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REPORT OF WORKING GROUP III

Rapporteur: H.E. Mr. Vicente Sanchez (Chile)

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Introduction

1. At its 82nd (opening) plenary meeting on 13 April 1972, the third session of the United Nations Conference on Trade and Development established Working Group III open to participation by all interested delegations and at its 83rd meeting referred to the Working Group for consideration and report the following item of the agenda:

Item 19: Transfer of technology in the light, inter alia, of Board resolution 74 (X) of 18 September 1970.

2. At its first meeting held on 18 April 1972 the Working Group-elected H.E. Mr. L.D. Thompson (Australia) as its Chairman. At its fourth meeting on 21 April 1972 H.E. Mr. Vicente Sanchez (Chile) was elected as its Rapporteur. At its fifth meeting held on 24 April 1972

H.E. Mr. Julio Eguino Iedo (Bolivia) was elected as its Vice-Chairman.

3. The Committee held meetings in the course of which it considered the item allocated to it.

4. At the Committee's first meeting on 18 April 1972 the Chairman drew attention to the schedule of work relating to agenda item 19 contained in the annex to document TD/147 - Report by the Chairman of the Pre-Conference Meeting. At the same meeting the Committee agreed to the proposed organization of its work.

Transfer of technology in the light,
inter alia, of Board resolution 74 (X)
(agenda item 19)

5. In a brief introductory statement the representative of the Secretary-General of UNCTAD informed the Working Group of the background on this agenda item and focused attention on some of the issues involved. He referred to the spirit of constructive co-operation of all participants in the organizational (first) session of the Inter-governmental Group on the Transfer of Technology. Since the unanimous adoption of the work programme in June 1971, the secretariat had submitted for consideration

at the third Conference two documents: "Transfer of Technology" (TD/106) and "Policies Relating to Commercialization of Technology in the Andean Pact - Their Foundations" (TD/107). The second paper had been prepared at the request of the secretariat, by the Junta del Acuerdo de Cartagena. In TD/106 the secretariat had presented preliminary estimates of the direct cost of the transfer and had made four proposals concerning major policy issues and measures for immediate action.

6. The representative of the Secretary-General also noted the very favourable responses which had been received to the UNCTAD questionnaire on the transfer of technology. So far, 42 countries had already sent their replies containing very valuable information. A number of other countries had indicated that their replies would be sent soon. On behalf of the Secretary-General of UNCTAD, he expressed the secretariat's gratitude for such excellent responses and co-operation from Governments in this new initiative within UNCTAD.

7. The representative also referred to the close co-operation of the other international organizations and bodies concerned with specific work on the transfer of technology, which had helped to avoid unnecessary duplication.

8. In the general discussion, 50 representatives participated. Their statements ranged over a wide field. They drew attention to some new areas that needed to be covered in UNCTAD's work, and gave details on the empirical as well as the policy experiences of their countries. The documentation prepared for consideration of those items was regarded as useful in furnishing the basis for remarks by various representatives on the proposals contained therein. All representatives who participated in

the discussion also stressed the need for a wider, faster and easier transfer of technology on reasonable terms to accelerate the economic and social development of the developing countries. They also stressed the need for training facilities within developing countries and the importance of the adaptation of technology to make it suitable for conditions in developing countries. There was a general consensus that due regard should be paid to the economic and social consequences of the transfer.

9. The representatives of the developing countries, sometimes taking up in detail one particular point and sometimes supporting broadly the views put forward by another representative expressed satisfaction with the initiatives taken by UNCTAD in this new field. It was noted in particular that resolution 74 (X) had identified UNCTAD's functions to be performed on a continuing basis; that the Intergovernmental Group on the Transfer of Technology was established to implement them; that the United Nations General Assembly in resolution 2726 (XXV) had endorsed these initiatives; that as its organizational (first) session the group had unanimously agreed to a comprehensive programme of work which was welcomed in General Assembly resolution 2821 (XXVI); that paragraphs 37 and 64 of the International Development Strategy had outlined further steps which needed to be taken; and that only recently the United Nations Advisory Committee on the Application of Science and Technology to Development had expressed its satisfaction with the initiatives taken by UNCTAD and the progress achieved in directions which were in line with the Committee's recommendations.

10. All these and related developments, particularly the spirit of international co-operation at the last session of the Intergovernmental Group, had, according to several representatives of developing countries, given them hope that the stage was now set to move away from sterile debates on dangers of duplication to the drawing up of measures for national, regional and international action.

11. Representatives of most of the developing countries, who participated in the debate, welcomed the documentation submitted by the secretariat. Within this documentation, of special significance were the preliminary estimates of direct costs and their likely growth - from \$1.5 billion in or around 1968 to a figure as high as \$9 billion by about 1980. It was plainly necessary, they urged, to initiate remedial action before a crisis developed.

12. Representatives of many developing countries drew attention to the fact that the transfer of technology was only a part of the whole range of problems connected with the development of national scientific and technological potential. Without developing these, they pointed out, the technological gap - and its reflection, the income gap - would persist; and with it, developing countries would continue to remain technologically, and in consequence, economically and even politically dependent on external sources. The process of the transfer of technology had thus to be improved so as to make its contribution to the development of independent scientific and technological potential in these countries. They expressed the hope that the third session of the Conference would mark significant progress in bringing about such an improvement.

13. Representatives of several developing countries considered that the need for such an improvement was urgent for a wide variety of reasons. Technology constitutes a powerful bargaining tool; the market for technology is highly imperfect; monopolistic practices are common. The developing countries often lacked even the basic information necessary for guiding them in their decisions. There was thus neither a world market, nor world exchange nor world prices for technology. Moreover, developing countries were in a weak bargaining position. This unequal partnership reflected itself in purchase by the developing countries of inappropriate technologies, at excessive costs, under highly restrictive conditions, and in their continued technological dependence. In connexion with this, the representative of one developing country stressed the need to distinguish between the technology provided by private enterprises, liable to restrictive practices, and the technology provided directly by governments and international organizations, usually transferred under different conditions.

14. According to representatives of several developing countries, they had entered into contracts which contained highly restrictive conditions inhibiting the selection of alternative projects, the ability to export and the opportunity to make maximum use of any adaptive research conducted in developing countries on imported technology. This situation of dependence was severely aggravated by the lack of information in developing countries with regard to the availability of alternative technologies and with regard to the prices which should be paid for any particular technology. It was incorrect to speak of an international market in technology; instead, the position was one where the stronger parties to a contract could make use of

their monopolistic position to exact an inordinately high proportion of the total benefits resulting from a project.

15. Since the developed countries exporting technology occupied a dominant position in the markets for both patented and unpatented technology, the representatives of developing countries proposed that this position should be altered through an appropriate amendment of existing national and international patent legislation.

16. It was of crucial significance for developing countries to obtain technology appropriate to their resource endowments and their social conditions. At the same time, developing countries must be helped to strengthen their capacity to adapt, diffuse and innovate technology more suitable to their national, economic and social conditions. Representatives of some developing countries were concerned, in particular, to ensure that obsolete technology should not be sold to them. They were also concerned because the social costs associated with the use of such technology were not sufficiently taken into account.

17. Representatives of several developing countries gave quantitative illustrations of the characteristics of technology transfer in their countries. One representative stated that in the principal industries in his country, particularly in the most dynamic ones, foreign control often approached 70 per cent of equity holdings. Moreover, the proportion of patents granted to national enterprises and persons in his country was now an extremely small proportion of the total. The incidence of restrictive conditions in technology contracts, and especially in license contracts, was very high. These restrictive conditions covered such methods as the compulsion on domestic industries to purchase raw

materials, intermediate products, equipment, spare parts and technical services from pre-determined sources abroad. Such tied arrangements were the cause of heavy payments in the form of "hidden" costs. The restrictions related to limitation on export possibilities, the limitation on domestic use of improvements made to imported technology, and several other matters.

