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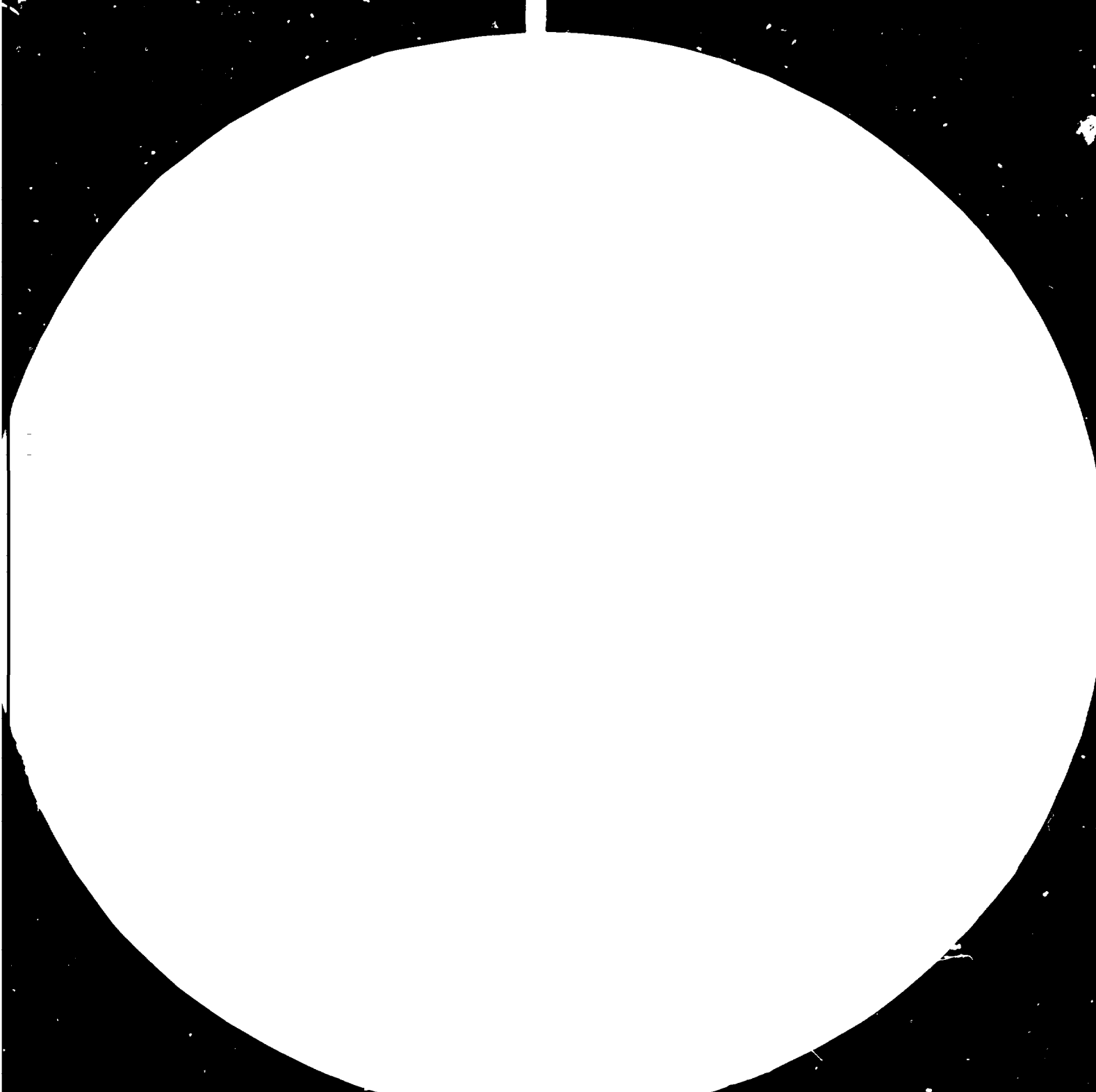
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Distr.
LIMITED

UNIDO/IO.509
23 July 1982

ENGLISH

REPORT OF THE TECHNICAL COURSE ON
CRITERIA FOR THE SELECTION OF WOODWORKING MACHINES*

Milan, Italy, from 10 to 26 May 1982

by

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Agro-industries Branch
Division of Industrial Operations

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V.82-29077

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1. Purpose of the Mission:

A staff member of the Agro-industries Branch of the Division of Industrial Operations, Antoine V. Bassili, went to Milan, Italy from 7 to 27 May 1982 to attend and help conduct the fourth UNIDO Technical Course on Criteria for the Selection of Woodworking Machines.

2. Preliminary preparations:

This was the fourth such course with UNIDO organized in collaboration with the Italian Woodworking Machinery and Machine Tools Manufacturers Association (ACIMALL) convened in conjunction with the International Exhibition for Woodworking Machinery and Tools (INTERBIMALL) held in Milan in the month of May of even years. (The previous three courses were organized in 1976, 1978 and 1980, in conjunction with the fifth, sixth and seventh INTERBIMALL Exhibitions respectively.) All these courses were financed from the voluntary contributions of the Government of Italy to the UNIDF.

The decision to repeat the course was taken soon after it was completed in the spring of 1980, and, in the summer of 1980 UNIDO ascertained the interest of ACIMALL to provide technical and logistic support. Taking into account the response of governments to previous courses, it was agreed with the Director of ACIMALL that the number of participants be increased from 30 to 50, and that the course be split into primary and secondary wood processing industries, so as to cater more specifically for the needs of each of the groups. This was confirmed and a project document prepared and submitted to the Project Review Committee for its approval on 24 September 1981. The project was approved by the Project Review Committee on 29 October 1981 and transmitted to the Italian authorities for their approval. This approval only reached UNIDO on 12 February 1982 and resulted in a PAD for the total cost (amounting to US\$ 309.563) being issued on 8 March 1982. There was no way by which the date of the

course could be postponed since, by its very concept, it had to be held at the time of the INTERBIMALL Exhibition. This gave the organizers (both UNIDO and ACIMALL) only eight weeks to complete the cycle which normally takes six to eight months. The Agro-industries Branch had of course the possibility to refuse to implement the project with so short a lead time, but abstained from doing so because, on the one hand, of the very acute need for such courses in all developing countries irrespective of their state of development, and, on the other, the difficulty of re-activating such a course once a break occurs and the momentum of continuity is lost.

Cabled invitations were sent out by the Training Branch on 23 February 1982 and this was confirmed by a letter to the Resident Representatives on 23 February 1982. A total of 77 countries were invited to nominate candidates. The list, and their response, is given in Annex I. The closing date for the submission of nominations was 15 March 1982. Cabled reminders were sent out on 30 March extending the closing date to 14 April. As a result of this action, UNIDO received 91 cabled nominations, a number far in excess of our expectations. In order to increase the number of candidates to select the fifty participants from and specially because of the delay in issuing the invitations (which was beyond UNIDO's control), it was agreed to inform Governments that the eleven candidates who had been nominated for the 1980 course and evaluation as "recommended with reservations" in 1980 could be considered again provided that they submitted an updated medical certificate. Governments were notified by cable of the names of the former candidates to whom this applied. It was assumed that this would facilitate the Governments' meeting the short deadlines for the submission of the candidates, but only 6 of the possible 11 candidates availed themselves of this offer. This left only 17 working days between the closing date and the start of the course, a time grossly too short to ensure normal arrangements being made. Notwithstanding the short notice given to governments and the consequent inability by UNIDO to make the course known to

potentially interested candidates from developing countries through its direct contacts with them or its field project personnel, a total of 91 names were submitted to UNIDO by the respective governments. At the time the evaluations were made only 85 completed nomination forms had reached UNIDO. The candidates were notified of their acceptance, about ten days before the start of the course, which needless to say, greatly reduced the time they had to make necessary arrangements at their end and resulted in the late arrival (by one or two days) of six of the participants. The exact arrival dates of the various participants can be found in the Daily Subsistence Roster submitted with the accounts.

UNIDO had selected 50 participants to attend the course. Two (one from the Philippines and one from Paraguay) did not attend, and no explanation of why they did not turn up has reached UNIDO. Consequently, 48 participants attended the course at the expense of UNIDO. A participant from Honduras, Mr. Jaime Perez Vasquez left Milan early in the morning of 21 May 1982 "due to trouble with the staff of his company" upon receipt of a telephone communication from his wife. He left without communicating his decision to any of the organizers of the course (UNIDO or ACIMALL), and his departure was communicated to the author by another of the participants from Honduras later that day. The list of participants, observers, lecturers and consultants is given in Annex II (UNIDO document II/WG.369/5).

3. Participants:

Bearing in mind that the participants came from countries at very different levels of development, they could be considered to have been a homogenous group. This view was shared also by the participants themselves (see evaluation hereunder). It must also be remembered that the course was conducted in Italian with simultaneous interpretation in French and English. Consequently, in their discussions instances

occured where difficulties of communication between French and English speaking participants arose, but these were always overcome through the assistance of other participants, seminar assistants, or the author. All the participants, except for two, were of the expected standard. All were very keen on getting as much information as possible out of the lecturers, visits, and the UNIDO consultants, and did so continuously. None had any difficulty in expressing himself in English or French, except one participants from each of Paraguay and Honduras; the latter's Italian nevertheless was fluent.

This was the fourth such course that UNIDO had organized in collaboration with the Government of Italy, and by now we have a clearer idea of the level of participants to be expected from any one country. If this course was to be held again in conjunction with the next INTERBIMALL exhibition in 1984 - and the author strongly believed it should - then he is confident that the selection criteria will be further refined leading to an even better group of participants provided that the authorization to start the implementation of the project is received before November 1983 and that Governments will nominate candidates with industrial experience or with exposure to industry.

The response that UNIDO has received for the four courses held so far is such that it can be repeated merely by inviting only those participants already nominated who would have qualified had more places been available. In the four courses held so far 126 participants (plus 9 observers) have attended, but a total of 175 would have qualified out of the 251 nominated. Details are given in Annex III.

