



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

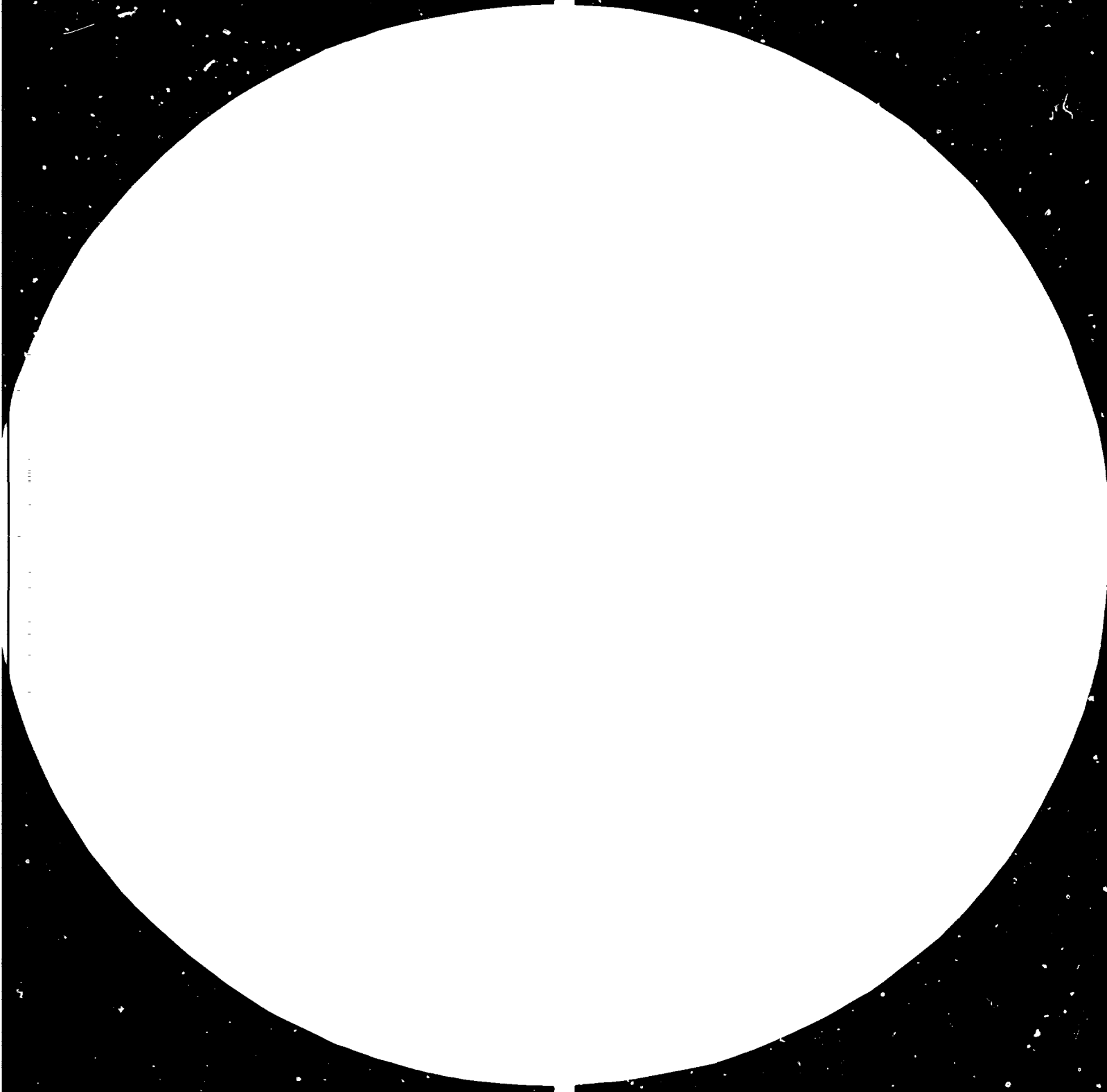
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





3.6



MILITARY PHOTOGRAPHIC RESEARCH SOCIETY

1000 WASHINGTON AVENUE, WASHINGTON, D.C. 20001

10934

Distr.
LIMITED
UNIDO/IO.471
30 September 1981
ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

REPORT ON THE SEMINAR ON FURNITURE AND JOINERY INDUSTRIES *
held in Lahti, Finland, 3 to 22 August 1981

by

Antoine V. Bassili
Senior Industrial Development Officer
Agro Industries Branch
Division of Industrial Operations

000000

* This document has been reproduced without formal editing.

V.81-30359

TABLE OF CONTENTS

	<u>Page</u>
1. Purpose of the mission	1
2. Attendance	1
3. Participants	1
4. Programme of the Seminar	3
5. Documentation	4
6. Seminar Library	5
7. Seminar Assignments	6
8. Administrative matters	8
9. Press coverage	10
10. Evaluation	10
11. Assessment of the Programme	11
12. Other matters	11
13. Acknowledgements	12

ANNEXES

I. List of participants and observers	13
II Response by member states to invitations to participate in the furniture and joinery seminars	16
III Programme of the seminar	17
IV Topics for seminar assignments	21
V Seminar budget	24
VI Compilation of replies (Evaluation - Group Training programmes)	26
VII Proposal for a seminar on production management in the furniture and joinery industry	38

1. Purpose of the mission:

A staff member of the Agro-industries Branch of the Division of Industrial Operations, Mr. Antoine V. Bassili, went to Finland to attend and help conduct the tenth UNIDO Seminar on Furniture and Joinery Industries which was held in Lahti from 3 to 22 August 1981.

2. Attendance:

UNIDO had selected 24 participants to attend the Seminar. A total of 22 candidates attended the Seminar at UNIDO's expense, the candidates from Argentina and Panama did not attend, and since there were no stand bys, they were not replaced. One more person, Mr. Juan Carlos Burneo from Ecuador, attended the Seminar at his own expense. The list of participants is given in Annex I. All the participants arrived on the day preceding the opening day as foreseen.

3. Participants:

Because of the late approval of the funding and the consequent delay in issuing the invitations (which were cabled), the response was not as good as in previous years. In order to get a sufficient number of candidates nominated in the time allocated (one month instead of four) UNIDO had decided to inform Governments of Member States that it would accept reconsidering candidates that had been submitted in previous years and who were either selected and could not attend, or were stand-bys or even had been "recommended with reservations" but not been included among the stand bys because of the large number of candidates. Among the candidates selected were three teachers at vocational training institutes in developing countries, which, although professionally qualified, would not have been included in previous years because of the limited possibility they have to introduce changes in their countries' furniture and joinery industries and two teachers of furniture design.

The group was homogeneous. All the participants were of an acceptable technical level. (This opinion was shared by the Finnish Director of the Seminar, Mr. Pekka Paavola).

All participants were keen on getting as much information as possible out of the lecturers, visits and demonstrations and did so continuously. None had any difficulty in expressing himself in English.

This is the tenth such Seminar that UNIDO has organized in collaboration with the Government of Finland, and the organizers have by now a clear idea of the level of participants to be expected in any country.

The fact that the group this year included teachers and designers leads the organizers to confirm their previous criteria; namely that preference should be given to persons having direct industrial experience and responsibilities.

Reports of previous Seminars stated: "The response UNIDO has received for the nine Seminars is such that it can be repeated for more than three years merely by inviting only those participants nominated in the first nine Seminars who would have qualified if more places were available." This is what happened to a certain extent in 1981, though the standard was not greatly lowered. (This is an indication of the large number of good candidates nominated in normal years.) In the ten Seminars held so far 258 participants and observers have attended but a total of 338 would have qualified out of the 638 nominated. Details are given in Annex II. This year, participants from 19 countries attended the Seminar. In the ten Seminars held so far, participants from 55 different countries have attended.