18. The representative of one developing country pointed out that direct payments for royalties and licenses constituted only 8 per cent of the total payments made in his country for the transfer of technology. This suggested that the use of other indirect methods of charging for the transfer of technology was very widespread indeed. It therefore follows that there is an imperative need for new international legislation regulating the transfer from developed to developing countries of patented and non-patented technology including all related legal, commercial, and marketing aspects of such transfers.

19. Representatives of some developing countries stressed that foreign investment has ceased to be a catalytic agent in the development process. It has become an instrument for hindering indispensable structural change, leading to increasing indebtedness and thus contributing to the perpetuation of economic dependence and subordination.

20. The representative of another developing country stated that, even though his country happened to have substantial financial resources for development, the lack of skilled personnel meant that technology was transferred frequently to his country in the form of a package arrangement, comprising all elements of imported technology. Those arrangements prevented the country from acquiring full capacity to learn from the imported technology and thus, to develop some of its own domestic skill.

21. The representative of a developing country referred to the extremely high salaries which were often received by foreign consultants. In some cases, these were as much as fifty times the salaries paid to local skilled personnel undertaking similar work. One representative was particularly concerned about ensuring that the technicians sent from outside should stick to their job and should not meddle in the domestic affairs of the country.

22. The representative of one developing country emphasized that the entire question of the transfer of technology should be examined in an integrated manner. For instance, without making proper arrangements for imported technology, different enterprises have continued to engage in imports of "repetitive technology" and paying for it even though the same or similar technology had already been imported earlier by another enterprise. From his countries' experience, the charges for design engineering were even higher than those for the transfer of technology proper. It was of obvious importance therefore that wherever possible the developing countries establish their own design engineering offices and set up close co-ordination between them and industrial enterprises. This was one area in which there were great possibilities of mutual co-operation among the developing countries themselves.

23. Representatives of developing countries who participated in the debate expressed their strong support for the proposals contained in document TD/106 as well as for the proposals made in the Lima Declaration. They considered that the two sets of proposals provided a sound basis for reaching a consensus at this Conference. In particular, the secretariat's suggestions would provide for the establishment and servicing of institutional machinery which was essential to the proper organization of technology imports while the proposals in the Lima Declaration covered many related aspects concerning the adaptation of, and the choice of appropriate

technology and assistance by the developed countries. Moreover, both the secretariat document and the Lima Declaration drew attention to the special requirements of the least developed among the developing countries. These countries particularly lacked an adequate infrastructure and skilled personnel to make the best use of imported technology. In the elaboration of any programme of work, proper attention should be paid to the needs of these countries.

24. Representatives of several developing countries referred to the importance of developing an adequate domestic infrastructure in their economies. The lack of such infrastructure inhibited their utilization of technology from abroad and also presented a severe obstacle to their ability to develop domestic technology. It was essential to achieve, in the long run, a balance between foreign technology and indigenous technology. The proposals made by the secretariat of UNCTAD concerning the creation of institutional machinery in developing countries specifically dealing with the transfer of technology should take account of the need to train domestic personnel who could develop a technology suitable to the needs of the developing countries.

25. Representatives of several developing countries recognized the need to define more carefully the specific functions which would be performed by such machinery dealing with the transfer of technology. They emphasized that UNCTAD should help in the establishment of such offices and in the improvement of the conditions governing the transfer. These offices could hardly be expected to be of much value unless adequate specialized training were given to their personnel. And in the meantime, the advisory services could not only fill in the gap, but could also help in training personnel. Representatives of several developing countries expressed agreement with the secretariat proposal concerning making arrangements for directing a specific portion of the research and development expenditures of developed countries to problems of particular significance for the developing countries.

26. The representative from one developing country suggested that UNCTAD should establish a centre concerned with science and technology for development. After several years of careful study in the United Nations Advisory Committee for the Application of Science and Technology to Development (ACAST) as well as in UNCTAD and other international organizations, the international community had now reached a point where immediate action on many problems could be taken. The UNCTAD centre which he was proposing might perform the following functions:

(a) facilitate the establishment of regional and/or national centres for the dissemination of technical information; (b) provision of advisory services for developing countries and the establishment of a clearing house for technological knowledge; (c) seek financial support for developing countries wishing to import technology; (d) establish close collaboration with the United Nations Advisory Committee on the Application of Science and Technology to Development, and finally (e) assist the work of the Intergovernmental Group on the Transfer of Technology.

27. Representatives of some developing countries expressed a keen interest in having guidelines on the negotiation and re-negotiation of contracts. These should be prepared by the secretariat drawing upon the experience of various countries.

28. Representatives of some developing countries noted that most of the restrictive business practices were concerned with the transfer of technology and these two subjects should be treated together.

29. The difficulties associated with the training of skilled personnel in developing countries were, according to representatives of several developing countries, often accentuated by the large-scale emigration of such personnel. It was suggested by them that an analysis of this emigration, more popularly known as the "brain drain", should be undertaken.

After all, it involved heavy costs to the developing countries and represented a real contribution by the developing countries - in the forms of acquired skills - to the developed countries. It was suggested that UNCTAD might also undertake a study of the relationship between foreign technology and the requirements of local inputs needed to make efficient use of that technology. It was noted that in practice many industrial plants in developing countries were operating at low levels of capacity utilization and this implied inefficient use of both the imported equipment and the local resources.

30. The representative of one developing country pointed out that the transfer of technology had been converted into a new source of exploitation and dependence for the developing countries and that the solution of the problem should not be left in the hands of private enterprise. The same representative referred to the brain drain, particularly towards an industrial capitalist power, saying that it constituted a technology transfer phenomenon in reverse, from the poor and underdeveloped countries to a rich and developed country. He emphasized that the exodus in question had an impact on the capacity of the developing countries to acquire, absorb and create technology, and in that sense the problem fell within the sphere of competence of UNCTAD, independently of the studies made and measures proposed by other United Nations bodies.

31. Representatives of several developing countries attached great importance to a study of technological alternatives. To be of practical value, this had to be done in terms of listing the options that were really open to those developing countries. Much of the theoretical discussion on the subject so far has proved of limited value. The preparation of a practical handbook or guidelines on the subject could be jointly undertaken by several bodies as had been recommended by the Advisory Committee on the Application of Science and Technology to Development.

32. Representatives of a number of developing countries cited strong reasons for expressing themselves in favour of transforming the Inter-governmental Group into a standing Committee on the Transfer of Technology. UNCTAD's functions, to be performed on a continuing basis, had been defined. A long-term, or indeed a continuing, programme of work had been agreed to. The special competence of UNCTAD had been endorsed formally in various resolutions of the General Assembly. The most recent resolution (1621 B (LI)) of the Economic and Social Council establishing a standing Committee for Science and Technology also clearly recognized this. Deliberations of the Conference would also be concerned with proposals which had major long-term significance. For these reasons, the present Conference as a sovereign body should take the decision to remedy the illogical situation in which a transient body was assigned the task of performing continuing functions. The very scope and the spirit of the deliberations of the Working Group had proved, if proof were indeed needed at all, the need for such permanent machinery.

33. The representative of China emphasized the importance of freeing developing countries from dependence on foreign technology. He stated that his country supported the reasonable demands set forth in the Lima Declaration - i.e. that the transfer of technology from the developed to the developing countries should be conducted on an equitable, non-restrictive and non-discriminating basis. In the field of technology, each developing country had its strong points. To some extent they could make up for each other's deficiencies by mutual assistance. Within its capabilities, China had established technical co-operation with many countries, making sure that the experts and technical personnel sent by his Government passed on their technical know-how to the recipient countries as soon as possible and that they should respect the sovereignty of recipient countries, observe the habits and customs of the local people and have the same standard of living as the experts and technical personnel of those countries. They were not allowed to make any special demands or enjoy any special amenities.

34. The representatives of developed market economy countries participating in the discussion took note of the documentation provided by the secretariat.

35. The scope of UNCTAD's activities on this subject was clearly defined by resolution 74 (X) of the Trade and Development Board. Subsequently, the Intergovernmental Group on the Transfer of Technology had made an excellent beginning by agreeing to its detailed programme of work. Within this programme of work, however, it was still necessary to define more closely the competence of UNCTAD in specific areas. Clarification of priorities for the secretariat's work would help to avoid duplication. The representatives of some developed market economy countries underlined the co-ordinating role of the Economic and Social Council (ECOSOC) in the field of the transfer of technology.

