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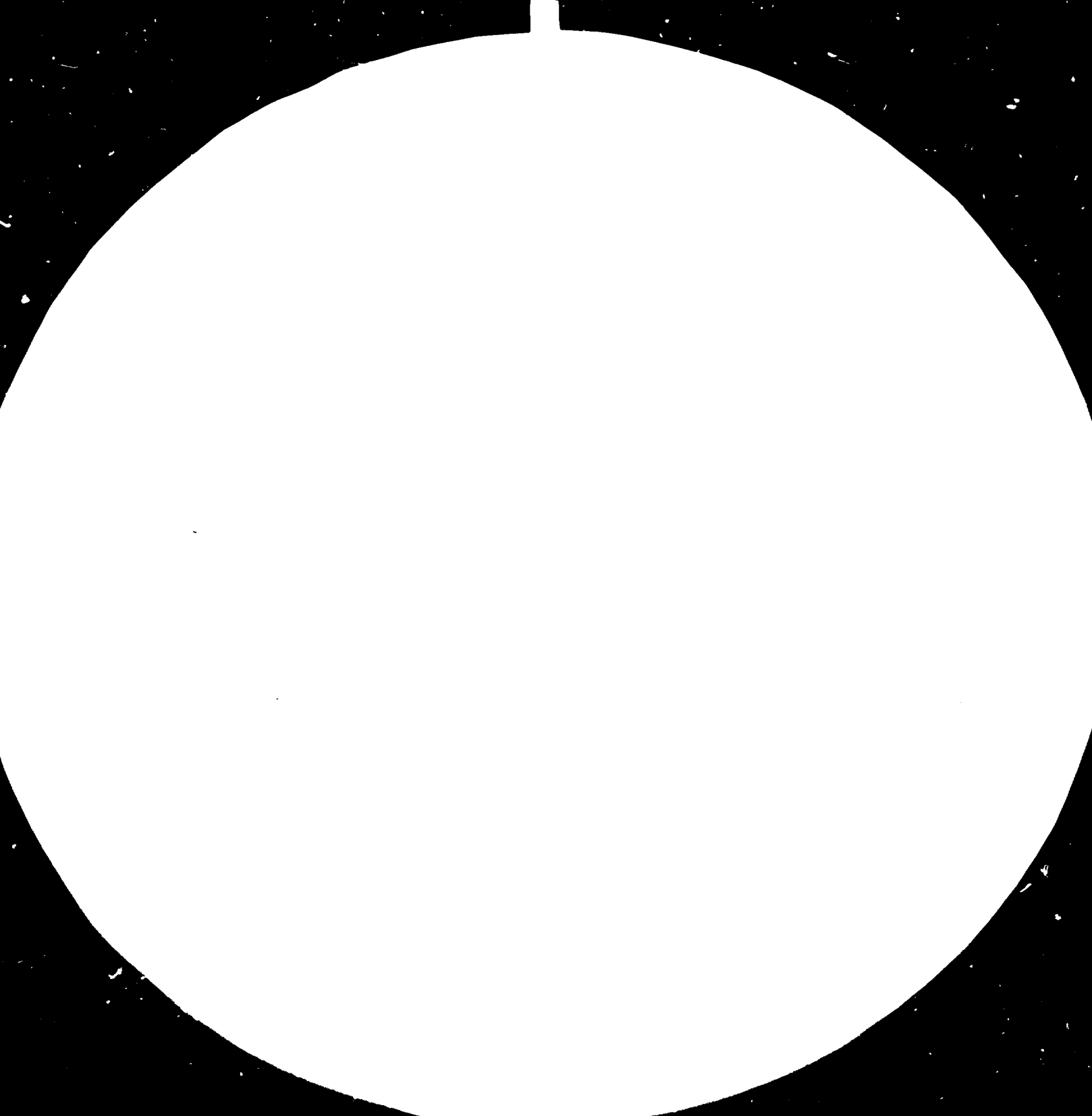
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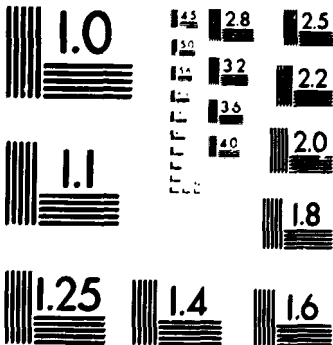