As the Seminar (and UNIDO) is becoming better known by the furniture industries of the developing countries some governments have increasingly nominated industrialists, and persons capable of making a direct impact upon their return, and have refrained from nominating teachers or researchers (or bureaucrats) while others have continued to nominate civil servants. Because of the good response in normal years, the participants selected were restricted to the former category who would stand to benefit far more from attending the Seminar.

4. Programme of the Seminar:

The programme of the Seminar is given in Annex III. It consisted of 59 hours (49.5%) of lectures, 9.5 hours (7.6%) of demonstrations in the Laboratories of the Lahti Institute of Technology and the adjoining Vocational School, 26.5 hours (22.3%) of plant visits, 5.5 hours (4.2%) on background information, opening ceremonies and administrative matters, 8.5 hours (7.1%) of panel discussions and 11 hours (9.3%) of presentation of Seminar assignments.

The lectures were all of the appropriate standard. Whenever appropriate they were complemented with practical demonstrations in the laboratories of the Lahti Institute of Technology. The lecture on design of jigs for use in the furniture industry, and the corresponding demonstration (based on the recently published UNIDO document ID/265) was deemed to be exceedingly popular and useful by all concerned. On the other hand, those on Low Cost Automation and Production Engineering were deemed, by the participants, to be too theoretical. In the case of the former this could be attributed to the fact that it was interpreted. On the last day, a possibility was given to participants to visit factories of particular importance to them. They could choose any three from among the following:

- Production of rigid plastic shells for upholstery ^{1/}
(Kosofinn Oy) (0)
- Production of plywood (W. Schaumann Oy) (5)
- Production of metal components for furniture (Mantere) (0)
- Visit to a small tool maintenance center (5)
- Manufacture of prefabricated wooden houses doors,
sawmill, drying kiln (Rauma Repola) (5)
- Showroom of a woodworking machinery importer (Penope Oy) (0)

The majority of the participants (18) however chose to attend a three hour demonstration of surface finishing for small plants, given by Mr. Kaarlo Ilonen at the Vocational Training School.

^{1/} Numbers in brackets refer to number of participants who participated in the visits.

The author gave a one hour lecture one evening on the work of UNIDO (with special reference to the wood-processing industries) and a two hour lecture on selection of woodworking machines for developing countries. Both lectures were well received. On Saturday 15 August he conducted a two hour round table discussion with eight participants specially interested in the use of wood in housing in developing countries. This led to a very fruitful exchange of ideas. A film on quality control of furniture was obtained and shown to participants. It was highly appreciated.

5. Documentation:

The participants were given the revised and edited text of a selection of the lectures presented at the first two Seminars (UNIDO document ID/108 Rev.1) totalling 380 printed pages. These were complemented by the text of lectures not yet in this UNIDO publication which were handed out to them (for details see below).

Each participant was to prepare a country paper, which was reproduced after the Seminar and will serve as background material. Other background material consisted of two of UNIDO's guides to sources of information (ID/188 and ID/214), a study on the production of wooden houses (ID/61), one on low cost automation (ID/154), the report of the technical meeting on selection of woodworking machines (ID/133), the report of the Workshop on Woodworking (ID/180), and the UNIDO portfolio of Woodprocessing Technologies (IOD/240/Rev.1) as well as texts of the lectures given not included in ID/108 Rev.1 (namely ID/WG.256/26, ID/WG.302/1 and 3, ID/WG.323/1 and 2). Also given to the participants were the UNIDO publications "Production Technology for the Use of Wood in Housing Under Conditions Prevailing in Developing Countries"(ID/10), "Wood as a Packaging Material in Developing Countries" (ID/72) and "Production of Panels from Agricultural Residues"(ID/79).

The following books were distributed to the participants:

1. Dry Kiln Operator's Manual. Agriculture Handbook No. 188 - U. S. Department of Agriculture, Forest Service - March 1961, Reprinted 1979.
2. Technical classification of Woodworking Machines and Auxilliary Machines for Woodworking. EUMABOIS, 1980.
3. Wood Residue. TRADA, 1979
4. Furniture Literature by Patricia Bristow ALA. FIRA 1975.
5. Furniture Literature Supplement 1976, by Patricia Bristow ALA, FIRA, 1976.
6. Furniture Literature Supplement 1979, by Patricia Bristow ALA, FIRA, 1979.
7. Methods Study and the Furniture Industry by R. H. Glossop, Pergamon Press, 1970.

Because of the late approval of the Seminar the other books, also handed out in previous years, did not arrive in time for distribution. This did not seriously affect the quality of the Seminar since all these text books are only "background material".

6. Seminar Library:

Some relevant books, catalogues of equipment, etc. in English at the Lahti Institute of Technology's Library, and those purchased for the Seminar from the Ministry of Foreign Affairs' funds as well as relevant UNIDO documents formed the nucleus of a "Seminar Library" which operated during the entire seminar. Participants made full use of it, mainly through browsing through the books and catalogues during the breaks, but some participants borrowed books regularly.

Photocopies of articles of special interest to the various participants were made available upon request. Interest was also shown in the UNIDO portfolio of wood processing technologies, the aims of which were explained to participants.

7. Seminar Assignments:

At the beginning of the Seminar, the participants were requested to indicate their interest in the following main fields:

- | | |
|---|------|
| (1) Product development and technical product design | (8) |
| (2) Value analysis | (6) |
| (3) Production planning | (13) |
| (4) Quality control operations | (7) |
| (5) Design of jigs | (1) |
| (6) Plant layout | (6) |
| (7) Selection of machines | (5) |
| (8) Low-cost automation | (4) |
| (9) Tool and machine maintenance | (3) |
| (10) Marketing | (4) |
| (11) Monitoring the performance of a dehumidifier type kiln | (2) |

The numbers in brackets indicate the number of participants in each group and also reflects their relative interest in the various topics. One or two discussion leaders were nominated for each group to co-ordinate the work and present the conclusions except in the case of production planning for which eight participants were selected. Each group was allocated about one to one and a half hours to do so.

Assessment of Seminar Assignment:

Group 1: Product Development

Presented by Mr. Iman Zainuddin who presented an overall view of a Mexican design. Each member of the team then presented his own design. Very good drawings. Very good perspective and overall picture, very good presentation of assumptions. Good individual drawings, good presentation. A lot of work went into it. Messrs. Ching and Tang prepared an alternative of a Chinese design. This was good work with good drawings, but due to lack of time was not presented formally.

Group 2: Value Analysis:

Presented by Mr. Moranchel: Good in depth study of the case, but not as good as last year's case.

Group 3: Production Planning:

Presented by Mr. Aung: Good work with respect to studies on timber needed, kiln scheduling, and process flow. Did not complete the planning of machine utilization. On the whole acceptable.

Group 4: Quality Control Operations:

Presented by Mr. Ng: Very good presentation - in depth analysis of what can go wrong.

Group 5: Design of jigs:

Presented by Mr. Athalie: Acceptable performance, bearing in mind that this was a one man job.

Group 6: Plant layout:

Presented by Mr. Othman. Well thought out and presented (Based on the actual conditions in his plant.) Went to a lot of trouble to study actual constraints.

Group 7: Selection of Machines:

Presented by Mr. Hwang: This was a good lucid presentation, including as examples mistakes their corporation made in purchasing an automatic painting line some years ago.