36. The representatives of developed market economy countries felt there were a number of issues which required further examination. The transfer of technology is essentially a market transaction between buyer and seller who have to agree a price. It was difficult to separate the transfer of technology, which was an extremely complex subject, from several related matters including private foreign investment, official aid, international law, restrictive business practices and other questions. Care must be taken to ensure that the subject was not treated in isolation from these other matters.

37. While the transfer of technology was of great importance to the sustained economic development of the developing countries, the representatives of several developed market economy countries stressed that their countries too were large-scale importers of technology. The problems facing developing countries, and in particular the problems of the correct balance between preserving adequate opportunities for foreign investment and ensuring a just distribution of the benefits from such investment, were familiar to developed market economy countries. In the course of their experience, the developed market economy countries had tried, and continued to try, to define appropriate policies toward the inflow of foreign investment. Every effort must be made to maintain a dialogue between technology suppliers and technology receivers, and to achieve stable relationships between all parties interested in the transfer.

38. Representatives of several developed market economy countries stated that, while the secretariat's preliminary estimates in TD/106 of the cost of transfer were helpful, a study of the benefits accruing to technology receivers from the transfer was required. Insufficient attention had been paid to the benefits; since any sale of technology involved the

agreement of buyers as well as sellers, such benefits existed and were important. It might be possible to find some indications of an answer to the problem of benefits in the various case studies prepared by the United Nations and other bodies on the transfer of technology.

39. In this connexion it was necessary to define the aspects of transfer of technology with which UNCTAD was concerned. Hitherto, it had not been clear whether the issues under discussion included public aid, investment in industry, agriculture, trade, education and training, or simply patents and licensing arrangements. Similarly, it was not yet known whether certain types of institutions and policies were more successful in promoting the transfer of technology than others. The Working Group would be of considerable help to the Intergovernmental Group if it could provide further guidance on these points.

40. Representatives of some developed market economy countries referred to the experience of their countries in the transfer of technology. One of these representatives said that his country had imported a substantial amount of technology in the last two decades and was continuing to do so. Indeed, the size of imports was increasing; for 1969 royalty payments by his country totalled \$370 million whereas in 1965 the figure was \$170 million. His country had initially introduced legislation with a view to accelerating the import of foreign capital and technology conducive to its economic development. As experience accumulated and the balance of payments position improved, the legal situation had been amended accordingly. At the present time, his government's control over the import of technology was confined to a small number of industrial fields.

41. The same representative indicated that when his country considered the import of new technology, it examined what impact new technology from abroad might have on industrial structure, whether the recipient company was the most suitable one for technology imports, and whether such technology was the most suitable for the economy to derive maximum benefits. A study and survey of past experience had been started within his government which would be prepared to make available the results of such a study. At the same time his government was prepared to offer consultative advice that would be useful to any developing country.

42. The representative from another developed market economy country noted that the prevailing forms of economic and social organization, as well as administration, affected the import of technology. In his country the progress involved several levels of government in addition to private enterprise. Research and development, in both pure and applied science, was growing in his country and much original work had been undertaken, especially in the fields of agriculture and water resources and much of this research is readily available to interested developing countries. Referring to the suggestions for targets for transfer of technology, he indicated that his country had real reservations about the utility of such measures.

43. The representative of another developed market economy country pointed out that his country had been helping to accelerate transfer of technology to developing countries for many years. It was the hope of his government to increase its contributions in this field once more in the present year. Major scientific projects, in such areas as marine science, scientific information systems, engineering, provision of technical publications and other matters were currently in progress through the assistance of his government.

44. The subject of international patent legislation was referred to by the representatives of several developed market economy countries. These representatives emphasized that the patents system was essential to stimulate further innovation and they drew attention to the Patent Co-operation Treaty which had been concluded in Washington in June 1970. This Treaty had set new standards for world wide co-operation in this field, and the basis of this co-operation was the national patent laws in developed and developing countries alike. In the Treaty there were provisions to help developing countries establish their own patent systems, to provide them with abstracts of documentation concerning inventions and to give technical assistance.

45. Representatives of some developed market economy countries recognized that protected technology accounted for only a small proportion of the existing world stock of technology. An urgent problem was to bring non-patented technology into the system of technology transfer. At the moment the most promising means of accomplishing this objective was through the operation of aid programmes; and especially through bilateral channels.

46. The representatives of several developed market economy countries stated that they had studied carefully the proposals advanced in secretariat document TD/106. The first of these proposals, that is, the establishment of specialized institutions in developing countries to deal with problems of transfer of technology, was acceptable and recognized to be a matter of importance which the developing countries must decide for themselves. In establishing such institutions, however, care was needed to ensure that they were properly integrated with the industrial policy of the country. If this

failed to occur, the machinery could become very rigid and even impede the transfer process. These institutions should be concerned with administration of the technology transfer process and endeavour to contribute, to the greatest extent possible, to the flow of information between interested sectors of the economy. Where possible, institutions should operate on a regional or sub-regional basis.

47. It was clear that effective operation of such institutions required skilled personnel and that training of such personnel was needed. Several international organizations could contribute to the training, including UNIDO and WIPO as well as UNCTAD. Before appropriate training programmes could be started, however, it was essential to formulate a clear understanding of the types of training required and to study the best means of providing this training. In this regard, the representatives of some developed market economy countries referred to the experience of their own countries and suggested this experience might be useful in devising training programmes. The financial implications of any training scheme must also be examined carefully; co-operation between international organizations, such as UNCTAD, UNIDO and WIPO, in the provision of training could help to reduce the costs.

48. The third proposal made by the secretariat concerned the establishment of an Advisory Service on transfer of technology within UNCTAD. While this was a sensible proposal, it was not clear that the time was ripe for such a service or that UNCTAD alone was the proper forum in which to provide the service. Other international organizations, notably UNIDO and WIPO, were already active in the provision of advisory services on some aspects and

UNCTAD should not duplicate these activities. The establishment of such a service would in any case seem to be premature while the work of the Intergovernmental Group awaited completion.

49. Representatives of several developed market economy countries expressed scepticism and some of them had reservations regarding the secretariat's proposal for the allocation of part of the research and development expenditures of developed countries to projects of specific interest to developing countries. While recognizing the desirability of larger allocations to research on the problems of the developing countries, these representatives noted that on several occasions in the past other United Nations bodies had prepared targets for allocation of the research and development expenditures of developed countries to the needs of developing countries. This proliferation of targets raised not only the question of consistency between the various sets of targets recommended by different bodies, but also raised doubts as to the desirability of setting 'sub-targets' within the overall aid target of one per cent of GNP. It would be preferable to concentrate on fulfilment of the overall target and allow developing countries to decide themselves what proportion of the total would be allocated to their own scientific and technological needs.

50. The representative of Spain noted that, while for geographic reasons his country was classified as a developed market economy country, it was in fact a developing country with needs similar to those of other developing countries. His country had spent \$155 million in 1971 in direct payments for technology and had received only \$17 million for technical assistance provided by Spain during the same year. While Spain, therefore, was acutely conscious of the cost aspects of the problem, he drew attention to two other aspects of the subject. One was the need to utilize imported

technology so as to generate domestic innovation, and the other was the necessity of improving the market for technology by means of improved information. Control of technology transfer was certainly necessary, but such control should not be exaggerated lest it encourage the growth of bureaucratic systems in this field.

51. In his view, the most important matter was to stimulate domestic innovation. Assimilation and application of imported technology was the first important stage in achieving the objective.

52. He supported the proposals made by the UNCTAD secretariat for the establishment of institutions in developing countries, the training of personnel and the provision of an Advisory Service under the auspices of UNCTAD. With regard to the allocation of research and development expenditures of the developed countries to the needs of developing countries, Spain considered that other international organizations and the OECD would be more appropriate bodies in which to examine this matter.

