

**LEGAL ASPECTS OF THE TRANSFER OF TECHNOLOGY :  
A CRITIQUE OF THE UNCTAD DRAFT CODE** 2

Dissertation submitted to the Jawaharlal Nehru University  
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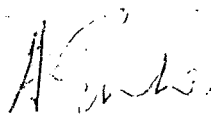
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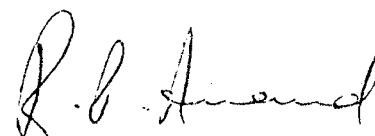
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## C E R T I F I C A T E

Certified that the dissertation entitled "Legal Aspects of the Transfer of Technology: A Critique of the UNCTAD Draft Code" submitted by Mahendra Singh Sisodia in fulfilment of nine credits out of the total requirements of twenty-four credits for the award of the degree of Master of Philosophy (M.Phil.) of this University, is his original work and may be placed before the examiners for evaluation. This dissertation has not been submitted for the award of any other degree of this University or of any other University.

  
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## C O N T E N T S

		<u>Page No(s).</u>
	Acknowledgements	1 - 11
Chapter I	Introduction	1 - 8
Chapter II	Transfer of Technology: The Scope and Content	9 - 28
Chapter III	Towards A Code of Conduct for the Transfer of Technology	29 - 51
Chapter IV	The Purpose, Scope and Content of the UNCTAD Draft International Code of Conduct	52 - 73
Chapter V	Legal Nature of the Draft Code	74 - 91
Chapter VI	Conclusions	92 - 96
	Appendix	97 - 110
	Bibliography	111 - 134

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## Chapter I

### INTRODUCTION

Peace and prosperity are inseparable. It is conceded that the growing economic disparity between the developing and the developed countries<sup>1</sup> is a source of great tension and a serious threat to the world peace and security. This gap continues to widen within a system established at the time when most of the developing countries were not independent. The tragic paradox is, despite new achievements in science and technology which have brought affluence for a large number of people in the developed countries, more people in the developing countries are suffering from hunger and want today than ever before. As a Report to the Club of Rome states - we have today two-thirds of mankind living .... on less than 30 cents a day .... in the third world millions of people toil under a broiling sun from morning till dusk for miserable rewards and premature

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1. According to the usage of terms common in UNCTAD, developing countries are all the members of the "Group of 77". This group is also referred to as the "South", "LDCs", "Third World", "Poor" and "less advantaged". Developed countries refer to the countries that are members of the Organization for Economic Cooperation and Development (OECD), and Australia, Finland and Newzealand. These countries are also referred to as "West", "Western", "advanced", "developed market economies", "North", "rich" and "B Group". Socialist countries refer to countries of Eastern Europe (except Yugoslavia). These countries are also spoken of as "centrally planned economies", "East" and the "D Group".

deaths without ever discovering the reason why.<sup>2</sup> Thus the inhabitants of more than hundred developing countries continue to live in a miserable economic condition and strive to fight against neo-colonial oppression. Their economic plight can be seen from the fact that in 1976 the developed countries with 20 per cent of the world population, enjoyed about two-thirds of total world income; by contrast the developing countries, excluding China, with about 50 per cent of the world population received only one-eighth of the total world income.<sup>3</sup> In fact these developing countries are feeling economically stranded, stagnant and bogged down.

As the world is confronted with the enormous task of finding the resources to feed, clothe, house and educate more than half of the population on this globe, technology can play the most important role in solving the problem of providing a better standard of living for the expanding world population. It is well-known that in the developed countries technology has greatly contributed to the growth of industrialisation and, in turn, to the entire development process. Technology indeed has become an inescapable feature of economic development. It can be seen from the fact that

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2. Tinbergen Jan, Reshaping the International Order: A Report to the Club of Rome (London, 1977), p. 19.
  3. UNCTAD, "New Directions and New Structures for Trade and Development", Report by the Secretary General of UNCTAD to UNCTAD IV (New York, 1977), p. 8.

during the first half of this century, 87.5 per cent of the growth of per capita income in the United States was attributed, by an expert, to technological progress and the remainder to the use of capital.<sup>4</sup> In the same way after World War II Japan, on the basis of its technology, has emerged as a great economic and foremost technological power. Technological leadership is now seen as essential to political leadership in the international system. And technology has come to be regarded as the gateway to power and prosperity.<sup>5</sup> Werner Von Braun told a U.S. Congressional Committee in 1973, "World leadership and technological leadership are inseparable. A third-rate technological nation is third-rate power politically, economically and socially".<sup>6</sup>

It stands to reason that having realised the importance of technology the developing countries feel that an infusion of modern technology into their economies is essential for their economic growth and industrial development. Because of certain reasons, unable to develop

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4. Robert Solow, "Technological Change and the Aggregate Production", quoted by A.F. Ewing, "UNCTAD and the Transfer of Technology", Journal of World Trade Law, vol. 10 (1976), p. 197.
  5. William R. Kinter and Harvey Sicherman, Technology and International Politics (Lexington, Mass., 1975), p. 15.
  6. U.S. House of Representatives, Committee on International Relations, Science and Technology in the Department of States (1975), p. 2.



autonomous technology, the developing countries seek the transfer of modern technologies from the vast pool available in the developed countries. For these reasons the attention of the international organisations has been focussed on the subject of the transfer of technology.

The transfer of technology as an issue of international significance has been raised by the developing countries in various international fora. Access to the achievements of modern science and technology was included as one of the aims of the New International Economic Order (NIEO) which was inaugurated by the General Assembly at its sixth special session in May 1974.<sup>7</sup> In paragraph 1 the declaration states, "the benefit of technology are not shared equitably by all members of the international community".<sup>8</sup> Thus technology is conceived of as a 'community resource' akin to the concept of the common heritage of mankind. Since the developing countries have to bear a heavy foreign exchange burden in acquiring technology, they gave high priority to the adoption of a code of conduct for the transfer of technology in the declaration on NIEO.

The Charter of Economic Rights and Duties of States<sup>9</sup> also recognized the importance of technology in the

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7. XIII, International Legal Materials (1974), p. 715.

8. See, General Assembly Resolutions, 3202 (S-VI) of 1 May, 1974.

9. See, General Assembly Resolutions, 3281 (XXIX) of 12 December 1974.

acceleration of the economic and social development of states. The Charter emphasised the importance of strengthening and developing the scientific and technological infrastructure and technological capabilities of developing countries in order to help them to expand and transform their economies.

In 1964, UNCTAD I recommended that competent international institutions should explore the possibility of facilitating the transfer of industrial technology to the technologically underdeveloped countries. In 1965, the General Assembly at its seventieth session, adopted a resolution (2091 (XX)), in which it requested the Secretary General to continue studies on international practices for the transfer of technology. It may be mentioned that the unanimously adopted resolution of UNCTAD (resolution 39(iii))<sup>10</sup> represented a considerable broadening of UNCTAD's mandate in this field. This resolution has been characterised as a "decisive breakthrough" for the further work in this field at the national, regional and international levels. The resolution invited the developing countries to establish an institution for the specific purpose of dealing with the whole range of questions connected with transfer of technology. The resolution also

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10. See, Appendix for the full text of the resolution.

addressed a series of major recommendations to the developed countries to take measures towards improving the access of the developing countries to technology.

There-upon a number of international organisations expressed their concern and desire for the formulation of a code of conduct to regulate transfer of technology transactions. The earliest formulation of a draft code of conduct took place under the auspices of the Pugwash Conference on science and world affairs in April 1974. The UNCTAD in May 1976 convened an International Group of Experts (IGE) to prepare a draft outline to serve as a basis for the preparation of a universally applicable code of conduct. The Group after holding several sessions produced a composite draft in its July 1978 session.

The first session of the United Nations conference on an international code of conduct on the transfer of technology, was held in 1978. Since then five sessions of the conference have been held up till November 1983. The sessions have not proved to be successful. Particularly, the outcome of the fourth session was most disappointing. The reasons for the failure were the differences between the developing and the developed countries on certain issues. This dissertation seeks to analyse those issues.

### Plan of Work

"Transfer of technology", an issue of immense importance, is highly sensitive, as the economic interests of the developing and developed countries are directly involved in it. It is therefore incumbent upon us to have a fair understanding of all other related aspects of the subject before treading into its legal aspects. The present work is a modest endeavour to highlight different aspects of the subject in general and the legal nature of the draft code along with different approaches of the developing and developed countries on the draft code, in particular.

Keeping in view the above mentioned object the second chapter of the dissertation defining 'technology' and 'the transfer of technology' deals with channels and mechanism through which transfer of technology is taking place. The chapter also deals, at length, with the technological dependence of the developing countries on the developed countries that has caused the need for the transfer of technology. The third chapter discusses the circumstances which led to the demand for a universally applicable code. It also enumerates the international initiatives taken for the formulation of the code. In the last of the chapter we have tried to analyse different positions of the developing and the developed countries in regard to the provisions of the draft code.

The large-scale capital intensive technologies developed in Europe, North America or Japan may well be efficient, but their introduction into poorer, less developed, societies often raises more problems than it can solve.<sup>2</sup> Such technologies often require large plants and equipments and appear to be relatively capital intensive, a strain on countries where capital is unusually scarce.<sup>3</sup> Advanced technologies are also characterised by the use of less labour per unit of output and they thus create problems of unemployment. Specific technology from a developed country can seldom be applied without necessary adaptation since the circumstances and needs of the technology acquiring country vary greatly. The variables that are and should be taken into consideration are, the physical environment, labour conditions, availability of raw material, specialized skills, availability of components and services, government policies, and consumer taste.<sup>4</sup> Most of the technologies imported by the developing countries are often inappropriate to their local conditions. The code is expected to give due recognition to the special

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2. Nicolas Jequire, ed., Appropriate Technology: Problems and Promises (OECD, Paris, 1976), p. 16.
  3. Bruce S. Old in Richard S. Eckocus, ed., Appropriate Technologies for Developing Countries (Washington, D.C., 1977), p. vii.
  4. See, O. Strugated, "The Practical Advantages to Developing Countries from the Transfer of Technology: A view by a European Based Multinational", in Transfer of Technology: An International Issue, Report of the ICC/EMME Seminar, 1977, p. 19.

## Chapter II

### TRANSFER OF TECHNOLOGY: THE SCOPE AND CONTENT

Ever since the attainment of freedom the developing countries have launched a quest for the means to consolidate their political freedom by improving their economy. Learning from the experiences of the developed countries they found that technology has the most important role to play in economic development. In international relations technological power has always been a part of economic and political domination of technologically superior countries. As a scholar puts it, 'the instrument of domination now, more than military and political power, is the scientific and technological superiority of the developed countries.'<sup>1</sup> Modern technology has become immensely complex and knowledge-based, requiring high level scientific and technological manpower for both its growth and operation. It would be appropriate to have an understanding of the term "technology".

#### Definition of Technology

The term technology is very ambiguous and has been defined in numerous ways. The definition of term "technology

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1. Herrera, quoted by B.R. Nayar, India's Quest for Technological Dependence (Delhi, 1983), p. 42.

which a scientist would like to give is complicated and controversial.<sup>2</sup> But technology commonly means the process, plant, techniques, knowledge and skills, required to manufacture a product.<sup>3</sup> It is the application of scientific and technical knowledge to the creation of a specific product or performance of a specific task.<sup>4</sup> Thus technology would include skills, knowledge and procedures for making, using and doing specific things.<sup>5</sup> Goulet still proceeds further by defining 'technology' as the systematic application of collective human rationality to the solution of problems by asserting control over nature and over human process of all kind.<sup>6</sup> The four main features of technology, according to one author, are "technology is transnational in origin, cumulative in growth, transmissible across national frontiers and irreducible in supply upon transfer".<sup>7</sup>

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2. J.E. Bernal, Science and History (London, 1969), pp. 30-31.
  3. Aubrey, J.M., "Transfer of Technology: An International Issue", in Transfer of Technology: An International Issue (Paris, 1978), p. 9.
  4. Rojas Carlos, "Legal Framework for the Transfer of Technology", in Transfer of Technology: An International Issue (Paris, 1978), p. 49.
  5. International Encyclopedia of the Social Science (New York, 1969), p. 576.
  6. Denis Goulet, The Uncertain Promise: Value Conflicts in Technology Transfer (New York, 1977), p. 6.
  7. Surendra J. Patel, "Transfer of Technology and Developing Countries", Foreign Trade Review, vol. 6, (1971-72), pp. 389-90.

However, it cannot be agreed upon that technology is transnational in origin. Rather, it can be said that science is transnational in origin but not technology.

However, it seems that technology is always embodied in one of the four primary forms: publication, products, proprietary information and people. As Henry Nau states, "technology is most usefully defined in terms of a spectrum ranging from scientific publications and exchanges, at one end, to proprietary information and professionally qualified people at the other".<sup>8</sup>

For the purposes of this study, the definition given by the UNCTAD is important. According to an UNCTAD study, although technology is often referred to vaguely and is surrounded by mystery, yet the concept of technology is neither vague nor mysterious.<sup>9</sup> UNCTAD has defined technology as a commodity bought and sold in the world market and which is an essential input for production. It states that<sup>10</sup>

Technology is considered an essential input for production and bought and sold as:

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8. Henry R. Nau, Technology Transfer and U.S. Foreign Policy (New York, 1976), p. 14.
  9. UNCTAD, Guidelines for the Study of the Transfer of Technology to Developing Countries: A Study by the UNCTAD Secretariat (New York, 1972), p. 5.
  10. Ibid.