Group 8: Low cost automation:

Presented by Mr. Awudu: Good analysis of when to automate and what to automate, even went into how to automate (giving circuits), but lower "performance" when it came to the circuit's design.

Group 9: Tool and Machine Maintenance:

Presented by Mr. Bheemsingh: Good in depth presentation, bearing in mind he is not a production man. Put in considerable thought. Well above what could be expected from a vocational teacher.

Group 10: Marketing:

Presented by Mr. Knoppel: Export marketing: Good, thorough, experienced presentation by someone who knows what he is speaking of. It was well presented. Local marketing: Presented by Mr. Joymungul: This was catastrophic. Was not even able to present the situation in his own country. I had to take over and lead the discussion.

Group 11: Monitoring the performance of a dehumidifier kiln:

Presented by Mr. Semey: Barely acceptable. He merely described the system and formulae, but poor analysis of results.

Audio visual aids were used extensively in the presentations, and the author brought back copies of most of the overhead projector films.

Work on the assignments started early and was keenly pursued - even during week ends - by all concerned and the standard was quite high.

In preparing the assignments numerous discussions were held among the participants. In all cases audience participation and discussions were keen. It was obvious from the presentations that the participants had put long hours into preparing their assignment work.

Further details on the topics of the assignments are given in Annex IV.

8. Administrative matters:

Local arrangements:

The Finnish organizers maintained high standards and had thought of practically everything in advance. Everything was efficiently carried out.

Financial matters:

For the first time ever, the entire costs of the Seminar were covered by the Government of Finland, through a special contribution

in cash to UNIDO to pay for the travel of the 22 participants and training material, and, as in previous years, a contribution in kind to cover local costs.

The travel and per diem of the UNIDO staff member was borne by UNIDO from his Division's Regular Budget Travel Funds.

Furthermore, an observer, from Ecuador attended the Seminar at no cost either to the Government of Finland or to UNIDO.

The Government of Finland's contribution totalled FM 751,952 (US\$ 165,264 approximately). The detailed breakdown of both budgets (in cash and kind) is given in Annex V.

Because of the late approval of the project, invitations were sent out much later resulting in a far poorer response than on other years. (Consequently, after evaluating the nominations received it was agreed that only 24 participants be invited to attend, instead of the 30 budgeted for.) As a result of this, not all the sums budgeted would have been spent. Furthermore, because of the delay in approving the project, it was impossible to request an allocation from a project to cover the Staff Member's travel to Finland, and this travel and per diem was financed from the Division's travel funds in UNIDO's Regular Budget.

Hospitality:

Because of the late approval of the budget by the Finnish authorities, UNIDO did not have material time to allocate funds for its reception. Notwithstanding, this, a reception was held on the last day, as foreseen, financed by contributions in cash from the following firms:

- Asko-Upo OY
- OTK/Sotka
- Isku OY
- Peem OY
- A-I Consultants Oy

and in kind from Messrs. Sinuhe Oy and Mallasuoyma Oy. It was attended by the participants and a large number of lecturers, managers of plants

visited and others associated with the Seminar.

Documentation:

UNIDO documents were shipped in advance and arrived in time for the Seminar. Several books to complement these and serve as background material were ordered but all did not arrive in time.

Travel arrangements:

A tentative reservation was made in time for all participants to arrive on the same flight and proceed to Lahti directly - as in previous years, and all arrived in time to take the special bus to Lahti.

Each participant was given an MCO for 10 kgs excess baggage from Helsinki to his home town to enable them to take with them the documentation.

9. Press coverage:

The Finnish press gave ample coverage to the Seminar on the opening day the local paper having an article and a photo. and the national press agency sent a reporter to interview the Director and some participants for an in-depth article.

Copies of these press clippings were sent to UNIDO's Information Services.

10. Evaluation:

UNIDO's forms for the evaluation of the Seminar (entitled "Evaluation of in-plant group training programmes") were handed over to all the 22 participants on 17 August and collected, duly filled out by them on 20 August. The replies were compiled and the detailed compilation is given in Annex VI. It is quite clear from the replies that the course's contents meets the needs of the participants, and that the local arrangements were deemed by all to be more than merely satisfactory. It must also be pointed out here that the positive attitude of the management of the factories (both during panel discussions and during the visits) were greatly appreciated by all the participants.

11. Assessment of the Programme:

All lectures were of the expected standard and depth. As in every year, those given by Mr. P. Paavola were the most popular; this being due to his experience as a teacher, his knowledge of conditions in developing countries, and the interest he shows in making the course a success.

Its success rests to a large extent on his efforts, by the time taken by persons from industry to participate as lecturers, members of panels, and to open their factories.

All administrative arrangements were excellent.

12. Other matters:

On 21 August 1981, the author had the opportunity of meeting Mrs. Rauni Turkia of the Ministry for Foreign Affairs who had come to listen to the presentation of the Seminar assignments and to attend the UNIDO reception that evening. She also visited the facilities of the Lahti Institute of Technology's laboratory and workshops. The author's impression is that the presentation of the assignments by the participants made a good impression on her. On this occasion he discussed with her the problems encountered in 1981 due to the late approval of the project and also explained to her the need for commissioning a study on value analysis (budgeted for US\$ 4,000, the need to revise the text of the lectures - some of which are now ten years old - to incorporate developments in the industry and also the utility of introducing in the course audio-visual teaching methods using video cassettes and television screens. He expressed the hope that, notwithstanding the decision taken in 1981, funds for these activities (totalling US\$ 12,000) could be made available in 1982, specially as the budgeted figure for 1981 was not spent, only 23 participants and not 30 having attended the Seminar.

He also reiterated the suggestion made last year to Mr. Johansson and Mrs. Teravainen concerning the possibility of convening a Seminar on production management in the furniture and joinery industry, stressing once again that the programme of this seminar had reached saturation

point and that it could be improved by removing certain subjects which would be dealt at greater depth in the new Seminar. Furthermore, UNIDO and the Government of Finland had by now financed the participation of 258 participants who would stand to benefit from attending this more specialized course. Without any commitment, she stated that if UNIDO represented the case, it would be considered by the Ministry on its merits. Consequently, the proposal originally made last year is again appended as annex VII of this report.

12. Acknowledgements:

The author hereby wishes to express his gratitude to Mr. Pekka Paaavola, the Director, Mr. Olavi Kujanpää, the Administrative Officer, Ms. Auli Rytöksöki, the Interpreter and Ms. Arja Husu, Secretary of the Seminar, for all the assistance given to him during the Seminar and the great pains they went through to assure its success; to all the members of the Steering Committee of the Lahti Institute of Technology, Lecturers, managers of plants - who opened their doors to participants, answered numerous questions and provided excellent hospitality - who are too numerous to be listed individually, must find in these lines his thanks for the considerable time and efforts they contributed to assure the Seminar's success.

