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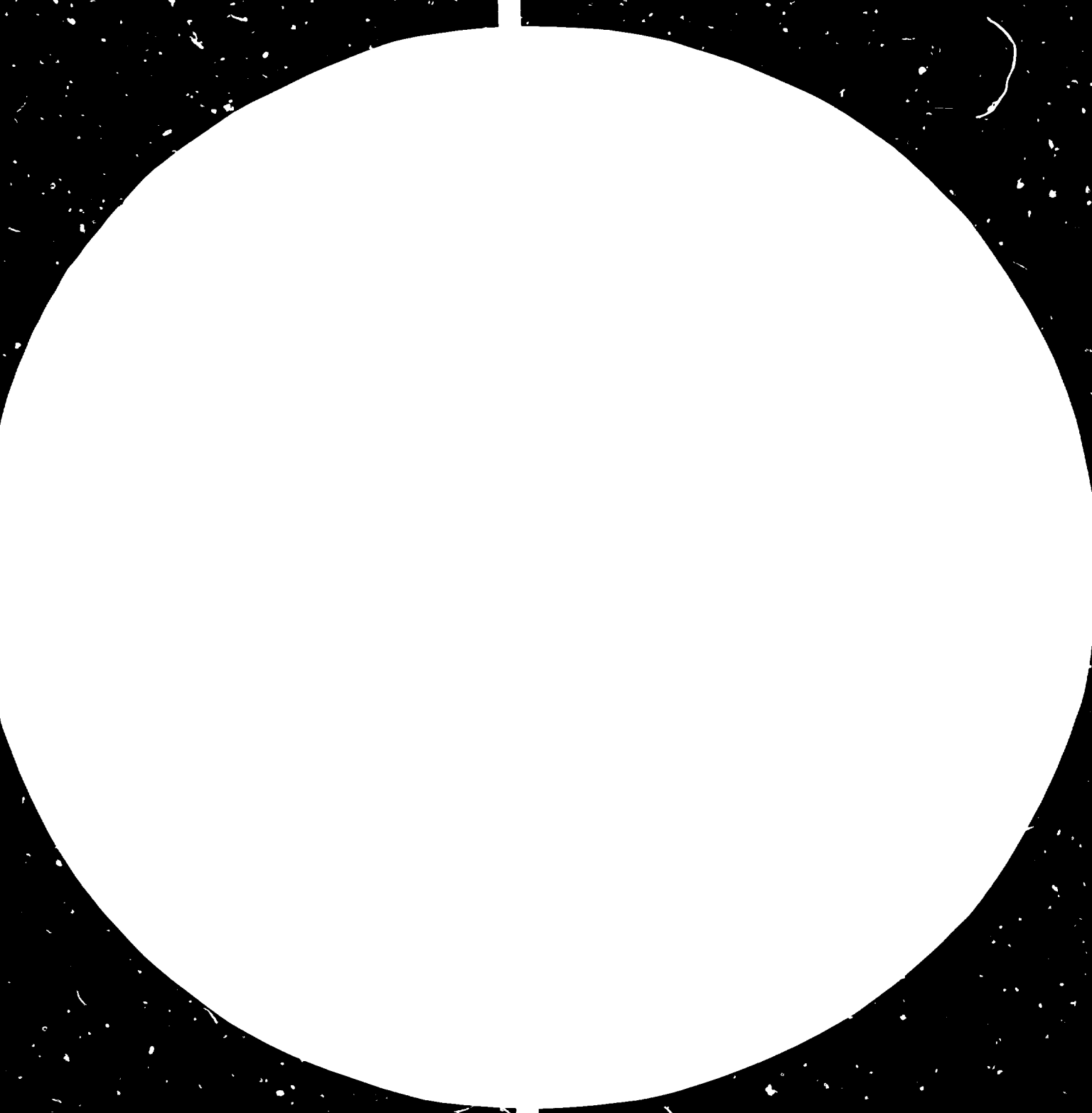
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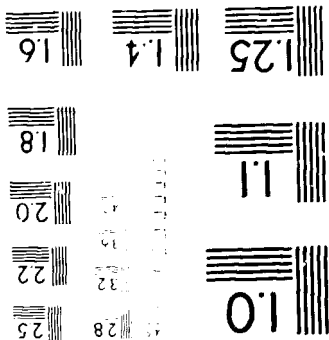
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NEWSLETTER

TECHNOLOGICAL INFORMATION EXCHANGE SYSTEM

Issue No. 36

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March 1987

Dear Reader,

The Transfer of Technology Programme Branch of UNIDO has always been concerned with transposing its accumulated experience into printed publications to be widely disseminated and used as working materials by all those who have to face the practical and often complex problems of technology acquisition and technology negotiation.

This observation refers in particular to our most recent publication, the "Guide on Guarantee and Warranty Provisions in Transfer of Technology Transactions" which was prepared in collaboration with the International Centre for Public Enterprises at Ljubljana, Yugoslavia.

The "Guide" is a work of major significance pursuing a managerial and preventive approach, unlike the current literature in which the issue of guarantee and warranty provisions is treated more from a purely legal point of view and at a stage when the problems of implementing a contract have arisen after its conclusion. In other words, the "Guide" would like to draw the attention of the user to the complex nature of the subject in relation to the project development cycle, starting with the project preparation phase including the objectives of the technology transaction, collection and evaluation of information on alternative technologies and their suppliers, proceeding through the contract preparation phase and ending with the actual drafting of relevant guarantee and warranty provisions based on technical and economic parameters resulting from the project.

Another important work presently under preparation and which we hope to have available by the end of 1987, is a training manual for the use of trainers and trainees in technology negotiation. It was compiled with the aim of covering the whole range of subjects that government officials and entrepreneurs in charge of evaluating or dealing with negotiations should be aware of. The document is split into modules in order to facilitate the adaptation of the training material to the specific needs of trainers and trainees, particularly in relation to the duration of the training programmes and the objectives and interests of the different regions, countries and target groups.

We can safely say that the Guide on Guarantee and Warranty Provisions in Transfer of Technology Transactions and the Training Manual on Technology Negotiation will become two key documents among our already considerably extensive list of publications related to the transfer of technology process. We are aware that we move in a field which can never be exhausted. Therefore our readers are kindly invited to contribute with their suggestions in order to facilitate the selection of other subjects of their interest which could be elaborated on for the benefit of the negotiators of transfer of technology agreements.

Rolf Kloepzig 485
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Transfer of Technology Programme Branch
Department for Industrial Promotion,
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TECHNOLOGICAL ADVISORY SERVICES

As we have mentioned in previous issues of the TIES Newsletter, the Transfer of Technology Programme Branch of UNIDO has for years been operating a special programme designated as Technological Advisory Services (TAS) with the objective to provide upon request rapid, objective and impartial advice to governments and enterprises of developing countries on the negotiation of various types of transfer of technology agreements, including relevant issues related to technology acquisition through contractual arrangements, such as assistance in the evaluation of proposals and selection of suppliers, preparation for negotiation, drafting of agreements and advice during negotiation.

The TAS programme is considered to be of primary importance to the developing countries because many of these countries lack negotiation skills and sufficiently up-to-date technical information regarding the technology to be acquired, the cost involved, and the most beneficial terms and conditions.

Depending on the specific circumstances, the Technological Advisory Services can be provided from UNIDO Headquarters or through field missions carried out by appropriate experts or staff members.

In principle, the cost of the field services should be reimbursed. However, some financial contribution from UNIDO may be possible, subject to a case by case assessment. For further information on the TAS programme please contact the Transfer of Technology Programme Branch, Department for Industrial Promotion, Consultations and Technology, UNIDO, P.O. Box 300, A-1400 Vienna, Austria.

REGISTRY NEWS

COUNTRY PROFILE - BOLIVIA

I. LEGISLATION ^{1/}

(A) Foreign investments

1. Laws and regulations in force

Supreme Decree No. 15479 (23 May 1978)

Supreme Decree No. 18751 (14 December 1981)
New Law on Investment

2. Registration

As provided in Supreme Decree No. 15479, and as indicated by various rules of Decision 24 and confirmed by article 100 of the New Law on Investment (Supreme Decree No. 18751), the National Investment Institute is the national body competent to apply in Bolivia the rules of the common system of treatment in respect of foreign capital and of trade marks, patents, licenses and royalties.

3. Scope

In accordance with the development priorities and policies of the Supreme Government.

(B) Industrial property

1. Laws and regulations in force

Law on Industrial Patents (2 December 1916)

^{1/} Information on the legislative framework related to technology transfer without reproducing the full text of this legislation. With this information it should be possible to interpret the data on technology transfer trends.

Regulatory Law on Manufacturers' Trademarks (15 January 1918)

Supreme Decree No. 04320 (16 February 1956)

Decree Law No. 07255 (21 July 1965)

Supreme Decree 09364 (27 August 1970)

Supreme Decree 09673 (19 April 1971)

Supreme Decree 09798 (30 June 1971)

Decree Law 19183 (30 September 1982)

Supreme Decree 19353 (28 December 1982)

2. Scope

The Law on Industrial Patents deals with the principal rights involved in the granting of patents for inventions.

The Regulatory Law on Manufacturers' Trademarks, banking rules.

Supreme Decree No. 04320 delimits competence in respect of industrial patents.

Decree Law No. 07255 establishes the decimal nomenclature for goods and revokes article 37 of the Regulatory Law on Manufacturers' Trademarks.

Supreme Decree 09364 extends the restrictions on non-patentability of products as established in article 3(6) of the Law on Industrial Patents.

Supreme Decree 09673 makes an exception to the prohibition on non-patentability of chemical and pharmaceutical processes.

Supreme Decree 09798 approves Decision 24 of the Cartagena Agreement Commission which deals with aspects of the common system of treatment in respect of foreign capital and with trade marks, patents, licences and royalties.

Decree Law 19183 approves the new Industrial Property Law under the regulations of Decision 85 of the Cartagena Agreement.

Supreme Decree 19353 suspends application of the provisions contained in Decree Law 19183.

(C) Technology transfer

i. Laws and regulations in force

Decree Law No. 09798 of 30 June 1971

Supreme Decree No. 18583 of 3 September 1981

Supreme Decree No. 12342 of 4 April 1975

Supreme Decree No. 15479 of 23 May 1978

2. Regulation

The legal regulations in Bolivia on the import of technology comply with Decision 24 of the Cartagena Agreement Commission as the most important instrument relating to technology transfer. Decision 24 was incorporated in Bolivian legislation by Decree No. 09798.

The National System of Scientific and Technological Development (SINDECYT), through its executive body, the Department of Science and Technology, lays the foundations for a national scientific and technological policy.

In addition, the Supreme Government has established the "Guidelines for Scientific and Technological Policies" (Supreme Decree No. 18583),

which indicate the objectives to be achieved by basic, sectoral and general policies and also deal with matters related to technological information and technology transfer.

Annexes I and II to Decision 24 and Decision 37a are also regulation governing technology transfer policy (Supreme Decree No. 12342).

The amendments to Decision 24 provided for in Decisions 103, 109 and 110 of the Cartagena Agreement Commission were approved and ratified by Decree Law No. 14351.

The National Investment Institute (INI) is at present the competent national body with responsibility for the operation and supervision of the machinery provided for in Decisions 24, 37, 37a, 47, 48, 70, 103 and 109 (Decree Law No. 15479).

The Ministry of Industry, Commerce and Tourism, through the Directorate for Standards and Technology, carries out the functions of standardization, quality control, metrology, technological information and research, as well as regulation of technology transfer at the national level (Decree Law No. 12375, article 24), in compliance with the provisions of articles 18 to 22 of Decision 24.

3. Scope

Licensing of trademarks;

Patents;

Know-how;

Technical assistance;

Industrial models;

Training of personnel.

4. Restrictive practices

(a) Clauses whereby the furnishing of technology entails the obligation, for the receiving country or enterprise, to purchase capital goods, intermediate products, raw materials or other technologies from a specified source, or to use, on a permanent basis, personnel designated by the enterprise furnishing the technology. In exceptional cases the receiving country may accept clauses of this kind for the purchase of capital goods, intermediate products or raw materials, provided that their price corresponds to current international market prices;

(b) A clause under which the enterprise selling the technology reserves the right to determine the selling prices of products made by using the technology concerned;

(c) Clauses containing restrictions on the volume and structure of production;

(d) Clauses prohibiting the use of competing technologies;

(e) Clauses creating for the supplier of the technology a total or partial option of purchase;

(f) Clauses obliging the purchaser of the technology to transfer to the supplier inventions or improvements deriving from use of that technology;

(g) Clauses imposing an obligation of payment of royalties to the holders of patents for patents not used; and

(h) Other clauses having similar effects.