- (a) Capital goods, including machinery and productive system.
- (b) Human labour, usually skilled manpower and management, specialized scientists etc.
- (c) Information, of both a technical and commercial character, including that which is readily available, and that subject to proprietary rights and restrictions.

The UNCTAD study<sup>11</sup> points out that the developing countries in general are deficient in all the three domains. Because of the scarcity of qualified manpower only a few of them produce modern capital goods. As regards technically qualified manpower, it is said that because of the concentration of higher technical and scientific training in developed countries and because of lack of proper science and technology policies, the developing countries have only a limited supply of skilled manpower. Besides, they lose a part of this scarce resource through what is called "brain drain" which is transfer of technology in reverse. Furthermore, monopolistic practices of technology suppliers place severe barriers on the access of these countries to information about specific production processes.

#### Definition of Transfer of Technology

The transfer of technology is defined in the UNCTAD

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11. Ibid.

draft code as the "transfer of systematic knowledge for the manufacture of a product, for the application of a process or for the rendering of a service and does not extend to the transactions involving a mere sale or mere lease of goods".<sup>12</sup>

Transfer of technology transactions are arrangements between parties involving transfer of technology as defined above. These arrangements specifically include the following<sup>13</sup> -

- (i) The assignment, sale and licensing of all forms of industrial property (except trade marks, when not part of transfer of technology transactions);
- (ii) The provision of know-how and technical expertise in the forms of plans, models, instructions, specifications etc. involving technical advisory and managerial personnel, and also personnel training;
- (iii) Technological knowledge necessary for the installation and functioning of plant, equipment and turnkey projects;
- (iv) Technological knowledge necessary for the installation and use of machinery etc. obtained by purchase or other means;
- (v) The technological contents of industrial and technical co-operation agreements.

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12. UNCTAD, Draft International Code of Conduct on the Transfer of Technology, TD/Code/41 (1983).

13. Ibid., pp. 2-3.

Mechanisms and Channels for the  
Transfer of Technology

A mechanism for transferring technology is any means for making available to a production enterprise, those elements of technical knowledge which may be unavailable in the domestic economy, required to set up or operate production facilities.<sup>14</sup> The range of mechanism for technology transfer is large and heterogeneous. Each of the elements of technical knowledge may be transferred in a variety of ways and even the transfer of one element by itself may involve a number of channels.<sup>15</sup>

Technology could be transferred through various channels, namely, foreign investment, joint ventures, service contracts, management contracts, licencing agreements, patent knowhow, trade mark engineering, and design services, etc. A technology acquiring country can use almost all of these ways, either singly or in combination. But the choice of mechanism for acquiring technology is influenced by a variety of factors, such as the outlook and motivation of local enterprises, the nature of the technology, the level of domestic technological and industrial capabilities.<sup>16</sup>

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14. UNCTAD, The Channels and Mechanisms for the Transfer of Technology from Developed to Developing Countries, TD/B/AC.11/5 (April 1971), p. 12.

15. Ibid., pp. 13-14.

16. Ibid., p. 45.

The study conducted by UNCTAD in 1971 classifies the channels for transfer of technology as follows:<sup>17</sup>

1. The flow of books, journals and other published information;
2. The movement of persons from country to country;
3. Education and training;
4. Exchange of information and personnels through technical co-operation programme;
5. Employment of foreign experts and consultancy arrangements;
6. Import of machinery and equipments and related literature;
7. Licence agreements for production processes, use of trade marks and patents etc.;
8. Direct foreign investment.

Table 1 given below explains forms and types of technology used in a particular area, along with mechanisms of technology.

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17. Ibid., p. 9.

Table I

Definition of Technology and Technology  
Transfer Along with Transfer Mechanisms

Forms of Technology	Types of Technology	Area Used	Mechanisms of Technology Transfer
People	firm specific (information specific to firm's experience and activities not attributable to any specific item firm produces)	R and D Management and Planning  Manufacturing and Production  Marketing and Distribution	training and education management services Cooperative R and D agreements  know-how and technical assistance agreements direct investment coproduction/ joint venture turnkey plant sales patent and license (without know-how)
Proprietary information	system specific (information about manufacture of product or item that any manufacturer would obtain)	Design and Construction	agreements capital equipment intermediate products final products scientific meeting professional journals
Products Publications	general information common to an industry or trade	Maintenance and service manuals	

Source: H.R. Nau, Technology Transfer and U.S. Foreign Policy, (New York, 1976), p. 15.

However, in spite of the complexity of the transfer process, mechanisms might be classified in two broad groups - (i) Direct mechanism; and (ii) Indirect mechanism.

Mechanisms for the direct transfers include<sup>18</sup> such things as direct contracting or individual experts and consultant companies; engaging engineering design and plant construction enterprises; training nationals for specific projects, technical information activities and transfer of the process technology embodied in capital goods by importation of equipment purchased directly from machine manufacturers.

Mechanisms for the indirect transfer of technology is defined as "those where an enterprise in the developed country is interposed between various individuals, groups and enterprises which can supply technical knowledge and the recipient company in the developing country."<sup>19</sup>

Direct mechanism is generally possible when there are no restrictions in the availability of process technologies because of patents or proprietorship. Whereas indirect mechanisms are more prevalent in sectors where technology is highly sophisticated and changes rapidly. However, it is very difficult to reach any firm conclusions about the relative importance of indirect as opposed to direct mechanisms.

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18. Ibid., pp. 15-16.

19. Ibid., p. 25.

Technological Dependence of Developing Countries on Developed Countries; The Need for Technology Transfer

The technological gap between the developed and the developing countries is the root cause of the economic disparity between them. Present day technological backwardness of the developing countries could be traced back to the colonial period. During that period the developing countries were denied opportunities for independent research and development. But sad to state that even after achieving the independence the developing countries, because of their poor and defective policies relating to science and technology, could not achieve self-reliance in the field of technology. The result is that at present only a handful of developed countries have monopoly over the entire research and development activities and the resultant technological inventions; the developing countries are lagging behind miles from the developed countries. As Nevers observes, "we now have on this planet, societies with extremely advanced technologies, living side by side with societies whose technologies are basically those of stone age."<sup>20</sup> In the words of Professor Anand, "the benefit of science and technology have not really reached to the two third of humanity. With a few notable exceptions

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20. Noel De Nevers (ed.), Technology and Society (Addison Wesley Publishing, 1972), p. 48.

the so-called developing countries are not developing fast enough .... in fact these developing countries by definition are poor and underdeveloped and frankly speaking adrift.<sup>21</sup>

The technological dependence of the developing on the developed countries is almost total. A report of Club of Rome states, "nowhere is the disparity between the industrialised and the third world countries more marked than in the field of scientific research and technological development".<sup>22</sup> It can be seen from the fact that in the late seventies, the developing countries accounted for only 12.6 per cent of global stock of scientists and engineers engaged in research and development.<sup>23</sup> They spend only about 0.3 per cent of their GNP on research and development, compared with some 4 per cent in the socialist countries of Eastern Europe and 2 per cent in developed market economy countries.<sup>24</sup>

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21. R.P. Anand, New States and International Law (Delhi, 1972), p. 87.
22. Jan Timbergen etc., Reshaping the International Order, A Report to the Club of Rome (New York, 1976), p. 39.
23. Report of the Pearson Commission, Partners in Development (New York, 1969), p. 29.
24. UNCTAD, Formulation of a Strategy for the Technological Transformation of Developing Countries, TD/B/779, February 27, 1980, p. 1.



The Nature of Technological Dependence

The concept of dependence can be given several interpretations varying from 'reliance', which can be essential, to 'being subordinate', which is certainly asymmetric.<sup>25</sup> In order to analyse 'technological dependence' it is important to distinguish between these two connotations. Technological dependence of one country on another in the sense of essential reliance is not in itself a cause of concern, and may indeed facilitate development through division of labour. On the other hand the picture is quite different when the relation is one sided.<sup>26</sup> A typical developing country depends technologically on developed economies, involving a relation of subordination, in a manner that is quite asymmetric, and it is this asymmetry, or unequal relationship that makes the notion of technological dependence a central concern in economic development.

The development of the one sided features of technological dependence is largely the result of the industrial revolution, and, in particular, of the form that modern

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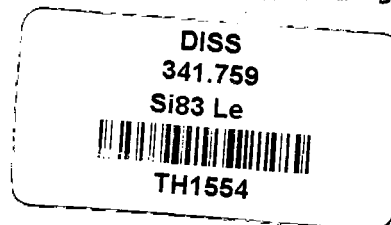
25. UNCTAD, Technological Dependence: Its Nature, Consequences and Policy Implications, Report by the UNCTAD Secretariat, TD/190, 31 December 1975, p. 4.

26. Ibid., p. 4.

27. Ibid.

capitalism has taken. This dependence, furthermore, was fostered and perpetuated by the dominance relationship of the colonial era. The characteristics of dependence as it exists today cannot be disassociated from the historical process that has brought this dependence in to being. While the experience of all the developing countries are by no means uniform there are enough characteristics in common to make it equally detrimental for the developing countries. The one sided nature of the technological dependence that has characterised the unequal relations between the developing and the developed countries, has been extensively discussed in recent years. The inequality covers predominance of primary commodity production, weakness of industrial output, and their reflection in the structure of trade. It also reflects underdeveloped skill profiles, weak technological infrastructure and inadequacy of financial resources.<sup>28</sup>

There are several distinct aspects of technological dependence of the developing countries. As the report by the UNCTAD Secretariat mentions the following aspects.<sup>29</sup>



28. S.J. Patel, Towards Technological Independence of the Third World, Foreign Trade Review, Vol. 10, (1975-76), p. 306.
29. UNCTAD, n. 7, p. 4.

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A. Weaknesses of Production and Trade Structures

1. Dependence of Commodity Pattern

An important aspect of technological dependence concerns the dependence of commodity pattern. The type of consumer goods consumed in the developing countries reflect the influence of moves in the advanced industrialized nations, and this applies particularly to the consumption of the upper classes.<sup>30</sup> This leads to a significant restriction of the economic options open to the developing countries. The technological dependence of developing countries on the developed ones extends to taste formation also.

2. Dependence of Means of Production

Asymmetry of means of production is certainly one of the most important causes of the contrast between technological capabilities of different types of economies.<sup>31</sup> It reflects the typically sharp difference in the abilities of the developing countries to produce machinery and other capital goods needed for production. When modern designs

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30. See, Paul Streeten and Michael Lipton, ed., The Crisis of Indian Planning; Economic Planning in the 1960s (Oxford University Press, London, 1968).

31. Meir Merhav, Technology Dependence, Monopoly and Growth (Oxford, 1969), See also, Albert Fishlow, "Empty Economic Stages", Economic Journal, Vol. 75, (1965), pp. 112-25.

are involved it is of little doubt that the sophistication needed in the manufacture of capital goods makes an important contribution to the utilization and adaptation of these goods.

### 3. Dependence of Trade

The developing countries depend on the more industrialised nations for the technical know-how, patents, management and finance etc. One consequence of this dependence is the 'power' that rests in the latter countries to influence trade policies in the former. For example, a developing country may not be permitted to export certain utilizing specific know-how or may be required to import machinery and other goods from some specified enterprises. This asymmetry of trade may put a developing country at a considerable disadvantage in the utilization of modern technology and in making use of the best available exchange opportunities.<sup>32</sup>

#### B. Technical and Financial Dependence

##### 1. Dependence of Technical Knowledge

Modern techniques of production were typically evolved

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32. UNCTAD, n. 7, p. 6. This is over and above disadvantage that apply to developing countries because of the general nature of the trade relationship involved, leading to some form of "unequal exchange". See also, Ashok Mitra, Equivalence in Exchange: A Skeptical Note in A. Mitra, ed., Economic Theory and Planning (Oxford, 1974), pp. 141-50.

in the developed countries and there are barriers - both natural as well as artificial - to the transmission of this knowledge. The technical dependence leads to two rather different consequences, namely, (a) the absence in developing countries of same technical knowledge that is widely available in the developed countries, (b) the unavailability in both developed and the developing countries of knowledge of possible technical processes of particular interest to the developing countries.<sup>33</sup> Thus, the dependence of technical knowledge applies both to the unequal availability of existing knowledge as well as the world shortage of innovations geared towards the requirements of the economies of the developing countries.<sup>34</sup>

## 2. Skill Dependence

The exploitation of production opportunities depends on the skill to operate technical processes efficiently. Therefore, the shortage of skilled labour in the developing countries is another aspect of technological dependence. The type of shortage varies from country to country. While some developing countries have a large supply of degree holding engineers, qualified doctors and scientists,

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33. See Paul Streeten, Technology Gaps Between Rich and Poor Countries, Scottish Journal of Political Economy, Vol. 19 (1972), p. 217.