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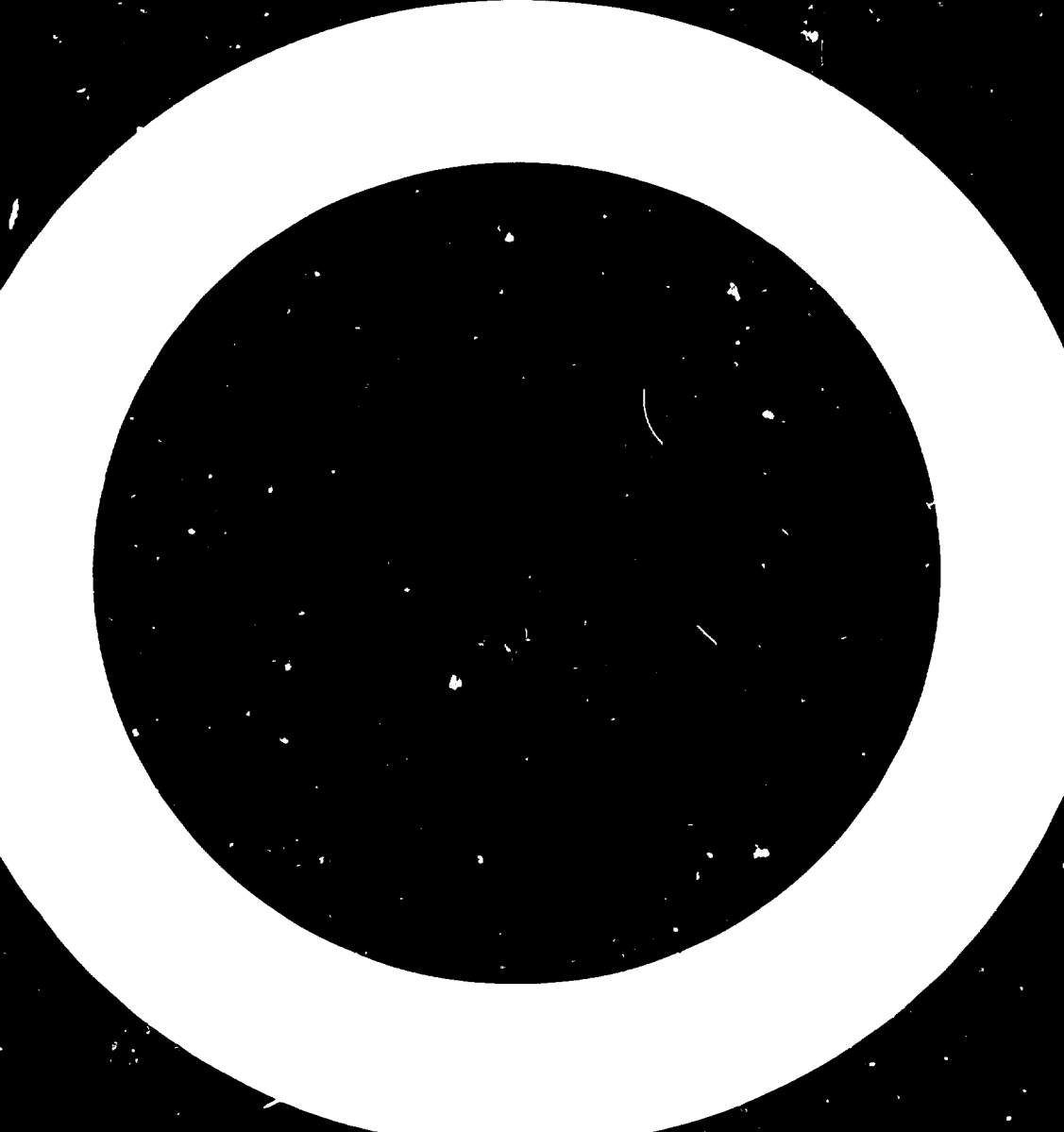
Global Preparatory Meeting for the
First Consultation on the
Building Materials Industry
Vienna, Austria, 24-28 September 1984

