging matters were included in the programme enlightening the present situation of the industry.

Libya needs

- A fact finding consultancy assistance to survey the various sectors, assess and recommend future actions (1 to 2 m/m).
- Fellowship training of two persons for a period of one month.
- The need for training industrialists on packaging fundamentals was explained. A packaging training consultancy assistance is requested (1m/m).

List of contacts in Libya

Dr. Mofteh Azzouz	Professor	Food Science Department, Alfateh University
Dr. Abdallah Fadl	General Director	Industrial Research Centre
Mr. Mahfouz Aboutin	Head, Science Department	Industrial Research Centre
Mr. Abdel Rahim Abou Akrab	Packaging Unit	Industrial Research Centre
Mr. Tarek Zahmoul	Packaging Unit	Industrial Research Centre
Mr. Ahmad Shambash	General Director	National Centre for Standards
Mr. Ali Ramadan Zeitoun	Secretary, Packaging Standards Committee	National Centre for Standards
Mr. Joseph Zahorayan	Programme Officer	UNDP - United Nations Development Programme
Tel. conference with		
Dr. Alhashami	Head, Food Science Department	Alfateh University
Mr. Saleh Shaker	UNIDO Programme Officer	UNDP - United Nations Development Programme

MOROCCO

IMEC, the Moroccan Institute of Packaging, was established at the level of "Centre of excellence". It has testing and training facilities which do not yet exist in any other Arab country. IMEC is involved in the development of the Moroccan packaging and export industries at a very satisfactory level. It provides material testing, research, performance testing, information/documentation and certification.

The management and technical staff are professionally well trained and able. The area of packaging standardization and packaging regulations has a top priority among IMEC's priorities.

Starting from 1990 and under a direction from His Majesty, the King of Morocco, there will be emphasis on laboratory certification, regulations and legal aspects. This is a response to stringent rules by EEC to quality control its imports by recognized labs. In Morocco there has been a recent decision that all products should be properly labelled. IMEC expects to be offering a lot of assistance to companies in this matter.

IMEC showed willingness that their facilities be used in support of the network's programme of activities, naturally against fees. IMEC has potential resources which can indeed be used by other countries. They are eager also to be considered as the subregional strong point (subregional co-ordinator). They have also plans for additional laboratories for leather, textiles and plastic, financed by UNDP and EEC, directed mainly to quality control assistance to small scale enterprises and to control of imports quality.

During the consultant's presence IMEC was actively participating in the promotion of the Food Expo 90 exhibition, December 1990, which includes sectors for: Agro-industries, catering, food, in addition to a separate sector for packaging. In this connection, it was suggested that packaging exhibitions should be co-ordinated to avoid overlapping and marketing problems.

Preparations were ongoing also to prepare for the running of four training courses of 20 persons each for quality controllers. Five attendants from Algeria are expected to join.

IMEC has Packdata from ITC. Two information officers were already trained in ITC (information engineer and lady operator). The head of department is to start soon his training too. The system is now operational. An ITC consultant affirmed the operational phase of packdata and conducted further training in IMEC for the staff members on: basic commands of DOS, daily consultations of packdata, edit/apprehend/maintenance of IMECDATA, exchange of information on diskettes with ITC's headquarters, screening new material to be added to IMEC data, technique of changing keywords, descriptors or other auxiliary files of IMECDATA.

The project document and seminar were thoroughly discussed and commended. One of the ideas discussed was the issuance of a network newsletter. Information to be published can be provided by sub-regional and national members. If the Chief Technical Advisor will have a full time job, this may be his responsibility.

Morocco's needs

- Consultancy assistance on norms, packaging regulations and legal aspects. The expert needed has to have experience of doing a similar job in the past and perhaps familiar with what is existing in other countries.

- Consultancy assistance to transfer the information on IMEC's old computer system to the packdata system.

- IMEC also quired the point of the possibility of part financing of the cost of issuing a Moroccan newsletter through the network finance.

List of contacts in Morocco

Mr. Ali Zaki	General Director	IMEC
Mr. Alkhamlishi	Paper/Board	IMEC
Mr. Zamat	Design	IMEC
Ms. Azzawi	Metal Packaging	IMEC
Mr. Eltahiri	Director	Ministry of Industry

OMAN

The Ministry of Industry is busy preparing what is called the Industry Master Plan with the help of UNIDO, for the next 10 years. The consultant tried to meet the Unido Country Director in charge of the Master Plan to discuss any inclusion of packaging projects, but unfortunately this was not possible.

It is hoped all over Oman that the Master Plan in addition to encouragement of His Majesty the Sultan to Industry and his announcement that 1991 is the industry year, it is hoped this will really push forward the process of industrialization.

The investment approvals pass through the following sequence of formalities:

- Reserving the idea (lasts for three months)
- Feasibility study submission
- Licencing stage
- Registration (after production).

The Ministry of Industry in Oman is very active, manned by young energetic staff and as the country is small they work in close proximity with the industry.

A group of Japanese were making studies of sick industries (diagnostic centre) and devising solutions.

Sometimes ago, there has been a British group of experts who did industrial studies and recommended the necessity to develop packaging industry.

JAICA has also studied the agricultural sector and basically recommended the packaging improvement and the packaging industry development.

In Oman, in general, importation is allowed only if there is no local production, or if the price is higher than the imported, with more than ten per cent.

Food industry uses approximately 70 per cent of the total packaging production. Existing industries in the food and beverage include the following production: dairy products and ice cream, processing, freezing, drying and packaging of sea food, vegetables oils and fats, grain mill products, biscuits, pickles and spices, snack food, tea and beverage, etc.

In the paper and paper converting the following industries exist: paperbags, corrugated boxes, sanitary towels, napkins and tissue paper, crimped cups and containers, computer stationary.

Using industries include: fertilizer, insecticides and freshners, paints and varnishes, liquid soap and detergents, lube oil, cosmetics and perfumes, etc.

Standards Organization

It consists of approximately 25 persons.

The organization:

- is very short in space.
- has very limited lab facilities.
- Its main task is to formulate standards and to check random samples of goods drawn from the market.
- So far they did very little in packaging, however, they are very keen to be able to formulate packaging specifications and list packaging materials.

The Omani Chamber of Commerce

An active body in attracting international assistance through the Ministry of Industry, to solve the industry's problems and to train members.

They are currently studying the establishment of a training unit.

Previously there has been a study by UNIDO to create an industrial development centre.

LOPAK

A private enterprise, has a well informed owner/director. The company is specialized in printing and paper converting. Its range of products includes: telex paper, computer paper, web offset heatset printing, plastic files, etc. The work force is all, as in most places in Oman, Indian. The quality of the production is fairly good.

Public Authority for Marketing Agricultural Produce

They are engaged in packaging fruits, vegetables and pickles, etc.

They use corrugated board locally produced, glass jars imported from Thailand for pickles. Their main complaint from the single corrugated board supplier is the inferior quality as compared to quality imported from UAE.

Oman's needs

A fact finding consultancy advice to recognize sectorial needs, evaluate the present capabilities and recommend future action (1 to 2 m/m).

List of contacts in Oman

Ms. Aida Riyami	Director of Laboratories	Standards Organization
Mr. Magdi Barakat	Standardisation Specialist	Standards Organization
Ms. Hunaina Al mugheiry	Director, Industrial Planning and Studies	Ministry of Commerce and Industry
Mr. M.K. Shajahan	Project Engineer	Ministry of Commerce and Industry
Mr. Abdallah Al Oraimy	Follow-up Department	Ministry of Commerce and Industry
Eng. Ali Al Sunaidy	Manager, Industrial Development Unit	Ministry of Commerce and Industry
Mr. Magbool Bin Ali Sultan	Chairman	Oman Chamber of Commerce and Industry
Mr. Ali Alfadhel	Director	Loay Enterprises
Mr. Faisal Al Hashar	Director General	Public Authority for Marketing Agriculture Produce
Mr. Stephen Brown	Programme Officer	UNDP - United Nations Development Programme

SOMALIA

The country is characterized by a certain lack of industrial infrastructure institutions.

Even bodies like the Chamber of Commerce - which is looked after by the Ministry of Commerce - may have difficulty to perform an active role as a focal point.

The ministry of industry with its concerned department is the most likely and most suitable place for a focal point in Somalia, perhaps until more active institutions are created. When the civil war is over the industrial environment is back to normal, there will be improved opportunities for institution build-up.

The Ministry of Commerce, although they have a foreign trade directorate, says that they are the least to benefit from foreign aid in the past and are hoping to benefit from the network activities.

The Packaging Industry

- There are public and private sector industrial establishments. UNDP is discussing with the Government what is called "Divestiture" which is said to mean that the Government abandons the control on state-owned companies, instead, however, privatize them, or step to a joint venture or else.

- The industry is living very unusual and unstable circumstances caused by the civil war situation, which is reflected on all industrial activities and all persons.

- Bananas and lobsters are among major exported products. Packaging of bananas is almost completely done by one company, Somal Fruit. The packaging is basically a polyethylene bag and a telescopic corrugated box. According to Somal Fruit they have no problem with their packaging.