34. UNCTAD, n. 7, p. 7.

there still tends to be an acute shortage of skills that came mostly from practice and learning by doing. In general, the skill asymmetry tends to be sharpest at the down-to-earth level.<sup>35</sup>

### 3. Financial Dependence

Financial dependence arises with respect to direct private investment, loans and aid from developed to developing countries. Financial dependence also implies a dependence of decision making in as much as finance is an important part of the control of business decisions. This is most conspicuous in the case of transnational corporations.<sup>36</sup> Financial controls and sticks are frequently very effective also in the hands of governments of the developed countries.<sup>37</sup>

### C. Capabilities for Control and Initiatives

#### 1. Dependence of Control

The dependence of control is closely linked with the financial dependence discussed earlier. This refers to the fact that this dependence leads to a dichotomy between

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35. Ibid.

36. See, John Dunning, ed., The Multinational Enterprises (London, 1971). And Paul Streeten, "The Multinational Corporation and the Nation State", in The Frontiers of Development Studies, vol. 18, (1972), pp. 223-38.

37. UNCTAD, n. 7, p. 7.

those who take decisions and those who take consequences of those decisions.<sup>38</sup> This applies particularly to business decisions involving choice of techniques and products for developing countries, specially when made by transnational firms. There are also asymmetries in terms of regulation that reinforce this asymmetry of control, and the control reflects the pervasive influence - political, economic and cultural - of developed countries on life in the developing world. This is essentially a part of the price that is extracted for supplying technology or capital.<sup>39</sup>

## 2. Dependence of Initiatives

There is a basic difference between developed and developing countries in the ability to assume the initiative in the technological sphere and in the confidence necessary to do so even when the technical ability exists.<sup>40</sup> It may be hard to quantify the asymmetry of initiative but it is certainly one of the more fundamental characteristics of underdevelopment.

However, technological dependence arises initially from the imbalance in technological capacity, i.e. the

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38. Ibid., pp. 7-8.

39. Ibid., p. 8.

40. Ibid.

capacity to produce technology.<sup>41</sup> But in reviewing the technological dependence it is essential to keep in mind the pervasive influence of the transnational corporations in the world market. The market is highly imperfect with great monopoly advantages for the seller because of secrecy and the production technology is transferred under terms that are the outcome of negotiations between buyers and sellers in situations approximating monopoly or oligopoly.<sup>42</sup> Also, the lack of effective indigenous scientific and innovative capacity of the developing countries tends to perpetuate technological dependence. Cooper and Sercovich described the case of the third world as being one of double dependence because the elements of technical knowledge have to be transferred, but so does the capacity to use this knowledge in investment and production.<sup>43</sup> And it is this dependence that is the root cause of their weakness and highlights the need for the transfer of technology.

For an easy access to technology on reasonable terms, a dire necessity was felt to have an international

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41. Francis Stewart, Technology and Underdevelopment (London, 1977), p. 119.
42. UNCTAD, n. 7, p. 11. For detail see, C. Vaitsos, Transfer of Resources and Preservation of Monopoly Rents, Economic Development Report No. 168, Centre of International Affairs, Harvard University, 1970.
43. Francis Stewart, n. 41, p. 119.



code of conduct to regulate transfer transactions. In the subsequent chapter we would be dealing with causes that led to the demand for a code, and the international initiatives taken for the formulation of the code. We would also discuss different drafts produced by developed, developing and socialist countries and their respective position on the UNCTAD draft code.

## Chapter III

### TOWARDS A CODE OF CONDUCT FOR THE TRANSFER OF TECHNOLOGY

#### Demand and International Ini- tiatives for the Code

Easy access to technology on reasonable terms is one of the main factors essential to accelerate the growth of economic and social development of developing countries. Transfer of technology to developing countries has certainly been taking place but it is not considered proper to meet their needs. Certain factors like modes of transfer, restrictive business practices, bargaining power of developed countries, abusive practices and domination of transnational corporation (TNCs), imperfect markets, choice of technology, etc., have led to the demand for an international code of conduct to regulate transfer transactions. These factors are being discussed here briefly.

It has been long recognized that the choice of technology and technical change plays a vital role in contributing to the economic development of a nation. The technologies of an advanced industrialized society are generally developed in response to the needs and conditions of that society.<sup>1</sup>

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1. Graham Jones, The Role of Science and Technology in Developing Countries (London, 1971), p. 24.

The large-scale capital intensive technologies developed in Europe, North America or Japan may well be efficient, but their introduction into poorer, less developed, societies often raises more problems than it can solve.<sup>2</sup> Such technologies often require large plants and equipments and appear to be relatively capital intensive, a strain on countries where capital is unusually scarce.<sup>3</sup> Advanced technologies are also characterised by the use of less labour per unit of output and they thus create problems of unemployment. Specific technology from a developed country can seldom be applied without necessary adaptation since the circumstances and needs of the technology acquiring country vary greatly. The variables that are and should be taken into consideration are, the physical environment, labour conditions, availability of raw material, specialized skills, availability of components and services, government policies, and consumer taste.<sup>4</sup> Most of the technologies imported by the developing countries are often inappropriate to their local conditions. The code is expected to give due recognition to the special

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2. Nicolas Jequire, ed., Appropriate Technology: Problems and Promises (OECD, Paris, 1976), p. 16.
  3. Bruce S. Old in Richard S. Eckocus, ed., Appropriate Technologies for Developing Countries (Washington, D.C., 1977), p. vii.
  4. See, O. Strugated, "The Practical Advantages to Developing Countries from the Transfer of Technology: A view by a European Based Multinational", in Transfer of Technology: An International Issue, Report of the ICC/EMME Seminar, 1977, p. 19.

needs of the developing countries for the fulfilment of their economic and social development objectives.

Another source of conflict which had led to a demand for a code is the present methods of transfer of technology. The transfer of technology from developed to developing countries may be implemented through foreign direct investment, joint ventures, service contracts, management contracts, licensing agreements, patent know-how, trade mark etc.<sup>5</sup> Very often combination of these two or more methods are used to transfer what is really a packaged technology consisting of various elements of technical knowledge for project implementation and manufacturing.<sup>6</sup> The developing countries complain that the use of package transfers result in their inability to evaluate and control prices, under utilization, and failure to make input of local resources into the technology purchased.<sup>7</sup> Unpackaging would enable the technology acquiring country or enterprise to examine various components of the packaged technology. It will also enable them to determine whether the components are essential to the utilization of the transferred techno-

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5. For details on channels and mechanisms, see Chapter II, p. 6 of this work.
  6. UNIDO, Guidelines for the Acquisition of Foreign Technology in Developing Countries, 1973, p. 9.
  7. UNCTAD, Report of the Intergovernmental Group of Experts on a Code of Conduct on Transfer of Technology, TD/B/C.6/1 (1975), p. 26.

logy and whether they can be obtained from local or other sources at lower cost.

Another complaint against the present methods of technology transfer, voiced by developing countries, is that the supplier use these methods to unload obsolete and inappropriate technology, poorly suited to the needs and circumstances of the technology acquiring country.<sup>8</sup>

Technology supplying countries are expected, in some cases, to develop special technology for the developing countries, taking into account their climatic conditions, raw material resources, education level, and availability of the labour supply. But present methods of technology transfer allows the technology supplying country to transfer inappropriate and obsolete technology.

Transnational corporations are by far the most important source of inventions and innovations.<sup>9</sup> They are often among the first to develop and to apply technology in domestic markets. They are also among the first to transfer technology abroad through a variety of modalities.<sup>10</sup>

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8. Mirabito, "The Control of Technology Transfer: The Burke-Hartke Legislation and the Andean Foreign Investment Code: The MNC Faces the Nation", International Law, vol. 9, (1975), p. 222.
9. See, The Impact of Multinational Corporations on Development and on International Relations (New York, United Nations, 1974), pp. 66-73.
10. Raymond Vernon, "International Investment and International Trade in the Product Cycle", Quarterly Journal of Economics, Vol. 80, 1966, p. 198.

The TNCs, because of their bargaining power and oligopolistic position<sup>11</sup>, have designed transfer of technology contracts to include terms favourable to their objective of maximum profits. As a result transfer of technology contracts often involve packaged transfer of previously developed technology unsuitable to the needs of the developing countries. Furthermore, TNCs impose restrictive business practices on the technology acquiring countries. So the complaint of the developing countries against the TNCs is that they tend to perpetuate technological dependence rather than assist them in their quest for technological self-reliance.<sup>12</sup>

Controversy over the restrictive business practices imposed by the suppliers of technology constitutes the core of the proposed code of conduct. This is the area wherein the national interests of a technology acquiring country and the interests of the TNCs directly clash. Where direct control is not possible, as in the case of subsidiaries, TNCs resort to restrictive practices to ensure control over recipients.<sup>13</sup> Such restrictions tend to

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11. See, W. Chudson, UNITAR, Research Report No. 13, The International Transfer of Commercial Technology to Developing Countries, 1971.
  12. A. Jayagovinda, "Towards a Code of Conduct for the Transfer of Technology", Indian Journal of International Law, Vol. 19 (1979), p. 259.
  13. Ibid., p. 266.

perpetuate technological dependence and the developing countries oppose them.

The developed countries are the repositories of economic and technological power, and, under the given circumstances, there is no way but to deal with them directly for modern technology. The buyers, especially from developing countries, are in a disadvantageous position while dealing with them. Even a country like Canada<sup>14</sup> feels that it is getting a raw deal in its dealing with TNCs. Under such circumstances, the plight of the developing countries, which lack both financial and technological power, can well be imagined.<sup>15</sup> It is for all these reasons that the developing countries feel that there must be an international code of conduct to regulate technology transfer transactions.

Growing Recognition of the Need  
for International Regulation of  
Transfer of Technology

Regulation of transfer of technology at the international level is by no means a novel phenomenon. As early as 1883, the Paris Convention on patents was adopted to

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14. See, Foreign Direct Investment in Canada (Ottawa, 1972), The Report of the Working group to assist Gray Commission on Foreign investment policy.
  15. UNCTAD, The Possibility and Feasibility of an International Code of Conduct for Transfer of Technology, D/B.A.C. 11/22, 1974, para 17.

regulate the flow of technology<sup>16</sup> since during this period patents played a significant role in the transfer of technology. The Paris Convention on Patents was established at a time when the majority of countries, now classified as developing, were politically dependent on the developed countries, either as colonies or being within their spheres of influence. Therefore, the Convention could not reflect the interests of the developing countries. Since the Paris Convention, the political status of the developing countries has changed. Furthermore, the developments in science and communication in the last 50 years have led to a greater variety in the forms and channels in transfer of technology.<sup>17</sup>

This increase in the diversity of forms and channels of technology transfer has led to the need for the establishment of a code of conduct to regulate the transfer of technology. Keeping in view this need, a considerable body of opinion has built-up in favour of a code over the last decade. Various intergovernmental, international and other bodies have emphasised the importance of responding to this need.<sup>18</sup>

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16. UNCTAD, International Regulation of Transfer of Technology, TD/B/AC.11/22, p. 26.

17. Ibid., p. 26.

18. Ibid., p. 27.



The International Initiatives:  
Global Support and Role of  
the UNCTAD

The first international initiative in this area was taken by the General Assembly of the United Nations. The General Assembly, by a resolution 1713 (XVI) passed in 1961, initiated a study on the effects of patent legislation on the developing countries. The report of the Secretariat, prepared in response to this Resolution, pointed out that patents formed only a part of the problem and so a fuller consideration of both patented and non-patented technologies should be undertaken.<sup>19</sup>

UNCTAD I, held at Geneva in 1964, recommended that competent international institutions should explore the possibility of facilitating the transfer of industrial technology.<sup>20</sup> Soon after the first session of UNCTAD, the Economic and Social Council adopted a resolution requesting the Secretary-General of the United Nations to explore possibilities for adaptation of legislation concerning the transfer of industrial technology.<sup>21</sup> The General Assembly again, on 20 December 1965, at the seventieth session, adopted a resolution 2091 (XX) in which it requested

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19. United Nations, The Role of Patents in the Transfer of Technology to Developing Countries, 65.11.B.1.1964, par. 311.

20. UNCTAD, Final Act and Report, 1964, Vol. I, Annex A.IV, 26, para 3.

21. UNCTAD, n. 16, p. 27.

the Secretary-General to continue his studies of the adequacy or otherwise of existing national and international practices for the transfer of technology.<sup>22</sup> However, nothing concrete could be achieved in the UNCTAD II, held in 1968.

The decisive breakthrough in this sphere was achieved in UNCTAD III, held at Santiago in 1972. Its deliberations led to a unanimous intergovernmental agreement, embodied in resolution 39 (III).<sup>23</sup> The UNCTAD Secretariat on its part had submitted two studies for the third conference. The first report, namely, "Transfer of Technology",<sup>24</sup> gave estimates of the foreign exchange costs of the transfer in some identifiable areas. It was found that the direct costs of the transfer, covering only two of the six headings, under which such costs needed to be measured, amounted for all the developing countries to some 1500 million dollars in 1968. These costs were equal to 5 per cent of the exports of the developing countries (excluding the major oil exporters), 2/5 of their debt serving costs, and some 56 per cent of the flow of direct private foreign investment.<sup>25</sup>

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22. Ibid., p. 28.