REPORT.

(Meeting on building
materials industry).

2827

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PREFACE

System of Consultations

The Second General Conference of the United Nations Industrial Development Organization (UNIDO), held at Lima, Peru, in March 1975, recommended that UNIDO should include among its activities a system of continuing consultations between developed and developing countries with the object of raising the developing countries' share in the world industrial output through increased international co-operation. ^{1/}

The General Assembly, at its seventh special session in September 1975, in its resolution 3362 (S-VII), decided that the System of Consultations called for by the Lima Plan of Action should be established at global, regional, interregional and sectoral levels ^{2/} and that UNIDO, at the request of the countries concerned, should serve as a forum for negotiation of agreements in the field of industry between developed and developing countries and among developing countries themselves.

In May 1980 the Board established the System of Consultations on a permanent basis, and in May 1982 it adopted rules of procedure ^{3/} for the System of Consultations, including its principles, objectives and characteristics, notably:

The System of Consultations shall be an instrument through which the United Nations Industrial Development Organization (UNIDO) is to serve as a forum for developed and developing countries in their contacts and consultations directed towards the industrialization of developing countries; ^{4/}

^{1/} Report of the Second General Conference of the United Nations Industrial Development Organization (ID/CONF.3/31), chapter IV, "The Lima Declaration and Plan of Action on Industrial Development and Co-operation", para.66.

^{2/} Official Records of the General Assembly, Seventh Special Session, Supplement No.1, para.IV.3.

^{3/} The System of Consultations (PI/84).

^{4/} Ibid., para.1.

The System of Consultations would also permit negotiations among interested parties at their request, at the same time as or after consultations; 5/

Participants of each member country should include officials of Governments as well as representatives of industry, labour, consumer groups and others, as deemed appropriate by each Government; 6/

Each Consultation shall formulate a report, which shall include conclusions and recommendations agreed upon by consensus and also other significant views expressed during the discussion. 7/

First Consultation on the Building Materials Industry

The Industrial Development Board, at its seventeenth session in April-May 1983, decided to include the First Consultation on the Building Materials Industry in the programme of consultations for the biennium 1984-1985.

At its eighteenth session in May 1984, the Industrial Development Board endorsed the proposed co-sponsorship with the United Nations Centre for Human Settlements (Habitat) of the First Consultation on the Building Materials Industry.

In accordance with the above-mentioned decision and the established work programme, the First Consultation on the Building Materials Industry will be convened in March 1985.

5/ Ibid., para.3.

6/ Ibid., para.23.

7/ Ibid., para.46.

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INTRODUCTION

1. The Global Preparatory Meeting for the First Consultation on the Building Materials Industry was convened at Vienna from 24 to 28 September 1984 as part of the preparations for the First Consultation. It was attended by 25 participants from 20 countries, representatives from United Nations bodies and non-governmental organizations, and several observers (see annex I).