Bearing in mind the lateness of the issuance of the letters of invitation, the response that UNIDO has received for this course is such that it should be repeated, and the number of participants should again be 50, thus enabling better distribution of participants in the assignment work, or even splitting larger groups into two - one French and one English-speaking.

4. Programme of the course:

The programme of the course is given in Annex IV. Unlike the case of previous courses, a possibility was offered to each participant to select a possibility of "specializing" in primary (logging, sawmilling and the production of wood based panels) or secondary wood processing industries (production of wooden prefabricated houses, doors, windows furniture surface improved boards, etc.). To these "specialized" lectures were added lectures in fields of common interest (eg. wood technology, wood preservation, tool maintenance, economic and technical considerations in the purchase of woodworking machines safety and selection of electrical equipment, etc.). During the time when one group had one of these "specialized" lectures, the other visited a plant. It was thus possible to avert some of the boredom which inevitably occurs when people attend lectures in topics of no immediate interest to them, while at the same time offering to each group the possibility of having more lectures and factory visits in fields of special interest to them. 21 participants opted for the primary industries alternative, while 27 chose to attend the lectures and visits covering secondary industries.

Both groups had two hours of opening and closing speeches, 32 hours of lectures and 18 hours of presentation of assignment work. They were also given the opportunity to spend 40 hours at the INTERBIMALL exhibition. To this common programme must be added 14 additional hours of lectures and 14 hours of factory visits in fields related to each group's special interests. The total number of hours of lectures given was therefore 60 (of which each participant only attended 46), to which should be added 14 hours of factory visits, 18 hours of presentation of assignment work and 40 hours of visits to the INTERBIMALL exhibition. The breakdown, expressed in tabular form is given below:

- Opening and closing ceremonies	2 hours (2%)
- Lectures	46 hours (39%)
- Factory visits	14 hours (11%)
- Visits to the INTERBIMALL exhibition	40 hours (33%)
- Presentation of assignment work	18 hours (15%)
Total	120 hours (100%)

In the calculation of the time spent for assignment work, the figure indicated above relates only to the normal working hours. Because of the fact that all concerned: the 48 participants, the 4 UNIDO consultants, and the UNIDO staff member, resided in the same hotel, and that this hotel was not in the centre of the city but very close to the Milan Fair grounds the participants put considerable hours every evening to prepare for these assignments. Some of these meetings lasted to the small hours of the night. Serious group work started earlier this time than for previous courses.

The author lectured on three occasions: on general criteria for the selection of woodworking machines, on methodology for the selection of woodworking machines, and on selection of equipment for the production of prefabricated wooden houses. The first two lectures were very highly appreciated, and the participants listed them among the most popular lectured they received. The last, of a more specialized nature, was of special interest to fewer participants.

5. Documentation:

It had been the author's intention to send to each participant the text of the lectures (document ID/247) at the time he was notified of his acceptance: but because of their late submission and subsequent notification this was not possible. Furthermore, the French version consisted of photocopies of the galleyproofs of document ID/247, which has still not been printed. These lectures were completed by some new texts, which were reproduced at the last minute by ACIMALL in Milan, and handed out to the participants without their being processed as UNIDO documents. It is intended that these will be issued subsequent to the course in the ID/WG.369 series. Due to late selection and notification, the Note for Participants was not sent out to the participants, the basic information being cabled to them. Each participant also received four of the UNIDO guides to sources of information (on furniture and joinery; woodworking machinery; production of panels, pulp and paper from agricultural residues; and industrial maintenance and repair - UNIDO/LIB/SER.D/4 Rev.1, 31, 35 and 36 respectively),

as well as the reports of the technical meetings UNIDO had in the past on Selection of Woodworking machines (ID/133) and Wood Processing for Developing Countries (ID/180) as well as the Manual on low cost automation for furniture and joinery industries (ID/154) in either English, French or Spanish. They also received copies of the ACIMALL and the INTERBIMALL catalogues.

Participants interested in secondary wood processing industries also received copies of UNIDO publications on furniture and joinery industries for developing countries (ID/108 Rev.1), Manual on jigs for furniture production (ID/265), Manual on upholstered furniture (ID/275), the role of wood as a packaging material (ID/72) and Production of Prefabricated Houses (ID/61), in either English, French or Spanish.

Participants interested in primary wood processing industries received a copy of a UNIDO study "Guidelines for the establishment of wood based panels industries in developing countries" (ID/WG.335/16) in either English, French or Spanish. Arrangements were made for FAO to mail directly to those participants who indicated their interest the following FAO publications: Proceedings of the World consultation on wood based panels (in English, French or Spanish) and a Manual on small-scale sawmills for developing countries (in English).

It was intended that each participant prepare and submit a country paper, to be reproduced and serve as background material after the course. Because of the late notification of the acceptance of candidates it was realized that participants had no time to prepare these papers, and, although some were submitted, not enough were received to warrant their reproduction.

6. Course library:

It was intended to take a course library to Milan but because of the delay in obtaining the documents from Italy on the one hand, and obtaining copies of the lecture texts through the UNIDO editorial control and documents reproduction service on the other, these documents could not be shipped by surface (postal) service and had to be airfreighted at the last minute. Consequently, the funds originally earmarked for

the transport of the library had to be used to this end and no library was available for the participants.

7. Assignment work:

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

- (1) Selection of equipment for forestry use (14);
- (2) Selection of equipment for sawmills (18);
- (3) Selection of equipment for plywood and veneer production (14);
- (4) Selection of equipment for the production of boxes and pallets (1);
- (5) Selection of equipment for the production of flush doors (6);
- (6) Selection of equipment for the production of louvered windows (7);
- (7) Selection of equipment for the production of parquet (2);
- (8) Selection of equipment for the production of kitchen furniture (8);
- (9) Selection of equipment for the production of solid wood school desks (6);
- (10) Selection of equipment for the production of upholstered chairs with bent plywood frames (14);
- (11) Selection of lumber kilns for furniture and joinery products (17);
- (12) Selection of equipment for dust and waste extraction (1);
- (13) Selection of equipment for wood turning (3);

The number in brackets indicates the number of participants in each group and also reflects their interests in the various topics. Details on the topics, objectives and methodology are given in Annex V. A discussion leader was nominated for each group to coordinate the work and present the conclusions. The names of these persons and their nationality are given in Annex V. The four consultants appointed by UNIDO (see 8 below) also guided the work of the groups, Mr. H. P. Brion (Philippines) assumed the responsibility for groups no. 7, 8, 11 and 12; Mr. J. Carré (Belgium) for groups no. 1 and 3; Mr. P. J. Paavola (Finland) for groups no. 5, 8, 9 and 10; and Mr. G. A. Woods (UK) for groups no. 2, 4, 6 and 13.

Each group was allocated some two hours to present its conclusions, and full use was made by almost all groups of the excellent audio-visual facilities available. Their presentations of the various groups are evaluated under section 10 of this report.

8. UNIDO Consultancy Service at INTERBIMALL:

Over and above the course, UNIDO also had a stand (in a portion of the Exhibition where all the professional associations were located) to provide free and impartial consultancy services to visitors from developing countries.

This stand was manned by four consultants, Messrs. Horatio P. Brion (Philippines), José Carré (Belgium), Pekka J. Paavola (Finland) and Geoffrey A. Woods (UK), specially recruited by UNIDO for the purpose, and also at times by the author.

It provided advice on an ad hoc basis to technical enquiries made by visitors to the exhibition, and information on UNIDO's activities in general. The stand, provided fully furnished, free of charge by the organizers of INTERBIMALL, was large and was also used by an FAO staff member, Mr. Le Tourneau who attended INTERBIMALL. It was also used by the participants in the Course in their assignment work as a meeting place to exchange views.

This was the second time that UNIDO had a Consultancy Service at INTERBIMALL (such a service had been provided in 1977, 1979 and 1981 at the LIGNA Fair in Hannover, and in 1979 at the INTERZUM Fair in Cologne.) There is no doubt as to the usefulness of such a service, not only to provide the ad hoc advice to visitors from developing countries, but to complement the lectures by providing technical advice and information to the participants of the course at a time when the lecturers are not available to do so (since the vast majority are busy at their companies' stands in the exhibition). The Consultants also guided the participants in preparing their assignment work in the evenings and

nights at the Hotel. This tutoring also complemented successfully the formal lectures, and resulted in presentations of the assignment work that were of a higher level.

Records of enquiries received were kept on sheets to facilitate follow-up (for a sample sheet see Annex VI), and follow-up action taken by the author upon his return to Vienna.

UNIDO's Consultancy Service stand also attracted the attention of potential candidates for our Roster of Experts and Consulting firms.

Information on UNIDO's work in general, and in the wood processing industries' sector in particular, was made available to the general public through printed brochures obtained from the Public Information Services Section and a background note (in English and French) issued by UNIDO's Public Information Service outlining the Organization's work in this field.

The number of technical enquiries received was not large, but it must be remembered that visitors to such Exhibitions are still not used to UNIDO providing such a service, and consequently did not avail themselves of it. In assessing the usefulness of such a service the assistance provided to the participants and the provision of information about UNIDO and its work must be taken into account.

9. Administrative matters:

The management and staff of ACIMALL, INTERBIMALL and Palazzo Africa (of the Ente Autonoma della Fiera di Milano) were extremely helpful and had thought of practically everything in advance.

The problem encountered in 1980 of registering the participants with the Department for Foreigners of the Questura did not arise, since the Milan Fair authorities did these formalities for all concerned resulting in no loss of time for the participants.

The hotel selected (Hotel Astoria, Viale Murillo) was both well situated with respect to the Fiera di Milano, and within the limits

imposed by the per diem allocation. Excellent arrangements were made at both airports in Milan to ensure that participants could reach the hotel without trouble. ACIMALL made all the arrangements for the UNIDO reception, which was held at its new and sumptuous headquarters in Assago, in the suburbs of Milan. All that were involved in the course (participants, lecturers, staff, consultants and managers of the factories visited) were invited.