ANNEX I

LIST OF PARTICIPANTS AND OBSERVERS

<u>PARTICIPANT</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
<u>BURMA</u>		
Mr. AUNG Soe	Deputy Manager Furniture Factory Timber Corporation	Ahlone P.O. Rangoon
<u>CAMEROON</u>		
Mr. Clément Edmond André SEMEY	Ingénieur des Eaux et Forêts Centre de Promo- tion du Bois	B.P. 369 Yaounde
<u>CHINA, PEOPLE'S REPUBLIC OF</u>		
Mr. HUANG Yuyan	Chief Engineer Beijing Woodworking Industry Corporation	12 Bei Chizi Street Beijing
<u>CYPRUS</u>		
Mr. Christos ANTONIOU	Limited Partnership	Hermes Street No. 270 Nicosia
<u>ETHIOPIA</u>		
Mr. Hailu BELAINEH YEMAME	Production Manager Wanza Wood Work	P.O. Box 3419 Addis Ababa
<u>GHANA</u>		
Mr. Cariba AWUDU	Managing Director Ehwia Wood Products Ltd.	P.O. Box 3813 Kumasi
<u>HONG KONG</u>		
Mr. CHING Chun-Sang William	General Manager Dragonwood Furniture Co.	340 Ocean Centre Tsimshatsui Kowloon
Mr. TANG Ming Ching Andy	Managing Director Onward Furniture Pty. Ltd.	G.P.O. Box 2762 Hong Kong

<u>NAME</u>	<u>PROFESSION</u>	<u>MAILING ADDRESS</u>
<u>INDONESIA</u>		
Mr. Iwan Buchori LAIBODEN	Product Designer/Lecturer Bandung Institute of Technology, Department of Art & Design	Jalan Ganesha 10 Bandung
<u>JORDAN</u>		
Mr. Mohammed Salim OTEMAN	General Manager (Eng.) Forum Furniture Co. Ltd.	P.O. Box 1261 Amman
<u>MAURITIUS</u>		
Mr. Karl Pierre ATEALLE	Senior Technical Instructor (Carpentry & Joinery) Industrial Trade Training Centre	6, Engrais Martial St. Eau Coulee Curepipe Road
Mr. Chattr BHEEMSENGH	Training Officer Trade Training Centre Development Works Corporation	Royal Road St. Julien D'hotman
Mr. Toolseeparsad JOEMUNGUL	Director (Technical) Decora Ltd.	Galea Rd Phoenix
<u>MEXICO</u>		
Mr. Sugaris Roberto Hemar MORANGUEL	Professor Investigator of the Design Division, Department of Technology and Production Universidad Autonoma Metropolitana	Calle Nabor Carrillo # 101 B Olivar de los Padres Mexico 20 D.F.
<u>NEPAL</u>		
Mr. Rohini WEAPALIYA	Director Shree Padma Saw Mill & Furniture Factory	Gyaneswor Kathmandu
<u>PAKISTAN</u>		
Mr. Ali AHMED	Managing Director M/S Comforta Traders	Gamar Chamber M. 1620 Near Naz Cinema Murree Road Rawalpindi
<u>PHILIPPINES</u>		
Ms. Thelma Villapando ALEAMBRA	Industry Development Specialist Ministry of Industry	Industry and Investments Bldg. 185 Buendia Ave. Ext. Makati Metro Manila
<u>SINGAPORE</u>		
Mr. CHAN Choo Kai	Factory Manager Eup Cheong Pte Ltd	No. 1 Chia Ping Road Jurong Singapore 2261

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
Mr. Sunny NG	Senior Training Officer - Woodworking Vocational & Industrial Training Board	c/o Baharuddin Vocational Institute Stirling Road Singapore 0314
<u>SURINAME</u>		
Mr. George H. KNOPPEL	Furniture Factory Owner Rhashena Intermeubel	P.O. Box 222 Paramaribo
<u>URUGUAY</u>		
Mr. Jose Luis CURCIO BADO	Production Supervisor - Sales Duplex - Muebles Ltda and Multimebles	Colonia 1260 Montevideo
<u>ZAMBIA</u>		
Mr. Ben Sitwala SIYAMBANGO	Sawmill Manager Zambesi Sawmills (1968) Ltd	Box 60041 Livingstone
<u>OBSERVER</u>		
<u>ECUADOR</u>		
Mr. Juan Carlos BURNEC	General Manager - Designer Incarma S.A.	P.O. Box 1221 Quito

ANNEX II

RESPONSE BY MEMBER STATES TO INVITATIONS TO PARTICIPATE IN
THE FURNITURE AND JOINERY SEMINARS

	1971	1972	1973	1974	1975	1977 ^{1/}	1978	1979	1980	1981	TOTAL
Number of countries invited by UNIDO to nominate candidates	47	42	40	47	53	57	54	58	60	63	n.a. ^{2/}
Number of candidates nominated by the Governments	51 ^{3/}	56	66	61	59	102	65	82	80	46	668
Number of candidates who would qualify to attend	33	43	44	45	36	38	30	39	38	24	370
Number of participants who actually attended	19	25	27 ^{4/}	25	26 ^{5/}	30	22	31 ^{6/}	30 ^{7/}	23 ^{8/}	258
Number of countries from which participants who attended actually came	18	19	19	14	17	22	13	20	22	18	182

1/ No seminar was held in 1976.

2/ Most countries were invited to nominate participants for all ten seminars.

3/ Excluding 13 candidates from European countries not acceptable to Finland.

4/ Including two participants attending at their own costs.

5/ Including three participants attending at their own cost.

6/ Including two participants attending under a fellowship of project DP/CMR/77/006.

7/ Including one participant attending at her own cost.

8/ Including one participant attending at his own cost.

ANNEX III

PROGRAMME OF THE SEMINAR

3 - 23 August 1981

Monday, 3 August 1981

09:00 - 09:30 Opening Addresses, Hotel Seurahuone
 Mr. David Johansson, Ministry for Foreign Affairs
 of Finland
 Mr. Olli Pessala, City of Lahti
 Mr. Antoine V. Bassili, Delegate of UNIDO, Vienna
 Austria
 Mr. Pekka Paavola, Director of the Seminar, Lahti
 Institute of Technology

09:30 - 10:30 Introduction of participants

10:30 - 11:30 Information on Finnish Furniture and Joinery Industries
 Mr. Christer Antell

11:30 - 12:00 Information on Lahti for participants, Mrs. Riitta
 Luhtala, Lahti City Tourist Office

12:00 - 13:15 Lunch at Hotel Seurahuone

13:30 - 15:30 Visit to Muurame Oy, Furniture Factory, Salpakangas

15:30 - 17:30 Medical Check-up

19:00 - 21:00 Ministry for Foreign Affairs Reception, Hotel
 Seurahuone

Tuesday 4 August 1981

08:30 - 11:30 Properties and use of glues in furniture and joinery
 industries, Professor Jaakko Meriluoto

13:00 - 14:00 Properties and Use of glues ... (continued)

14:00 - 16:00 Wood based panels, Mr. Pekka Paavola, LIT + Professor
 Meriluoto

16:00 - 17:00 Information on Seminar Assignments, Mr. Antoine V. Bassili
 Delegate of UNIDO

Wednesday, 5 August 1981

- 08:30 - 11:30 Solid Wood as raw material for furniture and joinery industries, Mr. Pekka Paavola, LIT
- 13:00 - 16:00 Visit to Sotka Oy, furniture factory, Lahti
- 16:00 - 18:00 Kiln drying
Introduction
Demonstration
Mr. Osmo Moilanen, LIT

Thursday, 6 August 1981

- 08:30 - 11:30 Technical Product design, Mr. Pekka Paavola, LIT
- 13:00 - 16:00 Visit to Lahden Puutyö Oy, furniture factory, Lahti
- 16:00 - 17:00 Technical product design (continued)
- 18:00 - Sauna and high tea, Mukkula Summer Hotel

Friday, 7 August 1981

- 08:30 - 10:00 Selection of woodworking machinery, Mr. Antoine V. Bassili, Delegate of UNIDO
- 10:00 - 11:30 Polyurethane in furniture industry, Mr. Raimo Väkevä, Espe Oy
- 13:00 - 17:00 Product Development, Mr. Ahti Keronen, Oy Polardesign Inc.