- There is only one corrugated box plant in Somalia. This belongs to Somal Fruit Group near the Kenyan border, with a capacity of 10,000 tons/annum. Presently it is not working in full capacity. There are intentions by Somali investors to establish a box converting plant relying on the corrugated sheets from Somal Fruit.

- Glass bottles for beverages are imported. Glass is also used for milk bottling. The milk plant's capacity is approximately 20,000 litres per day.

- There exists one pharmaceutical corporation, importing most of its packages.

- Generally speaking, a majority of packages in the country is imported.

Somal Fruit

- It is a fruit packaging company. They have their own corrugated box facility and their own film blowing and bag making.

- For any packaging or other technical problems, Somal Fruit relies on the mother company in Italy and on material suppliers.

- The process of packing bananas, papayas and lemons is manual.

- Presently the company is thinking of using waste paper from the box plant for further processing into tissue paper. Their estimation of the waste in the box plant is approximately 6 %.

ILI Shamo

It is a plastic converting corporation producing PVC pipes and polyethylene bags on Italian machines.

The company is a private sector company, with no big technical problems. However, it is facing problems which are common throughout the industry such as the unavailability of raw materials and of the hard currency to buy them. In addition, unprecedented power cuts are experienced.

The owner was informed upon his request by the consultant on alternative sources of master batch in Arab countries.

Somalia needs

- A fact finding consultancy assistance, to survey and assess the present situation and recommend further lines (2 - 3 m/m).

- An assistance in the condition of a feasibility study on establishing a glass bottle plant for beverages and milk (1 m/m).

- An assistance in the conduction of a feasibility study on producing fluting from paper wastes (1 m/m).

List of contacts in Somalia

Mr. Said Amin Mohamed	General Director	ILI Shamo Co.
Mr. Haji Osman Roble	Chairman	Chamber of Commerce and Industry
Mr. Ahmed J. Mohamed	Deputy General Director	Chamber of Commerce and Industry
Mr. Agostino Olivetti	Technical Director	Somal Fruit Co.
Mr. Warsama E. Elmi	President	Somal Fruit Co.
Mr. Yassim Sheikh	Director, Foreign Trade	Ministry of Commerce
Mr. Abdel Kader M. Warsame	General Director	Ministry of Commerce

Mr. Omar Henzi Osman

General Director

Ministry of Industry

Mr. Maagaard

UCD - UNIDO
Country Director

UNDP - United Nations
Development Programme

SUDAN

The Packaging Industry

It was hard in Sudan to talk about packaging of food or of other commodities where there is not enough food or commodities available. Most industries were reported to be working at 5 to 20 per cent capacity. Whatever stocks of raw materials they might have they want to use bit by bit so that they last longer in operation.

It is not known whether raw materials will be acquired and if so, when?

Nevertheless, a lot of packages are still being imported, however, through barter deals. Yoghurt cups, for example, are imported through a barter deal with Egypt. Toilet soap is sold unwrapped. The quality of plastic bags is very poor.

Industry suffers not only from unavailability of raw material but also of very often electricity cuts, and insufficient spare parts.

There is only one small ink plant with blending equipment and of inferior quality. Iraq was helping in studying a project to produce pulp from indigenous materials. There are three corrugated board plants in Sudan namely the Blue Nile, the Packaging Home and Sudanese Kuwaiti packaging; one of them is state owned and in a bad shape needing urgent attention in rehabilitation and training especially QC training.

Exportation is realized as very important for the country, but it must be difficult in a situation where there is not enough production for the local consumption.

There is undenied awareness of the role of packaging, and the role of printing for export oriented packages.

Sudan is an example where there is institutional infrastructure for research and development, as for example the Food Research Centre, belonging to the Ministry of Agriculture, the Centre Laboratory for Pharmaceuticals, the National Research Centre with a strong department for cellulose, the standards and QC directorate and the research and industrial consultation centre (RICC).

A round table discussion was organized in the Ministry of Industry attended by various parties concerned. It was concluded that the Ministry has asked UNIDO's assistance to upgrade, rehabilitate, modernize the RICC with additional equipment if this ministerial plan goes ahead, RICC will be the most suitable focal point, in that, it is the body involved basically in developing the industry, research its problems and provide it with necessary information. It is properly staffed with qualified personnel, and they are more oriented to packaging materials than the food research centre for example.

Although the Chamber of Commerce and Industry is active and in constant contact with its members, they have no qualified personnel.

The risk in many of the inactive institutions in developing countries comes when they sit back waiting for enquiries. For activation of the network, aggressive promotion of the focal point services is needed. Also aggressive monitoring of the market demands, and future forecasts are needed.

This brings up the point of necessity of involving the industrialists in the focal point activities through standing committees or a national packaging association or both. In the case of Sudan, the Chamber of Commerce is willing to have an active role.

Sudan Needs

Generally speaking all major companies need technical assistance especially state-owned companies as for example The Blue Nile Corrugated Plant.

- A fact finding consultancy assistance to survey the latest situation of the packaging industry and its needs, means of upgrading and specific training requirements.

- A consultancy assistance in the area of training on packaging machine maintenance.

List of contacts in Sudan

Mr. El Taher M. Ahmed	Coordinator, International Organizations	Ministry of Industry
Dr. Fath Alateeve Ibrahim	Public Sector Directorate	Ministry of Industry
Mr. Jaafar Hussein Saleh	Director, Public Sector Directorate	Ministry of Industry
Mr. Fayez Hassan Al Kurdifani	Vice Director General	Sudanese Industrial Association
Dr. Adam	General Director	Standards and Quality Control Organization
Mr. Garzelli	UCD - UNIDO Country Director	UNDP - United Nations Development Programme
Tel. conference with		
Mr. Amin Saed	Chairman	Chamber of Printing
Mr. Khalifa Abou Zaid	General Secretary	Chamber of Printing

TUNISIA

In Tunisia, INNORPI (Institut National de La Normalisation et de la propriete industrielle), Department of Packaging is the recommended focal point.

INNORPI is concerned with standards and metrology services, invention rights and certification. INNORPI, however, has no laboratory support. It relies on other equipped research and development institutions. INNORPI's interest in improving exports led to the establishment of the packaging department in co-operation with ITC.

The Department comprises a packaging laboratory run by two technical persons and a library run by a librarian. They also have a graphic designer, who was on leave. The head of the department is a well-qualified, well-trained and able person. The person responsible for the instruments is an electrical engineer, who would be able to operate and most importantly maintain the instruments. That is a credit for INNORPI.

The packaging laboratory comprises mainly:

1. Reflectometer to measure whiteness and gloss;
2. Cobb absorption tester;
3. micrometer;
4. Alverton tensile/compression tester with computer control;
5. smoothness tester;
6. puncture tester; and
7. tear-strength tester.

The Packaging Department markets itself as offering the following services: standardization, certification, packaging materials and packages testing, graphic design, consultancy, information and training.

Among the tests being promoted by the Packaging Department are: water absorption (paper/board & corrugated board); varnish application (metal varnishing); compression (corrugated plastic & board boxes); conductivity (paper/board); colour, dimensions and grammage; static friction, smoothness, rigidity, bacteriological stability, opacity, pH, pores (metallic varnish), reflectance, humidity and various resistance properties.

In the packaging unit of INNORPI, there is a personal computer already attached to the Alverton tensile strength/compression machine. They say it can be used also for information. It is, however, recommended to have a separate installation in the library. INNORPI itself has, apart from a few personal computers, a mainframe computer.

They have also the facilities to publish their own newsletter (facilities include a Mackintosh desk top unit, a proper laser printer, an offset printing machine, etc.).

The project document and high-level seminar aide-memoire were commended and met with enthusiasm. Visits to the packaging establishments in the host country during the seminar are emphasized.

The main danger for the future could be the preoccupation with excessive involvement of the packaging personnel in specifications and standardization activities of INNORPI. This was made clear by the consultant to Dr. Ferjani.

The consultant recommended one or two additional members of staff to train only on formulating packaging standards each in a specified area. The rest of the packaging staff can then be released to do other regular responsibilities (testing, information, promotion, etc.).

The general conclusion is that the personnel in INNORPI - Packaging Unit is good but lacks contact with industry. The Director General of INNORPI, Mr. Ben Gaed, is playing a leading role in associating INNORPI with the industry. As this is a vital point for the future success of the network, the consultant emphasized it to the Director-General of INNORPI and to the Chief of the Packaging Unit, Dr. Ferjani.

The active and very able management of INNORPI and of the Packaging Unit provides suitable grounds for promoting the formation of a Tunisian Packaging Association to combine the users and the manufacturers of packaging, in addition to other concerned parties whereas the INNORPI becomes the nucleus of such an association.

Tunisia's needs

- The first request is the supply of the hard copy related to the packdata (reference books & periodicals and other data), as they already have the software.
- Consultancy assistance in industrial printing is requested (1 to 2 m/m).
- The printing area as related to packaging was raised by INNORPI and the quality of the local production was discussed. The market needs to be surveyed, printers to be visited and findings to be assessed. Direct assistance to the printing industry to be also conducted.
- Training consultancy assistance in packaging for industrialists and the centre's staff through direct lecturing and running a few training courses was requested and deemed necessary (1 to 2 m/m).