53. The representatives of the socialist countries of Eastern Europe stressed that their countries had always been in favour of full scientific and technical co-operation among the countries of the world. Transfer of technology should be encouraged among all countries, including those with different economic and social systems. The provision of assistance in this field by the socialist countries of Eastern Europe was qualitatively different, however, from such assistance by the developed market economy countries. The socialist countries of Eastern Europe did not impose limitations and restrictions on the freedom of action of countries receiving technology and, by means of bilateral arrangements, the socialist countries permitted technology recipients to obtain technology well suited to their needs.

54. Representatives of some of these countries pointed to the danger of duplication in the work of international organizations concerned with transfer of technology. There was no clear-cut division of competence among the various agencies; UNCTAD, for its part, should join forces with other agencies, especially in regard to any advisory services which might be established, and should seek to identify priorities for work in this field. Furthermore they pointed out that the work of UNCTAD as defined by earlier resolutions should concentrate on commercial and financial aspects of the transfer of technology.

55. The representative of a socialist country of Eastern Europe stating that his country was a developing socialist country confirmed the information on costs presented by the secretariat in document TD/106. Indirect as well as direct methods of charging for technology were important, and enterprises in his country were confronted with these difficulties. He fully supported the work undertaken so far, and envisaged for the future, by the UNCTAD secretariat. In his view, the time was propitious for the Intergovernmental Group to become a permanent body and an organ of the Trade and Development Board.

56. He was entirely in agreement with the proposals made in document TD/106 and considered it essential to incorporate these proposals in any resolution which might be forthcoming from the deliberations of the Working Group. Such a resolution should contain also a wider set of measures to deal with other aspects of the transfer of technology; with this in mind, he considered the proposals made in the Lima Declaration should also find their place in a resolution.

57. The representative of another socialist country of Eastern Europe drew attention to the fact that only one part of the transfer of technology had been considered, namely the transfer to the developing countries. He considered that trade relating to the results of science and technology between industrial developed market economy countries and the socialist countries should be freed from restrictions on the part of the former.

58. He stated that his Government would be prepared to help developing countries by means of technical assistance related to transfer of technology. Such assistance would not be confined to patent systems alone but could, if a developing country so wished, concern itself with the whole range of problems connected with the transfer of technology. Proper provision of technical assistance, as well as proper administration of the technology transfer process, should take account of all facets of the problem including the social and cultural as well as the economic. His Government was prepared to help organize, as part of the UNDP programme, training courses and seminars specifically designed for the transfer of technology.

59. The representative of another socialist country of Eastern Europe indicated that his country was itself in need of technology; the secretariat document TD/106 had adopted an approach which was too narrow in that it failed to recognize the technological needs of countries which were not developing. His country was also a supplier of technology but this supply was not limited by restrictive practices or monopolistic behaviour. The negative aspects of transfer of technology were not to be found in the assistance provided by his country.

60. The representative of another socialist country of Eastern Europe noted the concern of representatives from many developing countries with the problem of emigration of skilled personnel from developing countries and the stimulus given to such emigration by the prevailing conditions in the transfer of technology. This particular problem did not exist when technology was transferred by the socialist countries who instead provided a substantial amount of training to persons from developing countries.

61. The representative of one socialist country of Eastern Europe described the extent and nature of assistance provided by his country. Efforts were directed towards key sectors of the economy in developing countries and even to the instigation of new sectors. Co-operation took place through bilateral channels and, by the end of 1971, 49 contracts of this type had been signed and some 490 industrial and other units had been constructed. He also pointed out that during the years 1961-1971 about eighty thousand specialists had been assigned by his country and about a quarter of a million persons had been trained in his country. The scale of activities by his country continued to grow and the training of personnel from developing countries was an important aspect of the technical assistance activities conducted by his country.

62. The representative of another socialist country of Eastern Europe stressed the point that besides establishing the proper institutional system, the conditions and impact of the technology to be transferred depended to a great extent on the economic and social development of the recipient country.

63. The representative of the Holy See appreciated the caution with which the secretariat had made its estimates of cost in document TD/106.

Although these figures were tentative, they emphasized firmly the difficulties confronting the developing countries in the field of transfer of technology. He did have some specific suggestions to make with respect to the secretariat's documentation. It would have been useful if more material on the operation of multinational companies had been included, and in particular if more attention had been paid to the transfer of pricing mechanisms used between the subsidiaries of these companies.

64. Document TD/106 did not contain any discussion of the problem of emigration of skilled personnel from developing countries and this, too, should be a subject of study by the secretariat. The document had drawn attention to the possible advantage of countries entering the industrialization process at a later stage of their development. However, he felt the secretariat discussion of this point was a little too optimistic since there were problems involved in the adaptation of technology to the specific needs of the developing countries. He considered that a general principle of free access to knowledge should be established by the international community.

65. The representative of UNESCO said that his organization paid particular attention to the growing importance of human resources in the development of technology. Its present work was conducted under four headings relating to science and technology policies in developing countries, educational policies and the education of scientific and technical personnel, the development of information systems for science and technology in which the recent creation of UNISIST played an important part, and finally the development of scientific and technical institutions. He emphasized that in its work UNESCO thus had complementary responsibility to that of UNCTAD. There was a complete concordance of activities of the two organizations and he was confident that both would continue to work in harmony in their future programmes.

66. The representative of the International Labour Organisation stated that his organization was especially interested in the relationship of the transfer of technology to the level of employment in developing countries. While ample material had now been made available by the UNCTAD secretariat relating to the direct foreign exchange costs of the transfer, it was important to extend this work to include the social costs of the transfer and in particular the study of the effects on employment and incomes. The International Labour Organisation was prepared to collaborate closely with UNCTAD in regard to the training of technical personnel, the improvement of productivity, the conduct of seminars, the publication of relevant information and in other ways which might be thought useful.

67. The representative of the United Nations Department for Economic and Social Affairs drew attention to the work already undertaken by the Department on the transfer of technology. He pointed out that a series of case studies of individual developing countries and of specific industries had been conducted, and that these case studies provided a sound basis for the formulation of specific proposals. Work initiated by the Department for Economic and Social Affairs had brought together in an expert meeting representatives of international business and experts from developing and developed countries. It had been agreed at the meeting that advisory services at the level of individual projects could usefully be provided by the United Nations and its specialized agencies. Within developing countries, regional associations would be an effective vehicle for dealing with technology transfer problems.

68. The representative of WIPO referred to existing co-operation between WIPO and UNCTAD in the field of the transfer of technology and stated that WIPO wished to continue to contribute to the work of UNCTAD. Patents played a part in the creation, transfer and public disclosure of new technology; the improvement of the national and international patent systems for the

purposes of economic development was a primary concern of WIPO to which its technical assistance programme, including training was directed. Referring to proposals for a study concerning the review of international patent legislation and for the elaboration of bases for new international arrangements, he declared WIPO's readiness to co-operate in both. The second, however, was likely to lead to quicker and more fruitful results. Current work relating to the patent co-operation treaty, to the Committee of Governmental Experts on the proposal of the Government of Sweden for the establishment of a Patent Licensing Convention, to a proposal of the Government of Brazil for negotiations on patented technology and to the initiative of the Government of Austria in instituting an International Patent Documentation Centre could form a basis for WIPO's contribution to the work of UNCTAD.

69. The representative of the United Nations Advisory Committee on the Application of Science and Technology to Development (ACAST) said the Advisory Committee was impressed by the manner in which UNCTAD had developed its activities in the field of the transfer of technology. ACAST had been consulted by UNCTAD during the preparation of UNCTAD's programme of work and welcomed the establishment of the Intergovernmental Group on the Transfer of Technology. The Advisory Committee was particularly pleased that the efforts of the Intergovernmental Group had opened the path for effective international action on these problems of urgent concern to the developing countries. The Advisory Committee noted with satisfaction the concordance between the directions of work followed by UNCTAD and ACAST's own ideas in this field.

70. In replying to the debate, the representative of the Secretary-General of UNCTAD stated that the secretariat had taken note of the suggestions and ideas expressed by the members of the Working Group and would take full account of them in pursuing its programme of work.