Saturday, 8 August 1981

- 11:45 - 13:00 Lunch by City of Lahti, Restaurant Fellmanni
- 13:00 - 15:30 Tour of Lahti

Sunday, 9 August 1981

- 10:30 - 14:00 Tour of Hollola

Monday, 10 August 1981

- 08:30 - 11:30 Furniture Technology, Mr. Pekka Paavola, LIT
- 13:00 - 15:00 Visit to Sopenkorpi furniture factory, Lahti.
- 15:00 - 18:00 Demonstration of production jigs in machining laboratory, Mr. Pekka Paavola, LIT and Mr. Kaarlo Ilonen, Vocational School
- 18:00 - Sauna and High Tea, Mukkula Summer Hotel

Tuesday, 11 August 1981

- 08:30 - 11:30 Furniture Technology, Mr. Pekka Paavola, LIT
11:30 - 13:00 Visit to Asko-Uppo Oy, furniture factory, Lahti
(incl. lunch)
13:00 - 18:00 Value Analysis (including case study), Mr. Arto
Juva, AJ-Consultants Oy

Wednesday, 12 August 1981

- 08:30 - 11:30 Production economics, Mr. Jouko Vuorinen
13:00 - 15:30 Upholstered furniture technology, Mr. Arto Juva,
AJ-Consultants Oy
15:30 - 17:00 Tool maintenance, Mr. Peter Wagner
17:00 - 18:00 Activities of UNIDO, Mr. Antoine V. Bassili, UNIDO

Thursday, 13 August 1981

- 08:30 - 11:30 Plant layout, Mr. Pekka Paavola, LIT
13:00 - 16:00 Visit to Varjosen Puunjalostus Oy, furniture factory,
Uusikylä
16:00 - 17:00 Plant layout (continued)

Friday, 14 August 1981

- 08:30 - 10:00 Methodology for establishing a new furniture factory,
Mr. Arto Juva, AJ-Consultants Oy
10:00 - 11:30 Low cost automation, Mr. Osmo Moilanen, LIT
13:00 - 15:00 Visit to Isku Oy, particle board factory, Lahti.
15:00 - 18:00 Low cost automation (including demonstration)(continued)

Saturday, 15 August 1981

- 08:30 - Preparation of seminar assignments
17:00 - 19:00 Informal discussions on the use of wood in housing in
developing countries

Sunday, 16 August 1981

Monday, 17 August 1981

- 08:30 - 11:30 Visit to Metsäliiton Teollisuus Oy, joinery factory,
Vääksy
13:00 - 17:30 Marketing of furniture and problems of export trade
Panel discussion of experts
18:00 - Sauna and High Tea, Mukkula Summer Hotel
From Folkloric to Modern Finnish Design, Slide show,
Mr. Ilmari Tapiovaara

Tuesday, 18 August 1981

- 08:30 - 10:30 Quality control of inputs and finished products and film show, Mr. Pekka Paavola, LIT
- 10:30 - 11:30 Furniture design - relations between design and industry, Mr. Ahti Taskinen
- 13:00 - 16:00 Furniture design and dimensioning for serial production
Mr. Mauri Laatikainen
- 16:00 - 17:00 Packaging for export, slide show, Mr. Pekka Paavola, LIT
- 17:00 - 18:30 Demonstration of high frequency glueing and jigs for assembly.

Wednesday, 19 August 1981

- 08:30 - 11:00 Visit to Peem Oy, furniture factory, Lahti
- 13:00 - 17:00 Furniture production
Panel discussion of Experts

Thursday, 20 August 1981

- 08:00 - 13:00 Factory visits for small groups according to individual wishes
- 08:30 - 12:00 Demonstration of simple surface finishing methods by Mr. Kaarlo Ilonen, Vocational Training School
- 13:00 - 17:00 Presentation of Seminar Assignments

Friday, 21 August 1981

- 08:30 - 11:30 Presentation of Seminar Assignments
- 13:00 - 17:00 Presentation of seminar Assignments (continued)
- 19:00 - UNIDO Reception
Mukkula Summer Hotel

Saturday, 22 August 1981

- 10:00 Departure for Helsinki
- 14:00 - 16:00 Tour of Helsinki

ANNEX IV

TOPICS FOR SEMINAR ASSIGNMENTS

1. Product Development:

Design of a hotel room: The design should be for a hotel room for a tourist resort. It should be producible by the furniture industry in developing countries, and, if possible, incorporate native culture - not another room of a chain of international hotels. It should use as little as possible fancy products not existing in developing countries. Production drawings of the furniture, cutting specifications of the inputs and if possible colour schemes should be prepared. Care should be taken not to waste material.

2. Value Analysis:

An existing chair should be re-designed using value analysis methods, taking into account cost, ergonomic and aesthetic values, production methods, etc.

3. Production Planning:

Plan the production of 500 chests of drawers, 1000 tables and 4000 chairs (serial production) to be manufactured in the factory with the given plant layout. The bottlenecks in the production are to be determined and the flow of every component through the plant shown. Manufacturing sequence cards are to be completed. Scheduling of production is to be determined and total time needed to produce all the items determined.

4. Quality Control Operations:

The quality control procedures to be introduced in the serial production of a chest of drawers should be determined and the instructions to the operations (including design of jigs, gauges, etc.) drawn up.

5. Design of jigs:

The jigs necessary for the production in series of a chair using simple machines should be designed giving detailed drawings, material specifications, etc., enabling their production.

6. Plant layout:

Plan the layout for extensions and/or improvements of a given existing plant of one of the participants.

Care should be taken in assessing the number and type of machines, the storage facilities between the machines, the safety and social requirements, etc.

7. Selection of Machinery:

The following matters should be covered and discussed:

- the types of machinery most useful to producers in developing countries;
- the identification of the criteria to be used in selecting them;
- the prerequisites for mechanisation, low-cost automation and the introduction of a new technology in a factory;
- the merits of new versus second-hand machinery.

8. Low-cost Automation:

The following topics should be covered for processes used in the furniture industry:

- when to automate;
- what to automate;
- how to automate.

Furthermore, the requirements in compressed air of the machines installed in a given plant (using the layout provided) are to be calculated, and the plan of the compressed air lines be determined, giving also the specifications of these lines and that of the necessary compressor(s).

9. Tool and Machine Maintenance:

The methodology for introducing preventive maintenance in a plant is to be outlined, covering:

- the importance of maintenance;
- the problems of purchasing and storage of spare parts;
- the determination of maintenance schedules in machines.

Also cover checking the accuracy of re-conditioned machines.

With respect to tool maintenance, cover the determination of need to sharpen tools and saws, how it is to be done, what care should one introduce in the storage of tools and their handling.

The need and advantages of central maintenance contracts as against a "do-it-yourself" approach for each plant are to be discussed.

10. Marketing:

Local marketing:

The following problems are to be discussed:

- marketing channels;
- quality labels and guarantees;
- marketing policy and range of products;
- product life;

Export marketing:

Cover the following topics:

- ways to enter a foreign market (enumerating alternative channels);
- need for market surveys importance of packaging, etc.
- exports through local associations and marketing channels;
- participation in fairs and other promotional activities;

11. Monitoring the Performance of a Dehumidifier Type Kiln:

The group will monitor the drying of a load of sawn timber in the Institute's dehumidifier type kiln. They shall report on the kiln's performance and compare it to other types of kilns.