Apart from exceptional cases duly authorized by the competent national body of the receiving country, clauses limiting or prohibiting in any way the export of products made by using the technology concerned shall not be allowed.

5. Remuneration

Remuneration is usually effected by negotiation between the two parties.

II. INSTITUTIONAL ARRANGEMENTS

(A) Competent approval authority

Directorate for Standards and Technology;

National Investment Institute.

These institutions are responsible to the Ministry of Industry, Commerce and Tourism.

(Av. Camacho - Casilla 4430 TELEX 3259 DICOMEX
Tel. 377309 - 372047 La Paz, Bolivia)

(B) Office staffing

General Office for Standards and Technology:

Management: Director

Evaluation: Engineers 5
Lawyers 1
Economists

National Investment Institute:

Management: Director
Economists 12
Engineers 9
Lawyers 4
Auditors 1

Study/evaluation:

Technical analysis: Evaluation of the technical characteristics of equipment, machinery, production systems, technical assistance (know-how), etc. In addition, verification of the legal status of licences, patents and industrial models which are acquired.

Economic analysis: Evaluation of the costs of the inputs acquired and the amounts to be paid for licences acquired, technical assistance, etc., in relation to the time for which the services are provided.

Legal analysis: Intended to evaluate contracts in relation to Bolivian law, compensation in the case of disputes between the two parties arising from non-compliance with clauses, and the duration of contracts and grounds for their renewal.

(C) Competence

The Directorate for Standards and Technology is responsible for technical, legal and economic analysis of contracts for technology transfer; this function is shared with the National Investment Institute as the competent national body (Decree Law No. 12375, article 24).

(D) Co-ordination

Ministry of Planning and Co-ordination

Directorate of Projects

National Pre-investment Institute (INALPPE)

Central Bank of Bolivia

Revenue Directorate

National Investment Institute

(E) Evaluation

The evaluation will consider the relationship between payments, duration of contracts etc.

In the absence of appropriate legislation, regulations for the establishment of a national machinery for technology transfer are currently under study.

COUNTRY PROFILE - PORTUGAL

I. LEGISLATION 1/

(A) Foreign investments

1. Laws and regulations in force

The accession of Portugal to the EEC on 1 January 1986, derogated, as far as EEC investors are concerned, the processual and substantive rules laid down in Decree-Law 348/77, of 24 August 1977 and in complementary legislation that restricted the right of establishment and required a previous authorization of foreign investment projects.

In view of the above changes and the need for standardization of the rules applicable to EEC and non-EEC investors the Foreign Investment Institute submitted to the Government a set of legislative projects.

(B) Industrial property

1. Laws and regulations in force

Decree Law No. 30679 (24 August 1940), Industrial Property Code

Decree Law No. 632/76 (1976), constitutes the National Institute for Industrial Property (INPI)

Decree No. 16/77 (1977), regulates the activity of the INPI

Decree Law No. 151/80 and 175/80 (1980), amendments to the Industrial Property Code

Decree Law 27/84, laying down some changes to the Industrial Property Code

Protocol No. 19 annexed to the Treaty for Accession to the EEC setting down changes to be introduced in Portuguese patent legislation due to the accession

2. Scope 2/

The following is not allowed to be patented - article 5 - no patents can be granted for:

1. Any kind of concepts without any practical use or without industrial applications through mechanical-physical or chemical means.

1/ Information on the legislative framework to technology transfer without reproducing the full text of this legislation. With this information it should be possible to interpret the data on technology transfer trends.

2/ Indication for which sectors trade mark and patent registration are allowed.

2. The use of inventions which are against the law, public security, public health or good manners.

3. Food products, as well as pharmaceutical products and preparations, used by humans or animals, although the equipment and system which produce them are possibly patentable.

4. Products of the chemical industry, defined or obtained from known elements, through a total or partial reaction among them, although the process of attaining such products, may be subject to patents.

5. The joining or overlapping of known innovations, their change in form, size and materials, unless they are bound in such a way that they cannot work separately or if their qualities and characteristic functions are modified, leading in any of the situations described to a new industrial result.

6. The use by industry of an innovation already known to a different one.

7. The inventions lacking innovative steps.

(C) Technology transfer

1. Laws and regulations in force

Decree Law 351-c/85 (26 August), concerning the invisible current operations under which payments due to technology transfer contracts are included.

2. Regulation

The settlement of operations with current invisibles resulting from technology transfer contracts is dependent on the previous examination, by the Bank of Portugal with a view to assessing:

(a) The nature and veracity of the respective transactions and transfers;

(b) The lawfulness of contracting parties;

(c) And that the contracts were celebrated in accordance with the applicable legislation.

3. Scope 3/

1. Licences for use of patents, trademarks, models, drawings or inventions.

2. Technical assistance concerning the manufacturing and trading of any goods or services, elaboration of plans, manufacturing contracts, market research and training.

3. Agreements with companies specialized in construction and maintenance, particularly of industrial units, roads, bridges and ports.

4. Restrictive practices 4/

Restrictive clauses and practices are forbidden under the competition law (Decree Law 422/83).

EEC rules are also relevant, especially those laid down by EEC Regulation 2349/84 of 23 July 1984.

3/ Reflects the scope of the Registration with regard to type of agreement and sectors (ISIC).

4/ Clauses which are not allowed to appear in contracts by law or legislation.

Restrictive clauses include, inter alia, the following:

- Tie-in clauses
- Restrictions of the volume and production structure
- Export restrictions
- Limitations to the distribution channels to be used by recipient firms
- Price fixing by technology supplier
- No-competition clauses.

5. Remuneration 1/

N.A.

6. Taxation 2/

Licensing agreements are subject to a 15 per cent withholding tax.

II. INSTITUTIONAL ARRANGEMENTS

(A) Competent approval authority

- (i) Foreign Investment
 Instituto do Investimento Estrangeiro
 Av. da Liberdade, 258 - 5^o
 1200 Lisboa
 Portugal
 Tel.: 576944
 Telex: 14712 IFIPOR P

- (ii) Technology transfer payments
 Banco de Portugal

(B) Office staffing

Instituto do Investimento Estrangeiro

Management Council	3
Investment Operations Dept.	
Head	2
Economists	5
Engineers	3
Lawyers	1

Directorate for Studies and Planning

Head	2
Economists	3
Lawyers	1

Legal Department - Head 1

(C) Competence

See items I (A) and I (C) above.

(D) Co-ordination

The Institute works closely with the Bank of Portugal which is responsible for control of exchange operations. All State organizations can be required to give their opinion about projects under consideration.

(E) Evaluation 3/

1/ Technology payments restrictions by law or legislation.

2/ Taxation policies on technology transfer payments.

3/ Major evaluation criteria should include internal guidelines for royalty rates (+ definition), forms of payment preferred, restrictive practices other than covered by law/regulations, etc.

PERU'S TECHNOLOGICAL BALANCE AND TRENDS IN RECENT YEARS

The balance of payments for technology (technical assistance and royalties) for the year 1985, according to provisional data of the Bank of Spain cash account (parts 01.00 and 01.04) gives the following figures for its various sections:

Income	24 500 million pesetas
Payments	104 100 million pesetas
Balance	-79 600 million pesetas
Cover ratio	23.53 per cent

Income from transfer of technology in 1985 rose by 17.9 per cent compared with 1984. However, as payments grew at a higher rate (22.8 per cent), there was a resulting one point fall in the cover ratio.

The trend of the technological balance in recent years has been as follows:

Year	Payments (millions of pesetas)	Income (millions of pesetas)	Income over payments %
1980	44 393	10 873	24.5
1981	52 382	16 698	31.9
1982	78 984	15 701	19.9
1983	88 338	18 691	20.0
1984	84 742	20 780	24.5
1985	104 100	24 500	23.5

Payments made during 1985, 104,100 million pesetas, represent contracts registered in the period 1981 to 1985, the amounts provided for in the contracts registered being as follows:

Year contract registered	Budgeted payments in 1985 (millions of pesetas)
1981	3 158
1982	24 253
1983	10 261
1984	11 263
1985	48 946
	<u>97 881</u>

The difference between the sum of budgeted payments and the payments actually made, 6,219 million pesetas, is due to possible variations within enterprises from budgeted amounts and to payments made by direct approval of invoices by the Directorate General of Foreign Transactions.

Trends in the register of contracts for transfer of technology - 1985

Number of contracts and type

During 1985 the number of contracts recorded in the Register of Contracts for Transfer of Technology established by Decree 2343/73 of 21 September was 1,005, 229 more than in 1984, or an increase of 29.4 per cent.

Of the total number of contracts registered in the year, 597 (59.4 per cent) are licence contracts although the majority include a certain amount of additional technical assistance and the remaining 408 (40.6 per cent of the total) are contracts for technical assistance, also including plant, product and process engineering.

Contracts registered in 1985

Type	New	Extended	Modified	Total
Licences	304	261	32	597
Technical assistance	314	73	21	408
Total	618	334	53	1 005

Budgeted payments

Payments, as budgeted by technology-receiving enterprises and provided for in contracts registered during 1985 amount to 140,109 million pesetas, an increase of 83,876 million pesetas (149 per cent) over the budgeted figure of contracts registered in 1984.

The distribution of these payments over time, according to the planned implementation of contracts is as follows:

Year	Millions of pesetas
1985	48 946
1986	23 238
1987	20 693
1988	21 '4
1989	26 .

Ministry of Industry and Energy -
Contracts for transfer of technology

Budgeted payments for contracts
registered in 1985
(millions of pesetas)

Period 1 to 12

Year	Licences			Services			Total
	New	Exten- ded	Modi- fied	New	Exten- ded	Modi- fied	
1985	9 101	5 054	4 104	10 180	14 355	6 152	48 946
1986	10 159	3 818	3 115	5 360	588	498	23 238
1987	9 942	3 982	3 411	2 810	393	155	20 693
1988	10 439	4 209	4 159	1 588	413	206	21 014
1989	10 149	4 355	10 830	246	432	206	26 218
Total	49 790	21 418	25 619	19 884	16 181	7 217	140 109

The distribution of budgeted payments by type of contract is as follows:

Type of contract	Contracts		Payments	
	Number	Percentage	Millions of pesetas	Percentage
Licence	597	59.4	96 827	69.1
Technical assistance	408	40.6	43 282	30.9
Total	1 005	100.0	140 109	100.0

Analysis of the distribution of payments between licences and technical assistance shows the clear predominance of budgeted payments for licences over those budgeted for technical assistance. It will be noted also that the trend has been for the proportion of licence payments to increase, since in 1984 it was 54.7 per cent of the total and this year it amounts to almost 70 per cent. This is an indication that Peru's domestic technological capacity is growing steadily as more and more industrial property rights are acquired, while on the other hand less technical assistance is needed to make use of them. Furthermore, since the Registry of Contracts for the Transfer of Technology is less active than formerly, that what is reflected is what happens in reality without the distortions arising from the Registry's actions in cases where a single fixed payment or one based on hourly rates for technical assistance was

more readily accepted than a rate proportional to the volume of activity.

Sales, exports and imports related to registered licence contracts

Other amounts related to budgeted payments for the total period when licence contracts were in force are as follows:

Year 1985	Millions of pesetas
Total sales	4 413 082
Exports	1 239 840
Imports	1 053 070
Balance ...	186 770
Imports from the grantor of the licence	390 177

Related industrial investment

The industrial investment related to registered contracts totals 482,606 million pesetas.

Sectoral distribution

The sectors in which the greatest volume of payments are committed are: motor vehicles and services, which together account for 68.2 per cent of the total.

However the sectors which showed less dependence on foreign technology were mining and quarrying, agriculture, paper and paper products and construction, which together accounted for only 1 per cent of the total of budgeted payments.