71. At the conclusion of its general debate the Working Group agreed to form a Contact Group, composed of eighteen members to ensure balanced geographical representation, to consider a draft resolution on the Transfer of Technology submitted on behalf of the Group of 77 (TD/III/WG.III/L.2)^{1/} and a draft resolution on outflow of trained personnel from developing to developed countries submitted by Algeria, Cuba, Chile, Guinea and the People's Democratic Republic of Yemen (TD/III/WG.III/L.3).^{1/} As a result of the deliberations of the Contact Group, the Chairman of the Working Group submitted to the Group a draft resolution (TD/III/WG.III/L.5)^{2/} together with a proposal by him concerning paragraph 2 of that text (TD/III/WG.III/L.6).^{2/} The Working Group was unable to agree on the adoption of the draft resolution as a whole, and referred the draft resolution to the plenary meeting of the Conference.

72. The spokesman for the developing countries commented only on paragraph 9 of the draft resolution. Speaking on behalf of the developing countries, he stated that they could accept this paragraph at the present level of discussion on the understanding that the reference to related commercial and legal aspects of the transfer in that paragraph referred to restrictive business practices in licensing and other agreements related to the transfer of technology as had been elaborated in the Lima Declaration. The developing countries had hoped to accomplish much through this Conference and were still hoping that the Conference would come to a satisfactory decision concerning legislation governing the transfer of technology.

^{1/} See Annex II

^{2/} See Annex I

73. Representatives of many developed market economy countries made observations concerning specific paragraphs of the draft resolution and some of them expressed reservations on some of the points. These representatives noted that Trade and Development Board resolution 74 (X) had stated clearly that the Intergovernmental Group on transfer of technology should meet for two substantive sessions after which the institutional arrangements within UNCTAD would be considered. In reference to paragraph 2 of TD/III/WG.III/L.5, therefore, these representatives considered that the agreement reached in resolution 74 (X) should be followed and that the Conference should not take a decision on institutional arrangements within UNCTAD.

74. On paragraph 1 of the draft resolution some representatives of the developed market economy countries stated that although they had welcomed in General Assembly resolution 2821 (XXVI) the work programme prepared by the Intergovernmental Group, they were unable to endorse it in full because they had not participated in its elaboration. One representative of a developed market economy country stated that his country was prepared to participate in the work of the Intergovernmental Group but this did not imply complete endorsement of the work programme. Others noted that their countries were not members of the Intergovernmental Group and could not, because of this consideration, endorse the work programme. The representative of the United Kingdom stated that his delegation had supported resolution 74 (X) of the Trade and Development Board, although it was not a member of the Intergovernmental Group. At its 11th session, the Board took note of the work programme and subsequently, at the General Assembly, it was welcomed; but it had not been the subject of any detailed discussion either in the Trade and Development Board or in the Conference. His delegation had some specific difficulties about it; it was over-ambitious, it did not establish priorities to which the Secretariat should devote its limited resources, and it lacked balance in some aspects.

75. Referring to paragraph 4 of the draft resolution, the representative of the United States of America stated that the purpose of that paragraph, as well as of certain preambular paragraphs in the resolution, was to underline the importance of creating a good climate and demand for technology in the developing countries. These countries sometimes adopted policies which encouraged costly technology and discouraged competition. The weak internal markets in those countries also often limited demand for new technology. This representative noted that many countries which had encouraged private investments from abroad had been successful in attracting technology at reasonable cost. In regard to paragraphs 5(ii), 5(iv) and 15(ii), his government interpreted "endeavouring to provide possible incentives" to include measures to encourage foreign investment projects including those that establish training programmes for technicians and that transfer specifications and technological processes. On para. 7(ii), this representative stated that the United States had a general objection to voluntary contributions outside the UNDP. The UNDP should be free to place technical assistance funds where they are most needed. As far as paragraph 16 of the draft resolution was concerned, the reservations the United States had made on paragraph 63 of International Development Strategy were still valid.

76. The representative of Australia in referring to the provisions of Resolution 74 (X) relating to future discussions in the Trade and Development Board on the question of Transfer of Technology stated that these discussions should not be prejudged by the Conference resolution. In this context he said that his country could not agree to endorse the work programme of the Intergovernmental Group at this stage - paragraph 1 of the resolution - which had not been fully discussed in the Trade and Development Board. His country had similar qualifications regarding paragraph 7(i) of the resolution which requests the Secretary-General to

implement the work programme. He also said in relation to paragraph 63 of the strategy for the Second Development Decade that his country's position on the question of targets remained the same as that expressed at the time the strategy was adopted in the United Nations General Assembly.

77. The question of Advisory Services, mentioned in sub-paragraph 7(ii) of the draft resolution, also posed problems for many developed market economy countries. The representatives of developed market economy countries recognized the principle of the need for the provision of advisory services by UNCTAD, but they were not sure that the best way of doing it was to establish an Advisory Service within UNCTAD for this purpose.

78. Representatives of several developed market economy countries expressed their misgivings with the proposal contained in paragraph 9 of the draft resolution. It was not appropriate for UNCTAD to be involved in studies of possible new legislation in this field, in view of the activities of appropriate and competent organizations such as WIPO and these representatives considered also that the purpose of any new initiative should be to improve the transfer of technology rather than to regulate it.

79. The representative of a developed market economy country stated that he attached great importance to the concluding paragraph of the draft resolution dealing with the question of duplication of work. He felt that the secretariat should take great care to avoid duplication and that it was his hope that the secretariat would ensure that the provisions of this paragraph were closely followed.

80. Representatives of many developed market economy countries stated that they had reservations concerning the financial implications of the draft resolution (as stated in document TD/III/WG.III/Misc.1/Add.1). It was not entirely clear that these financial implications reflected

the true requirements of the draft resolution, and they stressed the need for the secretariat to re-examine the financial implications before the plenary meeting of the Conference.

81. The spokesman of several socialist countries of Eastern Europe noted that these countries were prepared to accept the draft resolution as it incorporated their amendments.

82. The representative of the Secretary-General of UNCTAD stated that the secretariat would pay great attention to the general observations which had been made during the meeting, and would take full account of them in pursuing its work on the basis of the resolution which the Conference might adopt.

83. The Working Group decided to accept the Chairman's proposal that the informal Drafting Group which had been formed to consider the resolution proposed by the developing countries would continue its efforts, under his guidance, to arrive at an agreed text, taking into account all the draft resolutions and proposals which were before the Working Group III. The results of its consideration will be submitted to the President of the Conference.

ANNEX I

Draft resolution and proposal by the Chairman
submitted to Working Group III and referred by
it for further consideration by the Plenary

TRANSFER OF TECHNOLOGY IN THE LIGHT, INTER ALIA,
OF BOARD RESOLUTION 74 (X) OF 18 SEPTEMBER 1970

Transfer of Technology

- (a) Draft resolution submitted by the Chairman of
the Working Group

The Third United Nations Conference on Trade and Development

Convinced that scientific and technical co-operation constitutes one of the main factors of economic and social development and contributes to the strengthening of peace and security of all nations;

Bearing in mind the importance of the transfer of adequate technology to all countries, and in particular to the developing countries;

Considering the recognition given to promoting the transfer of technology to developing countries in the International Development Strategy for the Second United Nations Development Decade, and in particular in paragraph 64;

Recalling resolution 2658 (XXV) of the General Assembly, particularly its paragraph 7 recommending to UNCTAD and other organizations to continue and intensify within their competence efforts for transfer of operative technology to the developing countries;

Drawing attention to the special functions of UNCTAD as decided in the Trade and Development Board resolution 74 (X) to be pursued on a continuing basis and the establishment of an Intergovernmental Group on the transfer of technology within UNCTAD;

Noting that the General Assembly, in its resolution 2726 (XXV) endorsed the Trade and Development Board resolution 74 (X), establishing the Intergovernmental Group on the Transfer of Technology within UNCTAD, and requested States members of UNCTAD to give their fullest support to the Intergovernmental Group, including provision of budgetary support;

Welcoming the unanimous approval by the Intergovernmental Group of a comprehensive programme of work for UNCTAD in this field;

Noting further the unanimous welcome by the General Assembly of this work programme in resolution 2821 (XXVI);

Recalling resolution 1621 (LI) B which created a standing Committee of ECOSOC on the application of science and technology to development, which will take into account the specific competence of UNCTAD as defined in resolution 74 (X) of its Trade and Development Board;

Noting further the Declaration adopted by the Second Ministerial Meeting of the Group of 77 held in Lima from 25 October to 7 November 1971;

Noting also the views expressed in the course of the Third session of the Conference.