ACIMALL financed two sightseeing trips for the participants: one half day trip on Saturday 17 May when major touristic attractions of the city of Milan were seen, and a full day trip on Sunday 18 May, when the participants were taken to Stresa on the Maggiore lake.

The Ente Autonoma della Fiera di Milano put at the disposal of the course the conference facilities of Palazzo Africa. These are as good as any in the VIC, the conference room having a seating capacity of some 55 persons at tables and another 70 on chairs behind each row and at the back of the hall. Facilities for simultaneous interpretation in six languages exist as do all the necessary visual aids: overhead projectors, slide projectors of various sizes, cinema projectors of various sizes and epidiascopes.

ACIMALL once again assumed the responsibility of recruiting the interpreters for the Course. Interpretation into French was of an internationally recognized standard. That into English seems to have been of a lower standard than in the past, though it must be realized that the lecturers often used a highly technical jargon, and many read their texts quite rapidly.

The financing of the Course was secured from the Special Purpose Contribution of Italy to the UNIDP. (Project no. US/INT/81/206). A sum of US\$ 273.950 was allocated to that effect. The detailed breakdown of this budget is given in Annex VII.

The sharp increase in costs compared to the 1980 course is mainly due to the increase in the number of participants from 30 to 50 and of UNIDO appointed consultants from two to four.

In spite of the short time available for organizing the course, the author wishes to put on record the assistance he received from the Training Branch of DIO (specially Mr. K. Hanselmann) and the Documents Reproduction Unit of the Conference Services Division. On several occasions they had to provide services at very short notice.

10. Press coverage:

The press service of ACIMALL and INTERBIMALL issued press releases describing the course and consultancy service.

Copies of press clippings will be sent to UNIDO's Information Services by Mr. F. Ziberna of the press service of ACIMALL and the author handed them over a set of the press releases in all the languages.

During the Exhibition the following journalists from the specialized press have visited the UNIDO stand and have obtained information on UNIDO's work in the wood processing industries field from the author:

Ward C. Williams, European Editor, Wood Based Panels, Benn Publications, London (stationed in Switzerland);

Carlos Castelo, journalist, l'Echo des Bois, Brussels;

Monte Mace, Publisher, Wood and Wood Products, Chicago;

Paul J. M Willemsse, editor, Hout Wereld, Amsterdam;

Ferdo Rasusa, LES, (Ljubljana, Yugoslavia)

11. Evaluations:

UNIDO's forms for the evaluation of the course were handed out to all participants on 22 May 1982, and 47 forms, duly completed were returned by the end of the course. The replies were compiled and the detailed compilations is given in Annex VIII.

By and large the assessment by the participants was positive. They complained mainly about the shortness of the notice given to them, but were satisfied with the "product mix" of the course, its level and contents.

By and large the lectures were of acceptable standard. Some, such as the ones on Methodology for the Selection of Woodworking Machines, and on General Criteria for the selection of woodworking machines (both by the author of this report), on Sawmilling equipment (by Mr. Froidure), on Properties of timber species (by Prof. Giordano) and the one on Production of doors (by Mr. Traversa) were exactly what we had intended them to be. The latter and the one by Mr. Froidure covered the various options available and discussed pros and cons of each option. Other lecturers, such as for instance those that covered plywood production, veneer production, and particle board production in fact only highlighted the process and went into depth to explain certain recent developments which by and large were too sophisticated for use in many of the participants' home countries. This shortcoming, however, was more than compensated by the advice available to the participants during their preparation of the assignment work. This advice was given by the four UNIDO consultants and the author of this report.

The first day's lectures outlining the situation of the wood processing industries sector in Italy, and the woodworking machinery industry in Italy, were very well presented and led to a very fruitful discussion. This discussion broke the ice and assured a very lively discussion from the beginning of the course through all the lectures. On the other hand, the lecture on the role that tropical timber play in Italy's timber trade was expanded by the lecturer to cover world trends and prospects for tropical timbers. This was beyond the immediate interest of the participants.

A few participants considered that the lectures on maintenance and safety of electrical equipment and on manufacture of boxes and pallets were irrelevant, probably the first dealing too much with standards and of too high a technical level, while the second described equipment that was too capital intensive. Their number was nevertheless very small (four out of 47 in each case).

While all participants felt that the factory visits were most useful, and that the majority of participants wished their number and duration increased, the author felt that in the case of the visits to the secondary wood processing plants, whereas the factories chosen had a good, representative, range of modern machines, they were too small to serve concurrently as examples of production management for serial production. Due to transport problems, the visit to the sawmill took place after it had stopped for the day. Participants were satisfied with all these visits.

With respect to the actual presentation of the lectures, these were of two types: those for which the lecturers presented (as against read) their topics, using audio-visual aids; and the others where the lecturers read prepared texts. Fortunately the latter were a minority.

The quality of interpretation into French was excellent. That into English was lower, but nevertheless still good.

Some African participants objected to having to share a room.

The social programme was very well organized and greatly appreciated by all concerned.

It would be useful if for future such courses the text of the lectures could be distributed to the participants beforehand.

As stated above, the participants went to great pains to prepare their assignment work. The following presentations were of an unexpectedly high level and indicated a thorough preparation by members of the group:

- Selection of equipment for forestry use (topic no. 1);
- Selection of equipment for the production of flush doors (topic no. 5);
- Selection of equipment for the production of kitchen furniture (topic no. 8);
- Selection of equipment for the production of upholstered chairs with bent plywood frames (topic no. 10);

- Selection of equipment for dust and waste extraction (topic no. 12);
- Selection of equipment for wood turning (topic no. 13).

The following presentations were of good/acceptable level:

- Selection of equipment for louvered windows (topic no. 6);
- Selection of equipment for the production of parquet (topic no. 7);
- Selection of kiln drying equipment (topic no. 11)

The following presentations were below the expected standard:

- Selection of sawmilling equipment (topic no. 2);
- Selection of equipment for production of plywood and veneer (topic no. 3);
- Selection of equipment for the production of solid wood desks (topic no. 9);

The topic on selection of equipment for the production of boxes and pallets was not presented since there was only one participant who indicated interest in this field.

The organizers proposed 11 topics. Participants suggested an additional two (selection of equipment for wood turning and dust and waste extraction).

12. Conclusions and recommendations:

Based on the above evaluation, the author is convinced that the course is an extremely useful one and should be repeated in the future at the next (and subsequent) INTERBIMALL exhibition(s).

He recommends that, in drawing up the programme, the following points be considered:

1. The project should be approved financially not later than August 1983, to enable UNIDO and ACIMALL to invite the respective countries in time. Approval in principle should be obtained about one year before the course is due to take place. Annex IX gives the proposed time schedule for the present course, the actual times when the action was taken (because of delays in approving the project) and a tentative schedule in case the course

is repeated in 1984.

2. As many as possible of the lectures being published in the compilation of lectures given in the first two courses (ID/247) should be used. This would reduce costs of translation of the lectures and fees paid to the lecturers.
3. Documentation should be sent to the participants as soon as they are notified of their acceptance, so that they may study it and prepare queries. More time could thus be devoted to discussions, since, instead of reading their texts, the lecturers could then assume that these have been read and highlight the text and then devote the time saved to discussions.
4. More use should be made by most lecturers of audio-visual aids (slides, overhead projectors, etc.). Lecturers could compile sets of slides to show the various options available and show them in conjunction with their presentation.
5. In view of the good response received to all four courses, (see Annex III) the author recommends that it be repeated in 1984, again with 50 participants. This will again permit to have larger groups in the assignment work, with two groups per topic, one being a French speaking group and the other and English speaking group.
6. The UNIDO document ID/247 (which exists in English and French) used for this course contains the texts of the lectures presented at the first two courses (1976 and 1978). Those presented at the third (1980) and fourth (1982) courses have been issued as documents in the ID/WG.320 and ID/WG.369 series respectively. The author recommends that these be formally edited and published as an addendum to the basic document (ID/247). The possibility of translating both documents (ID/247 and its possible addendum) into Spanish should also be considered.

7. Although certain of the participants from Latin America suggested that interpretation into Spanish be also provided, the author recommends that the official languages at the course be limited to English and French (plus of course Italian), as adding Spanish would reduce the possibility of close work between participants for the assignmentwork and complicate interpretation during the factory visits unduly. Furthermore, it would mean that some of the UNIDO appointed consultants also know Spanish.

13. Other matters:

A. Discussions with Mr. Michele Franchi, President of the Ente Autonomia della Fiera di Milano:

The author met with Mr. Franchi on 10 May 1982 and Mr. Franchi stressed how happy he was that UNIDO convened the course at the Milan Fair. He stressed that UNIDO would be welcome to also hold other courses in conjunction with any of the numerous special exhibitions held yearly in the Fair's grounds.

B. Discussions with Dr. Rodrigo Rodriguez, Vice President of Fedelegno-Arredo:

The author met with Mr. Rodriguez on the first day. He also expressed his association's desire to hold similar courses with UNIDO. The author promised to bear this in mind and to communicate to them in due course a proposal for a course if and when an opportunity arises. (Such a course could be arranged in conjunction with the Furniture Fair in Milan, which is held in September of every year.)

C. Discussions with Mr. José Luis Montánchez Justiniano, Secretary General of the Spanish National Association of Woodworking Machines Manufacturers:

The author met with Mr. Montánchez Justiniano on 20 May 1982, to follow-up on an exchange of correspondence between the author on one the one hand and Mr. Jesús Sainz, Director of Economic Cooperation, Instituto de Cooperación Iberoamericana in April 1982. In this correspondence, the Spanish Association had requested UNIDO to conduct a course, similar to the one done with ACIMALL, during the forthcoming International Fair for Woodworking Machines in November 1982 in Valencia. The author explained that UNIDO did not have the necessary lead time to organize such a course. He mentioned, as an alternative, that, if requested to do so, UNIDO could provide a consultancy service, staffed by a staff member and one or two consultants, to advise visitors from overseas, provided that the Fair authorities make available a stand free of charge and submit this proposal to UNIDO in writing for its consideration.