23. Surendra J. Patel, "Transfer of Technology and Third UNCTAD", Journal of World Trade Law, Vol. 7, (1973), p. 228.

24. UNCTAD, Transfer of Technology, Report by the UNCTAD Secretariat, TD/106, 1972.

25. A. Jayagovinda, v. 12, p. 261.

The experience of the Andean Pact countries, namely, Bolivia, Chile, Colombia, Ecuador and Peru, in the field of transfer of technology was analysed by the second study<sup>26</sup> prepared by Junta del Acuerdo de Cartagena. The study showed in chapter two that out of 409 contractual agreements, 317 contracts imposed total prohibitions on exports falling within their respective purview, and the remaining contained restrictive clauses of various types. It concluded that these restrictive clauses reflected the weaker bargaining position of the developing countries.

The major significance of the Resolution 39 (III) was that, in its paragraph 1 it directed the Secretariat to pursue the matter on a continuing basis, and in its para 2, it recommended an active policy with regard to transfer of technology for the developing countries.<sup>27</sup> In para 3, the developing countries were asked to establish institutions for the specific purpose of dealing with the whole range of questions regarding technology. Paras 9 and 10 of the resolution are of great importance.<sup>28</sup> Para 9 requested the Secretary General of UNCTAD and the Director-General of WIPO (World Intellectual Property Organisation) to

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26. UNCTAD, Policies Relating to Transfer of Technology of the Countries of the Andean Pact: Their Foundation, TD/107, 1972.

27. Surendra Patel, n. 23, p. 231.

28. Ibid., p. 232.

carry out jointly a study of possible bases for new international legislation regulating the transfer of technology. In the same manner, para 10 of the resolution invited the Secretary-General of United Nations, in co-operation with Secretary-General of UNCTAD and the Director-General of WIPO, to bring up-to-date the report which had been prepared in 1961 on the Role of Patents in the Transfer of Technology.

On the whole, the resolution had decisively rejected the laissez-faire approach to the problem and advocated an action at national and international level.<sup>29</sup>

After these initiatives, a number of international organisations expressed their concern and desire for the formulation of a code of conduct to regulate transfer of technology. ACAST (United Nations Advisory Committee on the Application of Science and Technology to Development) considered the subject at its nineteenth session in Geneva (13-21 November 1973). The Committee emphasised 'the great importance of moving rapidly towards the formulation of a code on the transfer of technology'.<sup>30</sup> The Committee also requested UNCTAD to inform it at the next session of progress made in this important work.<sup>31</sup>

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29. A. Jayagovinda, n. 12, p. 262.

30. UNCTAD, n. 16, p. 29.

31. See, Advisory Committee on the Application of Science and Technology to Development, 19th session, Geneva, 1973, E/AC.52/XIX/CRP.9, Chapter III, para 7.

The Declaration on the Establishment of the New International Economic Order (NIEO), adopted by the General Assembly at the end of the seventh special session in 1974, imparted a fresh momentum to the efforts of the UNCTAD.<sup>32</sup> The declaration and the programme of action, alongwith the resolution on International Economic Cooperation adopted in 1975, asserted that there should be a code of conduct for the transfer of technology.

The Inter-Parliamentary Council<sup>33</sup> also endorsed the proposition for an international legal instrument to regulate technology transfer at its 113th session in Geneva. Para 1 of the resolution called upon the parliaments and governments of all countries -- : (a) to draw up a new legislation, (b) to support the activities of United Nations in this field, and (c) to ensure preferential treatment for the developing countries in the field of technology transfer.<sup>34</sup>

The Pugwash Conference on Science and world affairs, at its 23rd meeting at Aulanko, Finland, in 1973, decided to convene a working group of distinguished scientists and

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32. See, General Assembly Resolution 3202 (S-VI) of 1st May 1974.

33. See, Report of the 11th Session of the Inter-Parliamentary Council, Geneva, October 22-26, 1973, CL/113/73.

34. Ibid.

statesmen from different countries to "formulate a preliminary draft code of conduct on transfer of technology". The group met in April 1974 and unanimously formulated a draft code of conduct on transfer of technology.<sup>35</sup>

Towards Formulation of Code of Conduct

As we have mentioned, the earliest formulation of a code of conduct was undertaken in April 1974 by a group of experts under the auspices of the Pugwash Conference on science and world affairs.<sup>36</sup> Subsequently, an international group of experts was convened to prepare a draft outline to serve as a basis for the preparation of a universally applicable code of conduct.<sup>37</sup> The group of experts met twice in 1975. During these meetings the developing countries (the Group of 77) and the developed countries (Group B) and the Socialist countries (Group D) submitted draft proposals reflecting the points of view of their respective groups.<sup>38</sup>

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35. UNCTAD, Report of the Working Group on Code of Conduct on Transfer of Technology, TD/B/AC.11/11.12, Geneva, 1974.
36. Dennis Thompson, "The UNCTAD Code on Transfer of Technology", Journal of World Trade Law, Vol. 16, (July-August 1982), p. 312.
37. See, Official Records of the Trade and Development Board, Fourteenth Session, First Part, Annexes, Agenda Item 8, TD/B/520, Annex I.
38. For their individual drafts, see TD/AC.1/9, Annexes II, III and IV, 1978.

Again the UNCTAD, at its Fourth session in Nairobi, in May 1976, decided to establish an intergovernmental group of experts (IGE) to prepare a draft of an international code of conduct. The IGE met for the first time in November 1976. It held six sessions, the last in June-July 1978, and in its July 1978 session produced a composite draft for submission to the proposed United Nations Conference on transfer of technology.<sup>39</sup>

The United Nations Conference on  
the Transfer of Technology

The first session of the United Nations Conference on an international code of conduct on the transfer of technology was held in Geneva in 1978. The session had based its discussion on the work of IGE, which was called upon to prepare a draft code. The draft was supposed to contain mandatory and optional provisions, without prejudice to the final decision on the legal character of the code of conduct.<sup>40</sup> During the first three sessions of the conference most of the chapters were drafted and agreement was reached on all the provisions dealing with the objectives and principles of the code and on measures relating to state and inter-state actions in the field of transfer of technology.

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39. UNCTAD, TD/Code/TOT/2, TD/AC.1/IB, 13 July 1978.

40. See, Report of the Intergovernmental Group of Experts on an International Code of Conduct on the Transfer of Technology, TD/Code/TOT/1, Pts. 1 and 2.

The outcome of the fourth session was most disappointing. Because of the differences between the developing and developed countries nothing could be achieved. But this deadlock was resolved by the establishment of an interim committee, with the objective of seeking solutions to the unresolved issues.<sup>41</sup> The Interim Committee held three sessions in 1982 and recommended to the conference a number of proposals dealing particularly with restrictive practices and applicable law and settlement of disputes.<sup>42</sup> The fifth session of the conference held in 1983 had based its discussion mainly on the legal character of the code.<sup>43</sup>

Proposed Code by the Group  
of 77

The main principles and objectives of the draft<sup>44</sup> set out by the Group of 77 stated, inter alia, that, (a) national capabilities of all countries, in particular of the developing countries, should be strengthened; (b) access to technology at fair and reasonable price and cost

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41. See, General Assembly resolution 36/140 of 16th December 1981, establishing an interim committee of the UN Conference.
42. See, Report of the Interim Committee of the UN Conference on an International Code of Conduct on the Transfer of Technology, TD/Code/TOT/35,
43. See, P. Roffe, "UNCTAD: Transfer of Technology Code - Fifth Session of the UN Conference", Journal of World Trade Law, vol. 18, 1984, pp. 176-82.
44. The draft proposals of Groups B and the 77 are set out in XIV International Legal Material (1975), at p. 1329.



should be improved; and (c) unpackaging of transactions with regard to the choice of various elements of technology should be promoted.

The approach of the Group of 77 to the scope of application of the code is that it should cover all types of technology transactions, including transactions associated with the establishment and operation of wholly-owned subsidiaries.<sup>45</sup> The code should recognize, as the group of 77 asserts, the right of all states to adopt policies and legislations to regulate transfer of technology operations. States should also have rights to adopt measures such as evaluation, negotiation and registration of agreements, involving technology-transactions.<sup>46</sup>

The group of 77 has set forth a series of provisions on the regulation of practices and agreements. They say that such transactions must not include practices and agreements which impose restrictions that directly or indirectly have adverse effects on the national economy of the recipient country.<sup>47</sup> They also decry the practices and agreements that impose limitations on development of technological capabilities of the recipient country. The

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45. See, Draft Code of Group of 77, TD/B/C.6/1, p. 2.

46. See, Section 8.1 and 8.2 of the Draft outline of Group of 77, Annex II, TD/AC/15.

47. Ibid., Chapter 4.

group of 77 has listed forty practices and arrangements that parties to transactions should not employ.

The practices and agreements included in the proposed draft code fall under six different categories.<sup>48</sup> These include rules - (a) governing the use, adaptation and assimilation of technology and development of technological capabilities of the recipient country, e.g., restriction on the use of the technology after the normal expiration of the agreement; (b) concerning further acquisition of technology by the acquiring party, e.g., limitations upon the access of the recipient to new technological developments related to the technology supplied; (c) concerning the commercial and technological freedom of the acquiring party e.g. tying the imports of inputs, equipment and spare parts, and technical and managerial personnel to a specific external source, and thus making it possible for enterprises to charge higher than normal price for them; (d) related to payments e.g. obligation of the recipient to convert technology payments into capital stock; (e) concerning the duration of the transaction e.g. requirements that recipient make payments during the entire duration of manufacture of a product or the application of the process

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48. On the exhaustive nature of the list of practices, see UNCTAD, document TD/Code/TOT/38.

involved therefore, without any specification of time, (f) concerning other practices and arrangements, such as those exempting the supplier from any liability consequent upon the defects in the goods produced by the recipient with the help of the technology acquired.

These forty practices are considered incompatible with the principles and objectives of the code and declared null and void. Some of these practices and arrangements, exceptionally, might be deemed valid if it is determined by the competent national authority of the recipient country that it is in the public interest and that its effects on the national economy would not be adverse.<sup>49</sup> The draft of the Group of 77 provides that technology supplying enterprises should grant guarantees in transfer of technology transactions. At the same time guarantees are to be given by technology receiving enterprises.<sup>50</sup> Governments of technology receiving countries may require additional guarantees to ensure that the technology is the most adequate to meet the particular requirements of the recipient country.

The Group of 77 code enlists a number of measures that governments of developed countries must grant as a

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49. Ibid., p. 6.

50. Ibid., p. 8.

matter of special treatment to the enterprises of the developing countries.<sup>51</sup> Among these special measures, the text refers to preferential arrangements ensuring that the industrial property rights granted to a patent holder in technology supplying countries should not be used by him to restrict imports of products from the developing countries.

On the issue of applicable law and settlement of disputes, the Group of 77 stresses that technology transactions shall be governed by the laws of technology receiving country and that these countries shall exercise legal jurisdiction over the settlement of disputes pertaining to transfer of technology arrangements between the parties concerned.<sup>52</sup>

Proposed Code by Group 'B'

The main principles Group B enlisted in the proposed code<sup>53</sup> are, (a) the right of each government to legislate on the subject of transfer of technology within the framework of international law, (b) that every transfer of technology is an individual case, and (c) that access

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51. UNCTAD, Report of the Intergovernmental Group of Experts on a Code of Conduct on Transfer of Technology, TD/B/C.6/14 (1976), Paras 6.1 and 6.3.

52. See, n. 43, Chapter 9.

53. See, Draft outline of Group 'B', TD/B/C.6/14.

to technology should be based upon mutually agreed terms and conditions. On the scope of application of the code, Group 'B' listed the international transfer of technology transactions that should be covered by the provisions of the code.<sup>54</sup>

The Group 'B' text recognizes the right of technology source and recipient governments to adopt legislations and policies pertaining to the transfer of technology within the framework of applicable international treaties and agreements.<sup>55</sup> National regulations should be publicly available and should be applied predictably and equitably. In the text it is also suggested that technology supplying source as well as recipient governments should set up appropriate systems for the legal protection of industrial property rights.<sup>56</sup>

Dealing with responsibilities of source and recipient enterprises, the text of Group 'B' refers to what source enterprises and recipient should do to ensure the maximum mutual benefit of all parties to transfer agreements.

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54. Ibid., p. 3.

55. See, UNCTAD, Present Status of Negotiation and Issues Outstanding, TD/Code/TOT/37.

56. See, n. 53, para 8.

The text of Group 'B' holds that restrictive business practices arising out of transfer of technology should be avoided. The practices which have especially an adverse effect on the attainment of economic and social objectives have been defined in the Group 'B' text. This provision has listed eight practices that parties should refrain from utilizing.<sup>57</sup>

On the issue of co-operation and special measures for developing countries, the text calls for international action among all governments and international organizations in order to increase, encourage and facilitate an expanded international flow of technology.<sup>58</sup> On applicable law and settlement of disputes, the Group B text points out that the parties to an agreement should have the freedom to choose the law.<sup>59</sup> The state whose law is chosen should have either a substantial relationship with the parties, or with the transaction, or there should be other reasonable basis for the parties' choice. The parties to an agreement should be permitted freely to choose the forum before which disputes should be tried. The text indicates that parties should be permitted to

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57. Ibid., para 10, p. 9.