AGREED CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Measures and action to increase the production of indigenous building materials in the context of enhanced import substitution

2. The Meeting concluded that:

(a) The building materials industry was a priority industry whose importance in the promotion of industrialization had not been adequately recognized;

(b) In the current international situation when most developing countries were facing a decline or stagnation of their foreign exchange earnings, and had large foreign debts and high interest rates, it was more and more important to foster those industries that might decrease import dependency or increase exports such as the building materials industry. Many countries spent large amounts of their scarce foreign exchange to import building materials they could produce locally and possibly export. Many of those countries possessed minerals and agricultural wastes on which industries producing building materials for export, not only to other developing countries, but also to industrialized countries, could be based. In that way, they would be able to ameliorate their balance-of-payments situation and to import equipment;

(c) The emphasis that had been placed on large-scale plants, for example in the cement industry, had created in many countries an over-capacity resulting from a lack of demand or the under-utilization of installed capacities because of the technological complexity of the plants, which could not be mastered. Therefore the Meeting concluded that when analysing the development of the sector emphasis should be placed on small- and medium-scale plants. Account should be taken of the current trend in some developed countries towards small-scale plants, as well as of the experience acquired by some developing countries in the area;

(d) Essential differences should be recognized between the building materials produced in the industrial sector and those produced in the informal sector. It was agreed that the First Consultation ought to give consideration to the building materials used in civil works, residential housing, factories etc., as well as those produced in the urban and rural areas for the consumption of lower income sectors;

(e) The production of building materials in the informal sector should be treated as a separate issue, bearing in mind that a large part of the world population lived in rural and suburban areas and produced its own building materials whose quality could be considerably improved.

The need to improve planning and programming methods of long-term demand and supply for the building materials industry

3. The Meeting concluded that:

(a) In order to develop the building materials industry, inventories of the needs (demand) and of resources (supply) were needed. On the supply-side, inventories should include not only the records of existing enterprises, but also the available local raw materials that might be used for the production of building materials;

(b) Given the priority of the sector, it should be included in national planning systems;

(c) In order to maintain the development of the sector, Governments in the developing countries would have to deliberately use the demand for building materials as a source to promote enterprises;

(d) Considerations of pricing as well as the profitability of the enterprises should be taken into due account in national planning.

Strengthening of indigenous technological capabilities

4. The Meeting concluded that:

(a) The mastering of the capital goods' technology in this sector was a vital element in the development of the building materials industry;

(b) Increased training in technology would provide a possibility for developing countries to choose the product most appropriate to their natural endowments and local demand;

(c) The capacity of developing countries to choose the technology most appropriate to their specific socio-economic conditions had to be strengthened;

(d) One of the most important elements in the strengthening of the technological capability was the training of personnel both on an individual and a collective level. That also applied to management capacity.

(e) The link between the degree of complexity of the capital goods utilized in the building materials industry and the training requirements should form the basis of an integrated approach to the problem of the transfer of technology and training of manpower;

(f) The mastering of a technology implied a better knowledge of the equipment used, the possibility of eventually producing parts of the equipment and in final stages the production of equipment itself;

(g) The need for increased North-South and South-South co-operation in order to increase the mastering of the technology at all levels.

The establishment and strengthening of institutional capabilities for the building materials industry, including research and development institutions

5. The meeting concluded that:

(a) In some developing countries the entrepreneurial organizations were weak and should be strengthened in order to improve their capacity to influence the decisions of Governments.

(b) In some developed countries the entrepreneurial organizations in the sector had achieved a high degree of organization and effectiveness. The possibility of fostering stronger relations between developing countries and those organizations in order, for example, to increase co-operation in the field of research and development or improve the developing countries capability in the selection of equipment was envisaged;

(c) The link between research organizations and industry in developing countries should be strengthened;

(d) The promotion of research institutes should be looked at from a regional point of view in order to limit the possibilities of overlapping research and to make better use of existing research facilities.

Financial aspects

6. The meeting concluded that finance was of importance and requested UNIDO to prepare appropriate documentation for the First Consultation, including studies on the financial implications of cement plants of different sizes.