PART I

INSTITUTIONAL ARRANGEMENTS WITHIN UNCTAD

1. Endorses the programme of work, to be pursued on a continuing basis approved unanimously by the Intergovernmental Group on the Transfer of Technology at its organizational session.
2. Decides that the continuing nature of UNCTAD functions in this field be reflected in the institutional arrangements in UNCTAD through the transformation of the Intergovernmental Group after two substantive sessions into a standing Committee on the Transfer of Technology/
2. Decides that in accordance with paragraph 6 of resolution 74 (X) of the Trade and Development Board, the work done by the Intergovernmental Group on Transfer of Technology will be the subject of a major review after two substantive sessions and, in the light of that review, the Board will decide about further work in the field of the transfer of operative technology to developing countries, including the question of institutional arrangements in UNCTAD/

PART II
IMPROVING THE ACCESS TO TECHNOLOGY

3. Invites the developing countries to establish institutions, if they do not have them, for the specific purpose of dealing with the whole range of complex questions connected with the transfer of technology from developed to developing countries, and takes note of the wishes of the developing countries; that these institutions should inter alia:

- (i) be responsible for the registration, deposit, review and approval of agreements involving transfer of technology in the public and private sectors;
- (ii) undertake or assist in the evaluation, negotiation or renegotiation of contracts involving the transfer of technology;
- (iii) assist domestic enterprises in finding alternative potential suppliers of technology in accordance with the priorities of national development planning;
- (iv) make arrangements for the training of personnel to man institutions concerned with the transfer of technology.

4. Invites the developing countries to take the specific measures they deem necessary to promote an accelerated transfer of adequate technology to them under fair and reasonable terms and conditions.

5. Recommends that developed market economy countries facilitate an accelerated transfer of technology on favourable terms to developing countries, inter alia, by

- (i) providing capital and technical assistance and developing scientific and technological co-operation;
- (ii) endeavouring to provide possible incentives to their enterprises to facilitate an accelerated transfer of their patented and non-patented technology to developing countries on fair and reasonable terms and conditions and by assisting these countries in using effectively imported techniques and equipment;

- (iii) assisting developing countries to absorb and diffuse imported technologies through the provision of necessary information and technical assistance, such as training in planning and management of enterprises and in marketing as well as other forms of scientific and technological co-operation;
- (iv) endeavouring to provide their enterprises and their subsidiaries located in developing countries with possible incentives to employ, wherever possible local labour, experts and technicians as well as to utilize local raw materials, to transfer specifications and technological processes used in production to local enterprises or competent organizations and also to contribute to the development of know-how and expertise by training staff in the developing countries;
- (v) designating institutions able to provide information to developing countries concerning the range of technologies available;
- (vi) assisting through their overall co-operation programmes in the application of technology and in its adaptation to the production structures and economic and social requirements of developing countries at their request;
- (vii) taking steps to encourage and promote the transfer of the results of the work of research institutes and universities in the developed countries to corresponding institutions in developing countries;
- (viii) participating actively in the identification of restrictive business practices affecting the transfer of technology to developing countries with a view to alleviating and, where possible, eliminating these practices in accordance with paragraph 37 of the International Development Strategy for the Second United Nations Development Decade.

6. Recommends that the socialist countries of Eastern Europe, in accordance with their economic and social systems, undertake to facilitate the accelerated transfer of technology on favourable terms to developing countries inter alia through agreements on trade, economic and scientific and technical co-operation.

7. Requests that the Secretary-General of UNCTAD

- (i) implement the programme of work for UNCTAD in the field of transfer of technology approved by the Intergovernmental Group on the Transfer of Technology, and undertake the studies necessary for the formulation of concrete policies to be applied at the national, regional and international levels;
- (ii) establish an Advisory Service within UNCTAD provide advisory services to be financed through UNDP within the framework of specific projects and/or any voluntary contributions, in co-operation as appropriate with other bodies, with a view to providing at the request of the developing countries, especially the least developed among them, with experienced personnel to assist, within UNCTAD's competence, in the transfer of technology to developing countries;
- (iii) initiate and participate through UNDP, and in accordance with its procedures, and in co-operation with other competent bodies within the United Nations system and WIPO, training programmes concerning transfer of technology for personnel from developing countries, especially from the least developed among them;
- (iv) assist the Board in reviewing and implementing within UNCTAD's field of competence the provisions in paragraphs 37 and 64 of the International Development Strategy for the Second United Nations Development Decade.

8. Decides that UNCTAD should co-operate with other bodies in the United Nations system, and with other competent international organizations, particularly WIPO, in order to:

- (i) assist developing countries in the application and adaptation of technology to their production structures and economic and social requirements;
- (ii) explore the possibility of setting up multilateral institutions such as technology transfer centres, patent banks and technological information centres;
- (iii) explore proposals for bilateral and multilateral arrangements to facilitate the transfer of technology on reasonable terms and conditions without causing strain to the balance of payments of developing countries;
- (iv) study possible international mechanisms for the promotion of the transfer of technology to developing countries and particularly take the necessary steps for co-ordinating action with WIPO on studies to be carried out in this field.

9. Resolves to request the Secretary-General of UNCTAD and the Director General of WIPO, in co-operation with other competent bodies of the United Nations system, to carry out jointly a study of possible bases for new international legislation regulating the transfer from developed to developing countries of patented and non-patented technology, including related commercial and legal aspects of such transfer, for submission to the Trade and Development Board and the ECOSOC.

10. Recommends that the international community, in recognition of the special position of the least developed among the developing countries should:

- (i) assist such countries, for instance by the establishment and/or consolidation of information centres and applied technology institutes;
- (ii) furnish on easier terms the specialized institutions of such countries with the results of research relevant to their economic developments;
- (iii) give special consideration to the terms, conditions and costs of transfer of technology to such countries.

11. Urges that international organizations and financing programmes, in particular the UNDP and IBRD, should give high priority to providing technical and/or financial assistance to meet the needs as defined by developing countries in the field of transfer of technology particularly for the purpose defined in operative paragraphs 3, 7 and 8 of this resolution.

PART III

IMPROVING THE SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE

12. Recommends that urgent measures be taken by the developed countries, as well as by competent international organizations at the national, regional and international levels, to improve the scientific and technological infrastructure of the developing countries.

13. Invites the developing countries at the national level:

- (i) to apply the provisions of paragraph 61 of the International Development Strategy for the Second United Nations Development Decade;
- (ii) to develop an efficient infrastructure geared to the specific socio-economic needs of each country as a solid basis for the adoption and/or adaptation of imported technology, the creation of national technology and the application thereof, and strengthening the domestic, scientific and technological capabilities;
- (iii) to readapt their education and training systems to the needs and demands of a technologically progressive developing economy and society.

14. Invites further the developing countries at the regional and inter-regional level to consider action:

- (i) to assist the transfer of technology to themselves by exchanging information concerning their experiences in acquiring, adapting, developing and applying imported technology, and in this regard, set up regional or sub-regional information centres;
- (ii) to make appropriate institutional arrangements for the training and exchange of technical personnel;

- (iii) to establish joint technological research centres for projects of regional interest and for exchanging between developing countries within the region or between different regions, adapted or recently developed imported technology;
- (iv) to promote the study of scientific and technological projects between developing countries with common technological requirements arising from similarities in their sectoral structure of production;
- (v) to set up machinery to facilitate the dissemination and exchange of technologies originating in the developing countries, so that the comparative advantages and specialization offered by each sector of activity may be fully utilized;
- (vi) endeavour to co-ordinate their policies with regard to imported technology, including its adaptation to domestic conditions.