58. W. Chudson, n. 11, p. 40.

59. See, n. 53, p. 11.

provide that disputes could be settled by means of arbitration or other third party procedures.

#### Position of Group D

A draft<sup>60</sup> was later put in by the U.S.S.R. on behalf of the Group 'D' countries and Mongolia. The draft is not a detailed one but has advanced some basic principles. The countries of Group D wanted to back the Group of 77, but at the same time were very conscious about their own interests. The text of Group D provides that the code of conduct should be a universally acceptable instrument based on the equality of all parties. The text also provides for a just and equitable observance of their interests, respect for national sovereignty, and elimination of trade discrimination. Group D has suggested that transactions under intergovernmental agreements should be excluded from the scope of the application of the code.

Respective positions of both the developing countries and the developed countries were taken into account by the UNCTAD while preparing the draft code. In spite of diverse positions of the developing and the developed

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60. The Group 'D' draft is contained in TD/AC.1/9 at Annex IV.

countries, an agreement has emerged in certain areas. In the next chapter we shall study the approaches of the developing, the developed and the Socialist countries. We shall also discuss certain provisions that have been not included in the draft code.



## Chapter IV

### THE PURPOSE, SCOPE AND CONTENT OF THE UNCTAD DRAFT INTERNATIONAL CODE OF CONDUCT

The draft international code of conduct<sup>1</sup> contains a preamble and nine chapters. These chapters deal with definition and scope of application, objectives and principles, national regulation of transfer of technology transactions, restrictive business practices, responsibility and obligation of parties, special treatment for developing countries, international collaboration, international institutional machinery and applicable law, and settlement of disputes.

#### The General Philosophy of the Draft Code

The philosophy of the draft code is contained mainly in its preamble and in the chapter on principles and objectives. The preamble is important as it has an influence on the interpretation of the other parts of the text. It is also important as it indicates the degree of consensus that has been reached by all parties on the reasons for the elaboration of the code and the principles that must

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1. See, Draft international code of conduct on the Transfer of Technology as at the close of the fifth session of the conference, TD/Code/TOT/41 (Herein after referred to as the "draft code").

be applied. In the first place<sup>2</sup> the preamble recognises that science and technology play a fundamental role in the socio-economic development of all the countries, and particularly in accelerating the development of the developing countries. It declares that technology is a 'key to the progress of mankind' and that all peoples have the right to benefit from its advances.<sup>3</sup> The developing countries had originally proposed that technology should be described, like the sources of the seabed, as the "common heritage of mankind".<sup>4</sup> This proposal of the developing countries was successfully resisted by the developed countries on the ground that technology was in fact the product of human ingenuity and that inventors had certain prior rights.<sup>5</sup>

The preamble asserts the belief that a code will assist the developing countries in their selection, acquisition and effective use of technologies which are required for their needs. The code will also help to create conditions conducive to the promotion of the international transfer of technology.<sup>6</sup> The preamble recognizes

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2. The draft code, n. 1, preamble, p. 1.

3. Ibid.

4. See, draft code of developing countries, TD/B/C.6/1.

5. Dennis Thompson, "The UNCTAD on Transfer of Technology", Journal of World Trade Law, Vol. 16, (1982), p. 319.

6. The draft code Preamble, 9, n. 1, p. 1.

the need to strengthen the scientific and technological capabilities of all countries, and the necessity for the developed countries to cooperate with the developing countries in order to assist the latter in their own efforts in this field as a decisive step towards the establishment of a New International Economic Order.<sup>7</sup> It emphasizes the need for equal opportunity to be provided to all countries to participate irrespective of their social and economic system<sup>8</sup>, and stresses the need for special treatment to be given to the developing countries.<sup>9</sup> It also draws attention to the need to improve the flow of technological information so that countries could select the technology that is appropriate to their needs.

Definition and Scope of Application

Paragraph 1.4<sup>10</sup> of the draft code dealing with the scope of application of the instrument, attempts to define an international transfer of technology transaction. The code will apply in all cases of transfer of technology across national boundaries. Earlier the developing countries had proposed that the code should apply to trans-

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7. Ibid., Pt. 4.

8. Ibid., Pt. 6.

9. Ibid., Pt. 7.

10. For texts under consideration, see Appendices A and C of the draft code.

actions between parties which did not reside or were not established in the same country, as well as between parties which were resident or established in the same country, if at least one of the parties was directly or indirectly controlled by a foreign entity and the technology transferred had not been developed in the recipient country.<sup>11</sup> The developed countries maintain the position that states may apply by means of national legislation the principle of the code to transactions taking place within national boundaries.<sup>12</sup>

In other words, the developing countries consider that, in order to be meaningful the code should apply to all transactions having or likely to have an international character, regardless of the crossing of national boundaries criterion. The developed countries fear that such an approach would alter the principle of national treatment by way of applying different rules to transactions according to the origin of the party involved.<sup>13</sup>

In order to overcome the difficulties, the President of the Conference made an attempt to resolve this particular issue by restating the principle. The President stated

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11. For proposal of developing countries, see, Draft Code, n. 1.
  12. For proposal of developed countries, see Ibid.
  13. Thompson, n. 5, p. 311.

that the code would apply essentially to transactions relating to technology transferred across national boundaries including those when at least one of the parties was an intermediary or otherwise acted on behalf of a party which did not reside or was not established within the same country.<sup>14</sup> The President of the Conference made another attempt to clarify the position during the fifth session<sup>15</sup> and proposed that the code should not define the concept 'transfer of technology' but should merely state that it would apply to international transactions.<sup>16</sup> In this event, the meaning of an international transfer of technology transaction in any particular case would be left for future interpretation. However, the discussion at the fifth session did not succeed in bringing out a definitive solution to the problem raised by the definition of an international transfer of technology transaction. Some countries still fear that the suggested compromise does not satisfactorily resolve the equality of treatment issue and that the term "intermediary" is too vague for these purposes.

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14. See, Recommendations of the Secretary-General of UNCTAD and the President of the UN Conference on an International code of conduct on the transfer of technology on issues outstanding in the draft code of conduct, TD/Code TOT/38,
  15. The fifth session of the UN Conference on the Transfer of Technology was held in Geneva from 17 October to 4 November 1983.
  16. For President's proposal see Appendix A of the draft code, n. 1.

### Objectives and Principles

The draft code contains a separate chapter on "Objectives and Principles".<sup>17</sup> There is a large measure of agreement on most of the provisions. Among the objectives agreed to are the following.<sup>18</sup> To facilitate and increase the international flow of technology and information and the flow of proprietary and non-proprietary technology for strengthening the growth of the scientific and technological capabilities of all countries, in particular developing countries; to increase the contribution of technology to the identification and solution of economic problems of all countries, particularly the developing countries; and to facilitate the formulation, adoption and implementation of national policies, laws and regulations by setting forth international norms.

The principles<sup>19</sup> of the code are wide enough to cover notions such as universality in the application of the code, non-discrimination, sovereignty and political independence of states, mutuality of benefits for technology supplying and receiving parties in order to maintain and increase the international flow of technology, and protection of industrial property rights granted under national law.

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17. UNCTAD, Report of the Intergovernmental Group of Experts on an International Code of Conduct on Transfer of Technology on its fifth session, TD/AC.1/15.
  18. The Draft code, n. 1, Chapter 2, p. 4.
  19. Ibid., p. 5.

As stated above, there is a large measure of agreement on most of the provisions. But the superficiality of this agreement becomes obvious with the reluctance of each party to subscribe to what the other party really considers as basic.<sup>20</sup> For instance, the group of 77 considers the principles of unpackaging of transactions involving transfer of technology as basic. But this principle is not included in the proposal of Group B. The principle of unpackaging implies that the recipient country should be in a position to select the component of technology which is appropriate to its need. This principle is fundamental to technological self-reliance. But Group B insists upon unqualified respect for industrial property rights, which is not acceptable to the Group of 77.<sup>21</sup>

National Regulation of Transfer  
of Technology Transactions

The chapter on national regulation deals with some limitations which may be put upon the unfettered right of governments, particularly of the technology receiving countries, to pass legislation within the scope of the matters dealt with in the draft code of conduct. The

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20. A. Jayagovinda, "Towards a Code of Conduct for the Transfer of Technology", Indian Journal of International Law (New Delhi), Vol. 19 (1979), p. 264.

21. Ibid.

developed countries proposed that the technology receiving countries would undertake to observe the rules of applicable international law in adopting the measures.<sup>22</sup> The developing countries do not accept the traditional rules of international law relating to currency regulations of foreign exchange payments, tax treatment, pricing policies, etc., as developed by western countries during the colonial period. They argue that these rules were elaborated without their consent and are inequitable. Furthermore, since the establishment of the United Nations, international law has been globalized and reshaped on an equitable basis.<sup>23</sup>

However, it is now agreed that the measures taken by states should be consistent with their "international obligations".<sup>24</sup> Of course, this phrase displays a certain amount of ambiguity. Another matter of concern to Group B was the protection of industrial property rights. The Group had sought that developing countries should abide by the provisions of the Paris Convention for the protection of industrial property. On this issue, it is now agreed that each country adopting legislation would have regards

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22. For measures, see Draft code, n. 1, Chapter 3, para 3.3.

23. M. Sormarajah, "The Myth of International Contract Law", Journal of World Trade Law, Vol. 15 (1981), p. 187.



to its national needs, but it should ensure the effective protection of industrial rights granted under its national law.<sup>25</sup>

The remaining provisions with regard to national legislation give a wide scope to the countries. A number of specific fields are mentioned where states may take legislative action.<sup>26</sup> In the financial sector they may deal with currency regulations, domestic credit and financing facilities, transferability of payments, tax treatment and pricing policies. They may also lay down the terms and conditions for the renegotiation of transfer of technology transactions.<sup>27</sup> They may prescribe specifications and standards for components and their payments, take measures for the evaluation and of transactions for the benefit to the parties to negotiations and prescribe for the use of local and imported components.<sup>28</sup>

Governments may also establish machinery for the evaluation, negotiation, evaluation, and registration of transfer of technology transactions, and legislate as to their terms, conditions and duration. States are specifically empowered to take measures to prevent the loss of

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25. Ibid., para 3.2.1.

26. Ibid., para 3.3.

27. Ibid.

28. Ibid.

ownership of control by domestic acquiring enterprises. They are also empowered to legislate for the regulation of foreign collaboration agreements which could displace national enterprises from the domestic market.<sup>29</sup> States may strengthen their national administrative mechanism for the implementation and application of the code and of national laws, regulations and policies.

It is mentioned in this chapter that in taking all such measures, countries should act on the basis that these measures would promote a favourable climate for the international transfer of technology, take into consideration the interests of all parties, and encourage transfer of technology.<sup>30</sup>

#### Restrictive Practices

This part of the draft code deals with practices which are considered undesirable and, therefore, should be avoided and not included in the provisions of transfer of technology transactions. It has led to much argument and difficult negotiations and till now even the title of this part has not been agreed. Developing countries describe it as "the regulation of practices and arrangements". Developed countries describe it as "restrictive business

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29. Ibid.

30. Ibid., para 3.1.

practices", while Socialist countries consider it to be "the exclusion of political discrimination and restrictive business practices".<sup>31</sup> The developing countries tend to see the restrictions not so much in the light of anti-trust, which has less meaning in developing countries, but as practices which are essentially reprehensible because they are unfair in themselves. They also represent the result of undue influence by a strong supplying party over a weaker technology receiving party.<sup>32</sup> On the other hand, the developed countries have tended to regard such restrictions as being undesirable because they are anti-competitive. They consider that transactions with developing countries are entitled to the same protection as is given to the nationals of Group B countries within their own territories.<sup>33</sup>

The draft code enumerates twenty restrictive practices, of which fourteen are the subject of substantial agreement<sup>34</sup>, while the remaining six are proposed by the Group of 77 and Group D. The fourteen practices broadly cover<sup>35</sup> - grant back provisions, challenge to validity<sup>36</sup>, exclusive

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31. Ibid., Chapter 4, p. 8.

32. Thompson, n. 5, p. 323.

33. Ibid.

34. Draft Code, n. 1, Chapter 4, p. 8.

35. Ibid., pp. 9-10.

36. On the exhaustive nature of practices, see, UNCTAD, Document TD/code TOT/38.

dealing, restrictions on research, restrictions on the use of personnels, price fixing, restrictions on adaptation, exclusive sales or representation agreements, tying arrangements, export restrictions, patent pools or cross-licensing agreements and other arrangements, restrictions on publicity, payments and other obligations after expiration of industrial property rights, and restrictions after expiration of arrangements.

There is a substantial disagreement between the Groups on the scope of the practices to be prohibited. The developing countries want an unqualified ban on these practices.<sup>37</sup> But developed countries invariably insist upon the adverb "unreasonable" to qualify the activities to be banned. They follow the "rule of reason"<sup>38</sup> in this regard, which assumes that a restriction is not inherently bad but only the unreasonable use of it needs to be banned. The developing countries take objection to this attitude, because they feel that the word "unreasonable" will enable the supplier to impose restrictions in an arbitrary manner in the face of the code.<sup>39</sup>

However, at the fifth session<sup>40</sup> new avenues were explored in order to resolve these difficulties. As far as

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37. Appendix D of the Draft Code, n. 1.