Recommendations

7. The Meeting recommended that the following issues should be presented to the First Consultation on the Building Materials Industry:

(a) Development of the building materials industry, including financing, planning and programming methods, emphasizing alternative scale plants, particularly in the cement industry;

(b) Measures to strengthen indigenous technological capabilities in the production and use of building materials related to, among others things, the appropriate choice of products, selection, adaptation and transfer of technology, training, organization of production, design and production of capital goods, and research and development;

(c) Measures required to develop building materials production in the informal economy, including research and development, information, training, quality improvement and standardization.

I. ORGANIZATION OF THE MEETING

Opening of the Meeting

8. The Meeting was opened by the Head of the Negotiations Branch of UNIDO, who explained the origin and scope of the System of Consultations. He indicated that the purpose of the Meeting was to advise UNIDO on the selection of priority issues that might be considered at the First Consultation. He stressed that of the four issues suggested by UNIDO, and others that might be proposed by the participants, only a limited number could be selected in order to allow time for a thorough discussion of each issue at the Consultation and agreement on conclusions and recommendations.

Adoption of the agenda

9. The following agenda was adopted:

1. Opening of the Meeting
2. Election of officers
3. Adoption of the agenda and organization of work
4. Selection of issues to be considered at the First Consultation
 - (a) Discussion of issues suggested by the secretariat
 - (i) Measures and actions to increase the production of indigenous building materials in the context of enhanced import substitution
 - (ii) The need to improve planning and programming methods of long-term demand and supply for the building materials industry
 - (iii) Strengthening of indigenous technological capabilities
 - (iv) The establishment and strengthening of institutional capabilities for the building materials industry, including research and development institutions
 - (v) Financial aspects
 - (vi) Health and environmental problems
 - (b) Discussion of other issues proposed by participants
5. Consideration and adoption of the report of the Meeting

Election of officers

10. Saad Yahya (Kenya) and Hugo Navarro (Panama) were elected Chairman and Vice-Chairman. Naresh Narad (India) was elected Rapporteur.

Documentation

11. The documents issued for the Meeting are listed in annex II.

Adoption of the report

12. The report was adopted by the Meeting on 28 September 1984.

II. SUMMARY OF DISCUSSIONS

Measures and action to increase the production of indigenous building materials in the context of enhanced import substitution

13. The issue was introduced by a UNIDO consultant, on the basis of a document entitled "Measures and actions to increase the production of indigenous building materials in the context of enhanced import substitution" (ID/WG.425/3).

14. In the context of the discussion, the following definition of indigenous building materials was proposed: "The indigenous capability of an industry to produce materials". That definition added one more element to indigenous building materials, i.e. that capability of production was as important as availability; therefore, they should henceforth be not only locally available but also locally producible.

15. The Meeting discussed the scale on which building materials had to be produced. The tenor of discussion was in favour of small-scale industries because they required less financing, were labour intensive, and could be set up with appropriate and affordable technology. While promoting the cause of small-scale industry, the Meeting felt that large-scale industry also had a role to play in the sector.

16. The Meeting discussed the types of information system available and how they could be made to serve the industry more effectively. The current level of systems required urgent upgrading. The concept of a building materials register was discussed. Such registers needed to be prepared and maintained at local, provincial, and national levels. Such a system would provide information on availability, quantity, quality, location, means of access, and possible uses of each known raw material for building irrespective of its current importance. The role of demonstration plants and display centres, and the use of the media to reach producers as well as consumers were discussed, and the role of the system was recognized in respect to research and development.

17. It was generally agreed that research and development should be oriented to best serve the cause of the poor.

18. The Meeting discussed the various resource constraints faced by the building materials industry. It was recognized that the lack of land is one of the biggest constraints, particularly in the urban areas. It was felt that land should be judiciously used in the building materials industry.

19. The subject of building-materials production in the informal sector was introduced by a consultant from the United Nations Centre for Human Settlements (Habitat), on the basis of a document entitled "Small-scale building-materials production in the context of the informal economy" (HS/45/84/E). Currently, the contribution made by that sector was not generally taken into account in calculating building-materials production. One reason for that might be that there had been no statistics available of the contribution made by the informal sector.