Distribution by sectors (percentage)

Sector	Percentage of contracts	Percentage of payments
00 Agriculture	1.29	0.14
01 Mining and quarrying	0.90	0.11
02 Food	3.32	3.85
03 Textiles and leather	4.18	1.23
04 Paper and paper products	1.19	0.25
05 Chemicals and chemical products	16.62	8.69
06 Non-metallic minerals	2.09	0.59
07 Metallic minerals	4.88	3.38
08 Mechanical machinery	15.02	4.56
09 Electrical machinery	6.67	4.71
10 Motor vehicles	12.83	40.25
11 Other manufactures	6.57	1.02
12 Energy and water	8.46	2.73
13 Construction	2.69	0.54
14 Services	13.23	27.95
	100.00	100.00

Services

In this sector 123 contracts have been registered, 49 per cent more than in the same period of the previous year. It should also be noted that budgeted payments show a growth of 741 per cent, 39,156 million pesetas in absolute figures.

There has been a significant increase in committed payments in both categories of contract, licence and technical assistance, but more notably in the former.

Ministry of Industry and Energy -
Contracts for transfer of technology

Year 1985 Period 1 to 12

Classification by economic sector

(Budgeted payments under registered contracts,
in millions of pesetas)

Sector	Licences		Technical assistance and services	
	New contracts	Total payment during contract period	New contracts	Total one-time payment
00 Agriculture	11	200	2	2
01 Mining and quarrying			9	135
02 Food	23	5 161	11	234
03 Textiles and leather	30	1 483	6	243
04 Paper and paper products	7	271	5	81
05 Chemicals and chemical products	112	9 680	55	2 489
06 Non-metallic minerals	13	625	8	208
07 Metallic minerals	6	248	43	4 493
08 Mechanical machinery	115	5 440	36	944
09 Electrical machinery	59	6 277	8	323
10 Motor vehicles	81	35 289	48	21 111
11 Other manufactures	63	1 241	3	291
12 Energy and water	3	94	82	3 734
13 Construction	16	421	11	335
14 Services	52	30 497	81	8 659
Total	597	96 827	408	43 282

Territorial distribution

The location of technology transferring enterprises in the contracts registered in 1985 continues to be centred, as in previous years, in the EEC region and in the United States of America. Of the number of contracts registered, representing 90.7 per cent of the total committed payments, 80.9 per cent fall within this area.

Distribution by supplier country
(percentage)

Country	Percentage of contracts	Percentage of payments
Federal Republic of Germany	20.40	19.51
France	17.91	23.23
Italy	6.27	3.36
Netherlands	2.29	3.51
United Kingdom	11.04	4.68
Other EEC	4.58	1.31
Sweden	1.98	0.63
Norway	0.30	0.07
Switzerland	8.86	4.49
Austria	0.60	0.51
Other Europe	1.88	0.50
United States of America	13.41	35.07
Japan	3.68	2.51
Canada	1.00	0.38
Other World	3.80	0.24
	100.00	100.00

Ministry of Industry and Energy -
Contracts for transfer of technology

Classification by country Year. 1985

(Obligated budgeted payments under registered contracts,
in millions of pesetas)

Sector	Licences		Technical assistance and services	
	New contracts	Total payment during contract period	New contracts	Total one-time payment
Federal Republic of Germany	113	6 544	92	20 789
France	127	31 014	53	1 539
Italy	40	3 364	23	1 345
Netherlands	14	834	9	4 090
United Kingdom	46	1 672	65	4 892
Other EEC	17	1 034	34	798
Total EEC	352	44 462	276	33 453
Sweden	11	610	9	266
Norway	2	88	1	6
Switzerland	64	5 793	25	500
Austria	3	653	3	62
Other European (non-EEC)	11	496	8	204
Total non-EEC	91	7 640	46	1 038
Total Europe	443	52 102	322	34 491
United States of America	124	41 977	61	7 154
Japan	22	2 536	15	980
Canada	4	79	6	455
Other countries	4	133	4	202
Total others	154	44 725	86	8 791
Total world	597	96 827	408	43 282

Ministry of Industry and Energy
Contracts for transfer of technology
Period I - 12

Budgeted payments by sector and by country - Licences - Year 1985
(millions of pesetas)

DOMESTIC ECONOMIC SECTORS

Country	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	Total
Federal Republic of Germany				5		2 374	69	118	644	599	2 005	441		246	43	6 544
France	118		72	937	7	1 459	97	18	322	460	26 801	261	58	67	337	31 014
Italy				387		64	66		311	134	1 922	11		3	466	3 364
Netherlands	0		263			166			7	339	58	0			1	834
United Kingdom			66	44	15	257			276	301	381	9		40	283	1 672
Other EEC						130	150		72	9	16				657	1 034
Total EEC	118	0	401	1 373	22	4 450	382	136	1 632	1 842	31 183	722	58	356	1 787	44 462
Sweden						0	10		234		313			5	48	610
Norway									41		47					88
Switzerland			655	25	1	713	9		1 957	1 562	251	173		21	386	5 793
Austria						9			8						636	653
Other non-EEC			7		190	2			273	12	12			0		496
Total non-EEC	0	0	662	25	191	724	19	0	2 553	1 574	623	173	0	26	1 070	7 640
Total Europe	118	0	1 063	1 398	213	5 174	401	136	4 185	3 416	31 806	895	58	382	2 857	52 102
United States of America	82		4 098	85	58	4 225	202	80	639	2 723	1 898	233	36	26	27 592	41 977
Japan						173	22	32	584	138	1 585	2				2 536
Canada						7						11		13	48	79
Other countries						101			32			0				133
Total others	82	0	4 098	85	58	4 506	224	112	1 255	2 861	3 483	246	36	39	27 640	44 725
Total world	200*	0*	5 161*	1 483*	271*	9 680*	625*	248*	5 440*	6 277*	35 289*	1 141*	94*	421*	30 497*	96 827

Ministry of Industry and Energy
Contracts for transfer of technology
Period I - 12

Budgeted payments by sector and country - Services - Year 1985
(millions of pesetas)

DOMESTIC ECONOMIC SECTORS

Country	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	Total
Federal Republic of Germany		17		7	30	761	18	2 351	279		14 313	40	1 448	44	1 486	20 789
France		13	49		3	255	115	31	176	35	43		36	126	657	1 539
Italy				136	27	13		263	49		598				159	1 345
Netherlands						23					118				3 949	4 090
United Kingdom		105	3	100		598		11	291		2 389	121	500	76	693	4 892
Other EEC					10	202	14	10	9	28			446	4	75	798
Total EEC	0	130	57	243	70	1 852	147	2 666	804	43	17 561	161	2 430	250	7 019	33 453
Sweden			27		11				20		10		60		138	266
Norway						6										6
Switzerland		3	29			4	15	23	80	132	11		51	63	89	500
Austria								25			15			22		62
Other non-EEC			21					94		36	19		34			204
Total non-EEC	0	3	77	0	11	10	15	142	100	168	55	0	145	85	227	1 038
Total Europe	0	133	134	243	81	1 862	162	2 808	904	231	17 616	161	2 575	335	7 246	34 491
United States of America	2	2				627	46	649	35		3 341	130	1 032		1 290	7 154
Japan								688	5	6	154		127			980
Canada								344		86					25	455
Other countries			100					4							98	202
Total other	2	2	100	0	0	627	46	1 685	40	92	3 495	130	1 159	0	1 413	8 791
Total world	2*	135*	234*	243*	81*	2 489*	208*	4 493*	944*	323*	21 111*	291*	3 734*	335*	8 659*	43 282

LEGISLATION

CHINA

The Law of the People's Republic of China on joint ventures using Chinese and foreign investment

(Adopted on 1 July 1979 at the Second Session of the Fifth National People's Congress; Promulgated on 8 July 1979)

Article 1

With a view to expanding international economic co-operation and technological exchange, the People's Republic of China permits foreign companies, enterprises, other economic entities or individuals (hereinafter referred to as foreign participants) to incorporate themselves, within the territory of the People's Republic of China, into joint ventures with Chinese companies, enterprises or other economic entities (hereinafter referred to as Chinese participants) on the principle of equality and mutual benefit and subject to authorization by the Chinese Government.

Article 2

The Chinese Government protects, by the legislation in force, the resources invested by a foreign participant in a joint venture and the profits due him pursuant to the agreements, contracts and articles of association authorized by the Chinese Government as well as his other lawful rights and interests.

All the activities of a joint venture shall be governed by the laws, decrees and pertinent rules and regulations of the People's Republic of China.

Article 3

A joint venture shall apply to the Foreign Investment Commission of the People's Republic of China for authorization of the agreements and contracts concluded between the parties to the venture and the articles of association of the venture formulated by them, and the commission shall authorize or reject these documents within three months. When authorized, the joint venture shall register with the General Administration for Industry and Commerce of the People's Republic of China and start operations under licence.

Article 4

A joint venture shall take the form of a limited liability company.

In the registered capital of a joint venture, the proportion of the investment contributed by the foreign participant(s) shall in general not be less than 25 per cent.

The profits, risks and losses of a joint venture shall be shared by the parties to the venture in proportion to their contributions to the registered capital.

The transfer of one party's share in the registered capital shall be effected only with the consent of the other parties to the venture.

Article 5

Each party to a joint venture may contribute cash, capital goods, industrial property rights etc., as its investment in the venture.

The technology or equipment contributed by any foreign participant as investment shall be truly advanced and appropriate to China's needs. In cases of losses caused by deception through the intentional provision of outdated equipment or technology, compensation shall be paid for the losses.

The investment contributed by a Chinese participant may include the right to the use of a site provided for the joint venture during the period of its operation. In case such a contribution does not constitute a part of the investment from the Chinese participant, the joint venture shall pay the Chinese Government for its use.

The various contributions referred to in the present article shall be specified in the contracts concerning the joint venture or in its articles of association, and the value of each contribution (excluding that of the site) shall be ascertained by the parties to the venture through joint assessment.

Article 6

A joint venture shall have a board of directors with a composition stipulated in the contracts and the articles of association after consultation between the parties to the venture, and each director shall be appointed or removed by his own side. The board of directors shall have a chairman appointed by the Chinese participant and one or two vice-chairmen appointed by the foreign participant(s). In handling an important problem, the board of directors shall reach decision through consultation by the participants on the principle of equality and mutual benefit.

The board of directors is empowered to discuss and take action on, pursuant to the provisions of the articles of association of the joint venture, all fundamental issues concerning the venture, namely, expansion projects, production and business programmes, the budget, distribution of profits, plans concerning manpower and pay scales, the termination of business, the appointment or hiring of the president, the vice-president(s), the chief engineer, the treasurer and the auditors as well as their functions and powers and their remuneration, etc.

The president and vice-president(s) (or the general manager and assistant general manager(s) in a factory) shall be chosen from the various parties to the joint venture.

Procedures covering the employment and discharge of the workers and staff members of a joint venture shall be stipulated according to law in the agreement or contract concluded between the parties to the venture.

Article 7

The net profit of a joint venture shall be distributed between the parties to the venture in proportion to their respective shares in the registered capital after the payment of a joint venture income tax on its gross profit pursuant to the tax laws of the People's Republic of China and after the deductions therefrom as stipulated in the articles of association of the venture for the reserve funds, the bonus and welfare funds for the workers and staff members and the expansion funds of the venture.

A joint venture equipped with up-to-date technology by world standards may apply for a reduction of or exemption from income tax for the first two to three profit-making years.

A foreign participant who re-invests any part of his share of the net profit within Chinese territory may apply for the restitution of a part of the income taxes paid.

Article 8

A joint venture shall open an account with the Bank of China or a bank approved by the Bank of China.

A joint venture shall conduct its foreign exchange transactions in accordance with the Foreign Exchange Regulations of the People's Republic of China.

A joint venture may, in its business operations, obtain funds from foreign banks directly.

The insurances appropriate to a joint venture shall be furnished by Chinese insurance companies.

Article 9

The production and business programmes of a joint venture shall be filed with the authorities concerned and shall be implemented through business contracts.

In its purchase of required raw and semi-processed materials, fuels, auxiliary equipment, etc., a joint venture should give first priority to Chinese sources, but may also acquire them directly from the world market with its own foreign exchange funds.

A joint venture is encouraged to market its products outside China. It may distribute its export products on foreign markets through direct channels or its associated agencies or China's foreign trade establishments. Its products may also be distributed on the Chinese market.

Wherever necessary, a joint venture may set up affiliated agencies outside China.