38. Ibid.

39. Thompson, n. 5, p. 326.

40. See, n. 15.

those practices are concerned where agreement for their present inclusion of the code has not been reached, they would be the subject of further work by the review conference.<sup>41</sup>

#### Responsibilities and Obligations of Parties

This chapter of the draft code provides for certain standards with respect to rights and obligations of parties to a transfer of technology transaction. The idea underlying these provisions is to prevent the exploitation of the weaker bargaining position of enterprises from the developing countries. Regarding these guarantees a report by the UNCTAD Secretariat stated that these guarantees should be based on the recognition of the imperfection of the transfer of technology market and consequent structural differences between enterprises of the developed and the developing countries.<sup>42</sup> These guarantees are divided into two parts, those which apply to the negotiating phase, and those which relate to the contractual obligations to be included in the arrangement itself.<sup>43</sup> There is one general provision which applies to both these phases.

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41. See proposal by President on a text for inclusion in agreed statement, Appendix A of the draft code, n. 1.

42. UNCTAD, Preparation of a draft outline of an International code of Conduct on Transfer of Technology, TD/B/C.G/AC.1/2, Supp. 1, 1975, para 244.

43. Draft code, n. 1, Chapter 5.

In the negotiating phase the parties should take into account specific provisions for the use of local personnel, either trained or to be trained. They should also take into account the provisions for the use of locally available materials, technologies, skills, consultancy and other services which can be made available by the recipient.<sup>44</sup> Regarding unpackaging, the provision provides that the technology receiving party may be able to evaluate the various elements of the technology to be supplied.<sup>45</sup>

Both potential parties should aim to reach an agreement on fair terms and conditions, including license fees, royalties etc.<sup>46</sup> The chapter provides<sup>47</sup> that there must be an appropriate exchange of information and any confidential information must be regarded as such by the other party. It was specifically stated that the supplier must also disclose to the recipient all details known to it that might have adverse effects on health, safety or the environment. On the other hand, the recipient must disclose any local requirements or legislation which might effect the position of the supplier.

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44. Ibid., para 5.2 (a)(b).

45. Ibid., para 5.2 (c).

46. Ibid., para 5.3 (a).

47. Ibid., para 5.3 (b) and (c).

In the contractual phase the agreement should provide<sup>48</sup> for mutually acceptable contractual obligations including access to improvements, confidentiality, dispute settlement and applicable law<sup>49</sup>, description of the technology and suitability for use, etc. This chapter which was the subject of intensive negotiations in the past, was finally accepted<sup>50</sup>, with the exception of two provisions (confidentiality and dispute settlement and applicable law) on the basis of a proposal made by Mr. Norberg, Chairman of the Working Group on chapter.<sup>51</sup>

Special Treatment for Developing Countries

Chapter sixth of the draft code calls upon the developed countries to encourage the scientific and technological capabilities of the developing countries. Section first of the chapter lists the number of ways in which the developed countries can assist the developing countries, and the second section calls for international collaboration at bilateral, regional and multilateral level. It provides that the developed countries should assist with all possible

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48. Ibid., para 5.4.

49. Text on dispute settlement and applicable law, is under consideration, see Appendix A of the draft code.

50. P. Roffe, "UNCTAD: Transfer of Technology Code", Journal of World Trade Law, Vol. 18 (1984), p. 181.

51. For the proposal by Mr. Norberg, see Appendix C of TD/Code T/T/38.

types of information, and provide the fullest access to technology practicable both in the public and private sectors.<sup>52</sup> They should assist in the development of national technologies by facilitating access to available research data; the growth of innovative capacities, support for laboratories, experimental facilities as well as training and research and cooperation in the establishment of technology transfer centres. Developed countries are also urged to grant credits for approved development projects.<sup>53</sup>

#### International Collaboration

This chapter enumerates that states recognize the need for appropriate international collaboration, whether between governments, intergovernmental bodies, members of the UN system, or the institutional machinery of the present code, in order to strengthen the technological capacity of all countries.<sup>54</sup> Such collaboration should take the form of exchange of information, promotion of international agreements, consultation, establishment of common programmes, and the development of scientific and technological resources for developing indigenous technology. In such collaborations parties should take action to eliminate the

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52. Draft code, n. 1, Chapter 5, para 6.1.

53. Ibid., para 6.2 and 6.3.

54. Ibid., Chapter 7, para 7.1.



double taxation on earning and other payments in respect of the transfer of technology.<sup>55</sup>

International Institutional Machinery

Chapter 8 provides that the institutional machinery will consist of either a special committee established within UNCTAD, or an independent committee. In either case it will be serviced by the UNCTAD Secretariat and be open to all members of UNCTAD. The committee will undertake<sup>56</sup> research and will promote discussion. It will consider reports and information obtained from all participants. Disseminating appropriate information, it will also make recommendation to the participants and will report once a year to the UNCTAD trade and development board.

It is specifically provided that the machinery may not act like a tribunal or pass judgement on any individual government or party in connection with any specific transaction. The machinery should also avoid becoming involved in disputes between the parties.<sup>57</sup>

Establishment of the committee shall be subject to the approval of the U.N. General Assembly and its financial

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55. Ibid., para 7.2.

56. Ibid., para 8.2.1.

57. Ibid., para 8.2.2.

requirements will be borne by the U.N. budget approved by the General Assembly.<sup>58</sup> The Secretariat for the international institutional machinery shall be the UNCTAD Secretariat.<sup>59</sup> A United Nations Conference shall be convened after either four or six years, to review the application of the code and to arrange for its improvement.<sup>60</sup>

Applicable Law and Settlement of Disputes

Chapter 9 of the draft code deals with applicable law and settlement of disputes, but under this heading no text has been formally agreed. The provisions on this issue cover choice of law; amicable way of settling disputes between parties; resort to arbitration; encouragement of the use of internationally accepted rules of arbitration; and enforcement of arbitral awards.<sup>61</sup> The developed countries also support the inclusion of a provision on choice of forum, which the developing countries do not consider necessary. However, the only controversial aspect of Chapter 9 lies in the issue of choice of law. As far as the content of the other components of the chapter are concerned, agreement, in principle, already exists,

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58. Ibid., Appendix E, para 8.5.

59. Ibid., para 8.4.

60. Ibid., Appendix E B.3.

61. Ibid., Appendix A and F.

but it is dependent upon the outcome of the discussion on the choice of law provision.

The developing countries stress on the importance in any choice of law of the role of the laws and regulations and, in general, the rules of public policy (ordre public) of the countries parties to the transaction.<sup>62</sup> The developed countries, on their part, wish to emphasize the freedom of the parties to choose the law applicable to their contractual relationships. But they also recognize that choice does not effect the application of mandatory provisions of the legal system that have a substantial connection with the transaction.<sup>63</sup>

Socialist countries strongly favour<sup>61</sup> the settlement of disputes by arbitration. They hold that the parties may freely choose the law applicable to the agreement in respect of its validity, performance and interpretation. In the absence of an agreement on choice of law, the arbitral tribunal is to apply those conflict of law rules which it considers applicable. A novel element in the Group of 77 text<sup>65</sup> provides that the UNCITRAL arbitration

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62. Thompson, n. 5, p. 333.

63. See, UNCTAD, Present Status of Negotiations and Issue Outstanding, TD/Code TOT/37.

64. Thompson, n. 5, p. 334.

65. Gabriel M. Wilner, "Applicable Law and Dispute Settlement in the Transfer of Technology Code", Journal of World Trade Law, Vol. 17 (1983), p. 392.

rules are to be applied to all matters not provided for in the code provisions on arbitration.<sup>66</sup>

The analysis of the code reveals that agreement between various groups exists on most of the chapters except chapter 4, restrictive practices, and chapter 9, applicable law and settlement of disputes. The successful outcome of the negotiations on the code will mainly depend on the possibilities of reaching agreement on the delicate and complex issues posed by chapter 4, where two opposite philosophies are in confrontation. This is the area wherein the national interests of a recipient state and the interest of TNCs directly clash against each other. Once a solution is found on the issues outstanding in chapter 4, the existing difficulties in para 1.4 on the definition of transfer of technology transactions and chapter 9 on applicable law and settlement of disputes will be easily reduced. With regard to para 1.4 the positions of the groups are not far apart. As far as chapter 9 is concerned, the opposing views are significant in character and it will not be easy to reconcile. But they touch upon issues of such a general nature that the lack of concensus should not impair the broad understanding on more fundamental problems.

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66. See Draft code of developing countries, n. 4.

There are certain other points to be observed.

The draft code, as it is now written leaves some important aspects. For instance the draft code contains a long list of provisions which must be guaranteed by the supplier of technology. Such provisions include guarantees that the technology is suitable and appropriate for the needs and capabilities of the recipient. It also includes that a minimal level of production will be achieved and that local inputs will be utilized in the selection of technology to be transferred. The major difficulty with this section of the code is that it seems to leave identification and choice of appropriate technology to the transnational corporations. Adequate implementation of this provision will entail more than promises by the MNCs that technology is appropriate.

Another important aspect relating to national regulation which the draft code has not even touched, is the need for some kind of standardization in the area of incentives generally accorded to TNCs. In the sphere of transfer of technology, many developing countries permit restrictive clauses as a form of incentives for TNCs - which the code should restrict.

Yet the legal character of the draft code is the most important issue which has been not resolved so far.

The fifth session of the United Nations Conference on the transfer of technology had based its discussion mainly on the legal nature of the draft code. In the subsequent chapter we would discuss this issue at length.

## Chapter V

### LEGAL NATURE OF THE DRAFT CODE

The legal character of the draft code is the one issue which has hindered the entire process of negotiation from its very beginning. The developing countries have maintained that a legally binding code is the only way to regulate effectively the transfer of technology.<sup>1</sup> They feel that they would not receive their full entitlement under the code if it is not binding. The developed countries, on the other hand, have reiterated that a code consisting of voluntary guidelines is the only form acceptable for such an international instrument.<sup>2</sup> The socialist countries have also accepted the concept of a legally binding instrument which would fully recognize the principle of non-discrimination based on differences in political, social, and economic systems.<sup>3</sup> China, on this issue, has joined the developing countries in supporting the idea of a legally binding instrument.

From their perspective, the developing countries, socialist countries of Eastern Europe, and China, visualize

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1. See, Draft code of the developing countries, TD/B/C.6/1.
  2. See, Draft code of the developed countries, TD/B/C.6/14.
  3. See, Draft code of Socialist countries, TD/AC.1/9.

that the code, once adopted and ratified by the respective countries, would be part of the law of nations. Its relevant provisions, it is hoped, will be implemented and incorporated into national legal systems.

The conflicting positions have found a temporary solution recently. At the second session of the United Nations conference on the transfer of technology, the developing countries made a formal proposal whereby the code would be adopted in the form of a General Assembly resolution - as a final act of the conference. It was decided that the adoption of the code as a final act of the conference would not mean 'a final decision on the legal nature of the code',<sup>4</sup> particularly after the fifth session of the conference. It is now certain that the code would be adopted in the form of a General Assembly resolution.<sup>5</sup> It was also decided that a review conference, to be held five years after the adoption of the code, will consider this issue in the context of its general review of all aspects of the code.<sup>6</sup> Thus, the question of the legal character of the instrument, once a very sensitive problem in the negotiations, has advanced to a stage of maturity

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4. Selected Documents of the second session of the Conference, TD/Code TCT/21, 5 November 1979.

5. See, P. Roffe, "UNCTAD: Transfer of Technology Code - fifth session of the UN Conference, Journal of World Trade Law, Vol. 18 (1984), pp. 176-82.

6. See, The draft Code of Conduct, on the Transfer Technology TD/Code TCT/41.



due to a clearer understanding of other related issues.<sup>7</sup> In brief, the long debate between a legally binding code and a code consisting only of guidelines has reached a stage where all governments recognize that at present the code should, at least in its first phase, consist of recommendations to governments.<sup>8</sup>

However, on the nature and form of the code, mainly the following alternatives can be mentioned:

- (i) a binding code in the form of a multilateral treaty or convention which prescribes specific rules and is legally binding on all parties concerned; and
- (ii) a voluntary code adopted as a General Assembly resolution which contains broad guidelines to be observed by all parties concerned.

We would discuss as to what may be the best form suitable to serve the very purpose of the code. Whether a binding code in the form of a multilateral treaty is possible. And if the code is adopted as a resolution of the General Assembly, how far it would be effective. In this context we would discuss the legal status of the resolutions of the UN General Assembly.

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7. Ibid., Chapter 8.

8. W. Fikentscher, "United Nations Code of Conduct: New Paths in International Law", The American Journal of Comparative Law, Vol. 30, (1982), p. 577.