D. Discussions with Ing. Cusmano, President of the IPSIA^{1/} G. Meroni, in Lissone (Province of Milan):

Ing. A. Griner of ACIMALL suggested to the author to visit the above vocational cum technical school catering for the furniture industry. It provides three and five year courses for skilled workers and technicians, as designers and furniture technicians, interior decorators and technical salesmen (both three-year courses) and technicians of the furniture industry (five year course). The school is equipped with good workshops and is to be expanded soon. Lissone is in the Centre of the Brianza, a region near Milan that traditionally has produced furniture in small plants, and it also provides short technical courses

1/ I.P.S.I.A. stands for Istituto Professionale Statale per l'Industria e l'Artigianato (Professional State Institute for Industry and Crafts).

for the industry. It also has a suitable social centre to house eventual participants to a course, a civic centre where such courses can be held, and a sports centre.

Such facilities could be used by UNIDO to conduct, for example, courses on furniture design. This possibility was discussed with Ing. Cusmano, and it was agreed that UNIDO would bear these facilities in mind in organizing future activities.

A courtesy call was also made on Dr. Angelo Cerizzi, Lissone's mayor, who is also a manager of COMPLA S.p.a., a veneer producer in Lissone. (That plant was also visited.)

E. Discussions with Dr. H. Thies, Secretary of the Woodworking Machinery Department of VDMA:

The author met Dr. H. Thies on 24 May 1982 to enquire about the status of a possible course to be held in conjunction with the LIGNA Woodworking Machinery exhibition in May 1983, and the role (if any) reserved to UNIDO. Mr. Thies said that upon the suggestion of Mr. Eldag he had written to the Karl Duisberg Gesellschaft in Cologne to clarify the funding of this course, but so far had not received a reply. He promised to keep UNIDO informed of future developments.

F. Discussions with the participants:

During the course, the author discussed with many participants about possible UNIDO assistance to their countries, specific needs were identified, and the methodology for soliciting requests for technical assistance explained.

14. Acknowledgements:

The author hereby wishes to express his gratitude to Dr. Lazzaro Cremona, President of ACIMALL and INTERBIMALL, Dr. Paolo Zanibon, Director General of ACIMALL, Prof. Guiguelmo Giordano, Director of

the Course, and to all the staff of ACIMALL, who went to great pains to assure its success. Special thanks should go among them to Dr. Ing. Attilio Griner, Mrs. Alessandra Campisi and Miss Gabriella Morandotti, who worked long hours to assure its success. The author also wishes to thank the head of ACIMALL's press service, Mr. Fabio Ziberna, for the excellent coverage (both before and during the course) of UNIDO activities at INTERBIMALL, as well as to the interpreters who often worked long after the scheduled hours to interpret lively discussions. Special thanks are also due to Dr. Aldo Marchich and the staff of Palazzo Africa for their efficient and courteous collaboration. Finally, lecturers, managers of plants, who opened their doors to the 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 course's success.

The author also wishes to place on record the excellent work done by the four consultants, Messrs. Horatio P. Brion, José Carré, Pekka J. Paavola and Geoffrey A. Woods, not only during the Exhibition hours, but also late in the nights. The guidance they gave to the various teams resulted in a higher level of presentations of the assignment work and helped the participants to understand some technical details that they had missed in the lectures and/or visits to the Exhibition.

ANNEX I

List of Countries Invited and Their Response

Countries Invited	Response		Number of candidates nominated	Number of candidates who attended
	Yes	No		
Algeria	x		2	
Angola	x		4	
Bangladesh		x		
Bolivia	x		1	
Burma		x		
Burundi	x		1	1
Central African Republic	x		2	2
Chile	x		2	2
China	x		4	3
Colombia		x		
Congo		x		
Costa Rica	x		2	2
Cuba	x		2	2
Dominican Republic		x		
Ecuador		x		
El Salvador		x		
Equatorial Guinea		x		
Ethiopia	x		1	
Fiji		x		
Gabon	x		2	2
Gambia	x		3	
Ghana		x		
Guatemala		x		
Guinea	x		3	
Guinea Bissau		x		

Countries invited	Response		Number of candidates nominated	Number of candidates who attended
	Yes	No		
Guyana	x		1	
Haiti	x		1	
Honduras	x		3	3
India	x		1	1
Indonesia	x		3	3
Iraq	x		1	
Ivory Coast	x		1	
Jamaica	x		3	1
Jordan	x		1	1
Kenya	x		2	1
Kuwait		x		
Lebanon		x		
Liberia		x		
Libyan Arab Republic		x		
Madagascar		x		
Malaysia		x		
Mauritius	x		2	1
Mexico	x		1	
Mongolia		x		
Morocco	x		1	
Mozambique		x		
Nepal	x		2	
Nicaragua	x		1	1
Nigeria	x		1	1
Pakistan		x		
Panama	x		2	
Papua New Guinea	x		1	
Paraguay	x		3	2
Peru	x		1	1
Philippines	x		5	4

Countries Invited	Response		Number of candidates nominated	Number of candidates who attended
	Yes	No		
Senegal	x		1	
Sierra Leone	x		1	
Singapore	x		3	3
Solomon Islands		x		
Somalia		x		
Sri Lanka		x		
Sudan	x		1	
Suriname		x		
Swaziland	x		2	1
Syrian Arab Republic	x		1	1
Thailand	x		1	1
Trinidad and Tobago		x		
Tunisia		x		
Turkey	x		3	2
Uganda	x		4	1
United Republic of Cameroon	x		2	2
United Republic of Tanzania	x		2	2
Uruguay	x		1	1
Venezuela		x		
Viet Nam		x		
Zaire	x		1	
Zambia	x		2	

ANNEX II

LIST OF PARTICIPANTS

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
<u>BURUNDI</u>		
Lazare RUNESA	Directeur Office National du Bois	B.P. 1492 Bujumbura
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Clément Edmond A. SEMEY	Ingénieur d'Etudes CENADEFOR	P.O. Box 369 Yaounde
<u>CENTRAL AFRICAN REPUBLIC</u>		
Ernest BETIBANGUI	Directeur Technique SOCEFI (Société d'Exploitation Forestière)	B.P. 3 Bangui
Raymond MBITIKON	Directeur Général Office National des Forêts	B.P. 915 Bangui
<u>CHILE</u>		
Dennis BRANTH	Managing Director Commercial Habitat Ltda.	Bucarest 046-A Providencia - Santiago
Cristian MONTERO MUÑOZ	Production Manager - Industrial Designer Muebles Paris Ltd.	Cuevas 777 - Santiago
<u>CHINA</u>		
HUANG Xiabang	Engineer - National Forestry Machinery Corp.	Hepingli Beijing

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
LIU Senlin	Technician - Forest Academy of China	Wan Sou San Beijing
ZHAI Deming	Engineer - Department of Science and Technology The Ministry of Forestry	Hepingli Beijing
<u>C O S T A R I C A</u>		
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Carlos F. SOLANO SOLIS	Director - Industria Sol y Sol	P.O. Box 647 4050 Alajuela
<u>C U B A</u>		
Rojelio BARROSO	Specialist in Standardization and Quality Control	Empedrado N. 302 Habana
Juan GUERRA	Head of the Work Organization Department	José Antonio Saco N. 364 Santiago de Cuba
<u>G A B O N</u>		
Jean MBOULOU	Chef Service des Normes et Classification - Ministère des Eaux et Forêts	B.P. 2275 Libreville
Alphonse OWELE	Chargé d'Etudes - Ministère des Eaux et Forêts	B.P. 2275 Libreville
<u>H O N D U R A S</u>		
Remo MEMOLI DELLE DONNE	Regional Director Asseradero Sansone	P.O. Box 673 Tegucigalpa
Angel MURILLO SELVAS	Chief - Forestry and Loggings Department CORFINO	P.O.Box 1613 Tegucigalpa
Jaime PEREZ VASQUEZ	Gerente BEMISA	Col. Los Angeles 100-13 Tegucigalpa
<u>I N D I A</u>		
V.C. MATHUR	Development Official (Tools) D.G.T.D. Ministry of Industry	Udyog Bhavan New Delhi
<u>I N D O N E S I A</u>		
DJISMAN	Chief of Division of Agriculture & Wood Industry - Public Service Bureau Investment Co-ordinating Board	Jl. Gatot Soebroto 6 Jakarta

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
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Akaf Iskandar ALNAJJAR	Production/Technical Manager Jordan Wood Industries Co. Ltd.	P.O. Box 5272 Amman
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Gideon Muraya THOO	Director of Prisons Industries in Kenya Government	Prison Headquarters P.O. Box 30175 Nairobi
<u>M A U R I T I U S</u>		
Charles Emmanuel TONTA	Foreman Ministry of Works	Port Louis
<u>N I C A R A G U A</u>		
James Odnith WEBSTER PITTS	Sawmill Manager of Zelay- Sur Corporation Forestal del Pueblo	Bluefields Zelaya
<u>N I G E R I A</u>		
Isaac Ofo OKITIPI	Director Industrial Development Centre - Federal Ministry fo Industry	26 Osbeifuh Street P.M.B. 1640 Benin City Bendel State
<u>P A R A G U A Y</u>		
Oscar ODDONE	Head Wood Department Instituto Nacional de Tecnologia y Normalisacion	P.O. Box 967 Asuncion
Raul Sergio VALDEZ FLORENTIN	Economist - Faro S.A.	Avenida Sa N. 350 Asuncion

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
<u>PERU</u>		
Carlos Armando SALINAS	Managing Director Madera y Diseño, S.A.	Sr. Manoa 140 Brena
<u>PHILIPPINES</u>		
Benjamin Tengco BACAMANTE	Design and Production Consultant Automatic Centre	Ayala Avenue Makati Commercial Centre Metro Manila
Fernando Bautista BERNARDO	Assistant Division Head Bureau of Industrial Development Ministry of Trade and Industry	361 Buenida Avenue Ext. Makati Metro Manila
Alfonso Nakpil DE LANGE	President Design Ligna Inc.	Showrooms Building Makati Commercial Centre Metro Manila
Francisco Venerable MANALO	President and General Manager Ang Likha Design Inc.	1305 E. Rodriguez Street Building Quezon City Metro Manila
<u>SINGAPORE</u>		
James KOH	Manager Koda Woodcraft Pte. Ltd.	28 Defu Lane 4 Defu Industrial Park Singapore 1953
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Ahmad JANZIR	Director of Production Arab Company for Wood Industry	P.O. Box 130 Lattakia
<u>TANZANIA</u>		
Gilbert Alan BGOYA	General Manager Tanzanian Timber Marketing Co.	P.O. Box 4919 Dar-es-Salaam

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
Jesse Bahati MASHIMI	Senior Planning Official Tanzania Wood Industry Corp.	P.O. Box 9160 Dar-es-Salaam
<u>T H A I L A N D</u>		
Pairoj RATANAPORN	Assistant Chief of Policy and Planning Office Thai Plywood Co. Ltd.	Rajdamnern Avenue Bangkok
<u>T U R K E Y</u>		
Ersen KONUR	Director of Planning, Survey and Projects General Directorate of Forest Industry	Ataturk Bulvard 115 Ankara
Naci TUYSUZ	Assistant-Director Integrated Timber Plant	The Government Integrated Timber Plant Vezirkoprü Samsun
<u>U G A N D A</u>		
Michael Edington SIZOMU-KAGOLO	Operations Manager Wood Industries Corp.	P.O. Box 927 Kampala
<u>U R U G U A Y</u>		
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DIRECTOR OF THE COURSE

Prof. Guglielmo GIORDANO	Professeur de Technologie du Bois et d'Exploitation Forestière Professor of Wood Technology and Forest Utilization	Via Ghibellina, 73 FIRENZE ITALY
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LECTURERS

<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
<u>Mr. Xavier DE MEGILLE</u>	Expert en matériel pour le travail en forêt Expert in forestry equipment	Forêt d'Enterlecques F-62910 MOULLE FRANCE
<u>Mr. Jaques FROIDURE</u>	Directeur adjoint Ecole Technique du Bois - Expert en matériel pour le travail en scierie Expert en sawing equipment	6, Av. de Saint-Mandé 75012 PARIS FRANCE
<u>Dr. Tadcó SLODYK</u>	Expert-conseil en panneaux à base de bois Consultant in wood-based panel industries	c/o P.lli Pagnoni Via Sempione, 31 20052 MONZA ITALY
<u>Sig. Gian Franco MELLONI</u>	Spécialiste de l'équipement pour le travail du bois Selector of lumber manufacturing equipment	Via G. Reni, 27 35100 PADOVA ITALY
<u>Sig. Ezio MABINI</u>	Expert en production de contre-plaques et de placages Expert in plywood and sliced veneer production	c/o A. Crmona & Figlio Viale Lombardia, 275 20052 MONZA ITALY
<u>Ing. Mario BERNANI</u>	Ingénieur, expert en panneaux de fibres Engineer, technician, expert in the production of fiber boards	Via Rosmini, 38 28100 NOVARA ITALY
<u>Sig. Mario PARETTI</u>	Expert en scies à rubain large Expert in wide band saws	c/o Sandvik Italia Via Varesina 186 20156 MILANO ITALY
<u>Sig. ZEMENI</u>	Expert en outils à pointes reportées de carbure Expert in carbide-tipped tools	c/o Grifo s.r.l. Via Montello, 135 20038 SEREGNO (MILANO) ITALY
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<u>NAME</u>	<u>FUNCTION</u>	<u>MAILING ADDRESS</u>
<u>Ing. Gabriele MARTELLI</u>	Expert en finition des surfaces des panneaux Expert in surface finishing of panels	c/o Cefla s.r.l. Via Selice, 102 40026 IMOLA ITALY
<u>Sig. Aristida COLOMBO</u>	Expert-conseil en fabrication de contre-plaqué et placages Expert and consultant in plywood and sliced veneer production	c/o Colombo & Cremona Via Confalonieri, 57 20058 VILLASANTA (Milano) ITALY
<u>Ing. Angelo SPERANZA</u>	Expert en fabrication de sièges/meubles Expert in chairs and furniture production	c/o C.A.T.A.S. Via delle Scuole 33048 S.GIOVANNI AL NATISONE UDINE ITALY
<u>Ing. Aldo SCHIAVO</u>	Ingénieur-conseil en planification et gestion industrielle, spécialisé dans le secteur du meuble Industrial management/planning consultant, expert in the furniture sector	c/o UCOI Calmaggiore, 10 31100 TREVISO ITALY
<u>Mr. Régis GABARRET</u>	Expert en constructions en bois Expert in wood construction	3 Avenue Charles De Gaulle 94470 Boissy Saint Leger FRANCE
<u>Dr. G.B. ALBERTANI</u>	Expert en construction en bois lamellé Expert in constructions with laminar wood	c/o Habitat Legno S.p.A. 25040 BRACONE (Brescia) ITALY
<u>Mr. Rodrigo RODRIQUEZ</u>	Expert en sièges et sofas Expert in chairs and sofas	Federlegno-Arredo Via Mascheroni, 19 MILANO ITALY
<u>Mr. A. FRONCILLO</u>	Expert en commerce du bois Expert in wood trading	FedeComLegno Via Salaria, 35 ROMA ITALY

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ANNEX III
SUMMARY OF RESPONSE OF MEMBER STATES TO INVITATIONS OF FOUR COURSES

	1976 ^{1/}	1978 ^{1/}	1980 ^{1/}	1982 ^{2/}	TOTAL
Number of countries invited by UNIDO to nominate candidates	42	29	76	77	n. a. ^{3/}
Number of participants nominated by Governments	82	42	68	91	283
Number of participants who would qualify to attend	53	31	32	59	175
Number of participants who actually attended	35 ^{4/}	22	30 ^{5/}	48	135 ^{6/}

1/ Course funded for thirty participants.

2/ Course funded for fifty participants.

3/ Most countries were invited to nominate participants for all three courses.

4/ Including three participants attending at their own cost.

5/ Including four participants attending at their own cost.

6/ Including seven participants who attended the courses at their own cost.

ANNEX IV

PROGRAMME

Sudnay, 9 May 1982

Arrival of participants in Milan.

Monday, 10 May 1982

0900 Registration

1000 Opening Ceremony

Welcoming addresses by:

- Cav. Michele Guido Franchi, President, Ente Autonomia della Fiera di Milano;
- Dr. Lazzaro Cremona, President of ACIMALL;
- Antoine V. Bassili, UNIDO representative, on behalf of Dr. Abdel Rahman Khane, Executive Director of UNIDO.

1030 Lecture on "The evolution of the Italian wood processing and furniture manufacturing industries and their progress in introducing modern technologies" by Dr. Rodrigo Rodriguez, Vice President of Fedeleigno-Arredo. (Lecture of general interest.)

1130 Lecture on "The increasing importance of tropical timber for the Italian wood processing industry" by Dr. Alfonso Froncillo, Vice President of the Italian Federation of Timber Importers. (Lecture of general interest)

1300 Lunch

1430 "Wood characteristics influencing equipment selection and machine operations" by Prof. Guglielmo Giordano. (Lecture of general interest.)

1630 Introduction to assignment work.

2000 Reception given by ACIMALL at Hotel Astoria.

Tuesday, 11 May 1982

0900 Lecture on the "General criteria for the selection of machines" by Mr. Antoine V. Bassili. (Lecture of general interest.)

1115 "Economic considerations in the selection of machinery" by Mr. Bruno Zarnetti (Lecture of general interest.)

1300 Lunch

1430 "Methodology for the purchase of woodworking machines" by Mr. Antoine V. Bassili. (Lecture of general interest.)

Wednesday, 12 May 1982

0900 "Safety rules for the installation and maintenance of electrical equipment" by Mr. Gian Piero Canevari. (Lecture of general interest.)

1100 "Kiln drying of sawn lumber" by Prof. Rodolfo Cividini. (Lecture of general interest)

1300 Lunch

1430 "Kiln drying of sawn lumber (continuation) by Prof. Rodolfo Cividini

1600 "Waste and dust extraction systems" by Mr. Giancarlo Anselmi (Lecture of general interest.)

1730 Distribution of assignment work.

Thursday, 13 May 1982

0900 "Tools for machining wood" by Mr. Gian Franco Melloni (Lecture of general interest)

1100 "Consultancy on equipment for tool maintenance for carbide tipped tools" by Mr. Roberto Ruzzenenti. (Lecture of general interest).

1230 "Consultancy on equipment for tool maintenance of steel blades" by Mr. Mario Paretti. (Lecture of general interest.)

1300 Lunch

1400 Continuation of the lecture on tool maintenance of steel blades by Mr. Paretti.

1530 "Equipment for the production of crates, cases and pallets" by Mr. Domenico Castelli. (Lecture of general interest.)

Friday, 14 May 1982

0900 "Painting and varnishing of wood and its derivatives" by Mr. Gabriele Martelli (Lecture of interest to secondary wood processing)

1115 "Preservation of wood products" by Mr. Guglielmo Giordano (Lecture of general interest.)

1300 Lunch

1430 "Mechanization of forest operations" by Mr. Elvio Garello (Lecture of interest to primary wood processing).

1600 "Selection of forestry equipment by Mr. Xavier de Mégille (Lecture of interest to primary wood processing).

1400 Visit to two small furniture plants (secondary wood processing)

Saturday, 15 May 1982

a.m. City sightseeing in Milan.

p.m. Free for shopping, etc.

Sunday, 16 May 1982

All day trip to Stresa on Lake Maggiore.

Monday, 17 May 1982

0900 "Wood based panels: comparison of various types of panels; general considerations and guidelines for the selection of machines, equipment and plant" by Mr. Mario Bernani. (Lecture of interest to primary wood processing).

1100 "Economic aspects in the selection of plant and machines for the production of particle boards" by Mr. Taddeo Slodyk (Lecture of interest to primary wood processing).

1300 Lunch

1430 "Selection of sawmilling equipment" by Mr. Jacques Froidure (Lecture of interest to primary wood processing)

1430 Visit to furniture and joinery plants (of interest to secondary wood processing).

Tuesday, 18 May 1982

0900 "Utilization of wood waste" by Prof. Guglielmo Gridano (Lecture of general interest)

1100 "Selection of equipment for panel surface improvement" by Mr. Taddeo Slodyk. (Lecture of general interest).

1300 Lunch

1430 "Technology and machinery for the production of casegood furniture" by Mr. Aldo Schiavo. (Lecture of interest to secondary wood processing.)

- 1600 "Production of chairs and other wood components" by Mr. Angelo Speranza. (Lecture of interest to secondary wood processing)
- 1430 Visit to a sawmill and a plywood plant (of interest to primary wood processing.)

Wednesday, 19 May 1982

- 0900 "Production lines for plywood and veneer" by Mr. Aristide Colombo (Lecture of interest to primary wood processing).
- 1100 "Production of sliced veneer" by Mr. Ezio Mabini. (Lecture of interest to primary wood processing).
- 0900 Visit to a secondary wood processing plant (furniture and flush doors) (of interest to secondary wood processing.)
- 1300 Lunch
- 1430 "Industrial production of doors, windows and frames" by Mr. Enrico Traversa (Lecture of interest to secondary wood processing).
- 1400 Visit to a veneer producing plant and a particle board production and surface improvement plant (of interest to primary wood processing.)

Thursday, 20 May 1982

- 0900 "Glued laminated timber structures" by Prof. Guglielmo Gridano (Lecture of interest to secondary wood processing.)
- 1030 "Examples of glued laminated timber structures" by Mr. Albertoni (Lecture of interest to secondary wood processing.)
- 1115 "Equipment for use of metal connector plates" by Mr. R. Gabarret. (Lecture of interest to secondary wood processing.)
- 1200 "Selection of equipment for the production of prefabricated wooden houses" by Antoine V. Bassili (Lecture of interest to secondary wood processing.)
- 1300 Lunch
- 1400 Visit to the Exhibition and compilation of data for assignment work.

Friday, 21 May 1982

- all day Visit to the Exhibition and compilation of data for assignment work.

Saturday, 22 May 1982

ditto

Sunday, 23 May 1982

ditto

Monday, 24 May 1982

Presentation of assignment work

- 0900 "Selection of equipment for the production of upholstered chairs with bent plywood frames" presented by Messrs. A. de Lange (Philippines) and Wong Liang-Han (Singapore).
- 1100 "Selection of equipment for the production of plywood and veneer" presented by Messrs. V. C. Mathur (India) and P. Ratanaporn (Thailand).
- 1300 Lunch
- 1430 "Selection of equipment for sawmills" presented by Mr. C. Semey (Cameroon).
- 1615 "Selection of equipment for the production of flush doors" presented by Mr. F. Manalo (Philippines).

Tuesday, 25 May 1982

Presentation of assignment work

- 0900 "Selection of equipment for the production of kitchen cabinets" presented by Messrs. D. Brandth and C. Montero-Munoz (Chile)
- 1130 "Selection of equipment for the production of solid wood school desks" presented by Messrs. G. M. Thuo (Kenya), J. B. Mashimi (Tanzania) and H. E. Sizomu-Kagolo (Uganda)
- 1300 Lunch
- 1400 "Selection of equipment for wood turning" presented by Mr. C. F. Solano Solis (Costa Rica).
- 1530 "Selection of equipment for the production of louvered doors and windows" presented by Mr. E. Donat (Uruguay).
- 1630 "Selection of equipment for forestry use" presented by Mr. J. W. Pitts (Nicaragua)

Wednesday, 26 May 1982

Presentation of assignment work

- 0900 "Selection of sawnwood drying kilns for joinery production"
presented by Mr. A. I. El-Najjar (Jordan)
- 1000 "Selection of equipment for dust and waste extraction" presented
by Mr. D. W. Bennet (Jamaica)
- 1100 "Selection of equipment for the production of parquet" presented
by Mr. Koh Tee Ooi (Singapore)
- 1200 Closing statements by:
- Mr. A. V. Bassili, UNIDO representative
- Prof. G. Giordano, Course Director
- Dr. P. Zanibon, Director, ACIMALL
- 1800 Reception given by UNIDO at the ACIMALL Headquarters in Assago
(Milan)

Thursday, 27 May 1982

Departure of participants for their home countries.

ANNEX V

Assignment Work

Objectives:

The organizers of the course attach great importance to this component of the programme. They feel that through the preparation and presentation of assignment work, the participants will be able to better benefit of the course since they will participate, in small groups, in the solution of problems according to conditions prevailing in their own countries. Such work will also facilitate the exchange of views and experiences between the participants.

Methodology:

Early in the course participants will be asked to indicate their interest in at least two and not more than four of the following topics:

1. Selection of equipment for forestry use;
2. Selection of equipment for sawmills;
3. Selection of equipment for plywood and veneer production;
4. Selection of equipment for the production of boxes and pallets of various kinds;
5. Selection of equipment for the production of flush doors;
6. Selection of equipment for the production of louvered windows;
7. Selection of equipment for the production of parquet;
8. Selection of equipment for the production of kitchen furniture;
9. Selection of equipment for the production of solid wood school desks;
10. Selection of equipment for the production of upholstered chairs; with bent plywood frames;
11. Selection of appropriate lumber kilns for furniture and joinery products;

12. Selection of equipment for dust and waste collection (added at the request of participants);
13. Selection of equipment for wood turning (added at the request of participants).

Details of the technical specifications of each product will be determined by the participants. Detailed descriptions of each of these topics are given hereunder.

Groups will be formed and group leaders nominated. On the last two days of the Technical Course, each group will be given two hours to present its work. They will be requested to determine the type of equipment they recommend for the production process, prepare a layout of the machines they have selected and then explain in detail the criteria they have adopted to select each and every item of equipment.

Participants will have to visit the INTERBIMALL exhibition to obtain technical and economic data on the various types of machines available on the market.

The UNIDO staff and the experts of the Consultancy Service Centre will be available throughout the duration of the Course and the Fair to guide the groups in their work. Participants will also have the possibility of discussing technical problems with the various lecturers.

In presenting their group's work, group leaders are encouraged to make full use of audio-visual material.

Technical Specifications and Capacities of the Products for the Assignment Work:

Topic no. 1: Selection of equipment for forestry use:

Describe your logging site and select appropriate felling, logging, skidding equipment. Compare individual and/or combined equipment for logging, skidding and road building.

Topic no. 2: Selection of equipment for sawmills:

Prepare a layout and select equipment for a sawmill to saw tropical sawlogs with the following specifications:

Annual capacity: 10.000 m³ logs
Length of logs: max. 6 meters
min. 2 meters
Diameter of logs: max. 120 cm
average 80 cm

Specification of end product: standard sizes required by the European market.

Twenty-five per cent of the production is to be kiln dried to 12% m.c. Emphasis should be placed on achieving a high yield and utilizing wastes.

Tentative cost of equipment: US\$ 150.000.

Topic no. 3: Selection of equipment for plywood and veneer production:

Prepare a layout and select equipment for a plywood and sliced veneer plant with the following specifications:

Annual capacity: (a) 10.000 m³ plywood sheets
4'x8'4 to 12 mm thick, average
thickness 6mm, of which 2000 m³
4'x8'x4mm with sliced veneer faces.
(b) 1.000.000 m² sliced veneer up to
3 m long and 0.6 to 0.8 mm thick.

Tentative cost of equipment: US\$ 500.000

Topic no. 4: Selection of equipment for the production of boxes and pallets of various kinds:

Prepare a layout and select equipment for a plant to produce yearly:
500.000 light wooden trays (for vegetables);
200.000 cases for soft drinks (0.2 litre bottles);
100.000 pallets (100 cm x 120 cm).

The raw material is to be sawn timber and/or sliced veneer. The plant is to use labour intensive production methods whenever applicable.

Tentative cost: US\$ 100.000 for the cases and trays and US\$ 50.000 for the pallets.

Topic no. 5: Selection of equipment for the production of flush doors:

Prepare a layout and select equipment for plants to produce (a) 50 flush doors per day using simple technology, and, (b) 150 flush doors per day using a more advanced technology; using air dried sawnwood.

The doors are to have wooden strip cores and plywood faces.

Tentative cost of equipment: US\$ 75.000 for alternative (a) and US\$ 300.000 for alternative (b).

Topic no. 6: Selection of equipment for the production of louvered windows:

Prepare a layout and select equipment for plants to produce (a) 50 louvered windows per day using simple technology, and, (b) 150 louvered windows per day using a more advanced technology; using air dried sawnwood.

Tentative cost of equipment: US\$ 60.000 for alternative (a) and US\$ 150.000 for alternative (b).

Topic no. 7: Selection of equipment for the production of parquet:

Prepare a layout and select equipment for plants to produce for export:

(a) 500 m² of traditional hardwood parquet per day;

(b) 1000 m² of mosaic parquet per day.

The plants are to use kiln dried hardwoods.

Tentative cost of the equipment: US\$ 100.000 for each plant.

Topic no. 8: Selection of equipment for the production of kitchen furniture:

Prepare a layout and select equipment for a plant to produce modular knock-down kitchen furniture from wood based panels surfaced with plastic laminates:

Capacity: 10.000 m² (door area) per year.

Tentative cost of equipment: US\$ 50.000.

Topic no. 9: Selection of equipment for the production of solid wood school desks:

Prepare a layout and select equipment for a plant to produce 20.000 school desks and 40.000 chairs per annum.

The plant is to use air dried tropical hardwoods and labour intensive methods, if applicable, are to be preferred.

Tentative cost of equipment: US\$ 75.000

Topic no. 10: Selection of equipment for the production of upholstered chairs:

Prepare a layout and select equipment for a plant to produce 10.000 chairs per annum. These are to have upholstered seat and back rests, on bent plywood cores and a bentwood frame (laminated if necessary).

Tentative cost of equipment: US\$ 75.000.

Topic no. 11: Selection of appropriate lumber kilns for furniture and joinery products:

Prepare a list of lumber dimensions and species and select a kiln dryer of 30, 50 or 100 m³ capacity appropriate to your conditions and compare two different systems of kiln drying.

Topic no. 12: Selection of equipment for dust and waste collection
(added at the request of participants):

Select dust and waste collection equipment for a furniture factory in a developing country having the following equipment already installed:

- One planer moulder (6 cutters)
- One planer moulder (4 cutters)
- One 24 inch (60 cm) thicknesser
- One 18 inch (45 cm) jointer
- One 10 inch (25 cm) jointer
- Two radial arm saws
- Two circular saws
- One double end trimmer
- One bandsaw
- One manual lathe
- One automatic lathe
- One automatic sander.

Topic no. 13: Selection of equipment for wood turning:

Select equipment for a plant having a daily capacity of: 500 lamp bases and furniture parts, plus 500 bowls and plates having a diameter of 15 to 45 cm, plus 8000 small pieces such as salt and pepper shakers, small candlesticks, cups, toys, etc.

The equipment selected should include automatic and semi automatic lathes, sanders for turned parts, drills and boring machines, finishing equipment (lacquering and tumbling).

UNIDO CONSULTANCY SERVICE AT INTERBIMALL

Name and address of company:

ALFAHAMA AUR
VIA G. CARLUCCIO 34
I-41012 CARPI
ITALY

Contacting person; status:

PAOLO CHERSI - DR. ING.
MAN. MGR.

Type of company (private, government-owned):

PRIVATE

End product and annual volume of production:

IMPORT - EXPORT
MACHINERY AND ENERGY EQ.
FOR WOODEN INDUSTRIES

Information needed, particular problems:

- PERIODIC LIST OF YR PUBLICATIONS:
- ENERGY
- TRANSPORT
- REUTILISATION OF WOODEN WASTE

Remarks:

ANNEX VII

B U D G E T

Borne by

A.	Travel		
	50 participants at US\$ 2.500 each	125.000	
	-Excess baggage: 50x10xUS\$180	9.000	
	-Per diem: 50x20xUS\$ 60	60.000	
		<u>US\$194.000</u>	UNIDF
B.	Cost of training course proper:		
	-4 International consultants, fee + travel; 4xUS\$3.000	12.000	UNIDF
	Per diem: 4 x 10 x US\$ 60	2.400	UNIDF
	-Lecturers: honoraria, expenses (accommodation + meals) 25 x US\$ 600	15.000	UNIDF
	-Simultaneous interpretation (Italian/French/English)	9.000	UNIDF
	-Local travel	4.000	UNIDF
	-Facilities: rent of premises for 2 weeks 1 conference room for 70 persons + one office + audio-visual material	4.000	UNIDF
	-50 INTERBIMALL catalogues for participants	p.m.	ACIMALL
	-Sundry, stationary, etc.	3.000	UNIDF
	-Hospitality: UNIDO reception	2.000	UNIDF
	-Reception by ACIMALL	p.m.	ACIMALL
	-Documentation: translation of about 150 pages of lectures from Italian into English +French (reproduction of same by UNIDO)	8.000	UNIDF
	-Transportation of documents + course library from Vienna to Milan	1.000	UNIDO
		<u>60.400</u>	
	SUB-TOTAL	60.400	
C.	Administration costs:		
	-Salaries: course director (3m/m) + accommodation for course director	8.000	UNIDF
	-Course secretary, 2 interpreters (E/F)	5.000	UNIDF
	-Travel: (1) Travel to Milan by UNIDO substantive officer for finalization of programme (airfare + two days per diem)	600	UNIDF
	-(2) Travel to Milan by UNIDO substantive officer for finalization of selection of participants (airfare + 2 days per diem)	600	UNIDF
	-(3) Travel of UNIDO staff member to conduct the course, plus excess baggage and 22 days per diem \$ 440 + 60 + 1320	1.850	UNIDF
		<u>16.050</u>	
	SUB-TOTAL	16.050	

D. Miscellaneous	3.500	UNIDF
E. Administrative support by UNIDO: Letters of invitation, screening of participants' nominations, issuance of letters of award, travel arrangements, reviewing text of lectures, plus their reproduction	p.m.	UNIDO
TOTAL	273.950	UNIDF
13 percent overheads	35.613	
GRAND TOTAL	309.563	UNIDF

Currency requirements:

Costs borne from special contribution of the Government of Italy to the UNIDF US\$ 310.693

N.B.:

- ACIMALL will provide in kind:
- cost of 50 catalogues for the participants
 - reception by ACIMALL
 - Miscellaneous support (secretarial, administrative, etc.)

ANNEX VII I

EVALUATION - GROUP TRAINING PROGRAMMES

Compilation of replies of 47 questionnaires

Programme: Technical Course on Criteria for the
Selection of Woodworking Machines

Host country: Italy
Year: 1982

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)

	Sufficient	Not Sufficient	Missing
Aim of the training	41	1	2
Content of the programme	22	9	13
Level of the programme	20	13	9

"Did not receive any" 1

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

- information too short (1)
- background on lectures (1)
- information on assignment work (1)
- information about principal points (1)
- information about practical arrangements (teaching methods, accomodation, etc.) (2)
- Information about subjects to be discussed during the course.

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

Information about the programme:

Number of weeks	10	8	7	6	5	4	3	2
Number of replies	1	3	1	4	5	12	7	6

Being accepted to the programme:

Number of weeks	5	3	2	1	Number of days	6	2
Number of replies:	1	2	15	25	Number of replies	2	1

Comments:

- Acceptance confirmation received very late: (6)
- More direct contact with organizers desirable (1)
- Four week notice is minimum acceptable (1)
- Information on currency and visas should be communicated (2)
- UNDP should give more information about the course (1)
- UNDP should have available advance information on UNIDO courses likely to be organized to pass on before official invitations are sent out (1)

II. PROGRAMME CONTENT AND ORGANIZATION:

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

Too long	4
Just right	35
Too short	8

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

Number of weeks	12	6	5	4	2	1
Number of replies	1	2	1	2	3	1

Please comment:

- separate primary industries from secondary industries (1)
- have three lectures concurrently to save time (1)
- lectures tiresome (too heavy) (1)
- some of the lecturers went into great details in their presentation, hence the time allocated was too short (1)
- more time allocated to the machinery exhibition (1)

- More visits (ratio of lectures: 2 and visits: 1) (1)
- more practical: (1)

4. State your opinion about the daily schedule:

Too heavy	19
Just right	27
Too light	0

Comments:

- Afternoon activities should end earlier (5 p.m.) (1)
- Divide course into primary processing and secondary processing industries (4)
- Less intensive programme (4 week course) (1)

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

- Eight hours of lectures per day is too much (5)
- More discussions between lecturers and participants (1)
- Shorter lectures (2)
- Some topics should be awarded more time (1)
- Schedule too heavy to assimilate fully the materials (1)
- More use of audio visual material desirable (2)
- Lectures would have been more interesting if they were more practical (4) (Mr. Froidure was mentioned as a good example of a practical lecture)
- Too many lectures follow one another (1)
- Lectures in the mornings and visits in the afternoons (1)
- More visits (6)
- One assignment per person (1)
- More emphasis on group discussions and visits and less on lectures (3)
- Increase duration to 35 days to allow lecturers to go to greater depth (1)
- Lectures should also be interpreted into Spanish (1)
- Lecturers should solicit more audience participation (2)
- Provide for group work facilities (with consultants), at conference centre as well as at the hotel (1)

- Reduce lunch hours.
- Cover less topics, going to greater depth (1)
- Send participants in groups of 4 to 5 to factories for one or two days (1)

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

To a very large extent	6
To a large extent	22
To a sufficient extent	16
To a small extent	3
To a very small extent	0

Please comment:

- Combine lectures with visits (1)
- "The course corresponded to my personal needs"
- INTERBIMALL exhibition was very useful (1)
- Group work was very useful (1)
- I have had answers to many of my problems and have learnt a lot (1)
- Very useful but short timewise (1)
- Very good (4)

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

- Factories visited were not all in operation at the time of our visit (3)
- Needed more time for the visits (4)
- An analysis and evaluation should be made immediately after each visit (1)
- Plants visited (secondary industries) were either too big or very small (Only one had a production line) (1)
- Visits good (7)
- Visits very good (1)
- Allocate more time for visits (4)
- Visits quite enlightening (1)

- Visits are very important (1)
- Factory visited (secondary industries) was small with respect to the one I work for (1)
- Would have liked to see mass production (1)
- Would have liked to see larger factories (2)
- Would have expected factories to have a better layout (2)
- Should visit medium sized plants (1)
- Briefing on factories to be visited would have been useful (2)
- Would have expected better information on the visits (1)
- "We were not told what things to observe" (1)
- Would have liked to see factories that have low cost automation (1)
- * Exchange of views with plant managers would have been useful (1)

Please suggest other study visits that might have been valuable:

- Visit to a logging site (2)
- Visits to machine manufacturing plants (5)
- Visits to a prefabricated wooden houses factory (2)
- Visits to a gluelam factory (1)
- Visits to a tool service centre (1)
- Visit to a wood turning plant (1)
- Visit to a wood research and standardisation institute (2)

(See also answers to question No. 21)

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

Much too high	0
Too high	3
Adequate	40
Too low	2
Much too low	0

Comments:

- Level of lectures not consistent (some too low and some too high) (1)

- Pity the lectures were poorly interpreted (1)
- Some of the lectures were too primary (1)
- Difficult to appreciate: some of the lectures missed the point (1)
- Certain of the topics were totally new to me (1)
- Lecturers should not read their texts, and more time should be devoted to discussions (1)

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.)

- Industrial production of doors (4)
- Economic considerations in purchasing woodworking machines (12)
- Methodology for the purchase of woodworking machines (12)
- Equipment for production of plywood and veneer (4)
- Selection of sawmilling equipment (6)
- Economics of particle board production (2)
- Tools for machining wood (5)
- Waste and dust extraction (2)
- Wood drying (4)
- Wood preservation (1)
- Increasing importance of tropical wood (1)
- Production of sliced veneer (1)
- Wood technology (1)
- Laminated wooden structures (1)
- Production of prefabricated houses (1)
- Economics of particle board production (1)
- Selection of equipment for panel surface improvement (2)
- Production of chairs (1)
- Equipment for production of crates and pallets (1)
- All secondary processing (1)
- All (1)

10. Which subjects of the programme did you find least valuable?
State why (for example too elementary, inadequate instruction,
irrelevant to my work etc.)

- Manufacture of boxes and pallets (4)
- Maintenance and safety of electrical equipment (4)
- Lectures that were interpreted (1)
- Mechanization of forestry operations (2)
- Primary industries lectures (3)
- Selection of forestry equipment (2)
- Evolution of Italian woodworking industry sector (3)
- Wood drying (1)
- Painting and varnishing (1)
- Waste utilization in the forest (1)
- Care and maintenance of saw blades (2)
- Use of glues (1)
- Secondary wood processing lectures (1)

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

Yes 13

No 22

If yes, what did you miss?

- Wood preservation (1)
- Practically all, except Mr. Froidure's lecture (1)
- Practical aspects of tool maintenance (1)
- Sawmilling should cover also sawing patterns (2)
- Waste and dust extraction should cover improving existing systems (2)
- Logging equipment (1)
- Timber grading equipment (1)
- Economic aspects of equipment selection (1)
- Water treatment for boilers and selection of boiler equipment (1)
- How to secure designers (?) (1)
- Demonstration on surface finishing (1)

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

	no changes	more	less
A) lectures	19	3	20
B) group work	18	20	4
C) demonstrations	11	31	1

Comments:

- Less lectures, but going to greater depth (2)
- We had linguistic problems in the group work (2)
- More active participation in group work (2)
- Group work system does not work (1)
- More homogeneous groups (1)
- More time for group work (2)
- Lectures should be more practical (1)
- Better organization of group work (1)
- More audio visuals (1)
- Exchange of experience between participants are very useful (1)

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

	<u>command of English</u>	<u>method of instruction</u>
Very good	14	13
Rather good	5	10
Fair	9	14
Poor	4	1
Very poor	2	0

Please comment:

- English interpreters were sometimes unclear (11)
- Hearing original voice and interpretation at the same time is tiring (1)
- More slides and audiovisuals helpful (3)
- Lectures should not be read (1)
- Poor, when lecturers read their papers (1)

- Lectures should not be too basic (1)
- Give the course also in Spanish (1)
- All lecturers are competent, but some could not transmit the message (1)

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

	<u>the programme staff</u>	<u>fellow participants</u>
Yes	41	45
No	5	1

Interest of the participants was too varied.

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

	<u>the programme staff</u>	<u>fellow participants</u>
A great deal	14	16
Much	20	22
Somewhat	5	7
Little	5	2
Not at all	0	0

Please comment:

- All very helpful (2)
- Participants regarded as students (1)
- Interesting, some were very experienced in certain fields (1)
- Most of the lecturers spoke only Italian (1)
- UNIDO consultants were very helpful (1)
- There existed a language problem in discussing among participants (2)

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	10
To a great extent	20
To a sufficient extent	15
To a small extent	1

Please state why:

- No effort was made in trying to find each one's requirements (I am in the engineering, not woodworking industry) (1)
- Qualifications of labour in my country are very different from those in Italy (1)

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

To a very great extent	15
To a great extent	18
To a sufficient extent	12
To a small extent	0
To a very small extent	1

Please state why:

- "I came with problems which I had hoped to discuss with others, and which I did not. My problems are still there" (1)
- I have gained a lot of new concepts (1)
- An eye opener to modern methods of problems solving in wood industry (1)
- We are studying certain projects, and the lectures covered these topics (1)
- "As a consultant, I have to use a methodology in selecting machines for the feasibility studies" (1)

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	11
To a great extent	20
To a sufficient extent	16
To a small extent	1
To a very small extent	0

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

- Problems will be of a bureaucratic nature (1)
- Financial limitations may affect technical considerations (1)
- Availability of technical material and working conditions (1)
- No knowledge of wood commercialisation (?) (1)

- Finding finance (1)
- Finding middle managers (1)
- Training of our staff would be a problem (1)
- Applications will only occur when my company will invest (1)

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

To a very great extent	12
To a great extent	16
To a sufficient extent	18
To a small extent	1
To a very small extent	0

20. How will this transfer be done?

- | | |
|---|----|
| a) In day-to-day work to colleagues and subordinates | 43 |
| b) In specific training activities inside present employment | 17 |
| c) In specific training activities outside present employment | 10 |

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

- None (2)
- Lack of funds (no specific budget for training) (1)
- Difficulty to make people change (1)
- Obtaining adequate literature for reference purposes (1)
- Samples, technical data, photos, etc. (2)

IV. SOCIAL ASPECTS OF THE PROGRAMME:

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

- Very good (8)
- Sufficient (8)
- Good (5)
- Fair (1)

- Very well organized (1)
- Interesting (2)
- Quite adequate (1)
- Very useful (1)
- Stressa very interesting (2)
- None, except for week-end tours (1)
- Virtually no time (1)
- No time to shop (1)
- Too little (1)
- Evenings boring, led to homesickness (1)
- Visit more factories (2)

What additional activities would you have appreciated?

- Visit to Italian homes (1)
- Get together with the natives of the host country (1)
- Evening "get together" (1)
- Information on sports, films, discos, etc. (1)
- Nil (1)
- Cultural activities (opera, concerts) (1)
- Visits to museums (1)
- Organize a post course visit to Venice (1)
- Visits to a research Institute (1)
- Visit to sawmilling installations (1)
- Wood classification (grading?) (1)
- Wood Technology (1)

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

- Two persons per room was a problem (1)
- Two persons per room cannot be accepted (1)
- Do not put two people to a room: They are responsible persons (1)
- Lecturers should not read their papers (3)

- Participants should get the texts beforehand (1)
- I had a hard time understanding the English interpretation (1)
- "Although interpretation was difficult (because of the technical nature), I wish to congratulate them for their efforts and success (1)
- Excellent translation and interpretation (1)
- Lower the level of the microphones in the room to hear only through the microphones (1)
- Breakdown the group into people having common problems and then get them to meet with a consultant to get his advice (1)
- UNIDO staff and consultants were very helpful (1)
- UNIDO should distribute information on fact finding in existing plants and problems solving (eg. maintenance, correct particle board utilization, etc.) in existing plants (1)
- Group leaders should not be appointed (this will make them more responsible)(2)
- A bus service should be organized for the return in the evening (1)
- Funds allocated were too low (1)

PROJECT SCHEDULESANNEX IX

EVENT	a) as foreseen in the project proposal	b) as actually implemented	c) Author's proposal for a course in 1984
Submission of project proposal to the Secretariat of the Project Review Committee	September 1981	24 September 1981	May 1983
Approval of the Project by UNIDO's Project Review Committee	September 1981	29 October 1981	June 1983
Approval of the Project by the Italian Government	October 1981	12 February 1981	September 1983
Visit to Milan by staff member to finalize programme arrangements and agree as to which countries are to be invited	September 1981	2 September 1981	September 1983
Booking of Hotel, transport arrangements, recruitment of interpreters, etc. (by ACIMALL)	October/December 1981	before January 1982	October/December 1983
Letters of invitation to be sent to Governments by UNIDO	October 1981	23 February 1982	October 1983
Notification to SIDFA's and former participants of the course	November 1981	(not done due to late approval of course)	November 1983

EVENT	a) as foreseen in the project proposal	b) as actually implemented	c) Author's proposal for a course in 1984
Press release to technical press by UNIDO and ACIMALL	November 1981	(not done)	November 1983
Initiation of recruitment action for consultants (by UNIDO)	December 1981	4 March 1982	December 1983
Submission of draft of new lecture documents in English, by ACIMALL to UNIDO for final approval	December 1981	(not done due to late approval of project)	December 1983
Submission of final text of documents in English and French by ACIMALL to UNIDO for reproduction by UNIDO	February 1982	(some were reproduced unedited in Milan, due to late submission)	February 1984
Closing date for receipt of nominations	end February 1982	30 March extended to 14 April 1982	end February 1984
Finalization of recruitment of consultants (by UNIDO)	end February 1982	22 April 1982	end February 1984
Final selection of participants from the list of nominations, in collaboration with ACIMALL	15 March 1982	15 April 1982	mid March 1984
Notification of candidates who have been selection	end March 1982	21 April 1982	end March 1984

EVENT	a) as foreseen in the project proposal	b) as actually implemented	c) Author's proposal for a course in 1984
Pouching of course material to candidates who have been selected	end March 1982	(not done due to late approval of project)	end March 1984
Documents shipped to ACIMALL by UNIDO	end March 1982	3 + 10 May 1982	end March 1984
Airfreighting course library and conference material by UNIDO	end April 1982	(not done, to use funds to airfreight documents)	end April 1984
Shipment (by surface) of course material to candidates who have not been selected	--	(will be done upon receipt of the French text of ID/247)	April 1984
Convening of Technical Course on Criteria for the Selection of Woodworking Machines	10-26 May 1982	10-26 May 1982	May 1984
Submission of report	June 1982	July 1982	June 1984
Issuance of country papers	June 1982	(not done)	June 1984