Article 10

The net profit which a foreign participant receives as his share after executing his obligations under the pertinent laws and agreements and contracts, the funds he receives at the time when the joint venture terminates or winds up its operations, and his other funds may be remitted abroad through the Bank of China in accordance with the foreign exchange regulations and in the currency or currencies specified in the contracts concerning the joint ventures.

A foreign participant shall receive encouragements for depositing in the Bank of China any part of foreign exchange which he is entitled to remit abroad.

Article 11

The wages, salaries or other legitimate income earned by a foreign worker or staff member of a joint venture, after payment of the personal income tax under the tax laws of the People's Republic of China, may be remitted abroad through the Bank of China in accordance with the foreign exchange regulations.

Article 12

The contract period of a joint venture may be agreed upon between the parties to the venture according to its particular line of business and circumstances. The period may be extended upon expiration through agreement between the parties, subject to authorization by the Foreign Investment Commission of the People's Republic of China. Any application for such extension shall be made six months before the expiration of the contract.

Article 13

In cases of heavy losses, the failure of any party to a joint venture to execute its obligations under the contracts or the articles of association of the venture, force majeure, etc., prior to the expiration of the contract period of a joint venture, the contract may be terminated before the date of expiration by consultation and agreement between the parties and through authorization by the Foreign Investment Commission of the People's Republic of China and registration with the General Administration for Industry and Commerce. In cases of losses caused by breach of the contract(s) by a party to the venture, the financial responsibility shall be borne by the said party.

Article 14

Disputes arising between the parties to a joint venture which the board of directors fails to settle through consultation may be settled through conciliation or arbitration by an arbitral body of China or through arbitration by an arbitral body agreed upon by the parties.

Article 15

The present law comes into force on the date of promulgation. The power of amendment is vested in the National People's Congress.

TECHNOLOGY ACQUISITION

CONTRACTING OF TECHNOLOGY IN THE ANDEAN SUBREGIONAL PHARMACEUTICAL SECTOR

A number of studies prepared in the subregion 1/ agree in their description of the characteristics of subregional technology contracting and in pointing out that, if not the most important, the pharmaceutical sector is at least one of those that account for the greatest number of contracts and in which restrictive contractual clauses are encountered with the greatest frequency. 2/

In Peru, the pharmaceutical sector "was the one with the largest number of restrictive clauses, which occurred in 33.6 per cent of all contracts" involving the payments of royalties abroad in 1975. In Venezuela, according to the study cited, an analysis of 100 pharmaceutical sector contracts revealed the existence of 141 restrictive clauses.

Similarly, before the entry into force of Decision 24 of the Cartagena Agreement, it was common to find contracts calling for very high royalties, which in some cases amounted to as much as 20 per cent of sales.

1/ Among these, the following may be cited: "Comercialización de Tecnología en el Pacto Andino" by Constantino Vaitos. Instituto de Estudios Peruanos. Lima, Peru. 1973.

"Efectos del Proceso de Importación de Tecnología en el Perú". ITINTEC. Lima, Peru. 1976.

For the case of Venezuela, see: "Industria Farmacéutica en Venezuela". SIEX. 1975.

For Colombia: "La Actividad del Comité de Regalías y la Transferencia de Tecnología". Jaime Salazar and Juan Antonio Pizarro. Ciencia, Tecnología y Desarrollo, Vol. 2, No. 1. 1978. COLCIENCIAS.

2/ For Peru, see: ITINTEC, *op. cit.*, p. 56, and for Venezuela: SIEX, *op. cit.*, p. 17.

In the light of the above and on the basis of the information available in the Andean Technology Information System (SAIT), we shall analyse those characteristics that would appear to have been typical of technology contracting practices in the subregional pharmaceutical sector during the period 1981-1983.

A first point to be considered is that in 1983 the pharmaceutical sector alone accounted for nearly 14 per cent of the total accumulated number of contracts in the subregion (see table 1). Out of a total of 327 approved contracts accumulated as of that year, Peru accounted for 48.6 per cent, Venezuela for 34.6 per cent, Colombia for 8.2 per cent, Ecuador for 4.9 per cent, and Bolivia for only 3.7 per cent. The first three countries accounted for more than 90 per cent of all contracts, which would appear primarily to reflect the fact that the largest number of pharmaceutical laboratories were located in these countries. ^{1/} Similarly, it may also be a reflection of the degree of development achieved by the pharmaceutical industry in these three countries, as well as of the direct relationship between the number of contracts and the size of the market.

In the case of Colombia a separate comment is required. It is interesting to observe the small number of contracts in relation to the number of existing establishments. It will be recalled that that country has, since 1967, been regulating the acquisition of technology under contract. During the period 1967-1977, a total of 197 pharmaceutical and cosmetic product contracts were submitted to the Royalties Committee [Comité de Regalías], of which only 91 (46.2 per cent) were approved and 8 were in force in 1977. The Committee's policy of not authorizing contracts with affiliated enterprises is thought to have resulted in many laboratories operating without a valid contract.

The Board's 1981 study of the pharmaceutical sector revealed 346 subregional technology transfer contracts in force during the period 1971-1980, ^{2/} while the number of contracts accumulated as of 1983 totalled 327.

1. Description of the receiver enterprises

A little more than 50 per cent of the contracts accumulated by 1983 were concluded by national enterprises of the subregion, 40.4 per cent by foreign enterprises and only 7.9 per cent by mixed enterprises (see table 2). This would appear to indicate that the national laboratories are more highly diversified than the foreign. As for the affiliates, these concluded nearly 18 per cent of the subregion's contracts, while the foreign enterprises concluded 19 per cent with independent enterprises. It was observed that, in Bolivia, the national enterprise Droguería Inti S.A. concluded seven contracts; in Colombia, Tecnoquímica negotiated three contracts; in Peru, Laboratorios Ferminindustria entered into 26 contracts; and in Venezuela, Laboratorios Palenzona signed contracts with

^{1/} In fact, in 1980 Colombia accounted for 33.8 per cent of the total number of existing establishments in the subregion, Peru for 28.1 per cent, and Venezuela for 18.5 per cent.

^{2/} For the period 1975-1980, the total number of contracts was distributed as follows: Venezuela 50.5 per cent, Peru 36.1 per cent, Colombia 8.7 per cent, Bolivia 2.9 per cent, and Ecuador 1.73 per cent.

There are national laboratories that have their own product lines and trade marks, which are occasionally developed under contracts concluded with foreign enterprises. This is evident when one notes 27 different suppliers. In the case of Colombia and Ecuador, there is a predominance of contracts concluded by foreign enterprises (70 and 56 per cent, respectively).

2. Origin of the contracts

Table 3 indicates that at the subregional level the United States of America is the principal supplier of technology, with 28 per cent of the contracts, followed in descending order of importance by the Federal Republic of Germany, France, Switzerland and Italy. Together, these five countries accounted for 77 per cent of the contracts accumulated by 1983.

Within each Andean country there are marked differences in national practices with respect to the acquisition of technology. In the case, for example, of Bolivia, a significant number of contracts have been signed with Argentine enterprises. It would appear that the United States laboratories have opted to licence their technology not directly but through their Argentine affiliates.

Peru and Venezuela are more diversified in respect of their technology sources, relying not only on United States but also on European and Latin American suppliers. Latin America accounts for 5 per cent of the subregion's contracts, with Argentina and Colombia in the forefront.

3. Subject, terms and conditions of the contracts

The technological factor of greatest importance in technology contracting at the subregional level was know-how, with the term taken to include the provision of secret technological information in the form of formulae, ^{3/} production manual, information on quality control methods, medical literature and advertising. This element was present in 86.2 per cent of the contracts accumulated by 1983 (see table 4). The know-how involved in this case is very elementary and of the kind that would not permit the development of new formulae and does not pertain to the provision of complementary technological knowledge as might be required for the operation of patented processes. This reflects the status of the subregional pharmaceutical industry as one engaged merely in the formulation and packaging of drugs.

The use of foreign trade marks in the pharmaceutical sector is a very familiar practice, since it is in this way that products are differentiated. Of all the contracts concluded within the subregion, 82 per cent dealt with this subject, while within each country trade mark provisions were encountered with even greater frequency. ^{4/}

^{3/} The formula generally refers to the description of the various ingredients that constitute a drug and to their proportions in combination. No contract concerning the development of formulae was found in the present study.

^{4/} In Bolivia, 91.7 per cent of the contracts referred to this subject, the figures being 96.2, 93.8 and 90 per cent for Colombia, Ecuador and Peru, respectively. The exception is Venezuela, where only 66 per cent of the contracts accumulated by 1983 permitted the use of foreign trade marks.

There are national laboratories that have their own product lines and trade marks, which are occasionally developed under contracts concluded with foreign enterprises. This is evident when one notes that of 327 contracts accumulated by 1983, there were 32 (9.8 per cent) that had been signed by national enterprises and in which there was no provision for the use of a foreign trade mark. ^{1/} In Peru, one case was found in which a national enterprise had purchased a package of 28 trade marks from two foreign enterprises.

With respect to the licencing of patents, only 8 per cent of the contracts referred to this element, thus reconfirming the fact of only a minimal transfer of technology within the subregional pharmaceutical sector. As will become evident later on in the discussion of the legislation governing industrial property, a large proportion of the patents registered are not actually being exploited due to the underdevelopment of the subregional pharmaceutical industry.

Technical assistance was of minor importance in technology contracting, as only 46 per cent of the subregional contracts refer to this factor. It was found that in Venezuela 86 per cent of the contracts contained provision for such assistance, while in Bolivia technical assistance clauses were found in 85 per cent of the contracts.

Two contracts in particular deserve comment: in one instance, a Peruvian enterprise signed a contract for the manufacture of chloralphenicol and is currently manufacturing ampicillin and exporting it to Colombia and Ecuador; and in Ecuador a contract was found calling for the manufacture of acetyl and salicylic acid.

4. Period of validity of the contracts

It will be observed from table 5 that of the total number of contracts approved up to 1983, 88 per cent were for terms of no longer than five years, the next in order of importance being the three-year contracts. This confirms the fact that the majority of the Andean countries adhere to the principle that contracts with terms of more than five years should not be authorized.

Within each country there are marked differences with regard to the practice that has been adopted. In Bolivia, for example, one-third of the contracts are signed for terms of more than five years, the figure being somewhat similar for those that are written for periods of less than three years' duration. In Colombia, 85 per cent of the contracts are valid for up to three years, implying that this is the prevalent policy. In Peru, the prevailing practice is to limit the terms of contracts to five years, thereby making it possible to evaluate them at the time of each renewal and to introduce such modifications as the Competent National Authority (CNA) deems advisable or to reduce the level of royalties. In Venezuela, 89 per cent of the contracts have been authorized for a period of 5 years.

The most frequent method of contracting within the subregion involved the conclusion of new contracts (55 per cent), which suggests a substantial increase, since in 1980 only 30 per cent of the

^{1/} A point that should be particularly noted is that in Venezuela the firm Laboratorios Lety S.A. concluded 10 contracts with various suppliers without stipulating the use of foreign trade marks, and that the enterprise Laboratorios Palenzona S.A. signed a similar number of contracts.

contracts were new ones. Moreover, 25.7 per cent of the contracts referred to extensions, ^{2/} which would tend to indicate that the CNAs' practice of not authorizing extensions is acquiring increasing importance as a means of avoiding the continuous renewals that would have the practical effect of reducing technology contracting to nothing more than the leasing of formulae and foreign trade marks. Nevertheless, the high number of existing contracts would appear to indicate that there are still many problems to be overcome. It will be observed in table 7, for example, that more than 70 per cent of the contracts were signed before 1980, while in Peru 58.5 per cent of the contracts accumulated by 1983 had been concluded prior to the year 1975.

5. Royalties and methods of payment

The most frequent method of payment throughout the subregion in both the pharmaceutical and other sectors is through an agreement on royalties as a percentage of sales (see table 8). Of the contracts accumulated by 1983, this was the method selected in 55.7 per cent of them. Royalties as a percentage of net sales were stipulated in 75 per cent of the contracts in Bolivia, in 33 per cent in Colombia, in 68.8 per cent in Ecuador, in 79.4 per cent in Peru, and in 23.9 per cent in Venezuela. In the latter country, 29.2 per cent of the contracts called for combined royalties consisting of a fixed amount and a percentage of sales.