A Binding Code in the form  
of a Multilateral Treaty

A treaty may generate a rule of customary international law. In the North Sea Continental Shelf cases<sup>9</sup> the International Court of Justice observed that provisions in treaties can generate customary law and may be of a norm-creating character.<sup>10</sup> In the view of the World Court the norm creating process constitutes one of the recognised methods by which new rules of customary international law may be formed.<sup>11</sup> Thus the treaty process is a useful means to develop universal international law. But an international treaty can enunciate universal principles only when it receives the support of the majority of states.<sup>12</sup>

If the code assumes the form of a multilateral treaty or convention then it would impose legally binding obligations on the parties concerned to such treaty or convention.<sup>13</sup> Under conventional methods, the procedure

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9. I.C.J. Report (1969), p. 3.

10. Ibid., p. 43.

11. Ibid., p. 42.

12. Leo Gross, "Sources of Universal International Law", in R.P. Anand, ed., Asian States and the Development of Universal International Law (Delhi, 1972), p. 196.

13. S.K.B. Asante, "Transnational Corporations and Transfer of Technology", in Kamal Hossain, ed., Legal Aspects of the New International Economic Order (London, 1980), p. 134.

would be to negotiate an international convention which would be open for signature and ratification by all the participating countries. By ratification, in cases where such conventions are self-executory and in other cases by suitable legislation, the obligations of the code would become mandatory on the firms over which each country exercised jurisdiction.

But such an operation is extremely complicated. In the first place it always takes time to secure the necessary numbers of signatures and ratifications to bring a convention of this type into operation, which has to be followed in many cases by legislation.<sup>14</sup> This process would involve parliamentary approval in addition to the consent of other governmental institutions at home, and it may well be that many countries would not be willing to accept it.

If however the obligations of the code are made compulsory, the question arises about the mechanism by which this can be implemented. An answer to the question - may be that the code may be enforced by individual legislation and the enforcement machinery of each state. Technically, a treaty or convention embodying a mandatory code provides the basis for an unequivocal regime of legal

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14. Dennis Thompson, "The UNCTAD Code on Transfer of Technology", Journal of World Trade Law, Vol. 16 (1982), p. 317.

sanctions to be implemented by a national legislation. But the legislation needed would also be of a sweeping character. Because if the code is to be of universal application it would have to be applied whenever there is an international transfer of technology, particularly between the developed countries themselves. The universally binding character of the code might require legislation in many countries, which would result in amendments of the law of sale and certainly anti-trust provisions in order to cover transfer of technology transactions.<sup>15</sup> Even if provisions on binding application are to be introduced, the question would still remain whether it would be effective in its application to transnational corporations. Because by their very nature TNCs are able to escape from the impact of national laws, to a very large extent by shifting their action from one nation to another. It is doubtful whether it would be possible to secure an effective legal coverage. Apart from this, there is an objection of fundamental character. The developed countries would be unwilling to exercise jurisdiction over the activities of the TNCs outside their own national boundaries. Any act contrary to the code committed in the recipient country would in any case have to be dealt with by the laws of that country and the supplying country would not

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15. Ibid.

assist in this regard.<sup>16</sup> So practically it would be difficult to implement the provisions of the code on TNCs.

An alternative suggestion as a substitute of this conventional method of enforcement may be that the provisions of the code should stand apart from national legislation and be given some supranational character. Then it would be enforced by some inter-governmental or supranational machinery established for the particular purpose of enforcing the code. Such an inter-governmental authority would be competent to determinate violations of the code by the parties. It would be able to impose appropriate sanctions, in the manner of EEC commission in the enforcement of its anti-trust provisions.<sup>17</sup> But each case of technology transfer is unique. So an intergovernmental machinery may attract consistent and uniform application. But again this would raise a number of difficulties and would probably be unlikely to secure general support.

Thus the binding nature of the code cannot be approved outright. Since a binding code may set rigid prescriptions that do not sufficiently take into account individual cases of technology transfer, it may produce largely negative results. It may also result in increased

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16. Ibid., p. 318.

17. S.K.B. Asante, n. 13, p. 134.

cost of technology and decreased flow of relevant technology to developing countries. More than 90 per cent of the transfer of technology effected among the industrially developed countries; the remaining 10 per cent between developed and developing countries, and only a minimum among the developing countries.<sup>18</sup> So it must be realized that the efforts for a universally binding code means the struggle for changing the rules of the transactions among the developed countries as well which is of no concern to the developing countries.

A Voluntary Code Adopted as  
a General Assembly Resolution

The developed countries from the very beginning have insisted that the code should be voluntary and on this issue they receive considerable support from socialist countries. Upto a certain extent it can be agreed that a rigid code may produce largely negative results since it may prescribe rigid prescriptions which may discourage rather than encourage technology transfer. It is therefore contended that flexible guidelines would permit cooperation between the parties in the transfer process and would thereby encourage and facilitate increased flow of relevant

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18. Milan Bulajic, "Legal Aspects of the New International Economic Order", in Kamal Hossain, ed., n. 13, p. 54. See also, UNCTAD, Report of the Intergovernmental Group of Experts on a code of conduct on Transfer of Technology, TD/B/C.6/1, 1975.

technology. In these circumstances, the argument runs, the likely course of action is that both the developing and the developed countries should agree on a code of conduct consisting of guidelines, and send it to the General Assembly for adoption as a resolution. As Richard Falk observes, "validity of law depends ultimately always upon its capacity to satisfy the particular interests of participants and the aggregate interests of the community".<sup>19</sup> On this assessment, the validity of resolutions of the United Nations dealing with problem of poverty and international trade have a law creating effect since they are aimed at the satisfaction of the "aggregate interests of the community".<sup>20</sup> So if the General Assembly adopts the resolution unanimously, the code of conduct will assume considerable importance.

It would be appropriate at this juncture to discuss the legal status of the General Assembly resolution.

The opinions of scholars on the status of the resolutions of the General Assembly have been varied. Some writers hold the view that they are only of political

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19. Richard A. Falk, "The New States and International Legal Order", Lectures at the Academy of International Law (The Hague, 1966), p. 16.

20. Rahmatullah Khan, "The Legal Status of the Resolutions of the UN General Assembly", Indian Journal of International Law, Vol. 19 (1979), p. 556.

significance and have no legal importance.<sup>21</sup> On the other hand, some writers are of the view that under certain special circumstances they may have legal implications and some of them may even have binding effect.<sup>22</sup> Although the International Law Commission has been entrusted with the codification and development of international law, it is widely recognised that the regular organs of the UN, such as the General Assembly and the World Court play an important role in bridging the gaps in the existing international law.<sup>23</sup> The decisions taken by the General Assembly in the form of recommendations and resolutions are helpful in the agreement between states and contribute in preparing the necessary environment for the development of the rules of international law.<sup>24</sup> However, the determination of the status of the resolutions of international organisations as source of international law must take into account the nature of

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21. See, J. Castaneda, Legal Effects of U.N. Resolutions (New York, 1969), pp. 3-8.
22. See, D.H.N. Johnson, "The Effect of Resolution of the General Assembly of the United Nations", British Yearbook of International Law, Vol. 32 (1955-56), p. 97.
23. See, Oscar Schachter, "The Quasi Judicial Role of the Security Council and the General Assembly", American Journal of International Law, Vol. 58 (1964), pp. 962-64; see also, Richard Falk and Saul H. Mendlowitz, ed., The Strategy of World Order (New York, 1966), Vol. 3, pp. 37-121.
24. K. Skubiszewski, Enactment of Law by International Organizations, British Yearbook of International Law, Vol. XLI (1965-66), p. 201.



the organisation itself and the character of the resolution concerned.<sup>25</sup>

The Austinian Concept  
of Law

A majority of the scholars who deny any legal force to General Assembly resolutions depend upon the intent of the framers of the Charter and reflect the Austinian concept of law. They argue on this basis that the San Francisco Conference which drew up the U.N. Charter, had decisively rejected the Philippines proposal by twentysix votes to one at a drafting session of Commission II. The Philippines delegation had proposed that:<sup>26</sup>

The General Assembly should be vested with the legislative authority to enact rules of international law which should become effective and binding upon the members of the organization after such rules have been approved by a majority vote of the Security Council. Should the Security Council fail to act on any of such rules within a period of thirty days after submission thereof to the Security Council, the same should become effective and binding as if approved by the Security Council.

It becomes impossible to attribute binding legal force to the resolution of the General Assembly, if the intention of the framers of the Charter is construed

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25. Rahmatullah Khan, n. 20, p. 552.

26. UN Document, Vol. 9, p. 316.

strictly. But this is a rebuttable presumption and it would be an error to estimate all General Assembly resolutions as non-binding. There are certain cases where resolutions of the General Assembly can be binding. For instance, the "house keeping resolutions", such as decision to admit members, to apportion the budget and so on are clearly binding. Secondly, the General Assembly can be given the power to dispose off territory. Similar is the case of termination of the mandate over Namibia, where the effect of the decision is to create a legal status which is binding on all states and not just on those who vote in favour of the resolution.<sup>27</sup> In the South-West Africa cases judges Mabanefo, Nervo and Tanaka accepted the proposition that the imposition of apartheid on South-West Africa, in violation of the General Assembly resolutions, was a violation of international law.<sup>28</sup> Similarly the International Court of Justice in the Certain Expenses case confirmed that the resolutions of the General Assembly, even in matters relating to international peace and security are not merely exhortatory.<sup>29</sup>

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27. See, Advisory Opinion of the International Court of Justice on Legal Consequences for States of the Continued Presence of South Africa in Namibia, ICJ Report, 1971, p. 16.

28. I.C.J. Reports, 1966, p. 248.

29. I.C.J. Reports, 1962.

Traditional Sources of International  
Law and General Assembly Resolutions

Efforts have been made to assimilate the General Assembly resolutions to the sources of international law listed in Article 38(1) of the statute of the International Court of Justice, mainly treaties and customs.

On the possibility to assimilate the General Assembly resolutions to a treaty it can be stated that international agreements are only binding if they are intended to be binding. So one would require positive evidence of an intention to create legally binding relations before a General Assembly resolution could be assimilated to a treaty. Because it is a fact to be observed that states frequently are prepared to vote for General Assembly resolutions only because they expect that no legal obligation will result from casting a positive vote.<sup>30</sup> Secondly treaties in general bind only the states which are parties to them, consequently, if General Assembly resolutions are to be assimilated to treaties they can at best bind only those which vote in favour of them. Because a unilateral declaration can scarcely create a binding effect.

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30. M. Mendelson, "The Legal Character of General Assembly Resolutions: Some Considerations of Principles", in Kamal Hossain, ed., n. 13, p. 98.

In answer to these objections it can be argued that the judgement of the majority of the International Court of Justice in the Nuclear Tests cases<sup>31</sup> certainly postulated that the unilateral declarations of states can, in some circumstances, have the force of law. If this is so then successive or simultaneous unilateral declarations by states voting for a General Assembly resolution could, in principle, have a like effect.<sup>32</sup> One can object that it is necessary for the unilateral declaration concerned to be at the very least intended to create legal relations. It can be argued that there was little evidence of such an intention on the part of the French Government in the Nuclear Tests cases.

Thus there are serious difficulties in the way of regarding General Assembly resolutions as capable of creating rules of customary law. But as Mendelson states that the formation of law by custom is a dynamic, not a static process.<sup>33</sup> He further puts forward the view that a house needs to be constantly kept in repair by the addition of new materials, otherwise it gradually disintegrates. Similarly, customary rules are constantly in a state of mutation, if not observed and maintained they gradually

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31. See, Nuclear Tests Cases (France Vs. Newzealand), I.C.J. Reports, 1974, pp. 253 and 457.

32. M. Mendelson, n. 30, p. 104.

33. M. Mendelson, n. 30, p. 102.

disappear. If customary law is seen as a dynamic process, General Assembly resolutions can play an important role in it. As some scholars are of the view that new sources of international law could be created through existing sources. For instance, a custom can grow up that unanimous General Assembly resolutions are binding and that rule of law would itself be binding.<sup>34</sup> It can be further argued that if the international community develop new assumptions about the ways in which binding obligation could come about, there is no reason why a particular process should not be elevated to the status of a source of law. In the Reservations case judge Alvarez held that:

The Assemblies of the United Nations pass declarations and resolutions of a very important nature. These declarations do not require ratification and, by reason of their nature, are not susceptible to reservations. They have not yet acquired a binding character, but they may acquire it if they receive the support of public opinion, which in several cases has condemned an act contrary to a declaration with more force than if it has been a mere breach of a convention of minor importance. (35)

Even those who confine themselves to the world Court statutes' classical enumeration of the sources will probably admit that the UN organs have given a push to the horizons of international law.<sup>36</sup> In the joint

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34. H.W.A. Thrilway, Customary Law and Codification (Leyden, 1972), p. 47.

35. I.C.J. Reports, 1951, p. 52.

36. Rahmatullah Khan, n. 20, p. 552.

separate opinion of the World Court in the Fishries Jurisdiction case it was stated that:<sup>37</sup>

The quest for the normative character of the resolutions of international organizations can hardly be confined to the four sources enumerated in the statute of the international Court of Justice. Numerous principles of primordial character have come into being outside this frame of reference. To give just one instance, the principle of self-determination for colonial territories is not contained in any convention, bilateral or multilateral, nor can it be identified as a customary principles of international law .... yet this principle has wrought a virtual revolution in international relations beginning 1960s. If one were to search for an explicit innovation of this principle seriously, one had to hunt for it in resolutions of the United Nations General Assembly.