15. Recommends that the developed countries:

- (i) give urgent consideration to the possibility of taking prompt measures to move towards fuller implementation of the provisions of paragraph 63 of the International Development Strategy for the Second United Nations Development Decade;
- (ii) endeavour to provide possible incentives to encourage their national enterprises to transfer to their associated enterprises in developing countries a substantial and increasing volume of their research activities;

16. Takes note of the wishes of the developing countries that the developed countries should:

- (i) devote 0.05 per cent per annum of their gross national product to the technological problems of developing countries;

- (ii) allocate at least 10 per cent of their research and development expenditure to programmes designed to solve problems of specific interest to developing countries generally, and as far as possible devote that expenditure to projects in developing countries.

17. Calls on the socialist countries of Eastern Europe in accordance with their social and economic systems to increase further their assistance to the developing countries taking into account their own possibilities and to continue transferring adequate technology to the developing countries on favourable terms.

18. Recommends that bodies in the United Nations system, including UNCTAD, and the specialized agencies, within their respective fields of competence, should:

- (i) bring to an acceptable conclusion the World Plan of Action of the United Nations;
- (ii) assist the developing countries to create the necessary infrastructure, as regards both institutions and personnel, for the development and transfer of technology;
- (iii) co-ordinate their efforts and programmes for the support of science and technology at the regional and international level in order to facilitate the transfer of technology to developing countries;
- (iv) should support the regional economic commissions and UNESOB in order to enable them to carry out fully their role in the application of science and technology to development within their respective regions.

19. Recalls that as recognized in preambular part of Resolution 74 (X) none of the existing United Nations bodies deals exclusively with the specific question of operative technology in developing countries and that, therefore, as decided in operative paragraph 2 of the same resolution, UNCTAD would perform its functions in this field in co-operation and co-ordination with other bodies in the United Nations system and other international organizations with the aim of avoiding any overlapping and unnecessary duplication of activities in this field, in conformity with the responsibilities of the Economic and Social Council, particularly those of co-ordination, and with the agreements governing the relationship between the United Nations and the agencies concerned.

TRANSFER OF TECHNOLOGY IN THE LIGHT, INTER ALIA,
OF BOARD RESOLUTION 74 (X) OF 18 SEPTEMBER 1970

Transfer of technology

(b) PROPOSAL SUBMITTED BY THE CHAIRMAN

1. As members of the Working Group may note, agreement could not be reached in the Contact Group on the text of paragraph 2 of the draft resolution contained in document TD/ III/WG.III/L.5. The Chairman would therefore propose the following text for that paragraph in the hope of arriving at a full consensus :

"2. Instructs the Board to ensure that the continuing nature of UNCTAD's functions in this field be reflected in the institutional arrangements in UNCTAD."

ANNEX II

Draft resolutions submitted to Working Group III

TRANSFER OF TECHNOLOGY IN THE LIGHT, INTER ALIA,
OF BOARD RESOLUTION 74 (X) OF 18 SEPTEMBER 1970

Transfer of technology

- (a) Draft resolution submitted by Indonesia, Chairman of
the Group of 77, on behalf of the Group

The Third United Nations Conference on Trade and Development,

Convinced that science and technology constitute one of the main factors of economic and social development;

Bearing in mind the importance of the transfer of adequate technology to all countries, and in particular to the developing countries;

Considering the recognition given to promoting the transfer of technology to developing countries in the International Development Strategy for the Second United Nations Development Decade, and in particular, in paragraph 64;

Recalling resolution 2658 (XXV) of the General Assembly, particularly its paragraph 7 recommending to UNCTAD and other organizations to continue and intensify within their competence efforts for transfer of operative technology to the developing countries;

Drawing attention to the special functions of UNCTAD as decided in the Trade and Development Board resolution 74 (X) and the establishment of an Intergovernmental Group on the Transfer of Technology within UNCTAD to implement these functions on a continuing basis;

Noting that the General Assembly, in its resolution 2726 (XXV), endorsed the Trade and Development Board resolution 74 (X), establishing the Intergovernmental Group on the Transfer of Technology with UNCTAD, and requested States members of UNCTAD to give their fullest support to the Intergovernmental Group, including provision of budgetary support;

Welcoming the unanimous approval by the Intergovernmental Group of a comprehensive programme of work for UNCTAD in this field;

Noting further the endorsement by the General Assembly of this work programme in resolution 2821 (XXVI);

Taking into account the Declaration adopted by the Second Ministerial Meeting of the Group of 77 held in Lima from 25 October to 7 November 1971;

PART I

Institutional arrangements within UNCTAD

1. Endorses the programme of work, to be pursued on a continuing basis approved unanimously by the Intergovernmental Group on the Transfer of Technology at its organizational session.
2. Decides that the continuing nature of UNCTAD functions in this field be reflected in the institutional arrangements in UNCTAD through the transformation of the Intergovernmental Group into a standing Committee on the Transfer of Technology.

PART II

Improving the access to technology

3. Invites the developing countries to establish institutions, if they do not have them, for the specific purpose of dealing with the whole range of complex questions connected with the transfer of technology from developed to developing countries, and that these institutions should inter alia:
 - (i) be responsible for the registration, deposit, review and approval of agreements involving transfer of technology in the public and private sectors;
 - (ii) undertake or assist in the evaluation, negotiation or renegotiation of contracts involving the transfer of technology;
 - (iii) assist domestic enterprises in finding alternative potential suppliers of technology in accordance with the priorities of national development planning;
 - (iv) make arrangements for the training of personnel to man institutions concerned with the transfer of technology;

4. Decides that developed market economy countries

- (i) should encourage national and multinational enterprises, by providing them with fiscal and financial incentives, to facilitate an accelerated transfer, on favourable terms, of their patented and non-patented technology to developing countries, inter alia, by exempting the recipients of royalties in developed countries from taxation, and to assist developing countries in using effectively imported techniques and equipment;
- (ii) should assist developing countries to absorb and diffuse imported technologies through the provision of necessary information and technical assistance, such as training in planning and management of enterprises and in marketing;
- (iii) should encourage their enterprises and their subsidiaries located in developing countries by providing them with fiscal and financial incentives to employ local labour, experts and technicians as well as to utilize local raw materials, transferring its specifications and technological processes utilized in their production, to national technicians and appropriate organizations in charge of industrial development, and also to contribute to the development of know-how and expertise by training staff in developing countries;
- (iv) should designate institutions to provide information to developing countries concerning the range of technologies available;
- (v) should assist in the application of technology and in its adaptation to the production structures and economic and social requirements of developing countries;
- (vi) should take steps to encourage and promote the transfer of the results of the work of research institutes and universities in the developed countries to corresponding institutions in developing countries;
- (vii) should promote the elimination of all restrictive business practices in accordance with paragraph 37 of the International Development Strategy for the Second United Nations Development Decade.

5. Recommends that the governments of socialist countries of Eastern Europe should, in accordance with their economic and social systems, undertake to facilitate the accelerated transfer of technology on favourable terms to developing countries through agreements on trade and economic co-operation.
6. Requests that the Secretary-General of UNCTAD
 - (i) implement the programme of work for UNCTAD in the field of transfer of technology approved by the Intergovernmental Group on the Transfer of Technology, and undertake the studies necessary for the formulation of concrete policies to be applied at the national, regional and international levels;
 - (ii) establish an Advisory Service within UNCTAD, in co-operation as appropriate with other bodies, with a view to providing the developing countries, especially the least developed among them, at their request, with experienced personnel to assist in the preparation, negotiation and implementation of projects involving the transfer of technology;
 - (iii) initiate, through the UNDP and in co-operation with UNIDO and WIPO and other competent bodies, the establishment of training programmes concerning transfer of technology for personnel from developing countries, especially from the least developed among them;
 - (iv) review and implement the directives contained in paragraphs 37 and 64 of the International Development Strategy for the Second United Nations Development Decade.
7. Decides that UNCTAD, with the collaboration of other competent international organizations, particularly UNIDO and WIPO, should:
 - (i) assist developing countries in the application and adaptation of technology to their production structures and economic and social requirements;
 - (ii) set up multilateral institutions such as technology transfer centres, patent banks, a world bank for technology, and technological information centres;
 - (iii) devise bilateral and multilateral arrangements to facilitate negotiations concerning the transfer of technology on reasonable terms and conditions, without causing strain on the balance of payments of developing countries;

- (iv) study mechanisms for multilateral rounds of negotiations on technology and especially the proposal in document PC/EC/VII/16 submitted to the 1971 annual session of the Executive Committee of the Paris Union, which is intended to allow developing countries as complete a knowledge as possible of the supply side of the international market for technology.