It should also be noted that 28.4 per cent of the contracts accumulated in the pharmaceutical sector contained no royalty provisions, whereby of this number 61.3 per cent were signed by affiliated enterprises, which are barred from paying royalties, ^{3/} and 38.7 per cent by independent and national enterprises that did not include royalties in their agreements.

Table 9 indicates that, throughout the subregion, a preponderant proportion of the royalty agreements reached in the pharmaceutical sector provided for payments of between 3 and 5 per cent of net sales, with 46 per cent of all contracts in which royalties are stipulated falling within this range. What is more, if we take into account that 21.5 per cent provided for royalties of up to 3 per cent, we find that 67.4 per cent of the contracts entailing the payment of royalties abroad up to 1983 called for royalties of not more than 5 per cent and that only 25.3 per cent involved royalties exceeding 5 per cent. This decline in the level of contractually stipulated royalties may also be observed in table 10, where it will be seen that average royalties within the subregion dropped from 6.2 per cent in 1981 to 3.1 per cent in 1983. This situation differs from country to country: in Bolivia, 54.5 per cent of the contracts calling for royalties fixed them in a range of 8 to 10 per cent of sales; in Colombia, the level of accepted royalties was lowest, with 60 per cent of the contracts stipulating royalties of up to 3 per cent; in Ecuador, 45.5 per cent of the contracts provided for royalties ranging between 5 and 8 per cent; in Peru, 70 per cent required royalties of between 3 and 5 per cent; and in Venezuela, it was found that 25 per cent of the contracts involved royalties

^{2/} The low number of renewals or extensions is seen as the result of the policy pursued by the CNAs of not accepting all the extensions requested and of requiring in many cases that the contracts be brought up to date or modified.

^{3/} This provision is established under article 21 of Decision 24 of the Cartagena Agreement.

fluctuating between 5 and 8 per cent, the figure being similar for those in which the royalty level was set at up to 3 per cent. What this means is that these levels differ from country to country, reflecting the effectiveness of the effort undertaken by the CNAs with respect to the lowering of royalties.

With regard to the remittance of royalties abroad (see table 11), the only information available refers to Peru (for the period 1981-1983), in addition to which there is also some estimated data for Colombia and Venezuela (for the period 1981-1982). During the period indicated, Peru remitted nearly \$US 2 million, while Colombia and Venezuela are believed to have remitted \$US 281,900 and \$US 1,359 million dollars, respectively. The royalty remittances accounted for 1 per cent of the value added in the Venezuelan pharmaceutical sector and as little as 0.6 per cent in Colombia and Peru.

One indicator that is interesting to apply in this connection is the average amount remitted per contract, whereby we shall consider in each country only those contracts that give rise to payments. The results indicate that in 1981 the average remittance totalled \$US 14,000 per contract in Colombia, \$US 5,238 per contract in Peru, and \$US 9,435 per contract in Venezuela.

These figures provide a practical demonstration of how important it is to consider the size of the market when setting the level of royalties, since even when the percentages authorized are identical or lower, larger amounts may actually be remitted.

In this study we have seen that the transfer of technology to the subregional pharmaceutical sector has not necessarily contributed to the development of that sector. Industrial activity continues to be characterized by the same traditional patterns involving the processing of largely imported active substances into pharmaceutical products. Accordingly, there exist a great many contracts in which the technology negotiated is provided by specified suppliers and in which the end-use character of the industry is reflected in the predominance of know-how and trade marks as the principal elements of the contract. The know-how transferred generally refers to the use of formulae, production manuals and quality control procedures, ^{1/} with the result that even when this basic knowledge has been mastered, it does not enable the licensee to develop his own formulae.

On the other hand, the small number of contracts pertaining to the production of pharminochemical inputs indicates that the pharminochemical industry is still at the embryonic stage and that incentives will be required if this sector is to be further developed. Certain indications of change, such as the existence of national laboratories marketing their own trade marks and also the fact of processes being purchased for the manufacture of pharminochemical inputs, support the belief that the development of this sector is indeed possible. One measure that might be encouraged, in this connection, would be the creation

^{1/} In the case of the pharmaceutical sector, complicated quality control procedures are required for the reason that the drugs manufactured must meet specific standards of identity, purity, uniformity and stability guaranteeing maximum efficaciousness. There are three types of quality control: (a) internal (conducted in the originating laboratory), (b) external (conducted in an external laboratory or else abroad) and (c) State quality control (generally performed before the product has been certified or on a random basis by taking samples from the pharmacies).

of multinational Andean enterprises designed to manufacture pharminochemical products in response to subregional requirements.

With respect to the royalty agreements in the contracts, progress has been clearly achieved as indicated by the fact that the negotiated royalty levels are low. Similarly, the number of contracts that provide for no royalties at all is on the increase due to the trend on the part of the affiliated enterprises to submit their contracts for approval, even when it is recognized that they will not result in the payment of royalties, and also because there are a sizeable number of contracts concluded by national enterprises in which royalties are not stipulated. Nevertheless, "unpaid royalties" of this kind may still be transferred in the form of "hidden payments", especially where there is no exchange control machinery or through the device of overcharging for inputs by taking advantage of the low tariffs in effect or the non-existence of any price control mechanisms.

Evaluation of the technological impact exerted by the import of technology and the participation of foreign capital in the sector

As a general principle, the development level of a pharmaceutical industry may be measured in terms of its vertical integration. ^{2/} Considering the majority of the laboratories operating in the subregion, the reality is that of a pharmaceutical industry engaged in the manufacture of drugs in their final form through the use, for this purpose, of imported pharminochemical products mixed with certain local excipients. This subregional industry is a formulation industry, highly dependent on foreign technology and trade marks. All the Andean countries, with the exception of Bolivia, ^{3/} are at the third stage of integration, and there is some evidence to suggest that they may be capable of moving forward to the next stage. The fact is that there are a number of national enterprises engaged in the manufacture of pharminochemical products, including acetylsalicylic acid, aluminium hydroxide and methyl salicylate in Colombia, ampicillin and chloralphenicol in Peru, and acetylsalicylic acid in Ecuador. This will lead to greater integration on the part of the subregional pharmaceutical industry.

With respect to the technological impact of technology inputs on the sector, the following points should be made:

(a) There are no major differences between the technology used by the national and foreign laboratories. Such differences as do exist may pertain to the machinery and equipment in use or to the quality control laboratories;

(b) The effect of foreign capital and technology is to ensure the predominance of foreign trade marks throughout the subregion and to make obligatory the purchase of inputs;

^{2/} Five stages are considered for this purpose: (1) Countries that have no manufacturing plants and import drugs; (2) Countries that package imported drugs; (3) Existence of a pharmaceutical industry engaged in the formulation of drugs based on imported intermediate products; (4) Existence of a pharmaceutical industry and pharminochemical industry engaged in the manufacture of a number of intermediate products; and (5) Development and integration of the chemico-pharminochemical industry and the capacity to export pharminochemical products and to engage in local research and development.

^{3/} Bolivia is at the second stage. It imports 57 per cent of its drugs.

(c) There are a number of firms affiliated to transnational enterprises that operate without a contract, given that they cannot pay royalties to their parent companies. It is possible that there may be in effect between these enterprises so-called verbal or gentlemen's agreements providing the basis for hidden payments in the form of overcharging for inputs. Foreign enterprises having no industrial plant in a subregional country may entrust their manufacturing operation to third parties (national or foreign).

As the pharmaceutical industry, which, as indicated above appears to be gathering momentum and continues to develop, the Andean countries will require access to technological processes for the manufacture of pharminochemical products they do not currently have and which they will have to acquire either from the transnationals or from Latin American enterprises. It is at this stage that the influx of foreign technology will contribute to the subregion's technological development.

With respect to the participation of foreign capital in the sector, there have been no substantial variations in direct foreign investment before and after Decision 24 of the Cartagena Agreement, since this capital has been earmarked both for production-related activities and for marketing. The extent of foreign participation in the subregion may be seen in table 12. In all the Andean countries, the transnational enterprises occupy a predominant position in the pharmaceuticals market. For example, in 1980, foreign laboratories controlled 88 per cent of the market in Colombia, 89 per cent in Ecuador, 74 per cent in Peru and 78 per cent in Venezuela.

There is no available information on the effect of imported machinery and equipment on the sector.

A laboratory may make no distinction in the use of its installed machinery and equipment to manufacture various products or product lines. In addition, in every pharmaceutical laboratory there are various sections, such as for pills, tablets, capsules, injectables, suppositories, etc., and the equipment pool is different in each section. Given the characteristics of the industry, it is not unusual that there should be some idle installed

capacity at all enterprises, whereby this idleness factor will depend on the firm's degree of diversification, its share of the market, or whether it is engaged in providing manufacturing services to third parties who lack an industrial plant of their own or who, in any case, do not have certain specific manufacturing facilities in the region.

The contracting of the foreign technical personnel in the subregional pharmaceutical sector is infrequent, since local technicians are capable of assimilating the technology employed. The professional staff is university-trained, whereas the technical personnel are generally trained at the laboratories themselves. In this way, there is no justification for the recruitment of foreign technicians.

With regard to the contribution of foreign technology and capital to the internal research effort, we should point out that, given the predominance of the transnational corporations in the market and, beyond that, the prevailing practice on the part of national laboratories to acquire foreign technology and trade marks under contract, there is virtually no research effort in the subregion. The transnational enterprises concentrate their research and development activities within the parent company or at specific centres. In the case of the pharmaceutical sector, most of this research is directed towards product innovation, i.e., at finding new uses for known drugs and, to a lesser extent, at the development of new drugs. The subsidiaries must adhere strictly to the specifications, the use of the formulae, the acquisition of inputs from specified sources, and to strict quality control procedures in order to guarantee and maintain the prestige value and image of the parent company's trade marks.

The increasingly keen competition between the transnational enterprises, seeking as they are to extend their control over an ever larger portion of the market through aggressive publicity campaigning and the marketing of new products, means that the national laboratories are being forced to sign contracts with foreign enterprises for the use of trade marks and products that they hope will at least enable them to maintain their current positions in the market.

Table 1

TECHNOLOGY TRANSFER CONTRACTS CONCLUDED IN THE MEMBER COUNTRIES
OF THE ANDEAN GROUP
(ACCUMULATED AS OF 1983)

Country	Total contracts concluded (A)	Percentage	Contracts in the pharmaceutical sector (B)	Percentage	$\frac{B}{A} \times 100$
Bolivia	61	2.6	12	3.7	19.6
Colombia	334	14.1	27	8.2	8.1
Ecuador	159	6.7	16	4.9	10.1
Peru	665	28.2	159	46.6	23.9
Venezuela	1 143	48.4	113	34.6	9.9
Andean Group	2 362	100.0	327	100.0	13.8

Source: Andean Technology Information System (SAIT).

Table 2

TECHNOLOGY TRANSFER CONTRACTS IN THE ANDEAN PHARMACEUTICAL SECTOR CLASSIFIED
ACCORDING TO THE DESCRIPTION OF THE RECEIVING ENTERPRISE ^{1/}

DESCRIPTION of receiving enterprise	BOLIVIA				COLOMBIA				ECUADOR				PERU				VENEZUELA				ANDAN GROUP															
	1981	1982	1983	%	1981	1982	1983	%	1981	1982	1983	%	1981	1982	1983	%	1981	1982	1983	%	1981	1982	1983	%												
National	7	77.0	10	91.7	10	9.7	4	18.2	7	26.0	8	29.0	1	11.1	1	6.2	29	60.7	66	43.4	76	67.0	85	65.7	87	65.0	72	63.7	115	69.0	149	51.2	167	51.1		
Mixed									1	25.0	1	11.1	1	6.2	18	18.0	24	17.0	24	15.1	1	1.0	1	1.0	1	0.9	20	0.6	26	0.9	26	2.0				
Foreign	2	22.2	2	6.3	2	6.3	16	61.0	19	73.1	19	70.4	3	35.0	7	72.0	13	25.0	46	61.2	53	37.6	59	37.1	35	3.3	35	34.0	46	35.4	96	61.6	116	39.0	131	40.4
No information														1	12.0																					
Total	9	100.0	12	100.0	12	100.0	24	100.0	26	100.0	27	100.0	4	100.0	9	100.0	46	100.0	97	100.0	141	100.0	156	100.0	99	100.0	163	100.0	113	100.0	231	100.0	291	100.0	327	100.0

Source: SAIT Secretariat.

^{1/} Contracts accumulated as of each of the years cited.

Table 3

TECHNOLOGY-PROVIDING COUNTRIES IN THE ANDEAN PHARMACEUTICAL SECTOR. PERIOD 1981-1983
(Percentage structure)

Country	Bolivia			Colombia			Ecuador			Peru			Venezuela			Subregion		
	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983
USA	-	-	-	63.7	65.5	66.7	50.0	46.5	37.5	33.0	28.2	27.5	18.3	18.5	22.1	28.6	27.5	28.5
FRG	33.3	25.0	25.0	9.1	7.7	7.4	-	22.2	37.5	15.5	16.9	20.6	13.1	13.6	13.3	14.3	15.4	18.0
France	-	25.0	25.0	-	-	-	25.0	11.1	6.3	10.3	16.2	15.0	12.1	11.7	10.6	10.0	13.4	12.2
Switzerland	22.2	16.7	16.7	4.5	3.8	3.7	25.0	11.1	6.3	5.2	8.5	7.5	13.1	12.6	11.5	9.5	9.9	8.8
Italy	-	-	-	9.1	11.5	11.1	-	-	6.3	8.2	5.6	5.6	16.2	15.5	15.9	11.3	9.2	9.5
England	-	-	-	9.1	7.7	7.4	-	-	-	1.0	2.1	1.9	3.0	2.9	2.7	2.6	2.7	2.4
Spain	-	-	-	-	-	-	-	-	-	6.2	4.2	3.8	9.1	8.7	8.8	6.5	5.1	4.9
Japan	-	-	-	-	-	-	-	-	-	1.0	0.7	1.9	3.0	2.9	2.7	1.7	1.4	1.8
Argentina	33.3	25.0	25.0	-	-	-	-	-	-	3.1	2.8	3.1	1.6	1.0	0.9	3.0	2.7	2.7
Colombia	-	-	-	-	-	-	-	-	-	4.1	4.2	3.8	-	-	-	1.7	2.1	1.8
Other countries	11.2	8.3	8.3	4.5	3.8	3.7	-	11.1	6.3	12.4	10.6	9.3	11.1	12.6	11.5	10.8	10.3	11.3
No information	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Andean Technology Information System (SAIT).

Table 4

TECHNOLOGY TRANSFER CONTRACTS IN THE SUBREGIONAL PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO THE SUBJECT OF THE CONTRACT 1/

Subject of the contract	Bolivia			Colombia			Ecuador			Peru			Venezuela			Andean Group		
	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983
Trade mark	5	11	11	20	24	25	4	9	15	86	126	144	62	65	75	177	235	270
Patent	6	6	6	-	-	-	-	-	-	1	1	1	47	48	50	54	55	57
Know-how	9	12	12	2	3	3	4	8	15	89	134	151	93	94	101	197	251	282
Technical assistance	7	10	10	5	6	6	4	9	14	20	22	23	87	89	98	123	136	151
Total number of contracts	9	12	12	22	26	27	4	9	16	97	141	159	99	103	113	231	291	327

Source: Andean Technology information System (SAIT).

1/ A contract may deal with more than one subject. The table considers the contracts accumulated as of each of the years cited.

Table 3

TECHNOLOGY TRANSFER CONTRACTS IN THE SUBREGIONAL PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO TERM 1/

(in months)

Months	Bolivia			Colombia			Ecuador			Peru			Venezuela			Subregion		
	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983
Less than 24	-	-	-	-	2	2	-	-	-	3	5	5	-	-	-	3	7	7
Up to 24	1	1	1	4	6	6	-	-	-	7	10	11	1	1	1	13	18	19
Up to 36	4	4	4	15	15	15	-	-	-	20	29	30	1	1	1	40	49	50
Up to 48	1	1	1	-	-	-	-	-	-	12	21	23	-	-	-	13	22	24
Up to 60	2	2	2	3	3	3	4	4	4	35	49	61	87	91	101	131	149	171
Between 24 and 60 previously not classified	-	-	-	-	-	-	-	-	-	10	16	17	-	-	-	10	16	17
More than 60	1	4	4	-	-	-	-	-	-	10	11	12	1	1	1	12	16	17
No information	-	-	-	-	-	1	-	5	12	-	-	-	3	9	9	9	14	22
TOTAL	9	12	12	22	26	27	4	9	16	97	141	159	99	103	113	231	291	327

Source: Andean Technology Information System (SAIT).

1/ The table considers the contracts accumulated as of each of the years cited.

Table 6

TECHNOLOGY TRANSFER CONTRACTS IN THE SUBREGIONAL PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO CONTRACT TYPE. PERIOD 1981-1983 1/

Type	Bolivia			Colombia			Ecuador			Peru			Venezuela			Subregion					
	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1983		
First contract concluded between the parties	6	9	9	16	19	20	4	6	7	32	43	50	85	88	94	143	61.9	165	56.7	180	55.0
Substitute for a previous contract	-	-	-	-	-	-	-	-	-	6	8	8	3	3	5	9	3.9	11	3.8	13	4.0
Renewed or extended	3	3	3	4	4	4	-	3	6	40	56	67	3	4	4	50	21.6	70	24.1	84	25.7
Modification of a contract in force	-	-	-	1	1	1	-	-	-	19	34	34	-	-	-	20	8.7	35	12.0	35	10.7
No information	-	-	-	1	2	2	-	-	3	-	-	-	8	8	10	9	3.9	10	3.4	15	4.6
TOTAL	9	12	12	22	26	27	4	9	16	97	141	159	99	103	113	231	100.0	291	100.0	327	100.0

Source: Andean Technology Information System (SAIT).

1/ The table considers the contracts accumulated as of each of the years cited.

Table 7

TECHNOLOGY TRANSFER CONTRACTS IN THE ANDEAN PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO DATE OF SIGNING

(Accumulated as of 1983)

Date of signing	Bolivia		Colombia		Ecuador		Peru		Venezuela		Subregion	
	No.	X	No.	X	No.	X	No.	X	No.	X	No.	X
Up to 1970	2	16.7	2	7.4			55	34.6	11	9.7	70	21.4
1971-1975	1	8.3	-				38	23.9	13	11.5	52	15.9
1976-1980	3	25.0	16	59.3	4	25.0	48	30.2	41	36.4	112	24.3
1981-1983	6	50.0	5	18.5	5	31.2	18	11.3	18	15.9	52	15.9
No information	-		4	14.8	7	43.8	-		30	26.5	41	12.5
TOTAL	12	100.0	27	100.0	16	100.0	159	100.0	113	100.0	327	100.0

Source: Andean Technology Information System (SAIT).

Table 8

TECHNOLOGY TRANSFER CONTRACTS IN THE ANDEAN PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO METHOD OF PAYMENT ^{1/}

Months	Bolivia			Colombia			Ecuador			Peru			Venezuela			Subregion		
	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983	1981	1982	1983
No payment specified	-	-	-	16	17	17	-	1	4	25	27	31	37	39	41	79	84	93
Lump-sum payment specified	1	1	1	-	-	1	-	-	-	1	2	2	12	12	12	14	15	16
Percentage of sales	6	9	9	6	9	9	4	7	11	70	112	126	17	19	27	103	156	182
Lump-sum and percentage of sales	-	-	-	-	-	-	-	-	-	-	-	-	33	33	33	33	33	33
Other method	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
No information	1	1	1	-	-	-	-	1	1	-	-	-	-	-	-	1	2	2
TOTAL	9	12	12	22	26	27	4	9	16	97	141	159	99	103	113	231	291	327

Source: Andean Technology Information System (SAIT).

^{1/} The table considers the contracts accumulated as of each of the years cited.

Table 9

TECHNOLOGY TRANSFER CONTRACTS IN THE ANDEAN PHARMACEUTICAL SECTOR
CLASSIFIED ACCORDING TO ROYALTIES APPROVED 1/

(Accumulated as of 1983)

Royalties approved (percentage of sales)	Bolivia	Colombia	Ecuador	Peru	Venezuela	Grand Total
Up to 3 per cent	-	6	2	2	18	50
From 3 to 5 per cent	1	2	4	91	9	107
From 5 to 8 per cent	1	1	5	11	18	36
From 8 to 10 per cent	6	-	-	1	6	13
Over 10 per cent	1	-	-	-	9	10
Other forms of payment	2	1	-	2	12	17
Total number of contracts calling for royalties	11	10	11	129	72	233

Source: Andean Technology Information System (SAIT).

1/ The table includes only those contracts which provide for royalties.

Table 10

AVERAGE ROYALTIES NEGOTIATED ANNUALLY
IN THE PHARMACEUTICAL SECTOR 1/

(In percentages of sales)

	Average royalties		
	1981	1982	1983
Bolivia	8.7	10.0	-
Colombia	2.9	3.0	-
Ecuador	9.2	4.3	3.8
Peru	4.4	5.0	3.6
Venezuela	5.7	2.8	2.0
Subregion	6.2	5.0	3.1

Source: Andean Technology Information System (SAIT).

1/ The table includes only those contracts which call for royalties calculated as a percentage of sales and considers the contracts accumulated as of each of the years cited.

Table 11

ROYALTIES REMITTED BY THE PHARMACEUTICAL SECTOR

(In thousands of \$US)

Country	1981	1982	1983
Colombia*	133.3	146.8	-
Peru	555.0	828.4	612.6
Venezuela	338.7	1 020.0	-

Source: SAIT Secretariat

* Estimated data.

Table 12

DIRECT FOREIGN INVESTMENT IN THE SUBREGIONAL PHARMACEUTICAL SECTOR
PERIOD 1981-1983

(In thousands of current \$US)

Country	1981	%	1982	%	1983	%
Bolivia	706.0	0.3	706.0	0.2	804.7	0.2
Colombia	115 172.0	41.4	124 402.0	41.2	130 024.0	41.1
Ecuador	27 916.1	10.0	29 226.0	9.7	33 020.4	10.4
Peru	41 610.8	15.0	50 315.0	16.7	55 253.3	17.5
Venezuela	92 842.4	33.3	97 268.7	32.3	97 268.7	30.7
Subregion	278 247.3	100.0	301 917.7	100.0	316 371.1	100.0

Source: Andean Technology Information System (SAIT).

Table 13

SUBREGIONAL MARKET FOR PHARMACEUTICAL PRODUCTS
1980

Country	Sale of pharmaceutical products (in millions of \$US)	Number of laboratories	Participation of the 20 largest laboratories in the market (%)	Participation of the 4 largest national laboratories in the market (%)
Bolivia	32	12	-	-
Colombia	560	325	53	12
Ecuador	96	75	62	11 <u>a/</u>
Peru	200	80	61 <u>b/</u>	26
Venezuela	270	75	48	22
Subregion	1 158	567	-	-

Source: Andean Technology Information System (SAIT).

a/ 1979.

b/ The 25 largest laboratories.

TOPICS FOR NEGOTIATORS

Further to the articles which appeared in Issues No. 34 and 35 of the TIES Newsletter abstracted from a paper written for UNIDO by Prof. F. Dessemontet of the University of Lausanne, Switzerland, we reproduce below a third article on the subject of know-how contracts.

Know-how contracts

1. Introduction

1.1 Definition

In everyday life, know-how is a colloquial expression to denote "experience" rather than "knowledge from book". Time is the teacher. As used by businessmen, however, industrial know-how denotes the technical knowledge that is accumulated by trial and error and necessary for the production of a given line of goods and wares. Know-how includes tangible materials, such as recipes, formulae, designs, patterns, blueprints, technical records, specification, adaptation of standards, technical products and process manuals, written or computer-recorded and retrieved instructions for operating the process, analytical means for checking and controlling the process and the product, as well as intangible information consisting of practical procedures, details of workshop practices, technical training, personal visits and inspection. It often covers technical or scientific information related to a patented invention, or inventions capable of being patented but not patented for some reason (because the owner so chooses, or because the subject matter is excluded in the patent law, or by reason of lack of inventive scope).

As a rule, there exists an available know-how for every kind of industrial operation, for all and any manufactured product, for each process and procedure, be it a very ancient or utmost modern one. Know-how for new products is usually shared by only a small number of producers. Sometimes one industrialist is the only one who has acquired or accumulated the know-how. Know-how for well-established industrial goods and mass consumer items is at times common to many firms around the world. Yet industrial know-how is usually scarce in the economist's terminology, that is something which is not so abundant that any person who desires to possess it can do so without incurring expense. In fact, the transfer of know-how against payment assumes that the technology involved is rare, for if the receiver had the means of procuring it free of charge, he would not make payments for it. Scarcity is the main characteristic of industrial know-how, rather than secrecy. For example, information published in a technical journal is certainly devoid of secrecy. Nevertheless, most industrialists will not be aware of that publication, and shall therefore be happy to get it against a fee if by chance it turns out to be necessary for a given production.

Hence, it is possible to define know-how as valuable accumulated knowledge related to the industrial production of a given line of manufactured wares and goods.

1.2 Legal status of know-how

All information possessed by industry in general, and each business organization in particular, cannot be protected before the courts on the basis of know-how. The opinion is sometimes voiced that industrial corporations should enjoy a privacy comparable with the privacy of a physical person. This reserved realm would be an integral part of the enterprise and would extend to all information in its possession. The protection of know-how would appear to be a sheer side-effect of the right of privacy.

Whatever the merits of that conception (which could lead to severe restraints on the freedom of the corporation's employees and competitors), most statutory provisions and court decisions around the world afford legal protection only to certain inventions or innovations that constitute trade secrets. Thus not every bit and piece of technical information shall be protected, but only confidential know-how. Confidentiality means in that context some measure of secrecy, rather than absolute secrecy. It is not a valid defence for an unfaithful employee or a licensee in breach of contract to show that the know-how which he has unduly disclosed or misappropriated is known to other corporations active in the field. The requirement of absolute novelty which is at the core of patent law does not apply to trade secrets.

In practice, many inventions are not filed with the patent offices, because developed country industrialists favour tight secrecy measures and do not wish to lay their invention open for inspection through the publication of patent applications or granted patents. Further, all relevant information as to the best way of performing the patented invention may not be disclosed in the patent application, either because it is still unknown at that time, or because it is not required or not feasible.

The protection for trade secrets may usually be obtained under criminal and civil laws, as well as unfair competition. The main difference with the patent protection is that, while the patent laws grant a monopoly to use the protected techniques vis-à-vis all competitors, the criminal or civil penalties against misappropriation of trade secrets are directed only against the competitors who have used improper means to ferret out or duplicate the know-how, or against unfaithful employees who have unduly used or divulged the trade secrets to unauthorized third parties.

This essential difference with patent protection makes for a much more fragile protection of the know-how. Factual intricacies of the transferred technology and cleverly devised barriers against industrial espionage are the main recourses against undue dissemination of unpatented innovative technology. This in turn accounts for the strict secrecy measures that industrialists impose on their employees and business partners and explains why stringent confidentiality clauses are embedded in most transfer of technology agreements.

1.3 Know-how contracts

Licensing of unpatented trade secrets and other industrial know-how is a common practice. Between industrialized countries, there seems to be a preference to license whole technological packages, including both patents for invention and related unpatented know-how. This does not mean always that know-how is merely auxiliary to the patented invention, because the patent is sometimes not at the core of the transferred technology. The inclusion of a patent licence in a know-how agreement is useful from the antitrust viewpoint, since some legislations on restrictive business practices allow licensors of patents to impose stiffer restraints on their licensees. Moreover, from a legal viewpoint, the patent for invention offers a valuable means of pressure against a licensee who might be tempted not to abide by the terms and conditions of the contract. Of course, if there exists a patent in the market which is allotted to him, the licensee is also protected thereby against competitors.

If a close analysis of the usual know-how contract shows a wide array of obligations resting with both parties (hereafter Nos. 2 to 4), the main transaction may be summarily defined as the sharing of a technology of restricted access for a given

price. As with most commodities, know-how may be sold or leased, although neither concepts are frequently utilized in connection with know-how licences. However, the difference between sale and lease makes itself noticeable upon termination of the know-how contract: in case of sale, the licensee may freely use the technology, or impart it to third parties, whereas in the case of a lease, the licensee may have to refrain from further using the techniques, and has in any case to keep it confidential as long as the technology has not lost all secrecy through public disclosure.

Beyond the sheer mechanism of a barter "know-how against fees", the know-how supply aims at giving the recipient a new or additional capability in a given line of products. The know-how contract shall give him the opportunity to start or improve the manufacture. Most often, the recipient acquires in so doing a head start over his competitors. The construction and understanding of the whole contract must take into account that its purpose is to offer a time-saving short cut to a more efficient technology. The true obligation of the know-how supplier so appears to be more than a mere teaching duty: it is to give to the licensee a lead over the licensee's competitors. Even after those competitors have caught up their technical leeway, the effect of the licensee's original head start shall make itself felt for some time to come. Longer experience in manufacturing and distribution, knowledge of adjustments and improvements needed to respond to the clients' desires and heightened requirements, established reputation and good will, all that assure to the licensee a continuing favourable position.

In return, it is only natural that under many agreements, the know-how recipient has to pay running royalties as long as the acquired technology is still put to use in his production facilities, subject of course to the local regulations that in some developing countries prevent the conclusion, registration and enforcement of contracts lasting more than five or ten years.

First and foremost among the characteristics of the know-how contract is in most cases the fiduciary relationship uniting both parties. Since the legal protection of know-how is at best frail against spying and misappropriation, the licensor shall hand over his technology only to a trusted business organization. Other fiduciary elements include the fact that the know-how contract is performed under a longer period of time, as well as the necessarily close co-ordination between the parties to fully apprehend the technical knowledge and sometimes to adapt it to the receiving country.

Practical consequences of the confidential relationship are spelled out throughout the know-how contract when enumerating the duties of the supplier and the recipient. Moreover, it provides a basic tenet of interpretation, helping to bridge over the possible loopholes of the agreement and to construe implied obligations on the part of both parties.

Although a written agreement is not necessary everywhere, the usual and safest procedure is to reduce the arrangement to writing and in suitable form for adequate administrative registration and court recognition in the recipient's and supplier's countries. In certain circumstances, however, an agreement may be implied from the confidential relationship existing between the parties.

2 Obligations of the supplier

2.1 Obligation to impart the technology

The main obligation of the supplier is to communicate the technology which is referenced in the

agreement. This obligation means that the supplier is bound to achieve a positive result. A detailed listing of the practical means of passing on the necessary information may be found in most know-how contracts:

- Supplying blueprints, models, technical data, computer programmes for robots and quality control, calculation and design sheets, design manuals, drawings, process specifications, material specifications, performance specifications, purchasing specifications, floor plans and machinery layouts, operating instructions, test data and procedures, time studies for operations;
- Despatching engineers and technicians to instruct recipient's employees and give manufacturing assistance;
- Accepting organized visits to the licensor's plants; and
- Answering questions put by the recipient.

It must be stressed that such a listing of particular ways and means to furnish the available information is by no means exhaustive. The supplier has to organize the acquisition of technology through all adequate procedures. The supplier is under a duty to make an imaginative approach if specific circumstances so require, for example he shall hold joint conferences of both parties' engineers if the more common visits to production facilities fail to establish the necessary person-to-person assistance. As a rule, the supplier is under an obligation to make an adequate and realistic planning of the various steps needed to complete the transfer of technology.

A caveat seems to be in order at this point: the supplier of know-how is under no obligation to form and instruct the recipient's employees when those are lacking basic skills and general state-of-the-art knowledge, unless he has promised to do so by contract. As a consequence, the supplier shall transmit technical data in a form and manner suitable for communicating these to persons having an ordinary skill in the art to which the subject matter of the know-how agreement pertains. If the agreement is silent in this regard, it is to be assumed that both parties enjoy approximately the same technical level. As a consequence, the additional costs due to the insufficient technical level of the recipient are to be borne by the recipient, as well as the costs for adapting the technology (unless otherwise provided). The uncertainty in this respect might explain why many suppliers of technology insist on charging separate fees for technical assistance, apart from or instead of royalties for licensing a highly-sophisticated know-how.

2.2 Warranty/guarantees

The preparation, negotiation, drafting and implementation of warranty/guarantee provisions constitute one of the most complex and sensitive issues in all transfer of technology transactions. These provisions are an efficient means of transforming the recipient enterprise's objectives into contractual obligations binding for the supplier. Conversely, guarantees may also be viewed as an effective tool for the supplier to restrict his liability or to impose additional obligations upon the recipient; for example, the supplier may ask for tie-in clauses concerning raw materials or other inputs as an exchange for a quality and performance guarantee. Thus, the detailed wording of the agreement and the circumstances envisioned by both parties while giving their assent are of utmost importance in a particular case.

Some standard forms contain a complete supplier's discharge and exclusion of any warranty. Nevertheless, such a forfeiture of all claims by the recipient may not always be recognized and enforced by a court of law. In any event, no such stipulation will be accepted by a national agency in charge of registering the contract.

On the other hand, no guarantee ever extends to the impact of a given technology on a macro-economic scale. Guarantees cannot include aspects such as the use of local resources, effects on local manpower and the creation of research and development activities, effects on local economic conditions such as foreign currency balance, consumption of scarce production factors, effects on health, safety and the environment, etc.

The proper realm of warranties encompasses the characteristics of the technology itself, e.g. contents, description and completeness of the know-how, its possible legal protection and confidentiality, and the obligation of the supplier to defend the recipient in a suit alleging infringement of another's patent or intellectual property rights. Furthermore, suppliers sometimes accept to undertake guarantees regarding technical data relating to the utilization and application of know-how in the plant of the recipient, for example about production capacity, consumption of utilities and raw materials, yield, rejection rate, quality of end products, scrap loss, shelf life, productivity, etc. Most suppliers are understandably reluctant to take the risks involved in such clauses.

Whenever confidential know-how is licensed, the contract should provide for a clear regulation of the consequence of a leak and subsequent disclosure/loss of confidentiality. Lacking a particular covenant, the general rule is that the acquirer of technology has to bear the risks of the technology falling into the public domain. In other words, the exclusivity conferred upon the recipient by the know-how licence shall exist at the closing date of the agreement, but any large-scale divulgence which takes place later does not modify the reciprocal obligations of the parties (with the exception that both parties are then free to disclose or publish the no longer secret know-how).

2.3 Additional obligations of the supplier

The supplier may or may not undertake some obligations additional to the main duties of transferring the conveyed-upon technology and warranting its characteristics. Among those additional obligations, the recipient may wish to include the following which may be of interest to him or to both parties:

(a) Exclusivity

Exclusivity usually means absolute exclusivity, that is even the supplier shall not work the technology transferred to the recipient. By contrast, limited exclusivity (usually denoted by the term "sole licensee") means that no other transferee shall receive the said technology, but the supplier may still use the licensed technology. Absolute exclusivity, although common in covenants that are entered into by inventors or R+D institutions with manufacturing companies, should be exceptional in technology transfer agreements with developing countries. Two cases are conceivable. In the first case, the supplier may transfer a technology which is no more usable in his country, for example because it is largely based on labour-intensive processes. Then the supplier will more readily accept absolute exclusivity. Of course, it is up to the recipient and to the national agency registering the agreements to see if these obsolescent techniques still deserve to be imported and at what price. In the second case, absolute exclusivity may correspond to a

disinvestment of the supplier, desirous to altogether leave a given branch or manufacture, yet happy to receive some royalties in return for the licensing agreement. The danger here is that no follow-up (technical service bulletin, disclosure of improvements, etc.) may be agreed upon or efficiently performed after some time.

Absolute exclusivity most often gives to the agreement the nature and character of an outright sale of technology, which may (but does not necessarily) entail lump-sum, summed-up royalties or "front-end" payments rather than running royalties. Further, upon termination of the agreement, the recipient should retain free disposal of the technology, both for use in its own facilities and for sub-license to others, which should be encouraged in view of the growing South-South trade in technology. In many other respects, the know-how contract with absolute exclusivity is assimilated to a sale, for example when determining which law shall apply to the resolution of difficulties, or which tax status may be claimed by the supplier (capital gain rather than ordinary income).

Exclusivity, whether absolute or limited, should be considered in each area of importing, making, using and selling the products.

(b) Most-favoured licensee clause

This clause provides for the recipient to enjoy an equal treatment with all other recipients of the same subject matter. It is a standard practice in Anglo-Saxon contracts for non-exclusive licences. The wording of the clause may vary from case to case, but it usually includes an undertaking by the supplier not to grant any licence to a third party in respect of the conveyed technology without offering to make a corresponding amendment to the terms of the existing covenant, nor to enter into an agreement or more favourable terms without offering these more favourable or equivalent terms and conditions to the receiver.

In order to maintain their competitiveness, recipients of developing countries should insist on most-favoured licensee clauses whenever feasible, especially in know-how agreements with running royalties.

(c) Technical control

Technical control is in the interest of suppliers wherever a trademark is licensed together with the transferred technology. In other instances it may be primarily in the interest of the recipient, and a clause by which the supplier undertakes to carry out quality control, periodical inspection of products and plants could be a wise addition to the agreement. Nevertheless, it should be stressed that a transfer of technology operation aims precisely at giving the recipient the capability to independently conduct such checking operations.

As a consequence, technical control clauses should contain provisions stating, for example, that the supplier of technology undertakes to provide personal instruction in the method and procedures of control, with adequate opportunity being given to the trainees for asking questions, making notes and receiving manuals or other supporting means to carry out controls, possibly with visits to the supplier's control laboratories or workshops. Quality control provisions are often linked to warranty clauses.

(d) Miscellaneous

Many other obligations may be conveyed upon in specific consideration of the particular needs for successful transfer of technology operations. Some duties that are common to both parties are spelled out hereunder in section 4.

3. Obligations of the recipient

The recipient undertakes to carry out one main obligation, that is to pay the cost of technology.

3.1 Remuneration

The remuneration to be paid by the recipient is naturally enough the most important question which negotiators should settle before the execution of the agreement. It is often an intricate matter, and some negotiations on know-how contracts are known to have lasted years, while the average duration is not shorter than six months to one year.

The various forms of payments are easier to negotiate than the overall methods to compute adequate remuneration rates.

3.1.1 In the simplest case, the remuneration is based only on running royalties, that is a percentage of sales with a specific definition of what the net sales prices shall be and what product is subject to royalty. Sometimes, running royalties are assessed against another key indicator of the use of the technology by the recipient, such as industrial output under the agreement (number of units produced, etc.), or the value added through manufacturing under licence, or the cost saved by applying the technology. A whole array of payments are related to this concept of running royalties.

3.1.2 Minimal periodical royalties, the amount of which is determined by the remuneration that the supplier wishes to obtain in a case. Minimum royalties are prohibited by the registration agencies of many developing countries, on the grounds that the supplier should share the licensee's risk in the market place. As a consequence, suppliers are asking for front-end down payments that very often correspond to the capitalization of future minimum royalties. As a trade-off, maximum royalties may also be proposed to the supplier.

3.1.3 Variable royalties, the rate of royalties to be paid to the supplier depending on the production or sales exceeding certain values ("declining royalties") or on the inflation and other expected changes in market prices over the year ("self-adjusting royalties").

3.1.4 Differentiated royalties, which scale percentages with respect to the import and export market, or with respect to diverse periods of time (start-up period, period of head start over competitors, period of full-blown competition and flattening of prices).

3.1.5 Lump-sum payments are very common in know-how contracts. Unlike licences granted under a valid patent or a registered trade mark, know-how contracts are based on a volatile, constantly jeopardized monopoly of fact, which may dissipate all of a sudden. The higher the lump-sum payment, the safer the supplier shall feel against leaks and loss of secrecy, which may enhance mutual confidence. The usual way to calculate a lump sum is to capitalize whatever running royalties might appear appropriate in the case under consideration. Sometimes, lump-sum payments may be deducted from running royalties. Lump-sum payments are often paid in instalments over a period of time shorter than the duration of the know-how contract.

3.1.6 Lump-sum payments as a consideration made in lieu of running royalties are not a fee for the professional services to be rendered by the supplier of know-how. Accordingly, a fixed fee may be applied by the supplier to cover direct agreement-related expenses, such as the cost of negotiating the know-how agreement, the cost of preparing specific documents for the recipient, the professional fees of

lawyers, the labour of supervisors, co-ordinators, engineers and other personnel, travel and communication costs, and the sheer administration of the licence agreement. Some US licensors count on a cost of US\$25,000 a year to service each licence account.

3.1.7 Some professional services will be paid at a fixed rate per man-hour of service. Strict measures as to the effectivity and the necessity of the man-hours billed should be agreed upon by both parties at the negotiation stage, since it is a sensitive issue and a frequent source of dissatisfaction between partners. The same could be said of fixed prices for commodities or semi-manufactured goods that the supplier shall sell to the recipient.

3.1.8 Option fees are quite common in transfer of know-how operations. They are justified by the high risks at stake during the negotiation. If parties fail to reach an agreement, most of the supplier's trade secrets may have been discovered and understood by the prospective licensee. At times such a fee may also act as a good faith payment to the supplier, insuring him, for example, against misuse of know-how by the would-be recipient.

3.1.9 Conventional penalties are sometimes resorted to as a means to liquidate damages accruing to the supplier because of unlawful disclosure of his trade secrets. Clauses thereon should be worded so as to leave no doubt about the fact that the recipient will be found guilty of breach of confidence or of other improper conduct before having to pay the penalties. Payments at first request and assorted bank guarantees should be avoided in this regard.

Although these penalties should be encompassed in a review of the financial risks borne by the recipient, they do not represent a consideration for performance of the agreement, but an approximation of the actual losses suffered by the supplier. As such, in the case of litigation, most courts of law would consider reducing the amount of liquidated damages or disregarding it altogether, upon a showing that actual damages lay far behind the amount as mentioned in the contractual clause.

With the exception of contractual penalties, combination and cumulation of the various forms of payments listed above are frequently to be encountered in complex know-how contracts. Taxation considerations are of paramount importance. Equities in the recipient's companies are often accepted by suppliers. Barter operations, with payment partly under the form of manufactured goods shipped to the supplier of technology or a third party, appeal to an increasing number of partners.

3.2 Ancillary obligations

Various restraints are placed on the recipient of know-how:

- Obligation to maintain secrecy of confidential, technical and commercial knowledge imparted to him under the agreement, as long as they do not belong to the public domain.
- Prohibition of sub-licensing if not otherwise stipulated, unless this is an exclusive licence.
- Restrictions of the territory of use, the field of use, the site of manufacture (objectionable), the volume of production (reasonable in case of a lump-sum agreement), the persons authorized to use the know-how (a list of whom may be sent to the supplier from time to time).

- Cease-use provision upon termination of the agreement. That provision raises difficult policy issues. Should a national agency of a developing country oppose it on the grounds that scarce capital invested in transfer of technology operations should not be wasted by such a prohibition?

If a climate of good working relationships between the parties is to be favoured the supplier should be made to feel secure that, if the licensee wilfully frustrates the contract before its expiry, no continuing use (or misuse) of know-how can take place.

- Obligation to supply all necessary technical and commercial information. The good performance of the recipient's obligations necessitates a continuous exchange of information. The experience which is accumulated by the recipient in the utilization of the conveyed know-how may prove very useful to other recipients having plants in a similar environment, for example as far as tropicalization of electronic equipment or protection against high humidity rate detrimental to some industrial processes are concerned. Patentable or, at least, very innovative improvements made by the recipient should not be transferred to the supplier for the sole benefit of the latter. Therefore, many profit-sharing schemes are agreed upon in know-how contracts; for example, the recipient may retain all rights on a patentable invention that was made by its engineers at its facilities, but the supplier is granted a non-exclusive (or exclusive, as the case may be) licence for some markets, or worldwide outside the contractual territory of the recipient with the right to sub-license against the sharing of royalties paid by the sub-licensees.

Correct implementation of the financial obligations of the recipient supposes an inspection of its books by the supplier or, preferably, by a third, neutral party, for example a chartered accountant or an international auditing firm. Inspection of production or shipment facilities is sometimes requested by the recipient.

Periodical reports to the supplier are usually mandatory for the recipient.

4. Common obligations

Among the various legal obligations that are stipulated in know-how contracts, some may bind either the supplier or the recipient, or both, as the circumstances may dictate.

For example, the cost of advertising campaigns are often shared between suppliers and recipients when trade marks are included under the know-how agreement.

Precise apportionment or expenditure limitation for the costs of litigation with third parties, and responsibility for notification of infringement suits should be regulated in every contract. Suspension of royalties or deposit in an escrow account in the event of an infringement suit being brought against a licensee is a commendable clause.

Termination of the agreement is always dealt with in a detailed group of clauses mentioning default or insolvency of a party, minimum royalties not made, etc. Procedures that are foreseen therein are binding for both parties. Experience shows that

the good faith and candid behaviour of the parties weigh as much in the balance of a judge as the technicalities of the agreement, when the issue of termination arises in a litigation.

Other clauses should precise the law governing the contract, the conciliation and arbitration procedures, the consent to jurisdiction, the responsibilities as regards the filing and approval of the know-how agreement, by administrative and fiscal authorities, the tax burden, the banking connections and guarantees, the possible insurance schemes for product liability and for the personnel in charge of instructing or learning the technology, the renegotiation of the agreement, the keeping of records, the force majeure, the rights and duties of affiliate companies, the consequences of a take-over of one of the parties by a third party, the authorized addresses for the purpose of the agreement, and other more or less important technicalities, such as transitional business, use of a given language in the execution of the agreement and in the instructions thereunder, marking of the products, severability, whole-content clause, disclaimer of agency, etc.

MEETINGS

23-26 March. Industrial Investment Programming Meeting. (UNIDO meeting), Vienna, VIC, Conf. Rm. IV.

30 March - 8 April. Chinese Investment Promotion Meeting at the Hanover Fair 1987. (UNIDO meeting), Hanover, Federal Republic of Germany.

30 March - 16 April. UNCITRAL - Working Group on the New International Economic Order, 9th session. New York, USA.

6-10 April. Workshop on Hazardous Materials/Waste Management, Industrial Safety in Chemical Industry and Emergency Planning: Guidelines for Governments and Industries - A Plan of Action for UNIDO. (UNIDO meeting), Vienna, VIC, C0713/15

20-23 April. Meeting for the Promotion of Joint Ventures among Islamic Countries in Selected Less Developed Islamic Countries. (UNIDO meeting), Istanbul, Turkey.

April. Investment Promotion Meeting for Egypt. (UNIDO meeting), Cairo, Egypt.

15-18 May. Investment Promotion Meeting for Indian Ocean Islands. (UNIDO meeting), Mauritius.

1-5 June. First Consultation on the Fisheries Industry. (UNIDO meeting), Gdansk, Poland.

22-24 June. Consultative Meeting on the Development of the Industrial Sector of Senegal. (UNIDO meeting), Vienna, VIC, Conf. Rm. II.

22-26 June. UNIDO/UNDP Workshop on the Planning, Design and Construction of Mini Hydro-power Plants. (UNIDO meeting), Vienna, VIC, Conf. Rms. III, VII, C0777, C0713/15.

JOURNAL OF THE LICENSING EXECUTIVES SOCIETY

As a result of the UNIDO/LES meeting held in November 1986 in Vienna, we agreed to reprint the table of contents of the Licensing Executives Society's journal LES Nouvelles which appears quarterly. Should any of our readers wish for a copy of any article appearing in the LES Nouvelles, kindly write to Mr. Jack Stuart OH, Editor-in-Chief, 1444 W.10th Street, Cleveland, Ohio 44113, USA.

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PI/95/Rev.1 Investment promotion information system (INPRIS)

IPCT.2 Regional Meeting in Africa, in preparation of the First Consultation on the Fisheries Industry, Dakar, Senegal, 16-19 September 1986. The fisheries sector in the countries of Africa

IPCT.7 Second Meeting of the Advisory Group of Industrial and Technological Information Bank (INTIB), Vienna, Austria, 1-3 October 1986. Elements of INTIB medium-term programme

IPCT.8 Second Meeting of the Advisory Group of Industrial and Technological Information Bank (INTIB), Vienna, Austria, 1-3 October 1986. Report

IPCT.9 Guidelines for the evaluation of contractual arrangements in the fast food sector in developing countries

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IPCT.10 Guide on guarantee and warranty provisions in transfer of technology transactions

IPCT.11 Eleventh TIES (Technological Information Exchange System) meeting. Warsaw, Poland, 10-13 November 1986. Draft report