If a voluntary code is adopted by way of a resolution of the General Assembly, fully supported by an overwhelming majority of states then, although it may not be mandatory in the strict sense, it may ultimately be effective. As Leo Gross points out, the resolutions of the Assembly "need not be legally binding in order to be effective. They may be effective even though their legality is doubtful".<sup>38</sup> Firstly, because a resolution represents the collective view of preponderant majority

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37. Fishries Jurisdiction (U.K. Vs. Ireland), I.C.J. Reports, 1974, p. 46.

38. Leo Gross, "The United Nations and the Role of Law", in N.J. Padelford and L.M. Goodrich, ed., The United Nations in the Balance (New York, 1965), p. 176.

of nation-states as to the appropriate standards of state conduct, it would have a strong moral standing which can not be violated with impunity. Secondly, General Assembly resolutions fully endorsed by the international community could ultimately be a source of law, whatever the immediate technical legal effect of such resolutions may be.<sup>39</sup>

As Professor Anand writes, "it is not possible to imprison the process of change in legal traditions which have lost the breath of life. In order to remain effective law must constantly justify itself and readjust itself according to the needs of the changing society".<sup>40</sup> Because only a dynamic law can preserve the rule of law in a dynamic society.<sup>41</sup>

Furthermore, the effectiveness of the code need not depend on the interposition of a General Assembly resolutions. A code recommended by the international community for adoption on a voluntary basis could have a meaningful impact in a number of ways. First, the adoption of such a code in itself would create a climate of public opinion which would induce expectation of fair acceptable state practice. As Rosalyn Higgins points out,

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39. S.K.B. Asante, n. 13, p. 135.

40. R.P. Anand, New States and International Law (Delhi, 1972), pp. 2-3.

41. C. Wilfred Jenks, Law and the Pursuit of Peace; Law in the World Community (London, 1967), p. 57.

"collective acts of states repeated by and acquiesced in by sufficient numbers and sufficient frequency eventually attain the status of law".<sup>42</sup>

Another method that can be suggested is, technology receiving countries can adopt such voluntary code by incorporating it as part of their municipal laws or by setting them up as standards of acceptable state behaviour. In either case a voluntary code can become enforceable as municipal law or state policy. Violation of the provisions of the code would then be a basis of normal legal sanctions.

At this stage it can be suggested that a voluntary code consisting of recommendations to governments would certainly be more appreciable.

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42. Rosalyn Higgins, The development of International Law through the political organs of the United Nations (London, 1966), p. 2; see also Michael Virally, "The Sources of International law", in Sorensen, ed., Manual of Public International Law (London, 1968), p. 162.



## Chapter VI

### CONCLUSIONS

As has been discussed in the foregoing chapters the vital role of technology in economic and social development cannot be denied. The technological disparities between the developing and the developed countries are not a mere reflection of their inequality but a very important cause of it. It is beyond doubt that as long as the developed countries retain their superiority in technological advancement over the developing countries, they are likely to retain their hold over the process of economic and social change in the latter countries.

While it is more important that the developing countries should establish the ability to generate their own indigenous technology appropriate to their needs, it is nevertheless true that their technological capacity can be accelerated by a systematic assimilation of modern technology available in the developed countries. Thus transfer of technology is viewed as one of the means to improve economic and social conditions in the developing countries. The issue has been brought forward by the developing countries in various international fora, especially in connection with the establishment of the New International Economic Order. Because of numerous

problems in the transfer of technology the developing countries gave high priority to the adoption of a code of conduct to regulate the transfer transactions. The draft code prepared by the UNCTAD is expected to constitute one of the means to promote and encourage the transfer of technology under fair and reasonable terms to the developing countries. There are a number of criteria, on the basis of which the possibility of the code can be examined.

It is a basic assumption that the economic development of the developing countries is not to the advantage of them only, it is advantageous for the developed countries too. Because of the advancement in science and technology, economic life involves a degree of world-wide interdependence. The developed countries cannot seek refuge in the close economic circuit constructed round modern technology and consider the developing countries as unwelcome intruders into that closed circle. As Gunnar Myrdal stated, "by showing negative attitudes towards international cooperation and by remaining lukewarm to their development problems, the rich nations are in danger of merely feeding frustration in the poor countries".<sup>1</sup> Several publicists have asserted that it is the duty of the rich countries to help the poor. And they must do it if they themselves want to

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1. Gunnar Myrdal, Beyond the Welfare State (London, 1960), p. 162.

survive. The obligation can also be read into Article 55 of the United Nations Charter.

On the question of the legal character of the draft code, as we have already discussed, all the governments have agreed that at present the draft code should consist of recommendations to governments and would be adopted in the form of a General Assembly resolution. The decision on the legal nature of the code is not a final one and it has been decided that a review conference will be held five years after the adoption of the code which, reviewing all other aspects of the code, will consider the legal nature of the code.

However, if the code is to achieve its goals, it should be designed with an understanding of the legal environment in which it will play a part. The code must be flexible enough to meet the needs of each member, and it must be fair, offering benefits to both sides if they comply. It must also be reasonably implementable and implementation of the rules should bring parties close to the objectives of the code. The code must be supplemented by other efforts aimed at improving the environment for technology transfer and strengthening domestic technological capabilities within the developing countries. Even more important, the code must be tested over time and evaluated for its effects, both positive and dysfunctional. A

learning and experimental period is necessary before its utility can be appraised.

Further, it must be borne in mind that regulation of the transfer of technology is a very complex task and cannot be accomplished solely by enactment of the code. A number of steps could reasonably be taken by the developing countries to promote the objectives of the code. A modified programme designed to strengthen domestic technological capabilities is a more reliable alternative than a comprehensive detailed code which cannot be effectively enforced by the developing countries.

A key instrument in the strengthening of national technological capabilities is a sound national technological policy. Such a policy must stand for the development of technological capacity to produce goods and services and the ability to make autonomous decisions in the field of technology. Defective technological policies of the developing countries are the most important single reason for their technological backwardness. The developing countries should concentrate on strengthening their administrative infrastructure and domestic expertise. These efforts should initially be accompanied by an emphasis on research and development activities, training of domestic personnel and establishment of technological information centres.

The reverse transfer of technology, or the brain drain, also causes a great deal of setback to the technological development of the developing countries. Brain drain consists of the flow of qualified personnel, such as doctors, engineers, scientists and skilled labour, to the developed countries in response to higher pay and better opportunities. An UNCTAD study on the reverse transfer of technology<sup>2</sup> estimated that in 1970 alone, the income so transferred from the developing countries to the United States amounted to \$ 3.7 billion. Other developed countries in West Europe, Canada, Australia and also some of the more industrialised countries, benefit in the same way. The developing countries should formulate policies to effectively utilise the skilled manpower and should take measures to slow down this "aid in reverse" process.

Yet another important future development may be the emergence of transfer of technology between the developing countries. The flow of technology on a "South" to "South" basis rather than "North" to "South" would resolve many of the problems of inappropriate technology. Let us hope the developing countries would help each other in the struggle for their economic salvation.

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2. See, UNCTAD, The Reverse Transfer of Technology: Economic effects of the outflow of trained personnel from developing countries (brain drain), TD/B/AC.11/25.

APPENDIX

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Third Session, April-May 1972, Santiago de Chile

(Agenda item 19)

Resolution 39 (III), TRANSFER OF TECHNOLOGY

The 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 in the International Development Strategy for the Second United Nations Development Decade, in particular in paragraph 64, to the promotion of the transfer of technology to developing countries;

Recalling General Assembly resolution 2658 (XXXV) of 7 December 1970, 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 within UNCTAD of an Intergovernmental Group on Transfer of Technology;

Noting that the General Assembly, in its resolution 2726 (XXV) endorsed 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 Economic and Social Council resolution 1621 B (LI) under which a standing committee of the Council was established to provide policy guidance and make recommendations on matters relating to the application of science and technology to development, which will take into account the specific competence of UNCTAD as defined in Trade and Development Board resolution 74 (X) of 18 September 1970;

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.

#### I. INSTITUTIONAL ARRANGEMENTS WITHIN UNCTAD

1. Endorses the work of UNCTAD, to be pursued on a continuing basis, and the programme of work approved unanimously by the Intergovernmental Group on Transfer of Technology at its organizational session;
2. Instructs the Board to ensure that the continuing nature of UNCTAD's functions in this field is reflected in the institutional arrangements in UNCTAD;

#### 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;

(a) Be responsible for the registration, deposit, review and approval of agreements involving transfer of technology in the public and private sectors;

(b) Undertake or assist in the evaluation, negotiation or renegotiation of contracts involving the transfer of technology;



(c) Assist domestic enterprises in finding alternative potential suppliers of technology in accordance with the priorities of national development planning;

(d) 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:

(a) Providing capital and technical assistance and developing scientific and technological co-operation;

(b) 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;

(c) Assisting developing countries to absorb and disseminate 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;

(d) 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;

(e) Designating institutions able to provide information to developing countries concerning the range of technologies available;

(f) 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;

(g) 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;

(h) 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:

(a) Implement the programme of work for UNCTAD in the field of transfer of technology approved by the Intergovernmental Group on Transfer of Technology, and undertake the studies necessary for the formulation of concrete policies to be applied at the national, regional and international levels;

(b) Provide advice through UNCTAD's own services, to be financed through the United Nations Development Programme within the framework of specific projects and/or by any voluntary contributions, in co-operation, as appropriate, with other bodies, with a view to making available at the request of the developing countries, especially the least developed among them, experienced personnel to assist, within UNCTAD's competence, in the transfer of technology to developing countries;

(c) Initiate, and participate in, through the United Nations Development Programme, and in accordance with its procedures, and in co-operation with other competent bodies within the United Nations system and the World Intellectual Property Organization, training programmes concerning transfer of technology for personnel from developing countries, especially from the least developed among them;

(d) 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, including the World Intellectual Property Organization, so as, in conformity with Part II of the Programme of Work, to supplement their activities in order to:

(a) Assist developing countries in the application and adaptation of technology to their production structures and economic and social requirements;

(b) Explore the possibility of setting up multilateral institutions such as technology transfer centres, patent banks and technological information centres;

(c) 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;

(d) 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 the World Intellectual Property Organization on studies to be carried out in this field;

9. Resolves to request the Secretary-General of UNCTAD and the Director-General of the World Intellectual Property Organization, 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 Economic and Social Council and the Trade and Development Board;

10. Invites the Secretary-General of the United Nations, in co-operation with the Secretary-General of UNCTAD and the Director-General of the World Intellectual Property Organization, to carry out a study with a view to bringing up to date the report prepared by the Secretary-General of the United Nations on the Role of patents in the transfer of technology to the developing countries and to devote special consideration in this study to the role of the

international patent system in such transfer, with a view to providing a better understanding of this role in the context of a future revision of the system;

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

(a) Assist such countries, for instance by the establishment and/or consolidation of information centres and applied technology institutes;

(b) Furnish on easier terms the specialized institutions of such countries with the results of research relevant to their economic development;

(c) Give special consideration to the terms, conditions and costs of transfer of technology to such countries;

12. Urges that international organizations and financing programmes, in particular the International Bank for Reconstruction and Development and the United Nations Development Programme, 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 paragraphs 3, 7 and 8 above;

### III. IMPROVING THE SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE

13. 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;

14. Invites the developing countries at the national level:

(a) To apply the provisions of paragraph 61 of the International Development Strategy for the Second United Nations Development Decade;

(b) 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;

(c) To readapt their education and training systems to the needs and demands of a technologically progressive developing economy society;

15. Further invites the developing countries at the regional and inter-regional level to consider action:

(a) 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, to set up regional or sub-regional information centres;

(b) To make appropriate institutional arrangements for the training and exchange of technical personnel;

(c) 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;

(d) 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;

(e) 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;

(f) To endeavour to co-ordinate their policies with regard to imported technology, including its adaptation to domestic conditions;

16. Recommends that the developed countries:

(a) 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;



(b) 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;

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

(a) Devote 0.05 per cent per annum of their gross national product to the technological problems of developing countries;

(b) 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;

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

19. Recommends that bodies in the United Nations system, including UNCTAD, within its field of competence as defined in part II of the programme of work which provides that it will supplement the activities of the bodies competent in this matter, and of the World Intellectual Property Organi-

zation, should:

(a) Bring to an acceptable conclusion the United Nations World plan of Action for the Application of Science and Technology to Development;

(b) Assist the developing countries to create the necessary infrastructure, as regards both institutions and personnel, for the development and transfer of technology;

(c) 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;

(d) Should support the regional economic commissions and the United Nations Economic and Social Office in Beirut in order to enable them to carry out fully their role in the application of science and technology to development within their respective regions;

20. Requests UNCTAD, within its field of competence, as defined in Part II of the Programme of Work which provides that it will supplement the activities of the competent bodies in this matter, to contribute to the studies being carried out on the outflow of trained personnel from developing countries which constitutes a reverse transfer of technology;

21. Recalls that as recognized in the preamble to Trade and Development Board resolution 74 (X), none of the existing

United Nations bodies deals exclusively with the specific question of the transfer of operative technology to developing countries and that, therefore, as decided in 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.

112th plenary meeting  
16 May 1972  
Santiago, Chile

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