8. Resolves, in order to eliminate restrictive business practices in the field of transfer of technology, including the practices adopted in this respect by multinational companies, to request the Secretary-General of UNCTAD to carry out, in co-operation with WIPO and other competent bodies, a study concerning the revision of international patent legislation, and to elaborate the bases for a new international legislation regulating the transfer from developed to developing countries of patented and non-patented technology, including related commercial and legal aspects of such transfer, for submission to the thirteenth session of the Trade and Development Board.

9. Decides that the international community, in recognition of the special position of the least developed among the developing countries, should:

- (i) assist such countries, for instance by the establishment and/or consolidation of information centres and applied technology institutes;
- (ii) furnish the specialized institutions of such countries with the results of research relevant to their economic developments;
- (iii) give special consideration to the terms, conditions and costs of transfer of technology to such countries.

10. Decides that international organizations and financing programmes, in particular the UNDP and IBRD, should give the highest priority to providing technical and financial assistance to meet the needs as defined by developing countries in the field of transfer of technology, particularly for the purpose defined in operative paragraphs 3, 6 and 7 of this resolution.

PART III

Improving the Scientific and Technological Infrastructure

11. Urges that measures be taken by the developed countries, as well as by competent international organizations at the national, regional and international levels, to improve the scientific and technological infrastructure of the developing countries.

12. Invites the developing countries at the national level:

- (i) to apply the provisions of paragraph 61 of the International Development Strategy for the Second United Nations Development Decade;
- ((ii) to develop an efficient infrastructure geared to the specific socio-economic needs of each country as a solid basis for the adoption and/or adaptation of imported technology, the creation of national technology and the application thereof, and strengthening the domestic, scientific and technological capabilities;
- (iii) to readapt their education and training systems to the needs and demands of a technologically progressive developing economy and society.

13. Invites further the developing countries at the regional and international level:

- (i) to assist the transfer of technology to themselves by exchanging information concerning their experiences in acquiring, adapting, developing and applying imported technology, and in this regard, set up regional or sub-regional information centres;
- (ii) to make appropriate institutional arrangements for the training and exchange of technical personnel;
- (iii) to establish joint technological research centres for projects of regional interest and for exchanging between developing countries within the region or between different regions, adapted or recently developed imported technology;
- (iv) to promote the study of scientific and technological projects between developing countries with common technological requirements arising from similarities in their sectoral structure of production;
- (v) to set up machinery to facilitate the dissemination and exchange of national technologies originating in the developing countries, so that the comparative advantages and specialization offered by each sector of activity may be fully utilized;
- (vi) endeavour to co-ordinate their policies with regard to imported technology, including its adaptation to domestic conditions.

14. Recommends that the developed countries:

- (i) take urgent measures to implement fully the provisions of paragraph 63 of the International Development Strategy for the Second United Nations Development Decade;
- (ii) devote 0.05 per cent per annum of their gross national product to the technological problems of developing countries;
- (iii) allocate at least 10 per cent of their research and development expenditure to programmes designed to solve problems of specific interest to developing countries generally, and as far as possible devote that expenditure to projects in developing countries;
- (iv) provide fiscal and other incentives to encourage their national enterprises to transfer to their associated enterprises in developing countries a substantial and increasing volume of their research activities.

15. Recommends that the United Nations system of organizations and in particular UNCTAD should:

- (i) bring to an acceptable conclusion and thereupon implement the World Plan of Action of the United Nations;
- (ii) assist the developing countries to create the necessary infrastructure, as regards both institutions and personnel, for the development of national technology;
- (iii) co-ordinate their efforts and programmes for the support of science and technology at the regional and international level;
- (iv) place more resources at the disposal of the United Nations Economic and Social Office in Beirut (UNESOB) and the regional economic commissions in order to enable them to carry out fully their role in the application of science and technology to development within their respective regions.

TRANSFER OF TECHNOLOGY IN THE LIGHT, INTER ALIA,
OF BOARD RESOLUTION 74 (X) OF 18 SEPTEMBER 1970

Outflow of trained personnel from developing to
developed countries

- (b) Draft resolution submitted by Algeria, Chile, Cuba,
Guinea and the People's Democratic Republic of Yemen

The United Nations Conference on Trade and Development, at its
third session,

Recalling General Assembly resolutions 2083 (XX), of 20 December
1965, on the development and utilization of human resources; 2090 (XX),
of 20 December 1965, and 2259 (XXII), of 3 November 1967, on the
training of national technical personnel for the accelerated industria-
lization of the developing countries; 2320 (XXII), of 15 December 1967
and 2417 (XXIII), of 17 December 1968, on the outflow of trained
personnel from the developing countries,

Bearing in mind the report by the Secretary-General of UNCTAD
(TD/106, paragraph 51), which points out that "an acceleration of the
rate of economic growth of the developing countries and a rapid
improvement of their social structures through eradication of mass
poverty, inequality and illiteracy requires, inter alia, a large-scale
transfer from the vast fund of technological knowledge accumulated
mainly in the advanced market economy and socialist countries",

Considering the vital importance for the developing countries of the availability of technically and scientifically qualified local personnel, as it enables them:

- (1) to take advantage of any possibilities of access to the technology of the developed countries;
- (2) to make good use of such technology by adapting it to national conditions;
- (3) to develop appropriate techniques for their structures of production; and
- (4) to create national technologies of their own,

Taking into account the fact that not only has such a large-scale transfer from the pool of technological knowledge failed to take place, but what has actually been happening in recent years is precisely the reverse, that is, the fund of technological knowledge in the developing countries has been steadily depleted by the outflow of technical and scientific personnel, most of whom emigrate to some of the market economy countries, thus seriously impairing the ability of the developing countries to tackle the tasks of development with trained national personnel,

Recognizing that the root causes of the outflow of trained personnel from the developing countries are to be found in under-development itself, and that whatever measures are adopted to prevent it must take that fact into consideration, as well as the fact that some of the industrialized countries encourage the outflow in question by various means,

Decides to request the Secretary-General of UNCTAD, taking due note of the report of the Secretary-General of the United Nations on the outflow of trained personnel from developing to developed countries, and of the work in the field of transfer of technology to the developing countries done by the United Nations Institute for Training and Research (UNITAR), the Advisory Committee on the Application of Science and Technology to Development and other organizations and bodies concerned in the United Nations system,

1. To carry out a study:
 - (a) on the outflow of trained personnel from developing countries which affects their technological development, indicating its adverse effects in those countries and

the benefit derived by the industrialized countries, and identifying the mechanisms which determine that outflow and the countries to which it goes;

- (b) to pay special attention, in assessing the adverse effects of that phenomenon in developing countries, to the way in which such outflow hampers the establishment of necessary technical and scientific infrastructures and impairs the ability of those countries to take advantage of imported technology and to create their own technologies.

2. To prepare, in co-operation with the other organs of the United Nations, a Programme of Action aimed at preventing the outflow of trained personnel from developing countries, indicating feasible steps which the latter might take to that end and, especially, practical and effective measures which the Governments of industrialized countries should adopt in order to put an end to that phenomenon,

Requests the Secretary-General of UNCTAD, to submit the said report and Programme of Action to the Trade and Development Board at its thirteenth session.