ANNEX V

SEMINAR BUDGET

A. <u>Contribution of the Government of Finland:</u>		
I. <u>Payments in kind:</u>	F. M.	U S \$
11 Participants' travelling	9,000	1,978.02
12 Lecturers' travelling	7,800	1,714.29
13 Other travels (Paavola eg)	5,500	1,208.79
21 Housing/Mukkula	36,000	7,912.09
22 Meals	60,480	13,292.31
23 Hotel in Helsinki	3,000	659.34
31 Planning team	3,000	659.34
32 Seminar Director	11,000	2,417.58
33 Seminar Assistant	4,950	1,087.91
34 Secretary	11,936	4,255.60
35 Bookkeeping	1,363	299.56
36 Lecturers	24,640	5,415.38
37 Interpreter	5,500	1,208.79
38 Demonstrations	1,100	241.76
39 Setting (lab, jigs, etc.)	6,600	1,450.55
310 Construction + planning pneumatic appliances	2,000	439.50
311 Social security	4,750	1,043.96
41 Files	1,000	219.78
42 Reproducing, photocopies	3,000	659.34
43 Literature	500	549.45
44 Other materials	5,000	1,098.90
51 Health	4,500	989.01
52 Insurance	2,000	439.56
53 Reception	7,000	1,538.46
54 Office	7,000	1,538.46
55 Miscellaneous	2,381	523.30
60 Out of pocket expenses 30 x 700	21,000	4,615.39
	<hr/>	<hr/>
	254,000	55,824.18

II. Payments to UNIDO	F. M.	U S S
1. Participants' travelling to Finland	386,750.00	85,000
2. Excess baggage of participants	38,675.00	8,500
3. Costs of material (30 x 55,-)	7,507.50	1,650
4. Material transportation to Finland	3,867.50	850
	<hr/>	<hr/>
	436,800.00	96,000
14% overhead	61,152.00	13,440
	<hr/>	<hr/>
	497,952.00	109,440

B. UNIDO Contribution:

16-00 Headquarter Staff

16-12 Travel and per diem of a UNIDO staff member US\$ 2310 ^{1/}

N. B. To this sum must be added:

Salary of a professional staff member for three weeks in Finland	p.m.
Reproduction of documents	p.m.
Supply of UNIDO publications	p.m.
Administrative support	p.m.

1/ Out of UNIDO Regular Budget Funds

ANNEX VI

COMPILATION OF REPLIES

EVALUATION - GROUP TRAINING PROGRAMMES

Name of Participant: — Home country: —
Programme: Seminar on Furniture and Host country: Finland
Joinery Industries Year 1981

I. PRE-COURSE INFORMATION:

1. How was the introductory information you received in your home country about: (please mark an x in the suitable column)

	<u>Sufficient</u>	<u>Not sufficient</u>	<u>Missing</u>
Aim of the training	<u>14</u>	<u>6</u>	<u>1</u>
Content of the programme	<u>11</u>	<u>8</u>	<u>3</u>
Level of the programme	<u>14</u>	<u>5</u>	<u>3</u>

What, if any, other information do you feel should have been included:

- 1) Detail of the programme, schedules and side activities 3
2) All I got was 1980 aide-mémoire a few days before my departure

2. How many weeks before the beginning of the training programme did you receive the following information:

Information about the programme: 8 weeks	<u>2</u>
7 weeks	<u>1</u>
5 weeks	<u>1</u>
4 weeks	<u>2</u>
3 weeks	<u>7</u>
2 weeks	<u>2</u>
1 week	<u>4</u>
5 days	<u>1</u>

Being accepted to the programme: 3 weeks 3
2 weeks 12
1 week 6
5 days 1

Comments: Programme should be communicated before 3 weeks

Participants should be notified earlier 2

Correspondence passes through Ministry and this takes time

Notice too short 6

II. PROGRAMME CONTENT AND ORGANIZATION:

3. What is your opinion of the total duration of the course:

Too long 2

Just right 18

Too short 2

If not "just right", what, in your opinion, would be the most suitable duration for the course?

2 weeks 2

4 weeks 2

6 weeks 1

Please comment:

- 1) Too much knowledge in a very short time.
- 2) Many lectures and demonstrations need more time.
- 3) Lunch at Mukkula and longer lunch break.
- 4) 6 hours/day more rational - need 2 days to acclimatize.
- 5) More in the factory training.

4. State your opinion about the daily schedule:

Too heavy 7

Just right: 16

Too light

Comments:

- 1) 8 hours of lectures per day (on some days) too much 2
- 2) Assignments should be incorporated in working schedule.
- 3) Participants should not be confined to the classroom for a full day.

5. Would you suggest any changes in the general nature of the training programme?

No changes 7

- 1) All lecturers must speak English.
- 2) All the lecturers (except Paavola) should get a course on "teaching technology".
- 3) Lengthen the course or reduce the quantity of knowledge (indigestion of materials)
- 4) Course on human relations for Mr. Bassili
- 5) Factory visits in the morning.
- 6) More demonstrations than lectures 2
- 7) Lecturer on production economics must be changed.
- 8) More practical demonstrations
- 9) Reduce number of topics for assignments to have larger groups.
- 10) Demonstration on glues to complement lecture.
- 11) More time for factory visits according to own wishes.
- 12) Work on saturday mornings.
- 13) Assignment work (1-2 hours) at institute.

6. Do you feel that the training corresponded to your professional needs?

To a very large extent 9

To a large extent 8

To a sufficient extent 6

To a small extent

To a very small extent

Please comment:

- 1) Study the curriculum of the participants to make training more relevant (by a designer)
- 2) I am more in the commercial than technical side of the business.

7. Please give your opinion about the study visits (if any):

- 1) Most interesting part of the course 3
- 2) Very profitable for our business careers 4 (Varjonen 2 Metsaliitto 1)
- 3) Well prepared and interesting 3
- 4) Very good 5 (too brief 1)
- 5) Very useful - but selecting from the four plants on last day too much
- 6) Fewer visits but with longer duration.

Please suggest other study visits that might have been valuable:

- 1) More visits to plants using low cost automation
- 2) Wooden toys manufacture.
- 3) Foam manufacture
- 4) Tool maintenance
- 5) Wood preservation
- 6) More visits to smaller factories 2
- 7) Visit to furniture testing centre

8. What do you think of the general level of the training?

Much too high

Too high 3

Adequate 21

Too low

Much too low

Comments:

- 1) Level OK, problem is how to present and transmit the knowledge.
- 2) Some lectures too basic (glueing and solid wood)

9. Which subjects of the programme did you find most valuable?
(please state reason; for example new subject, my speciality,
relevant to my work, new information, etc.)

Subject:		Reason:
Furniture technology	<u>4</u>	Relevant to my work
	<u>1</u>	New information
	<u>1</u>	Very important
Technical product design	<u>2</u>	Relevant to my work
Product development	<u>1</u>	Relevant to my work
	<u>1</u>	Confronts the reality
Marketing Panel discussion	<u>1</u>	Relevant to my work
	<u>2</u>	Very practical knowledge
Demonstration of jigs	<u>2</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
	<u>1</u>	New information
	<u>1</u>	Very important
Plant layout	<u>3</u>	Relevant to my work
	<u>2</u>	Very practical knowledge
	<u>2</u>	New information
	<u>1</u>	Very important
Jig design	<u>4</u>	Relevant to my work
	<u>2</u>	Very practical knowledge
	<u>1</u>	New subject
	<u>1</u>	New information
	<u>1</u>	Very important
L. C. A.	<u>1</u>	Relevant to my work
	<u>2</u>	Confronts the reality
	<u>1</u>	Very important
Surface finishing	<u>2</u>	Relevant to my work
Factory visits	<u>1</u>	Very practical knowledge
	<u>1</u>	New information
	<u>1</u>	I am a factory owner
Wood based panels	<u>2</u>	Relevant to my work

Subject:		Reason:
Use of polyurethane	<u>1</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
Packaging for export	<u>1</u>	New information
Value analysis	<u>1</u>	Relevant to my work
	<u>1</u>	New subject
Tool maintenance	<u>3</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
All subjects were valuable (Vocational school teacher)		
Solid wood	<u>1</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
Properties of glues	<u>2</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
Selection of machines	<u>2</u>	Relevant to my work
	<u>2</u>	Very practical knowledge
	<u>1</u>	New information
Quality control	<u>2</u>	Relevant to my work
	<u>1</u>	Very practical knowledge
	<u>1</u>	Very important
Upholstered technology	<u>1</u>	New subject
Kiln drying	<u>2</u>	Relevant to my work
	<u>1</u>	New information
Production planning	<u>1</u>	Very practical knowledge
Seminar assignments	<u>2</u>	Practical way of imparting knowledge
Project planning	<u>1</u>	Relevant to my work

10. Which subjects of the programme did you find least valuable?
(please state reason; for example new subject, my speciality,
relevant to my work, new information, etc.)