20. It was recognized that the sector had an important role to play, especially in the field of rural and low-income urban housing. It was pointed out that the sector was labour intensive and did not call for heavy and sophisticated energy and technological inputs and also entailed lower overhead costs. The informal sector, it was agreed, constituted an important part of the economy and its role in the production of building materials was significant, particularly in rural and low-income urban areas.

21. However, it was agreed that the sector suffered from two specific constraints: the quality of products was generally poor, and the products presented great marketing difficulties. To overcome those constraints, it was suggested that training should be introduced for the manufacturers to upgrade their products, as well as to make use of various wastes such as agricultural and industrial. It was also suggested that building standards and designs should be so oriented that they promoted the use of those products. Also, for marketing, state agencies should help the manufacturers by providing some sort of protection.

22. It was pointed out that the question of production of building materials in the informal sector was not one of scaling-down production, but of the promotion of improved traditional or conventional materials, and therefore should be a separate issue at the First Consultation.

The need to improve planning and programming methods of long-term demand and supply for the building materials industry

23. The issue was introduced by a UNIDO consultant on the basis of a document entitled "Long-term forecasting and planning of the construction and building materials industries" (ID/WG.425/2).

24. It was felt that a systematic approach was necessary in the field because it involved prospecting and exploitation of natural resources, physical production, capital investment, employment generation etc.

25. That approach in turn would help:

(a) To establish a better understanding of the long-range construction and building-materials production process;

(b) To provide a basic outline for decision-making;

(c) To understand the prevalent conditions of the country and particularly of that sector.

26. It was stated that it was difficult to separate the building-materials industry from the construction sector, from the standpoint of long-term planning, because they were so intermingled that it was difficult to draw a dividing line.

27. The difficulties in implementing the existing information and inventory systems were noted. It was felt that the difficulties confronted by the industry should be solved on a priority basis in the interest of better management and long-term planning. It was also felt that information regarding availability and supply of various building materials existed, but it might not be complete. Therefore, the need to collate and update the information in respect of all the materials was recognized.

28. While planning for the building materials industry, it was felt that after financial allocations were finalized, disaggregations of building materials should be done for the whole period of the plan so that complementary actions could be initiated in all the relevant sectors. That way demand and supply could eventually be matched.

Strengthening of indigenous technological capabilities

29. The issue of the strengthening of indigenous technological capabilities was introduced by a UNIDO consultant, who presented a paper entitled "Outline of a policy for expertise and technological selection in capital goods for cement and brick manufacturing. Co-operation between developing countries in these industries" (ID/WG.425/4).

30. The participants agreed that such a policy had to include the points made below.

31. The promotion of individual and collective know-how by training. It was pointed out that often that know-how could be acquired on the job. It was indicated that experiences in developing countries showed that apart from individual training the training of the workforce as a whole was necessary. Some participants with long experience in developing countries pointed out that the intermediate levels of personnel required long periods of training and experience before they could effectively contribute to the running of the enterprises. The dearth of technicians in developing countries may be mentioned as a major reason in favour of a step-by-step approach to the level of complexity of the capital goods utilized. It was pointed out that in many developing countries factories were running below capacity due, among other things, to the unavailability of adequately trained technicians and middle management.

32. It was realized that some developing countries had made serious errors in the choice of plants, especially in the cement industry. It was said that for a long time the establishment of large-scale plants had been considered the best policy. Experience had shown that their size and the complexity of the technology used posed sometimes unsurmountable difficulties at all levels: lack of spare parts, skilled workers, over-capacity etc. With the trend towards automation in developed countries, the possibilities for developing countries to master the latest technology were decreasing. Therefore, smaller, less capital-intensive and technologically more simple plants offered a wider scope for developing countries to manage the plants properly, and eventually to design and produce their own equipment. It was stated by some participants that the process of mastering the technology was a long one and that the local production of equipment would have to be envisaged step by step as was already happening in some developing countries.

33. It was felt that an important step in the process of mastering the technology in the sector was to increase the expertise in the selection of the equipment most adapted to the socio-economic conditions of a specific country.

Establishment and strengthening of institutional capabilities for the building materials industry, including research and development institutions

34. The subject of research priorities for the building materials industry in developing countries was introduced by a UNIDO consultant on the basis of a document entitled "Research priorities for the building materials industries in developing countries" (ID/WG.425/1). During the discussion it was felt that research in construction and building materials could not be split. Therefore, research had to be carried out on both construction and building materials. While choosing the priorities for research, it was recognized that those could be decided at provincial or, at the highest, national levels because they had to be based on needs and area.

35. The strategic role that Governments could play in promoting the cause of research and development was recognized: the first step in the field should come from Governments. It was also felt that Governments should not only promote research and development, but also act as a catalytic agent through their policies.

36. The participants felt that there was a need for international as well as regional co-operation, and for co-operation between the developing countries in research and development. It was felt that there was scope for improving the techniques of transfer of technology as there appeared to be a gap between laboratory research and its application in the field. That gap needed to be bridged immediately. The need to pass on the results of the research to the informal sector was also recognized.

37. Research into the use of industrial, agricultural and other wastes as well as of substitute materials should be considered a priority. It was emphasized that research and development of technology should be oriented to the welfare of humanity with a focus on the poor.

Financial aspects

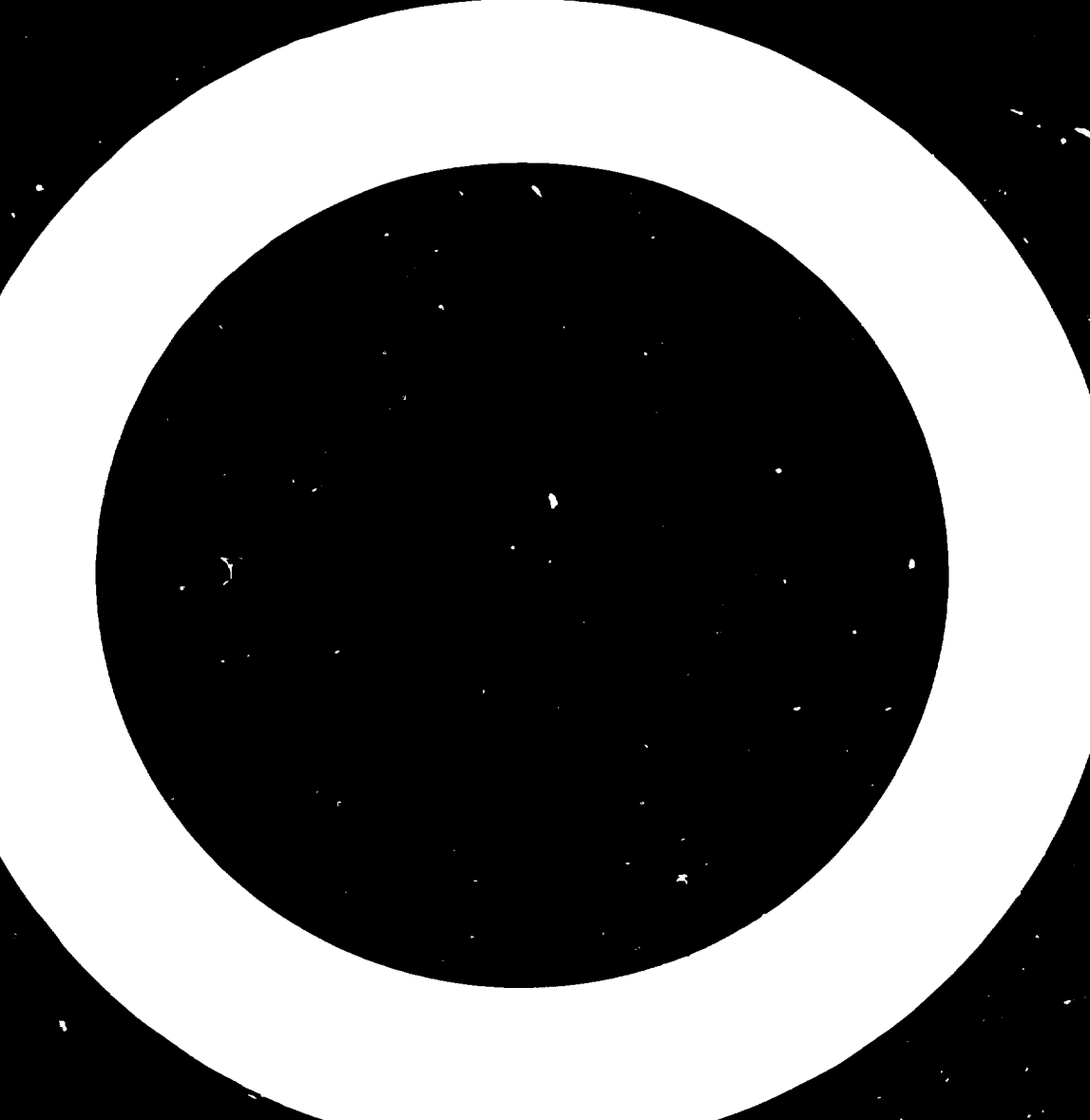
38. The issue of industrial financing in the building materials industry was introduced by the UNIDO secretariat and discussed on the basis of a paper it had prepared.

39. It was stated that in the current international situation finance had top priority when discussing the development of the sector in developing countries. The point was made that the problem of finance was directly linked to the problem of the size of plants; large plants would require international financing whereas smaller plants might be financed by the national financial system, also the foreign exchange outlay was lower for small-scale enterprises. Some participants pointed out that research might be needed into the modalities of international lending institutions in that regard. However, one participant said that large plants were generally constructed in joint ventures with large international corporations that provided finance or at least a guarantee that reduced the difficulties of obtaining adequate financial resources. Therefore the problem of finance should be oriented more towards the medium- and small-scale plants. It was indicated that there was a lack of adequate financial mechanisms to promote the international trade of building materials and equipment. The lack of facilities in developing countries to promote that type of export was also mentioned.

Health and environmental problems

40. Health and environmental problems resulting from the building materials industry were considered by the Meeting. It was felt that preventive and remedial action both by Governments and the industry should be taken to combat the problems created by the production and use of building materials.

41. Since the issues of health and environment were outside the competence of UNIDO or the United Nations Centre for Human Settlements (Habitat), it was suggested that UNIDO should invite the United Nations agencies concerned to participate in the Consultation and, if possible, to provide material to discuss those issues.



Annex I

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Annex II

LIST OF DOCUMENTS

	<u>Document symbol</u>	<u>Language</u>
Provisional agenda	ID/WG.425/5	E/F/S
Provisional list of participants	-	E
<u>Discussion papers</u>		
Research priorities for the building materials industries in developing countries	ID/WG.425/1	E/F/S
Long-term forecasting and planning of the construction and building materials industries	ID/WG.425/2	E/F/S
Measures and actions to increase the production of indigenous building materials in the context of enhanced import substitution	ID/WG.425/3	E/F/S
Outline of a policy for expertise and technological selection in capital goods for cement and brick manufacturing. Co-operation between developing countries in these industries	ID/WG.425/4	E/F/S
Suggestions for issues related to industrial financing of the building materials industry	ID/WG.425/6	E/F/S
Small-scale building materials production in the context of the informal economy	HS/45/84/E	E/F/S
<u>Background papers</u>		
The building materials industry in Brazil	-	E