STEM (Societe Tunisienne du l'emballage Moderne)

STEM is a printing and converting establishment and it comprises the following:

- The corrugated board boxes plant, 3500 ton/annum, no corrugator, the corrugated sheets are bought from another manufacturer. Printing is flexo up to two colours. Major applications fruit and vegetable boxes, egg and dairy boxes. They have both stitching and glueing.
- The plastic division, printing of all plastic materials flexo and gravure up to six colours, capacity 1500 ton/annum of flexible materials. Laminating is also possible in two layers, slitting facility is also available. Applications mainly for biscuits and yogurt covers. Materials printed include PE, PP, cellophane and paper.

- The bag making line: a very old machine (50 years old). Quality is substandard, poor printing, poor side sealing. The range of the machine is 125 gm to 5 kg packs. Capacity of 6500 ton/annum.
- The duplex department: equipped with 1-6 colour offset in addition to varnishing, cutting creasing, folding and glueing. Production includes all kinds of folding boxes for food, cosmetics, detergents, etc.
- The printing machines, cutter-creaser, folder-gluer are all of well-reputed suppliers.
- The Duplex Manufacturing Plant: Belongs to the same group producing 8000 ton/annum of duplex board out of 90 per cent recycled paper (local and imported).

OMEGA edition

A well-equipped establishment for book printing and binding, including web offset printing and perfect binding line with accessories. Impressive printing press as to organization and housekeeping. Computer-assisted administration, estimation and design, and good awareness of maintenance. It can be considered as one of the best in the Arab region for book printing and binding. Local and imported inks are in use.

Comments on the quality of the prints on an ad hoc basis were: Non-homogeneity of the ink distribution in solid areas, bad register, print through and poor-quality photographs.

The following measures have been recommended:

- to adjust printing pressure and check inking roller;
- to check the positioning of the printing plate and to check electronic register;
- to use less absorbent paper;
- to check ink viscosity; it might be lower than it should be;
- to redo the original photographs and drawings and to improve them; a new colour scanning is to be redone also;

Capacity: 5000 ton/annum

They needed urgently local standards for the paper and other raw materials they use.

List of contacts in Tunisia

Mr. Ben Gaed	General Director	INNORPI
Dr. S. Ferjani and three of her chemists	Chief, Packaging Unit	INNORPI
Mr. S. Ayari	General Director	Omega Edition Press

Mr. M. Bekkoush	General Director	Société Tunisienne des emballages modernes, STEM
Mr. Norindr	Deputy-Resident Representative	UNDP - United Nations Development Programme
Ms. Nadia Nadli	Programme Officer	UNDP - United Nations Development Programme

UNITED ARAB EMIRATES (UAE)

The United Arab Emirates is one other country where the industry is not small; nevertheless, there is no industrial infrastructure institutions for research and development or industrial development or technical assistance. Standards and regulations activities are yet a division within the Ministry of Finance and Industry.

Testing facilities in the country are limited. Certain laboratories belong to the police force and some to the municipality in Dubai. The municipality performs the role of customer protection. They test and check random samples of imported goods upon arrival.

Industrial co-ordination among the many Emirates comprising the UAE is to a large extent missing or not enough.

Most industries (approximately 75 per cent of the industry in the UAE) are concentrated in Dubai. The Eastern Emirates are closer to Dubai.

However, there is a Chamber of Commerce and Industry for each Emirate. In addition, there is the Chamber of Commerce and Industry Federation based in Dubai. It only performs a sort of co-ordinating role among the various chambers of commerce and industry.

The Dubai Chamber of Commerce and Industry disseminates information to the industry, offers services to investors and in some cases does or help to do feasibility studies.

In casting the country's policies, one notices that the trading concept is dominating. The import-/export-type of business has always a strong hold in the country with defenders highly placed in the governmental structure. This hinders automatically the development of industry which, if established, cause shrinkage of the role of importation.

In the circumstances of each Emirate behaving independently and in the absence of proper industrial or research development institutions, the Ministry of Finance and Industry makes the most acceptable focal point. The concerned department should be the standards directorate, that is based in Abu Dhabi but with a branch in Dubai. The branch in Dubai is to be the focal point due to its geographical proximity of the industry concentration in Dubai and Jebel Ali. The Ministry of Industry will be the most qualified institution to co-ordinate packaging services among various emirates. The standards directorate is already involved in formulating standards for various national products. Packaging and packaging materials are increasingly gaining their interest. Two of their officers had attended in the past some of the training activities of previous UN assistance programmes.

The Packaging Industry

In the United Arab Emirates the high demand for manufactured goods quickly led to the growth of the packaging industry in the last five to six years. Prior to this, packaging requirements were almost entirely met through importation. However, competition from imports has continued (mainly from Singapore, Cyprus and Italy). Despite their cheaper prices, it is however not much favoured by customers due to the high costs of holding stocks.

- Corrugated boxes manufacture is one of the major packaging industries in the United Arab Emirates. There are four corrugated box manufacturers, namely:

		<u>Established in</u>
Gulf Packaging Industries	Dubai	1978
Emirates Packaging	Dubai	1979
Arabian Packaging	Dubai	1982
Ben Butti Industries	Abu Dhabi	1982

Recently the Arabian Packaging Company was expanded with a new line. The company is now producing 12-15,000 tons/annum. The present national capacity (3 shifts) amounts to approximately 28,000 tons/annum. Exports of corrugated board boxes to GCC countries grew and are amounting to 40 per cent of the total output.

- One of the major packaging products is paper sacks mainly for cement but also for animal feed, lime and gypsum. There are three paper-sack factories, namely:

Sharjah Papersack Factory	Sharjah
Abu Dhabi Paperbag Factory	Abu Dhabi
The Paper Factory	Sharjah

- Paper is the most consumed packaging material in the United Arab Emirates. Imports of paper have been steadily increasing.

- Plastics come second to paper and plastic bags is the most produced single item, consuming approximately 7000 tons/annum of polyethylene. There are approximately 20 plastic converters in the United Arab Emirates. In the pipeline there is a flexible packaging project including printing and lamination.

- There is only one metal-can manufacturer in the United Arab Emirates for beverages, lube oil, etc. There are, however, other users of metal cans who have their own in-plant facilities, for example, Al Ain Canning Plant.

- There exist seven plants for beverages and juices and five plants for water bottling. It has been estimated that 75 per cent of the consumption of packaging materials goes to food products.

Jebel Ali Free Zone

Jebel Ali free zone authority has published a list of industries recommended for investment in the free zone of at least 19 projects. Among those in this list are fish canning (tuna fish), biscuit bars and confectionary, pharmaceutical plant, fine chemicals plant and polypropylene film plant, seemingly all with a packaging relation.

Presently there are some 200 companies that have been established in Jebel Ali free zone. Among those are plants for snack foods, chemicals, poultry and meats, tea packagings, cosmetics and perfumes, various food products, lubricants, self-adhesive labels, garments and textiles, etc.

Arabian Packaging

The best corrugated box plant in the United Arab Emirates. They had a Japanese corrugating line before and recently another German line was added. Single and double board can be used, flexo printed, glued or stitched. Its output is almost 50 per cent of the total production of the United Arab Emirates. A significant share goes for export.

UAE's needs

- A fact-finding consultancy assistance to survey all the Emirates, assess the present situation and recommend future action (2 m/m).
- UN assistance in packaging training of industrialists by an expert through lecturing and running training courses has been requested, mainly for Jebel Ali but others are to be included (1-2 m/m).

List of contacts in the United Arab Emirates

Mr. Abdulaziz Almutawaa	Director, Industrial Department	Dubai Chamber of Commerce and Industry
Mr. Jawad Abdul Karim	Economic Researcher	Chambers of Commerce and Industry Federation
Mr. Abdallah Aljame	Director, Industry Department	Ministry of Finance and Industry
Mr. Shawkat Farook	General Manager	Arabian Packaging Co.
Dr. Mohamed Alassoumi	Industrial Research Section	Industrial Bank, Dubai
Mr. Essa Al Ghurair	Owner	Arabian Packaging Co.
Tel. Conference with		
Ms. Husneya		UNDP - United Nations Development Programme
Mr. Soliman		UNDP - United Nations Development Programme
Mr. Abdallah	Resident Representative	UNDP - United Nations Development Programme

Arab Packaging Network

The Concept and Formulation

In designing the concept, the following components were taken into account:

1. The concept is based on the importance of existence of strong national packaging units or departments. These can be complemented by better qualified subregional units or capabilities. Each subregional point may have a strength in a certain specialization.

This means that the thinking is based on both national and subregional lines of thought of a mobile communication network, instead of the classical thinking of having a regional single centre.

2. The network formation is thus built on packaging units either already established or being under implementation either by UNIDO or other agencies.

3. The network membership is on individual basis, for countries which want to participate. Governments nominate focal points who, by that alone, acquire the membership of the network and become the Government implementing agencies. Any other country can join the network at any later time whenever convenient.

4. The packaging units are to be basically information/documentation oriented units, although connected to research and development facilities whenever available.

5. The packaging information system selected for the focal points is to be computerized, compatible with or based on the packaging information database of the International Trade Centre which is well oriented to developing countries' needs.

6. The success of the network depends on how efficient it can be in being a two-way communication system. At the same time it is operating i.e. - the flow of information in and out - on four levels.

- a. Between the focal points and the packdata supplier.
- b. Between the subregions.
- c. Between the focal points.
- d. Between each focal point and its own national network.

The efficiency of the flow of information strengthens and is strengthened by both the bilateral and the subregional co-operation among Arab countries.

7. Each focal point (member of the network) will be expected to have or create its own network of customers, within its country, of small- and medium-sized industrial establishments, R & D institutions, exporters, Governmental offices, educational institutions, etc.

8. Every six months, each focal point should exchange photocopies or computer discs of their own experiences and researches with other focal points. The subregional points should also do similar exchanges on their level.

9. Each focal point is expected to have two databases, the packdata system complemented periodically by ITC and its own Arabic database.

10. It is necessary to mobilize a mechanism for the network operation. Only then, it would be possible to influence the structuring of national strategies associated with packaging. It also helps to have - in the shortest time - an inevitable impact on the other sectors of the economy. Generally speaking, the networking concept provides better exploitation of each country's resources and know-how while simultaneously helping to develop it.

11. The networking concept, as it will be paralleled with the strengthening of national institutions selected as focal points, will provide the platform for each country's self-reliance. It will enable it to develop its own individual capability to achieve highly trained personnel, who are required not only to absorb and adapt transferred technology, but also to initiate local technology systems. More weight will be given to experts, training and national capacity strengthening.

12. It is recommended that a certain stage a statute for the network has to be devised. Another idea which may be considered also at some stage, is to encourage focal points to form an Arab packaging federation so that the co-ordination will not stop by the end of this UN assistance project. It should rather continue. Appointing subregional strong points could cause some sensitivity and need to be carefully handled based on guidelines.

13. There will be no full time coordinator envisaged. It is foreseen, however, that the need will only be for an international expert (preferably Arabic speaking) to do the co-ordination for a period of six months in the two years duration proposed for the project (i.e. one month every four).

Proposed Focal Points

Country

Organization

Subregion I

Morocco	IMEC
Tunisia	INORPI
Algeria	Centre Algérien de Contrôle de la qualité et de l'emballage
Libya	Industrial Research Centre
Mauritania	

Subregion II

Saudia Arabia	
Bahrain	Industrial Development Centre
UAE	Ministry of Industry
Oman	Chamber of Commerce
Quatar	Chamber of Commerce
Kuwait	

Subregion III

Egypt
Sudan
Djibouti
Somalia
Yemen

Export Promotion Centre
Industrial Research and Consultations Centre
Ministry of Industry (Industry directorate)
Ministry of Industry (Industry directorate)

Subregion IV

Jordan
Iraq
Syria
Lebanon

Consultancy areas recommended

<u>Country</u>	<u>Consultancy Area</u>
Algeria	- Information/regulations - Training/education
Bahrain	(Fact finding), Packaging Industry Surveying/Assessment
Egypt	- structural and graphic design - norms and legal aspects
Djibouti	- (Fact finding), Packaging Industry Surveying/Assessment, Industrial Printing - Training/education - Printing
Libya	(Fact finding), Packaging Industry Surveying/Assessment
Morocco	Norms and legal aspects of packaging
Oman	(Fact finding), Packaging Industry Surveying/Assessment
Somalia	(Fact finding), Packaging Industry Surveying/Assessment
Sudan	Packaging machine maintenance
Tunisia	Industrial Printing
UAE	- (Fact finding), Packaging Industry Surveying/Assessment - Training/Education



PACKDATA-News No. 1

International Trade Centre UNCTAD/GATT

PACKDATA

May 1989

ITCS COMPUTERIZED PACKAGING INFORMATION SERVICE

A. BACKGROUND

A lack of basic technical and commercial information on packaging is one of the major constraints to effective packaging development in most developing countries. This subject is not covered in sufficient breadth by existing trade information services, maintained by national trade promotion agencies or similar institutions. Existing abstracts from journals in the packaging field do not meet fully the needs of developing countries, as they intended mostly to meet the requirements of packaging manufacturers and users in industrialized countries.

To answer the particular needs of developing countries for appropriate information in this field, the ITC Export Packaging Sub-Programme has created a computerized information system, with several databases on different aspects of packaging, the most important presently available being PACKDATA.

The purpose of this newsletter, the first in a series, is to explain the methodology and the classification of PACKDATA, rather than the manipulation of the database in the computer.

B. BASIC CONSIDERATIONS

In the design of the PACKDATA computerized information system, the following basic aspects have been taken into consideration:

1. The database should be adapted to the specific needs of developing countries;
2. The database should not include high technology information, available from other sources, but should concentrate on appropriate technology;
3. Specific attention should be given to the recording of "hard-to-get" information such as conference papers, experts reports, special studies, etc.;
4. While PACKDATA provides only reference to an existing document, access to the original, full text should be simple and fast;
5. Hardware specifications should be as universal as possible at a fairly uncomplicated level and easily obtainable in most developing countries. Each field station would be required to arrange for the financing of its own hardware;
6. The software should be as "user friendly" as possible and the data secured against loss through possible mishandling, ignorance, etc.;

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7. A condition for access to PACKDATA is that each user accepts a counterpart obligation as an active contribution to the enhancement of the database. This obligation will be adapted to the individual capability of each field station and is defined in the PACKDATA User's Agreement.
8. Lack of resources for prospective field stations should not pose limitations for the widespread use of PACKDATA. In other words, the costs should be kept as low as possible.

C. HARDWARE AND SOFTWARE REQUIREMENTS

ITC delivers the software in a compiled version (Nantucket Clipper Compiler), accompanied by all the necessary auxiliary files, which can be installed directly into the hard disk of a computer with MS/DOS. To ensure the proper functioning of the software, a minimum of 512 KB RAM is required, and an MS DOS Version 3.1 or higher. At present the memory space required on the hard disk is at least 3 MB, but with the planned expansion of the database, further memory space will be indispensable. Both 3-1/2" or 5-1/4" diskettes (DS/DD or DS/HD) containing the software will be provided by ITC.

D. CONTENTS

PACKDATA currently has about 2500 records containing references to information concerned with packaging, which is of particular interest to developing countries. These records have been collected from available published material over many years, and have now been scanned and entered into PACKDATA under a specially designed classification system. Material scanned runs from short articles to complete textbooks, including handbooks, directories, conference papers, experts' reports, standards, etc. The original hard copy material, with the exception of voluminous publications such as handbooks which have to be purchased direct from the publisher, will be delivered to the recipient country upon signature of an agreement.

E. EXCHANGE OF INFORMATION

Field stations using PACKDATA are expected to introduce locally screened records into the database, and send these records to ITC Headquarters periodically. These records are then reviewed for possible incorporation into the main PACKDATA database. Each designated field station will, however, receive a specially designed software programme for local use, i.e., using locally adapted keywords, descriptors, etc. A semi automatic search link between PACKDATA and the local database is designed to facilitate search operations. In order to safeguard the content of the work carried out at ITC Headquarters, it has been decided to deny field stations the possibility of editing existing PACKDATA records.

Field stations proposing new records for inclusion into the database are expected to use the established classification system (annexed to this background paper). However, taking into consideration the need for flexibility in any classification criteria, as well as variation in interpretation, any suggestions for additions or modifications of the established criteria will be considered at ITC Headquarters for possible incorporation in the existing system. Such proposals should be made in writing, giving full information concerning the records under consideration, as well as valid arguments for the suggested deviation from the established classification. These proposals will be reviewed on a case-by-case basis, and possible modifications on the basis of such proposals will take place at ITC Headquarters.

F. CLASSIFICATION SYSTEM

The classification system for PACKDATA is divided into six groups, as follows:

1. **KEYWORDS** - Covering technical and commercial subjects concerned with product processing, packaging, packaging materials, transport, refrigeration, testing and printing relevant to export packaging of products from developing countries. Particular attention is given to the known needs of developing countries when establishing keyword subjects. (Annex I) The number of keywords is kept as low as possible, concentrating only on keywords which are likely to be used in a search operation.
2. **DESCRIPTORS** - Describing the kind of publication from which the data is taken, whether it is a short article, expert's report, conference paper, textbook or any other form of publication. (Annex II)
3. **PRODUCT GROUPS** - Most products to be packed are classified into general product groups, established with particular export packaging problems in mind, and therefore do not follow the normal SITC product classification, i.e. dry foods, processed foods, glass and ceramics. (Annex III)
4. **SPECIFIC PRODUCTS** - The list of specific products to be packaged, indicating also the product group they belong to, assists in searching for very specific items. Efforts have been made to include most products of particular interest to developing countries, but it should be noted that this list is not exhaustive, and new products can be easily introduced, if and when needed. (Annex IV)
5. **BIBLIOGRAPHIC TERMS** - This classification has been established with a view to printing and issuing, from time to time, bibliographies on selected subjects directly or indirectly concerned with packaging and of particular interest to developing countries. This feature of PACKDATA is included only in the version used in ITC Headquarters. Arrangements for the compilation of specialized bibliographies can be made with ITC on an *ad hoc* basis. The structure of the bibliographic classification is presented in Annex V.
6. **GEOGRAPHICAL TERMS** - Records related to a particular geographical area are classified accordingly. (Annex VI)

TEXT - The PACKDATA records do not contain an *abstract* in its traditional sense. The text, included in each record, aims only at describing briefly the type and scope of the document referred to.

G. COSTS AND DISTRIBUTION

The establishment and current maintenance/enhancement of PACKDATA has been financed by a contribution from the Government of Finland (Project INT/26/47), and the access to this information system, at least initially, is free of charge. A reasonable service fee might be foreseen in the future. One set of reproduced hard copy material for each country is also available free of charge. Shipping costs (approximately 100 kgs) should, if possible, be covered by the field station.

There is no limit, in principle, to the number of field stations in a given country, provided that each station is willing to accept a counterpart obligation as specified in each User's Agreement.

H. FUTURE PLANS

Although the present version of PACKDATA is ready for distribution and can easily be used by field stations after simple installation into an IBM compatible PC run by DOS 3.1, minor modifications are foreseen to make the program even more "user friendly", with possible small changes in the classification system (combining product groups with specific products, automatic addition of the product group whenever a specific product is selected, etc.). The present system is readily available for delivery upon signature of the User's Agreement.

It is estimated that between 200 and 500 additional records will be introduced to the database annually, and an updated version will be sent to field stations periodically, including any other modifications in the program or the classification system. At the same time, field stations are expected to send their input to ITC, thus establishing a constant flow of information between participating field stations and ITC Headquarters.

Annex I

KEYWORDS USED IN PACKDATA

KEYWORD

MOTS CLE

ABBREVIATIONS OF TERMS	ABREVIATION DES TERMES
ADDED VALUE CONCEPT	VALEUR AJOUTEE
ADHESIVE	ADHESIF
AEROSOL	AEROSOL
AIR TRANSPORT	TRANSPORT AERIEN
ALUMINIUM	ALUMINIUM
ALUMINIUM FOIL	FEUILLE D'ALUMINIUM
APPROPRIATE TECHNOLOGY	TECHNOLOGIE APPROPRIEE
ASEPTIC PACKAGING	CONDITIONNEMENT ASEPTIQUE
BAG	SACHET
BAG-IN-BOX	CAISSE OUTRE
BALE	BALLE
BARCODING	CODAGE A BARRES
BARRIER PROPERTIES	PROPRIETES BARRIERE
BASKET	PANIER
BIBLIOGRAPHICAL REFS.	REFERENCES BIBLIOGRAPHIQUES
BIG BAG	CONTENEUR SOUPLE
BLISTERPACK	BLISTER
BOTTLE	BOUTEILLE
BOX	CAISSE
BULKPACK	CONTENEUR VRAC
CAD/CAM	CAD/CAM
CAN	BOITE
CAP/MAP	ATMOSPHERE MODIFIEE
CARTON	CARTONNAGE
CELLOPHANE	CELLOPHANE
CERAMIC PACKAGING MAT.	MATERIAU D'EMBALLAGE CERAMIQUE
CERTIFICATION	CERTIFICATION
CHECKLIST	LISTE DE CONTROLE
CLOSING	FERMETURE
CLOSURE	BOUCHAGE
COATING	ENDUCTION
CODING	CODIFICATION
COEXTRUSION	COEXTRUSION
COLD	FROID
COMPETITION	CONCOURS
COMPOSITE CAN	BOITE MIXTE
CONSULTANTS	CONSULTANTS
CONSUMER TESTS	TESTS SUR CONSOMMATEUR
CONSUMERISM	CONSUMERISME
CONTAINER	CONTENEUR
CONTAMINATION	CONTAMINATION
CONTRACT PACKING	CONDITIONNEMENT A FACON
CONVERSION TABLE	TABLE DE CONVERSION
CORROSION	CORROSION
CORRUGATED FIBREBOARD	CARTON ONDULE
CRATE	CASIER
CUP	POT

KEYWORDS USED IN PACKDATA (CONT'D)

KEYWORD

MOTS-CLE

CUSHIONING
DESIGN STRATEGY
DEVELOPING COUNTRY
DEVELOPMENT OF PACKS
DIE CUTTING-CREASING
DIRECTORY
DISTRIBUTION
DRUM
ECONOMY
ENERGY
ENVIRONMENT
EXHIBITION
EXPANDED PLASTICS
EXPORT PACKAGING
EXTRUSION
FACTORY LAYOUT
FIBREBASED
FILLING
FILM
FLEXIBLE PACKAGING
FLEXO
FOAM-IN-PLACE
FOAMED PLASTICS
FOOD
FOOD ADDITIVE
FOOD PACKAGING
FOOD PROCESSING
FORM-FILL-SEAL
FROZEN
GLASS
GRAPHIC DESIGN
GRAVURE
HISTORY OF PACKAGING
HOTFOIL STAMPING
INDIGENOUS MATERIAL
INFESTATION
INFORMATION SERVICE
INSTITUTION
INTERNATIONAL
INTERNATIONAL TRADE
IRRADIATION
JAR
LABEL
LABORATORY LAYOUT
LETTERPRESS
MACHINERY
MAINTENANCE
MANAGEMENT OF PACKAGING
MANUAL PACKING

CALAGE
STRATEGIE DE LA CONCEPTION
PAYS EN DEVELOPPEMENT
DEVELOPPEMENT DE L'EMBALLAGE
DECOUPEGE/REFOULAGE A LA FORME
REPERTOIRE
DISTRIBUTION
FUT
ECONOMIE
ENERGIE
ENVIRONNEMENT
EXPOSITION
PLASTIQUES EXPANSES
EMBALLAGE POUR L'EXPORTATION
EXTRUSION
PLAN D'USINE
A BASE DE FIBRE
REPLISSAGE
FILM
EMBALLAGE SOUPLE
FLEXO
CALAGE IN SITU
MOUSSE PLASTIQUE
ALIMENT
ADDITIF ALIMENTAIRE
CONDITIONNEMENT ALIMENTAIRE
TRANSFORMATION PROD. ALIMENT.
FORM-FILL-SEA'
SURGELE
VERRE
CONCEPTION GRAPHIQUE
GRAVURE
HISTOIRE DE L'EMBALLAGE
ESTAMPAGE A CHAUD
MATERIAU INDIGENE
INFESTATION
SERVICE D'INFORMATION
INSTITUTION
INTERNATIONAL
COMMERCE INTERNATIONAL
IRRADIATION
BOCAL
ETIQUETTE
PLAN DE LABORATOIRE
TYPOGRAPHIE
MACHINES
MAINTENANCE
GESTION DE L'EMBALLAGE
CONDITIONNEMENT MANUEL

KEYWORDS USED IN PACKDATA (CONT'D)

KEYWORD

MOTS-CLE

MANUFACTURE
MARKET RESEARCH
MARKETING
MARKING
MATERIALS HANDLING
MECHANIZATION
METAL
METAL DETECTING
METALLIZING
MICROWAVE
MOULDING
MULTILAYER MATERIAL
MULTIPACK
NET PACKING
NYLON
OFFSET
PACKAGING IN GENERAL
PACKING STATION
PALLET
PAPER
PAPERBOARD
PATENT
PE
PET
PHOTOGRAPHY
PILFERAGE
PLASTICS
POLYESTER
POST-HARVEST OPERATION
PP
PRINT PREPARATION
PRINTING
PRINTING INK
PROCESSING
PROTECTION
PS
PULP
PUNNET
PVC
PVDC
QUALITY CONTROL
RAIL TRANSPORT
RECYCLING
REGULATION
RETAILING
RETORT PACKING
ROAD TRANSPORT
SACK
SEA TRANSPORT

FABRICATION
ETUDE DE MARCHE
MARKETING
MARQUAGE
MANUTENTION
MECANISATION
METAL
DETECTION DU METAL
METALLISATION
MICRO-ONDE
MOULAGE
MATERIAU COMPLEXE
MULTIPACK
CONDITIONNEMENT SOUS FILET
NYLON
OFFSET
EMBALLAGE EN GENERAL
STATION DE CONDITIONNEMENT
PALLETTE
PAPIER
CARTON
BREVET
PE
PET
PHOTOGRAPHIE
VOL
PLASTIQUES
POLYESTER
OPERATIONS APRES RECOLTE
PP
PREPARATION AVANT IMPRESSION
IMPRESSION
ENCRE D'IMPRESSION
TRANSFORMATION
PROTECTION
PS
PATE A PAPIER
BARQUETTE
PVC
PVDC
CONTROLE DE LA QUALITE
TRANSPORT PAR CHEMIN DE FER
RECYCLAGE
REGLEMENTATIONS
VENTE AU DETAIL
CONDITIONNEMENT APPERTISE
TRANSPORT ROUTIER
SAC
TRANSPORT MARITIME

KEYWORDS USED IN PACKDATA (CONT'D)

KEYWORD

MOIS-CLE

SEALING	SCELLAGE-SOUDAGE
SHELF LIFE	DUREE DE VIE
SHRINKWRAPPING	ENVELOPPAGE SOUS RETRACTABLE
SILK SCREEN	SERIGRAPHIE
SKINPACK	SKINPACK
SOLID FIBREBOARD	CARTON COMPACT
SPECIFICATION	SPECIFICATION
SPOILAGE	CASPILLAGE
STANDARDIZATION	NORMALISATION
STATIC ELECTRICITY	ELECTRICITE STATIQUE
STATISTICS	STATISTIQUES
STERILIZATION	STERILISATION
STORAGE	STOCKAGE
STRAPPING	CERCLAGE
STRETCHWRAPPING	ENVELOPPAGE SOUS ETIRABLE
STRUCTURAL DESIGN	CONCEPTION DE STRUCTURE
TAMPER EVIDENT CLOSURE	FERMETURE DE SECURITE
TECHNICAL ASSISTANCE	ASSISTANCE TECHNIQUE
TECHNOLOGY TRANSFER	TRANSFERT DE TECHNOLOGIE
TERMINOLOGY	TERMINOLOGIE
TEST EQUIPMENT	MATERIEL D'ESSAI
TESTING	ESSAI
TEXTILE PACKAGING MAT.	MATERIAU D'EMBALLAGE TEXTILE
THERMOFORMING	THERMOFORMAGE
TINPLATE	FER-BLANC
TRADE NAMES	MARQUES DEPOSEES
TRAINING	FORMATION
TRANSPORT IN GENERAL	TRANSPORT EN GENERAL
TRENDS	TENDANCE
TROPICAL CONDITIONS	CONDITIONS TROPICALES
TUBE	TUBE
UNIT LOAD	UNITE DE CHARGE
UV	UV
VACUUM PACKING	CONDITIONNEMENT SOUS VIDE
VALUE ANALYSIS	ANALYSE DE LA VALEUR
WEIGHING	PESAGE
WIREBOUND CRATE	CAISSE ARMEE
WOOD	BOIS
WOODEN CRATE	CADRE EN BOIS
WOVEN PLASTICS	PLASTIQUES TISSES

Annex II

DESCRIPTORS USED IN PACKDATA

DESCRIPTOR

DESCRIPTEUR

ARTICLE
BIBLIOGRAPHY
BOOK
BOOKLET
CALENDAR
CODE
CONFERENCE PAPER
CONFERENCE REPORT
DICTIONARY
DIRECTORY
EXPERT REPORT
EXTRACT
GLOSSARY
GUIDELINES
HANDBOOK
MARKET STUDY
MONOGRAPH
PERIODICAL
PROJECT REPORT
REGULATIONS
RESEARCH PAPER
STANDARD
STATUTES
TECHNICAL SPECS
TEST METHOD
TEXTBOOK
THESAURUS
TRAINING MATERIAL

ARTICLE
BIBLIOGRAPHIE
LIVRE
BROCHURE
CALENDRIER
CODE
NOTE DE CONFERENCE
RAPPORT DE CONFERENCE
DICTIONNAIRE
ANNUAIRE
RAPPORT D'EXPERT
EXTRAIT
GLOSSAIRE
DIRECTIVES
GUIDE
ETUDE DE MARCHE
MONOGRAPHIE
PERIODIQUE
RAPPORT DE PROJET
REGLEMENTATIONS
RAPPORT D'ETUDE
NORME
STATUTS
SPECS TECHNIQUES
METHODE D'ESSAI
MANUEL
THESAURUS
MATERIEL DE FORMATION

Annex III

PRODUCT GROUPS USED IN PACKDATA

PRODUCT GROUP

GROUPE DES PRODUITS

BAKERY PRODUCTS & BISCUITS
BEVERAGES
CHEMICALS
CONFECTIONERY
DAIRY PRODUCTS
DRY FOOD
FRESH FOOD
FRUITS & VEGETABLES
FURNITURE
GENERAL FOODS
GENERAL NON-FOOD
HAZARDOUS PRODUCTS
HORTICULTURAL
LIVE ANIMALS
MARINE PRODUCTS
MEAT & MEAT PRODS, POULTRY
PHARMACEUTICALS
PROCESSED FOODS
SPICES
TEA, COFFEE & COCOA
TOBACCO & TOBACCO PRODUCTS

PRODUITS DE BOULANGERIE-BISCUITERIE
BOISSONS
PRODUITS CHIMIQUES
CONFISERIE
PRODUITS LAITIERS
PRODUITS ALIMENTAIRES SECS
PRODUITS ALIMENTAIRES FRAIS
FRUITS ET LEGUMES
AMEUBLEMENT
PRODUITS ALIMENTAIRES EN GENERAL
PRODUITS NON ALIMENTAIRES EN GENERAL
MATIERES DANGEREUSES
PRODUITS HORTICOLES
ANIMAUX VIVANTS
PRODUITS DE LA MER
VIANDES-PRODUITS CARNES-VOLAILLES
PRODUITS PHARMACEUTIQUES
PLATS CUISINES
EPICES
THE, CAFE & CACAO
TABAC & PRODUITS A BASE DE TABAC

Annex IV

SPECIFIC PRODUCTS USED IN PACKDATA

SPECIFIC PRODUCT

PRODUIT SPECIFIQUE

APPLES
APPLIANCES
APRICOTS
AQUARIUM FISH
AVOCADOS
BANANAS
BEANS
BED ACCESSORIES
BEER
BERRIES
BISCUITS
BREAD
BROCCOLI
BUTTER
CASHEW
CEMENT
CEREALS
CHEESE
CHERRIES
CHINAWARE
CIGARETTES
CITRUS
COCOA
COCONUT FIBRE
COFFEE
COIR
COSMETICS
CRUSTACEA
CUCUMBERS
CUT FLOWERS
DATES
DEHYDRATED VEGETABLES
DRIED FRUITS
DRUGS
EDIBLE OILS
EGGS
ELECTRICAL APPLIANCES
ELECTRONICS
FISH
FLOUR
FRUIT
FRUIT PULP
GARMENTS
GRAPES
GUAVA
HAM
HANDICRAFTS
HARDWARE
HERBS

POMMES
ACCESSOIRES
ABRICOTS
POISSONS D'AQUARIUM
AVOCATS
BANANES
HARICOTS ECOSSES
ACCESSOIRES DE LITERIE
BIERE
BAIES
BISCUITS
PAIN
BROCOLI
BEURRE
NOIX DE CAJOU
CIMENT
CEREALES
FROMAGE
CERISES
PORCELAIN
CIGARETTES
AGRUMES
CACAO
FIBRE DE COCO
CAFE
COIR
COSMETIQUES
CRUSTACES
CONCOMBRES
FLEURS COUPEES
DATTES
LEGUMES DESHYDRATES
FRUITS SECS
MEDICAMENTS
HUILES COMMESTIBLES
OEUF
APPAREILS ELECTRIQUES
ELECTRONIQUE
POISSON
FARINE
FRUITS
PULPE DE FRUIT
VETEMENTS
RAISINS
GOYAVE
JAMBON
PRODUITS ARTISANAUX
QUINCAILLERIE
HERBES

SPECIFIC PRODUCTS USED IN PACK DATA (CONT'D)

SPECIFIC PRODUCT

PRODUIT SPECIFIQUE

HONEY
HOSPITAL SUPPLIES
ICE-CREAM
JAMS
JUICES
JUTE
LEEKs
LENTILS
LETTUCE
LOBSTERS
MACHINERY
MANGOES
MANGOSTEENS
MEAT
MEDICAL DEVICES
MELON
MILK
MILK POWDER
MINERAL WATER
MINT
MUSHROOMS
NECTARINES
NUTS
OCTOPUS
OFFAL
OIL
ORANGES
OYSTERS
PAPER
PARSLEY
PEACHES
PEARS
PEAT MOSS
PEPPERS
PET FOODS

PICKLES
PINEAPPLES
PLANTS
POMEGRANATES
POTATOES
POULTRY
POWDERS
PRAWNS
PREFAB HOUSES
RAISINS
RECORDS
RICE
RUBBER

MIEL
EQUIPEMENTS POUR HOPITAUX
CREMES GLACEES
CONFITURES
JUS
JUTE
POIREAUX
LENTILLES
LAITUE
HOMARDS
MACHINES
MANGUES
MANGOUSTAN
VIANDE
APPAREILS MEDICAUX
MELON
LAIT
POUDRE DE LAIT
EAU MINERALE
MENTHE
CHAMPIGNONS
NECTARINES
NOIX
POULPE
ABATS
HUILE
ORANGES
HUITRES
PAPIER
PERSIL
PECHES
POIRES
TOURBE
POIVRONS
ALIMENTS POUR ANIMAUX
DOMESTIQUES
PICKLES
ANANAS
PLANTES
GRENADES
POMMES DE TERRE
VOLAILLES
POUDRES
CREVETTES
MAISONS PREFABRIQUEES
RAISINS SECS
ENREGISTREMENTS
RIZ
CAOUTCHOUC

SPECIFIC PRODUCTS USED IN PACKDATA (CONT'D)

<u>SPECIFIC PRODUCT</u>	<u>PRODUIT SPECIFIQUE</u>
SALMON	SAUMON
SCALLOPS	COQUILLE SAINT-JACQUES
SHIRTS	CHEMISES
SHRIMPS	CREVETTES
SNAILS	ESCARGOTS
SOAP	SAVON
SOFT DRINKS	BOISSONS GAZEUSES
SOUPS	POTAGES
SPIRITS	SPIRITUEUX
SQUASHES	COURGES
STRAWBERRIES	FRAMBOISES
SUGAR	SUCRE
TANNING EXTRACT	EXTRAIT DE TANIN
TEA	THE
TOILETRIES	PRODUITS DE TOILETTE
TOMATOES	TOMATES
TOYS	JOUETS
TROPICAL FRUIT	FRUITS TROPICAUX
VEGETABLES	LEGUMES
WATERCRESS	CRESSON
WINE	VIN
YOGHURT	YOGHOURT

Annex V

BIBLIOGRAPHICAL TERMS USED IN PACKDATA*

TECHNOECONOMIC STUDIES ON PACKAGING: INDUSTRIALIZED COUNTRIES	ETUDES TECHNOECONOMIQUES SUR L'EMBALLAGE: PAYS INDUSTRIALISES
TECHNOECONOMIC STUDIES ON PACKAGING: DEVELOPING COUNTRIES	ETUDES TECHNOECONOMIQUES SUR L'EMBALLAGE: PAYS EN DEVELOPPEMENT
GENERAL DOCUMENTATION ON PACKAGING IN DEVELOPING COUNTRIES	DOCUMENTATION GENERALE SUR L'EMBALLAGE DANS LES PAYS EN DEVELOPPEMENT.
GENERAL TEXTBOOKS, HANDBOOKS	LIVRES, MANUELS GENERAUX
WOODEN PACKAGING	EMBALLAGES EN BOIS
FIBREBASED PACKAGING	EMBALLAGES A BASE DE FIBRES
PLASTICS AND FLEXIBLE PACKAGING	EMBALLAGES PLASTIQUES ET SOUPLES
GLASS PACKAGING	EMBALLAGES EN VERRE
METAL PACKAGING	EMBALLAGES METALLIQUES
TEXTILE PACKAGING	EMBALLAGES TEXTILES
PACKAGING ACCESSORIES AND AUXILIARY MATERIALS	ACCESSOIRES D'EMBALLAGE ET MATERIAUX ANNEXES
PACKAGING MACHINERY	MACHINES D'EMBALLAGE
PRINTING, PRINT PREPARATION	IMPRESSION, PREPARATION A L'IMPRESSION
FOOD PACKAGING AND PROCESSING IN GENERAL	EMBALLAGE ET TRANSFORMATION DES PRODUITS ALIMENTAIRES EN GENERAL
FRUIT AND VEGETABLES	FRUITS & LEGUMES
MARINE PRODUCTS	PRODUITS DE LA MER
MEAT AND MEAT PRODUCTS, POULTRY	VIANDE & PRODUITS CARNES, VOLAILLES
BEVERAGES	BOISSONS
OTHER FOOD PRODUCTS	AUTRES PRODUITS ALIMENTAIRES
FURNITURE, HANDICRAFTS	MEUBLES, PRODUITS ARTISANAUX
CHEMICALS, PHARMACEUTICALS	PRODUITS CHIMIQUES, PHARMACEUTIQUES
HAZARDOUS PRODUCTS	PRODUITS DANGEREUX
OTHER NON-FOOD PRODUCTS	AUTRES PRODUITS NON-ALIMENTAIRES
INSTITUTIONAL INFRASTRUCTURE FOR PACKAGING DEVELOPMENT	INFRASTRUCTURE INSTITUTIONNELLE POUR LE DEVELOP. DE L'EMBALLAGE

BIBLIOGRAPHICAL TERMS USED IN PACKDATA (CONT'D)

IN-COMPANY ORGANIZATION FOR PACKAGING DEVELOPMENT	ORGANISATION INTERNE POUR LE DEVELOPPEMENT DE L'EMBALLAGE
TESTING OF PACKAGES AND MATERIALS, QUALITY CONTROL	ESSAIS DES EMBALLAGES ET DES MATERIAUX, CONTROLE DE LA QUALITE
DEVELOPMENT OF SPECIFICATIONS, PROTOTYPES	REALISATION DE SPECIFICATIONS, PROTOTYPES
PACKAGING STANDARDS AND CODES	NORMES ET CODES SUR L'EMBALLAGE
CHECKLISTS	LISTE DE CONTROLE
PACKAGING ECONOMICS	ASPECTS ECONOMIQUES DE L'EMBALLAGE
PACKAGING FOR EXPORT	EMBALLAGE D'EXPORTATION
PACKAGING AND LABELLING REGULATIONS	REGLEMENTATION EN MATIERE D'EMBALLAGE ET D'ETIQUETAGE
PROMOTIONAL DESIGN OF PACKAGES AND LABELS	CONCEPTION PUBLICITAIRE DES EMBALLAGES ET DES ETIQUETTES
RETAIL DISTRIBUTION	VENTE AU DETAIL
TRANSPORTATION BY SEA, AIR, ETC.	TRANSPORT PAR MER, AIR, ETC
MATERIALS HANDLING, WAREHOUSING	MATERIEL DE MANUTENTION, D'ENTREPOSAGE
UNIT LOADS, CONTAINERIZATION	CHARGES UNITAIRES, CONTENEURISATION
PACKAGING INFORMATION SERVICES	SERVICES D'INFORMATION SUR L'EMBALLAGE
GLOSSARIES, DICTIONARIES	GLOSSAIRES, DICTIONNAIRES
DIRECTORIES, YEARBOOKS AND EXHIBITION CATALOGUES	ANNUAIRES, REPERTOIRES ET CATALOGUES D'EXPOSITION
CLASSIFICATION SYSTEMS, THESAURI	SYSTEMES DE CLASSIFICATION, THESAURI
BIBLIOGRAPHIES, LISTS OF PUBLICATIONS	BIBLIOGRAPHIES, LISTES DE PUBLICATIONS
PERIODICALS ON PACKAGING AND RELATED SUBJECTS	PERIODIQUES SUR L'EMBALLAGE ET SUJETS S'Y RAPPORTANT
MANPOWER DEVELOPMENT	FORMATION DE LA MAIN D'OEUVRE

BIBLIOGRAPHICAL TERMS USED IN PACKDATA (CONT'D)

RECYCLING, ECOLOGY

RECYCLAGE, ECOLOGIE

EXPORT PROMOTION TECHNIQUES

TECHNIQUES DE PROMOTION DES
EXPORTATIONS

INDUSTRIAL PROJECT AND TECHNICAL
ASSISTANCE MANUALS .

PROJET INDUSTRIEL ET MANUELS
D'ASSISTANCE TECHNIQUE

* Not included in PACKDATA field versions. Tailor-made bibliographies, based upon the above classification system, are readily available *ad hoc* from ITC's Headquarters

Annex VI

GEOGRAPHICAL TERMS USED IN PACKDATA

<u>COUNTRY/REGION</u>	<u>PAYS/REGION</u>
AFGHANISTAN	AFGHANISTAN
AFRICA	AFRIQUE
ALBANIA	ALBANIE
ALGERIA	ALGERIE
ANDORRA	ANDORRE
ANGOLA	ANGOLA
ANTIGUA & BARBUDA	ANTIGUA & BARBUDA
ARAB COUNTRIES	PAYS ARABES
ARGENTINA	ARGENTINE
ASEAN	ASEAN
ASIA	ASIE
AUSTRALIA	AUSTRALIE
AUSTRIA	AUTRICHE
BAHAMAS	BAHAMAS
BAHRAIN	BAHREIN
BANGLADESH	BANGLADESH
BARBADOS	BARBADE
BELGIUM	BELGIQUE
BELIZE	BELIZE
BENIN	BENIN
BERMUDA	BERMUDA
BHUTAN	BHOUTAN
BOLIVIA	BOLIVIE
BOTSWANA	BOTSWANA
BRAZIL	BRESIL
BRUNEI DARUSSALAM	BRUNEI DARUSSALAM
BULGARIA	BULGARIE
BURKINA FASO	BURKINA FASO
BURMA	BIRMANIE
BURUNDI	BURUNDI
CAMEROON (REP. OF)	CAMEROUN (REP. DU)
CANADA	CANADA
CAPE VERDE	CAP-VERT
CARIBBEAN	CARAIBES
CAYMAN ISLANDS	CAYMAN ILES
CENTRAL AFRICAN REP.	REP. CENTRAFRICAINE
CENTRAL AMERICA	AMERIQUE CENTRALE
CHAD	TCHAD
CHILE	CHILI
CHINA	CHINE
CHRISTMAS ISLAND	CHRISTMAS, ILES
COLOMBIA	COLOMBIE
COMOROS (THE)	COMORES (LES)
CONGO	CONGO
COOK ISLANDS	COOK, ILES
COSTA RICA	COSTA RICA
CUBA	CUBA
CYPRUS	CHYPRE
CZECHOSLOVAKIA	TCHECOSLOVAQUIE
DEMOCRATIC KAMPUCHEA	KAMPUCHEA DEMOCRATIQUE
DEMOCRATIC YEMEN	YEMEN DEMOCRATIQUE

GEOGRAPHICAL TERMS USED IN PACKDATA

COUNTRY/REGION

DENMARK
DJIBOUTI
DOMINICA
DOMINICAN REPUBLIC
ECOWAS
ECUADOR
EEC
EFTA
EGYPT
EL SALVADOR
EQUATORIAL GUINEA
ETHIOPIA
EUROPE
FAEROE ISLANDS
FALKLAND ISLANDS
FIJI
FINLAND
FRANCE
FRENCH GUYANA
FRENCH POLYNESIA
GABON
GAMBIA
GERMAN DEM REP
GERMANY FR
GHANA
GIBRALTAR
GREECE
GREENLAND
GRENADA
GUADELOUPE
GUAM
GUATEMALA
GUINEA
GUINEA-BISSAU
GUYANA
HAITI
HONDURAS
HONG KONG
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ISRAEL
ITALY
IVORY COAST
JAMAICA
JAPAN
JORDAN

PAYS/REGION

DANEMARK
DJIBOUTI
DOMINIQUE
REPUBLIQUE DOMINICAINE
ECOWAS
EQUATEUR
CEE
AELE
EGYPTE
EL SALVADOR
GUINEE EQUATORIALE
ETHIOPIE
EUROPE
FEROE, ILES
FALKLAND ISLANDS
FIDJI
FINLANDE
FRANCE
GUYANE FRANÇAISE
POLYNESIE FRANÇAISE
GABON
GAMBIE
ALLEMANDE REP. DEM.
ALLEMAGNE REP. FED.
GHANA
GIBRALTAR
GRECE
GROENLAND
GRENADE
GUADELOUPE
GUAM
GUATEMALA
GUINEE
GUINEE-BISSAU
GUYANA
HAITI
HONDURAS
HONG KONG
HONGRIE
ISLANDE
INDE
INDONESIE
IRAN
IRAQ
IRLANDE
ISRAEL
ITALIE
COTE D'IVOIRE (REP. DE)
JAMAÏQUE
JAPON
JORDANIE

GEOGRAPHICAL TERMS USED IN PACKDATA

COUNTRY/REGION

PAYS/REGION

KENYA
KIRIBATI
KOREA DPR
KOREA REP
KUWAIT
LAO PDR
LATIN AMERICA
LEBANON
LESOTHO
LIBERIA
LIBYA
LIECHTENSTEIN
LUXEMBOURG
MACAU
MADAGASCAR
MALAWI
MALAYSIA
MALDIVES
MALI
MALTA
MARTINIQUE
MAURITANIA
MAURITIUS
MEXICO
MONGOLIA
MONTSERRAT
MOROCCO
MOZAMBIQUE
NAURU
NEPAL
NETHERLANDS
NETHERLANDS ANTILLES
NEW CALEDONIA
NEW ZEALAND
NICARAGUA
NIGER
NIGERIA
NIUE
NORFOLK ISLAND
NORTH AMERICA
NORWAY
OECD
OMAN
PACIFIC (TRUST T)
PAKISTAN
PANAMA
PAPUA NEW GUINEA
PARAGUAY
PERU
PHILIPPINES
PITCAIRN ISLAND

KENYA
KIRIBATI
COREE RPD
COREE REP
KOWEIT
LAO RDP
AMERIQUE LATINE
LIBAN
LESOTHO
LIBERIA
LIBYE
LIECHTENSTEIN
LUXEMBOURG
MACAO
MADAGASCAR
MALAWI
MALAISIE
MALDIVES
MALI
MALTE
MARTINIQUE
MAURITANIE
MAURICE
MEXIQUE
MONGOLIE
MONTSERRAT
MAROC
MOZAMBIQUE
NAURU
NEPAL
PAYS-BAS
ANTILLES
NOUVELLE-CALEDONIE
NOUVELLE-ZELANDE
NICARAGUA
NIGER
NIGERIA
NIOUE
NORFOLK, ILE
AMERIQUE DU NORD
NORVEGE
OCDE
OMAN
PACIFIC
PAKISTAN
PANAMA
PAPOUASIE N GUINEE
PARAGUAY
PEROU
PHILIPPINES
PITCAIRN, ILE

GEOGRAPHICAL TERMS USED IN PACKDATA

<u>COUNTRY/REGION</u>	<u>PAYS/REGION</u>
POLAND	POLOGNE
PORTUGAL	PORTUGAL
PUERTO RICO	PUERTO RICO
QATAR	QATAR
REUNION	REUNION
ROMANIA	ROUMANIE
RWANDA	RWANDA
SADCC	SADCC
SAINT LUCIA	SAINTE LUCIE
SAMOA	SAMOA
SAO TOME & PRINCIPE	SAO TOME-ET-PRINCIPE
SAUDI ARABIA	ARABIE SAUDITE
SCANDINAVIA	SCANDINAVIE
SENEGAL	SENEGAL
SEYCHELLES	SEYCHELLES
SIERRA LEONE	SIERRA LEONE
SINGAPORE	SINGAPOUR
SOLOMON ISLANDS	SALOMON, ILES
SOMALIA	SOMALIE
SOUTH AFRICA	AFRIQUE DU SUD
SPAIN	ESPAGNE
SRI LANKA	SRI LANKA
ST. KITTS & NEVIS	ST. KITTS ET NEVIS
SUDAN	SOUDAN
SURINAME	SURINAME
SWAZILAND	SWAZILAND
SWEDEN	SUEDE
SWITZERLAND	SUISSE
SYRIAN ARAB REPUBLIC	REP. ARABE SYRIENNE
TANZANIA (U.R.)	TANZANIE (R.U.)
THAILAND	THAILANDE
TOGO	TOGO
TOKELAU ISLANDS	TOKELAOU, ILES
TONGA	TONGA
TRINIDAD AND TOBAGO	TRINITE-ET-TOBAGO
TUNISIA	TUNISIE
TURKEY	TURQUIE
TUVALU	TUVALU
UGANDA	OUGANDA
UNITED ARAB EMIRATES	EMIRATS ARABES UNIS
UNITED KINGDOM	ROYAUME-UNI
URUGUAY	URUGUAY
USA	ETATS-UNIS D'AMERIQUE
USSR	URSS
VANUATU	VANUATU
VENEZUELA	VENEZUELA
VIET NAM	VIET NAM
WAKE ISLAND	WAKE, ILE DE
WESTERN SAHARA	WESTERN SAHARA
YEMEN (ARAB REP.)	YEMEN (REP. ARABE)
YUGOSLAVIA	YUGOSLAVIE
ZAIRE	ZAIRE
ZAMBIA	ZAMBIE
ZIMBABWE	ZIMBABWE

Backstopping Officer's Comments

1. The preparatory assistance expert, Mr. Samir Elsayad, carried out his five-month mission between 15 July 1990 and 31 January 1991.
2. The mission works started with a first month at UNIDO headquarters, where the expert was briefed in detail, studied background documents and prepared a tentative draft project document, aide-memoire and other documents for the comprised packaging seminar under guidance and in permanent consultation with the backstopping officer and headquarter's packaging expert, Mr. Belo.
3. The visits to Arab countries were organized from Cairo, where the expert centralized his activities throughout the region, with permanent communication support and logistic assistance from UNIDO headquarters.
4. The mission works terminated with the last three weeks at UNIDO headquarters, up to 31 January 1991. During this period the expert prepared the preparatory assistance terminal report and the follow-up draft project document, according to guidelines which were agreed upon with the backstopping officer. Appropriate secretarial assistance was provided for the expert.
5. The backstopping officer came back to office, after absence abroad, after mid-February. Since then the draft preparatory assistance terminal report and the draft follow-up project document were attentively revised by him, having been given their present form.
6. In the opinion of the backstopping officer, the preparatory assistance expert carried out a very good mission, although the conditions of the region had been affected by the Gulf war. The revision, which was carried out by the backstopping officer personally, did not alter the essence of the expert's works, for which previous guidance had been provided, but concentrated on small corrections and re-adjustments. Specific care was taken to keep the final documents well in accordance with the expert's views, in line with the conclusions and recommendations of his joint discussions with Arab countries' authorities during the visiting missions' programme through Arab states.
7. The substantive Branch supports the recommendations of the expert and will be open to co-operate in further revision or re-adjustments of the draft project document, in the light of proposals which may be proposed by and specifically agreed upon with UNDP headquarters, New York.