Subject:		Reason:
L. C. A.	<u>1</u>	Content irrelevant to participants
	<u>2</u>	Poor instruction method
	<u>1</u>	Irrelevant to my work
	<u>2</u>	Too much theory
	<u>1</u>	Too elementary - should cover peculiarities
Value analysis	<u>2</u>	Inadequate instruction
Upholstery technology	<u>2</u>	Irrelevant to my work
	<u>1</u>	Lecture too short
Jigs		
Production Economics	<u>4</u>	Inadequate instruction
Methodology for establishing a new factory	<u>1</u>	Too elementary - should cover peculiarities
Solid wood	<u>1</u>	Too elementary - should cover peculiarities
Kiln drying	<u>1</u>	Too much theory
Product development		

11. Were there in your opinion any relevant subjects that were not adequately covered in the programme

Yes: 6 No: 13

If yes, what did you miss? (yes: see 10 above)

- 1) Labour relations (human relations)
- 2) Plant layout should be explained during visits in greater detail (these complement lecture)
- 3) Emphasis given on demonstration of jigs.
- 4) Tool maintenance: how to set up a small tool maintenance shop
- 5) LCA not adequately covered.

12. Which changes would you have preferred in the method of instructions?

	no changes	more	less
a) lectures	<u>13</u>	<u>3</u>	<u>5</u>
b) group work	<u>12</u>	<u>7</u>	<u>3</u>
c) demonstrations	<u>7</u>	<u>12</u>	

Comments:

- 1) Seminar assignments should be done in lecture time not in hotel rooms.
- 2) Shorten lecture time to vary daily topics 2 (infor. in book already)
- 3) Co-ordinate better the use of the meeting rooms (in the hotel)
- 4) Remind the lecturers to avoid monotonous lecturing.
- 5) More practical and less theoretical lectures.
- 6) Lecture on LCA too long. more demonstration.
- 7) More lectures with actual simultaneous demonstrations.
- 8) Practical experience should be added. Let them work for a day in a factory.

13. How did you find the general standard of the instructor with respect of:

	i) command of English	ii) method of instruction
Very good	<u>9</u>	<u>10</u>
Rather good	<u>8</u>	<u>5</u>
Fair	<u>5</u>	<u>3</u>
Poor	<u>2</u>	<u>2</u> (LCA)
Very poor		<u>2</u> (Prod.Econ.)

Please comment:

- 1) With the exception of Mr. Paavola there is an absolute ignorance of teaching technology (designer)
- 2) Except for Messrs. Paavola and Bassili and a few others, the rest had to labour to express themselves clearly during lectures.
- 3) One only was very poor.
- 4) Lecturer on production economics had difficulty in transmitting knowledge.
- 5) The above grades (rather good) are averages - some are excellent)
- 6) All are experts - some have language problems 2

14. Did you have sufficient time for professional exchange of views with:

	i) the programme staff	ii) fellow-participants
Yes	<u>16</u>	<u>18</u>
No	<u>6</u> (except for Messrs. Bassili and Paavola)	<u>4</u>

Comments:

1) Programme too heavy to find time 2

15. How much did you benefit from these exchanges of views with:

	i) the programme staff	ii) fellow-participants
A great deal	<u>10</u>	<u>7</u>
Much	<u>6</u>	<u>4</u>
Somewhat	<u>5</u>	<u>10</u>
Little		<u>2</u>
Not at all		

Please comment:

Mr. Bassili was always with us and ready to answer questions.

Mr. Paavola was the catalyst who could solve problems in a charming way.

Great appreciation goes to Mrs. Arja (Husu) and Mr. Olavi (Keyempaa)

III. RELEVANCE AND APPLICABILITY:

16. Did you find the contents of the programme relevant to conditions in your company (institute)?

To a very great extent	<u>6</u>
To a great extent	<u>11</u>
To a sufficient extent	<u>6</u>

Please state why: 1) different technology used widens horizons and provides new information

- 2) Technology too advanced for our country.
- 3) Except for upholstered furniture.
- 4) Big technological gap.

17. Do you feel that by participating in this training programme you have benefitted professionally?

- To a very great extent 11
- To a great extent 11
- To a sufficient extent 1
- To a small extent
- To a very small extent

Please state why:

I have broadened my views and come to know what the furniture industry really means and how to develop it.

18. Do you think you will have an opportunity to apply your newly acquired knowledge and experience in your present job?

- To a very great extent 9
- To a great extent 13
- To a sufficient extent 1
- To a small extent
- To a very small extent

What difficulties, if any, would you expect to meet?

- Financial difficulties 2
- difficulty of demonstrating jigs
- need to invest in equipment
- organizational problems
- where to get the "know-how" and assistance

19. Will you be in a position to transfer your acquired knowledge to others in your home country?

- To a very great extent 9
- To a great extent 11
- To a sufficient extent 3
- To a small extent
- To a very small extent

20. How will this transfer be done?

Reporting to Ministry and Corporation.

Lecture programme at factory level.

In a day-to-day work with colleagues and subordinates 15

In specific training activities inside present employment 10

In specific training activities outside present employment 4

What difficulties, if any, would you expect to meet?

Nil 5

Chiefly the lack of interest from my Government

Lack of material

Difficulty in changing people's work patterns 2

Actual demonstrations (jigs) will be difficult.

Time for training (difficulty of doing it after hours)

IV. SOCIAL ASPECTS OF THE PROGRAMME:

21. Please state your opinion about the leisure time activities organized by the programme staff:

1) Sauna party OK, but why not have small groups dine in the houses of the staff members 3

2) Good 2

3) OK as is 4

4) More should be planned 2

5) Very good 4

6) Fair

7) Excellent 2

What additional activities would you have appreciated?

- sports activities 2

- cultural activities 4

- swimming parties

- visit Helsinki on a weekend

- museum

- hunting and fishing

22. Please give any comments you choose on aspects not adequately covered by this questionnaire:

- more factory visits.
- assignment groups too large
- programmes should taper off on last 2-3 days
- let the participants lecture on conditions in their own countries, and let the staff advise them on how to solve these problems.
- include lecture on timber preservation.
- introduction of participants should be done later - when they have overcome the travel tiredness.

ANNEX VII

PROPOSAL FOR A SEMINAR ON PRODUCTION
MANAGEMENT IN THE FURNITURE AND JOINERY INDUSTRY

To be organized by the United Nations
Industrial Development Organization and the Government of Finland,
and to be held in Lahti, Finland, from to August 1982

DRAFT AIDE-MEMOIRE

Background and Purpose of the Seminar

The Seminar, organized by the United Nations Industrial Development Organization (UNIDO), in co-operation with the Government of Finland (Department of International Development Co-operation) is one of UNIDO's training programmes and seminars for higher technical and managerial personnel employed with specific sectors of industries in developing countries.

UNIDO has initiated these training programmes and seminars in industrialized countries with the objective to provide participants from developing countries with the opportunity to get acquainted with the up-to-date developments in the sector of industry concerned, at the same time to come to an exchange of experience with participants from the same industries from other developing countries. These training programmes are organized in co-operation with competent institutions and enterprises, providing the required training facilities and the services of qualified staff. The present seminar will be carried out by and held at the premises of the Lahti Institute of Technology, Lahti, Finland. It is intended to complement the Seminar on Furniture and Joinery Industries held by UNIDO, in collaboration with the Government of Finland every year.

The present seminar is intended to give the participants an insight into efficient management of plants producing furniture and joinery on an industrial scale. A double purpose will be served:

methods for modernization and rationalization of the wood processing sector will be highlighted and secondly, the prerequisites for the establishment of sound management practices for this industry in developing countries will be identified.

Topics to be covered during the Seminar:

The following list of topics has been drawn up in order to give an idea of the contents and practical arrangements of the seminar. In general, lectures will alternate with panel discussions and group work, and efforts will be made to ensure the utility of the programme for all participants. Minor changes may take place during the preparatory stage:

- strategic planning
- marketing (including export marketing)
- product development (including adaptation for export)
- input management (Labour, capital, materials, techniques, cost benefit)
- financial management
- personnel management
- production planning and materials management
- production control
- industrial engineering
- value analysis
- investment calculations and economics of equipment selection
- management of maintenance.

Participants are encouraged to bring with them details of problems they have to face in all the above topics for discussion during the Seminar.

Date and Place:

The Seminar will be held at the Lahti Institute of Technology, Lahti, Finland, from to August 1982. Participants are expected to leave their home countries in time to arrive in Helsinki as near as possible before the afternoon of Sunday, August 1982.

Participants:

Twenty fellowships ^{1/} will be awarded to candidates from Africa, Asia and the Pacific, Latin America and the Middle East. Governments

1/ Both male and female candidates can be nominated. In this connection attention is drawn to General Assembly Resolutions 3010 (XXVII) designating 1975 International Women's Year and 3342 (XXIX) calling for the full integration of women in the development process.

of these countries are invited to nominate up to three candidates who should be technical managers or persons holding a similar position in secondary wood processing industries (furniture, joinery, etc.). Preference will be given to candidates who have already attended one of the UNIDO Seminars on Furniture and Joinery Industries held in Lahti each year.

UNIDO will, in consultation with the Finnish authorities, select participants from the nominations received taking into account professional qualifications and other relevant considerations.

Participants will attend the seminar in their individual capacity although they have been officially nominated by their respective Governments. They must attend the whole seminar, according to the schedule prepared by the host authorities and comply with the rules and regulations laid down. They are expected to contribute to the seminar whenever possible, eg. in substantive discussions related to the industries in their countries.

Questionnaire:

Candidates are requested to complete the attached questionnaire and have it submitted in four copies together with the Fellowship Nomination Form. The information thus provided by the candidates will be required by UNIDO and the Finnish authorities in the selection of participants and in adapting the programme of the seminar, as far as feasible, to the particular interest of those accepted.

Language requirements:

The seminar will be conducted in English; consequently a very good command of the English language is absolutely necessary. Applicants whose mother tongue is not English or who have not completed their academic studies in English, should submit a satisfactory English language certification (preferably issued by a recognized institution, eg. British Council) before being considered eligible for participation.

Financial and Administrative Arrangements:

The financial and administrative arrangements will be as follows:

A. UNIDO, through a special contribution of the Government of Finland will provide:

- 1) Round trip economy class air transportation between the airport of departure in the participants' home country and the airport in Helsinki, Finland, in accordance with the existing arrangements between the United Nations and the country receiving technical assistance.

- 2) Training materials,
- 3) Costs for training programme proper.
- 4) Costs for board and lodging.
- 5) Costs for internal travel related to the seminar.
- 6) An allowance in the equivalent of US\$ 150 to cover out-of pocket expenses for the total duration of the seminar.

B. The participants' Government or his employer will be required to bear the following costs:

- 1) All expenses in the home country incidental to travel abroad, including expenditures for passport, visa, medical examinations, inoculations, and other such miscellaneous items as well as internal travel to and from the airport of departure in the home country.
- 2) Salary and other benefits for the participant during the period of the seminar.

C. UNIDO and the Government of Finland will not assume responsibility for the following expenditures in connection with the participants' attendance at the Seminar:

- 1) Costs incurred by participants with respect to any insurance, medical bills and hospitalization fees.
- 2) Compensation in the event of death, disability or illness of the participant.
- 3) Loss of, or damage to personal property of the participant.
- 4) Purchase of personal belongings and compensation for damage caused to them by climatic or other conditions.

NOTE: Participants are strongly advised not to have family members accompany them, as no accommodation for them will be available.

Before submitting an application, each candidate should be fully aware of the content of this aide-mémoire.

Draft Annex to Fellowship Nomination Form

PROPOSED SEMINAR ON MANAGEMENT IN THE FURNITURE AND JOINERY INDUSTRIES

To be organized by the United Nations Industrial Development Organization
and the Government of Finland, and to be held in
Lahti, Finland, from to August 1982

Note: The information contained in this questionnaire, to be completed by the candidate, will be used by UNIDO and the Finnish authorities in selecting the candidates and in adapting the programme, as far as feasible, to the particular interests of accepted candidates.

Candidates are requested to complete the questionnaire in type-written form or block letters and submit it in four copies together with the Fellowship Nomination Form.

1. Name of candidate: Country:
2. Name and address (in full) of the company:
3. Field of activity (branch) of the company:
4. Size of the company:
Actual consumption of main raw materials.
Range and size of actual production (indicate units per year):

Employees:

Turnover: US\$
5. Does the company export the products in question: yes no
6. If yes (a) main export countries:

(b) export in percentage of turnover:

7. Range of products manufactured:

Percentage of total sales

Sawn wood	.....
Planing and mouldings	.....
Doors and windows	.....
Timber engineering products	.....
Prefab houses	.....
Dimension products (components)	.....
Solid wood furniture (chairs, etc.)	.....
Case goods (panel furniture)	.....
Upholstered furniture	.....
Carved - reproduction - furniture	.....
Packaging materials	.....
Woodware (toys, bowls, carginvs, etc.)	.....
Others (specify)	.....

8. Field of responsibility: (mark where appropriate)

Purchase of raw materials	<input type="checkbox"/>
Product development	<input type="checkbox"/>
Production management (e.g. planning and control)	<input type="checkbox"/>
Personnel management.	<input type="checkbox"/>
Financial management	<input type="checkbox"/>
Equipment selection	<input type="checkbox"/>
Quality control	<input type="checkbox"/>
Sales and marketing	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>

9. Fields of interest: (mark at least three and not more than six boxes)

Product development and technical product design	<input type="checkbox"/>
Purchase of raw materials	<input type="checkbox"/>
Production planning and scheduling	<input type="checkbox"/>
Production control	<input type="checkbox"/>
Equipment selection	<input type="checkbox"/>

9. Cont.

Personnel management

Financial management

Inventory control

Product development

Marketing

10. Please indicate specific interest among the topics listed on page 2 of the Aide-Memoire.

11. Please indicate exactly your position and responsibilities (through an organizational chart if appropriate).

Signature:

Date:



