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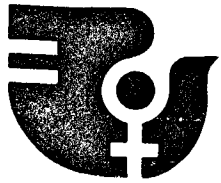
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CONFERENCE BACKGROUND PAPER

REPORT ON THE IMPLICATIONS OF SCIENTIFIC
AND TECHNOLOGICAL DEVELOPMENTS FOR THE
SITUATION OF WOMEN AND THEIR INTEGRATION
IN DEVELOPMENT: A POINT OF VIEW*

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I. THE IMPORTANCE OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS
FOR SOCIETY AND THE INTEGRATION OF WOMEN

1. "The scientific and technological revolution implies a radical change of the productive forces, of the entire technology of production, ... and of ways and means of organisation and management. Qualitative changes are also taking place in the position of those engaged in the production process, in their working conditions and the character of their work ... the scientific and technological revolution is by its very nature the modern way in which to develop the productive forces whose special character lies in the fact that science itself is becoming more and more directly a productive force. Because the scientific and technological revolution increasingly intellectualizes work, it strongly influences the different spheres of social life such as the development of the social structure, of education and culture, of demographic processes, daily life, the service sector, the thoughts and feelings of people and the interaction between society and nature." 1/
2. This development disrupts the old economic, social and political relations and human relationships and calls for a reorganization of the social structure, social relations and attitudes. This also implies a new status and position for women within the framework of development as a whole.

"Only with the aid of the achievements of the scientific and technological revolution can the material and technical basis be created which is a prerequisite for organizing the whole of social life to the benefit of all working people ... The application of science and technology makes it possible to eradicate hard physical labour step by step and to emphasize the creative character of work, to reduce and finally overcome, the essential differences between town and countryside, between physical and mental work. This is a process which greatly influences the variegated social relations.

"The application of modern science and technology has already created completely new possibilities for culture ... to be brought to all people, even in the smallest village ...

"The scientific and technological revolution not only has social consequences, but it is also one of the most important factors in actively influencing important social processes and social goals." 2/

3. Discrimination against women has many forms and is caused by a variety of conditions. It is the result of a historical process which affects the legal, economic and social status and the role of women, as well as customs, ideas and attitudes of both men and women.

1/ M. Mtshedlov and M. Patkevitch, "Der Kampf der Ideen in der gegenwärtigen Soziologie", Sowjetwissenschaft; gesellschaftswissenschaftliche Beiträge, vol. 3 (Berlin, Gesellschaft für Deutsch-Sowjetische Freundschaft, 1975), pp. 261-262.

2/ O. Reinhold, "Wissenschaftlich-technische Revolution und Gesellschaft", Einheit 30 (Berlin, East Germany), vol. 4/5 (1975), p. 491.

4. The different roles of men and women in the division of labour in production and living conditions which has developed over thousands of years must ultimately be regarded as the decisive and determining cause.

5. As women gradually lost their role in the production of commodities and men's role assumed even greater importance, all other relationships between men and women were also affected. Many factors such as property and legal rights, customs, education and culture reinforced the superior status and privileges of men while the inferior position of women was unquestioningly accepted.

6. In no part of the world, however, were women completely excluded from production, nor was there ever a strict division of functions between men and women with the former being producers while the latter raised children and engaged in home-making, except possibly for the middle classes in the eighteenth and nineteenth centuries.

7. For the great masses of rural women and female labourers that image was never true. That unrealistic image, a product of the ideas of the eighteenth and nineteenth centuries, a period in which the emergence of large industries ultimately separated production from homework, in many countries was a reflection of the social relations as understood by the middle classes.

8. Scientific and technological progress has made it possible to create working conditions which gradually reduce heavy physical labour in all spheres of the economy, including the industrial, agricultural and service sectors. It has also replaced them by a combination of physical and intellectual skilled work which produces higher productivity levels. It has therefore increased opportunities for women to be successfully employed and do creative work in all branches and at every level of the economy.

9. Scientific and technological progress has also brought about changes in family life by revolutionizing housework and the care and education of children so that women are freer to participate as workers and citizens.

10. At the same time the changes in working and living conditions and the resulting reduction in the amount of time necessary to satisfy elementary needs create many new demands for better education and higher professional standards, cultural activity, social and political activity and involvement in new spheres of work. This is true for men and women alike.

11. But all these new possibilities for women to develop their personality fully will not be automatically realized. They have to be accomplished against heavy opposition. It is not so much a question of the reluctance of men to give up their obsolete privileges, but the need to change attitudes fundamentally. The main task is to overcome the resistance of the powerful vested interests that want full freedom to maximize the effects of scientific and technological progress.

12. Inseparably linked are, on one hand, the level of scientific and technological advances, the social character of the productive forces, the social relations that are becoming more and more incompatible with their further

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development and on the other, the discrimination against working women which is still practised, even in advanced developed economies, which brings the vested interests thousands of million in extra profits each year through lower pay for women, by neglecting the principle of "equal pay for equal work".

"Under the conditions of a profit-making society and class antagonisms, the development of the scientific and technological revolution is spontaneous in nature. It significantly deepens the contradictions of capitalism. Under socialism, the scientific and technological revolution is carried out systematically. It steps up the improvement of social relations and all-round, harmonious development of the personality ... Public ownership of the means of production and a planned economy are essential for the full development of the scientific and technological revolution." 3/

13. The striving for women's liberation and full equal rights is therefore inseparable from the activities to create a new economic system as it was discussed at the sixth special session of the United Nations General Assembly in 1974. Hence the liberation of women from the manifold forms of discrimination, their full equality and integration into society is a social process which can greatly be encouraged by scientific and technological development but which cannot be completed by a simple decree of equal rights only. On the contrary, it has to be pushed forward and carried through by constant, active political and ideological endeavours to overcome obsolete views. To evaluate the degree of women's emancipation and their integration into social development, the following factors are decisive:

(a) The status and role of women in economy, Government and society, especially their role in production (while taking into consideration their special role in the reproduction of mankind);

(b) The education and vocational training of women;

(c) The re-education of men in the spirit of a new division of labour between women and men and the overcoming of the old concept of "women's" or "men's" work;

(d) The eradication of outdated habits, customs, behaviour, attitudes and ideas about the role of the sexes in all spheres of society and family life.

II. THE ROLE OF WOMEN IN THE ECONOMY

A. The nature of the problem

14. "Women make up more than a third of the world's economically active population and 46 out of every 100 women of working age (15 to 64 years) are in the labour force.

3/ M. Mtshedlov and M. Ratkevitch, op. cit., p. 262.

"The relative importance of women in the total labour force in the eight standard major areas of the world varies considerably. The lowest figure is found in Latin America with about 20 per cent, Africa, South Asia and Oceania have about 30 per cent, while in Europe and Northern America about 35 per cent of all persons in the labour force are females; East Asia has a rather high percentage (about 39)." 4/

It is necessary to realize that the ILO statistics cited do not take into account women who work within the framework of the family in agriculture and traditional work at home in the developing countries so that the low percentage given for working women in Latin America, Africa etc. is probably not entirely accurate.

15. The statistics show that the integration of women into the economy in the developed and the developing countries has reached a fairly advanced stage. But this positive effect of scientific and technological development is largely negatively influenced by three factors to be found to some extent in the industrialized countries of Western Europe and North America and in the developing countries. First, many women are employed as unskilled or semi-skilled workers or are working in agriculture as part of the family labour. They form the labour force which is in the lower pay categories, even when the law provides for "equal pay for equal work". They are also the first to lose their job and are unemployed in greater proportions than men during recessions. Secondly, the traditional female jobs and branches of the economy where women are numerically predominant, such as the light industry and, most especially, the textile industry, the service sector (for example, health services, gastronomy, hairdressers and beauty salons, trade, education, commercial and administrative services and postal services and telecommunications) are occupations which are, as a whole, not as well paid as the traditional "male" jobs and work in branches of production where mostly men are employed. Employment in "female" jobs and branches of work is therefore of little status and is avoided by men.

16. In the past, the exclusion of women from certain branches of the economy such as mechanical engineering, heavy industry and chemical industry was justified. Today, however, the scientific and technological progress reached during the past decades has brought a change, because hard physical labour and work which is dangerous to health is increasingly replaced by mechanization or automation or by other changes in the total technological process so that work assumes a more intellectual or mixed character. It is therefore possible today for masses of women to work in almost all branches of industry and all jobs, and progress in this direction is particularly evident in the socialist countries.

17. The third factor is that the full integration of women into the economy at all levels and in all forms of work is hindered by the fact that there is a tremendous lag in their vocational training compared to that of men. In many countries, that lag is fostered by vested interests; many women who are employed as semi-skilled workers and have acquired high skills in industrial practice over the years are substantially underpaid so that the employer reaps great sums in extra profits. The same holds true for traditional "female" jobs.

4/ International Labour Organisation, Equality of Opportunity and Treatment for Women Workers, Report VIII for the sixtieth session of the International Labour Conference (Geneva, International Labour Office, 1975), p. 3, p. 7.

18. The lag in the general education and vocational training of women has had the effect in many countries of having only a few women reach high-level positions. They are mostly found in high-level positions only in those branches which are usually reserved for women. Even there, in the textile industry, in trade, banking, the health services, in education and the various other service branches, the highly qualified jobs and top positions are largely held by men, because there is still substantial prejudice against women holding those posts.

B. The present situation

19. Report VIII of the International Labour Organisation assesses the consequences of scientific and technological developments on the present position of women in the economy in the following way:

"On the positive side an expansion and improvement of employment opportunities for women seem to have occurred, opening more job possibilities and a wider range of occupational choice for them ... On the negative side, there is a certain risk that technological progress may pass women by unless they are brought more directly into the mainstream of change and are more directly exposed to the needs and requirements of a technological and scientific era." 5/

20. The above-mentioned ILO report calls special attention to the combination of negative factors in the developing countries:

"In most of the developing countries the impact of technological and scientific advance on women has been less direct and heavy ... there are persistent cultural constraints on the employment of women which tend to confine their contribution to economic life within unduly narrow limits ...

"In the developing countries there is a heavy concentration of women in work requiring little or no education or skill (e.g. domestic service in Latin America, construction work in Asia, petty trading in Africa).

"This means that women tend to be at the bottom of the occupational ladder and to suffer the hardship that goes with this. There is admittedly a seepage of educated women into teaching, nursing, the public service, social and clerical work and into commerce and other activities in the service sector, including hotels, tourism and catering.

"In the less developed countries the great bulk of the female labour force is still in agriculture. In most of the industrialized countries the percentage of women in agriculture is low (under 10 per cent in many cases and between 1 and 2 per cent in the United Kingdom and the United States). In Africa 80-90 per cent of the women live and work in rural areas and they perform three fifths to four fifths of the agricultural work of the continent. 6/

5/ International Labour Organisation, Equality of Opportunity and Treatment for Women Workers, pp. 19-21.

6/ Ibid., pp. 67 and 12.

"There is a similar situation in Asia and Latin America. Rural women work in conditions of real hardships, with primitive traditional tools and little or no exposure to modern methods of farming. Drudgery in the fields is combined with household drudgery, multiplied by the lack or inadequacy of water and of cooking facilities and the absence of child-care services. When work in agriculture is modernized and partially mechanized, women are often excluded from learning the new techniques; women in agriculture and in rural areas are seldom covered by social legislation of any kind and cannot even avail themselves of the usual maternity leave." 7/

21. The situation is different for women in the rural areas of the Soviet Union, the German Democratic Republic and other East European countries. Before the creation of a socialist society, the majority of women in the rural areas of those countries also lived in very unfavourable conditions, working as unskilled rural labourers or helping as family members to run a small farm. The land reform and the formation of agricultural co-operatives made possible the introduction of modern production methods by using the latest advances in science and technology in agriculture. In the German Democratic Republic and other socialist countries that process was not only accompanied by vocational training schemes for girls and boys, but also by a step by step retraining of adults. 8/

22. Day-care centres for children (crèches, kindergartens, after-school centres and central schools) were provided, as well as facilities to make housework easier (work canteens, laundries, etc.). The infrastructure of the villages (electricity, water pipes, sewerage and waste disposal, etc.) was also improved and great attention was given to housing construction and novel village planning schemes offering greater opportunities for cultural and leisure-time activities.

23. Because of such improvements, the general education and vocational training of women in rural areas improved quickly and the participation of women in public affairs and in economic management intensified rapidly.

24. In the German Democratic Republic, 66 per cent of all women working in agriculture had completed their vocational training in 1973.

25. In the German Democratic Republic women make up more than 50 per cent of all apprentices in the fields of farming, gardening, animal husbandry. Women operate the cultivation, planting and harvesting machines as a matter of course just like men and perform the same work in all industrialized and mechanized facilities in the large animal breeding stations with thousands of cattle and

7/ Ibid., p. 67.

8/ The author uses the German Democratic Republic repeatedly as an example because, as a citizen of that country, she is best acquainted with its conditions.

the necessary feeding and milking installations, with tens of thousands of pigs and hundreds of thousands of chickens, ducks, turkeys, etc. They work eight-hour shifts like the men and receive the same social and health protection and insurance benefits as women in industry.

26. There is a similar combination of positive factors for employment, with special arrangements for the promotion of women working in industrial and other fields in socialist countries.

27. The recent ILO Report says:

"In Eastern Europe women are encouraged to exercise the right to work and they continue to play a highly important role in economic life." 9/

28. According to the same source, women make up the following percentage of the work force in these countries:

Bulgaria	46 per cent in 1971
Czechoslovakia	47 per cent in 1969
German Democratic Republic	49 per cent in 1973
Hungary	42 per cent in 1971
Poland	40 per cent in 1972
USSR	51 per cent in 1971

29. Between 1955 and 1973 the percentage of women in the work force in the German Democratic Republic changed as follows: 10/

	Percentages	
	<u>1955</u>	<u>1973</u>
Total	44	49.1
In industry	42.7	50.4
Agriculture and forestry	51.3	43.7
Transport, postal services and telecommunications	28.7	36.8
Trade	59.0	70.7
Construction industry	9.0	14.0
Non-productive fields (public services)	64.2	71.7

9/ ILO, Equality of Opportunity and Treatment for Women Workers, p. 12.

10/ Statistical Yearbook of the German Democratic Republic, 1974 (Berlin, Staatliche Zentralverwaltung für Statistik), p. 59.

30. The difficult process of training women for jobs and activities which were up till now reserved for men is in full swing. So is the fact that more women are becoming qualified for managerial and high-level positions (see chap. III below).

31. In all the socialist countries mentioned, systematic efforts are being made to solve the problems which hinder women from taking full advantage of their rights (rights which they are also formally granted in most of the developed market economies). Women are not only being offered equal rights in the economy, Government and society but also equal conditions so that they can utilize their talents and abilities and participate fully in the remodelling of society. At the same time all efforts should be made to ensure that the new social developments do not hinder women from carrying out their specific tasks as mothers in the reproduction of mankind.

32. Not to disregard this connexion is all the more important because, as the recent ILO Report points out:

"Over the past decade the trend towards an increase in the number and proportion of married women in the work force has been accentuated.

"The increase in the number and proportion of married women in the work force has been accompanied by an increase in the number and proportion of working mothers." 11/

That general trend is particularly strong in the socialist countries:

"In the USSR and the Eastern European countries the number of married women in employment and their proportion among all economically active women are both very high ..." 12/

33. In the developed market economies the solution of the numerous material and ideological problems which the majority of women have to face in order to combine their participation in a modern economy, in public affairs and society with their role as mothers is usually left to private initiative.

34. In the socialist countries, those problems are being solved with increasing success by the concerted activities of the Government and society as a whole (see chap. IV).

11/ ILO, Equality of Opportunity and Treatment for Women Workers, pp. 14-15.

12/ Ibid.

III. SCIENTIFIC AND TECHNOLOGICAL PROGRESS, GENERAL EDUCATION,
VOCATIONAL TRAINING AND THE INTEGRATION OF WOMEN

A. The revolution in education caused by scientific and
technological progress

35. The speed with which human knowledge is extended has greatly increased in the last few decades. It is estimated that our knowledge is doubled every decade and that previous knowledge often becomes out of date within a few years because of new research findings, discoveries, inventions or new theoretical knowledge.

36. Characteristic of the first half of our century were revolutionary changes in mathematics, physics, chemistry and technology. In the second half of the century, the further development of those branches of human knowledge has been accompanied by an explosion of our knowledge and research results in the spheres of biology, medicine, psychology, sociology and economy.

37. The old barriers between natural and social sciences have broken down. New special branches of the sciences constantly spring up which combine fields of research bordering on each other or which like cybernetics, are revolutionizing methodology in all scientific branches. Mathematics have found their way into all fields including the social sciences. At the same time, technological developments in mathematics (computerization) provide ample opportunities to minimize the routine and monotonous aspects of intellectual work.

38. Such changes have, among others, the following consequences. First, the absolute number of people needed for highly qualified scientific and technological work and research has multiplied in the past few decades and will continue to grow rapidly.

"During the past ten years the number of students entering higher education has multiplied very rapidly in all industrialized countries, and in most countries the number of post-graduate students has increased even faster. 13/

Secondly, it is becoming more and more necessary to put scientific knowledge to practical use in society, particularly in economic life. Science and technology are made directly a productive force. Because of this the relative number of highly qualified scientific and technological workers in the work force required in production and in all areas of social life is also growing.

"... it is true that the demand for people with professional and technical qualifications has grown much faster than the demand for the general labour force". 14/

13/ Organisation for Economic Co-operation and Development, Science, Growth and Society, report of an ad hoc group (Paris, OECD, 1975), p. 72.

14/ Ibid.

Finally, general education changes rapidly in scope and content as demands increase. The mathematical and scientific element in general education has gained in importance along with technological, economic and sociological knowledge.

39. The numerous discussions about the content of general education and the repeated educational reforms that have taken place in a number of highly industrialized countries are proof of that process of constant change. An expansion of the scope of general education in most highly industrialized countries, but most especially in the socialist countries, has led to an extension of compulsory education and to the incorporation of pre-school age children in the educational system. General basic education begins at the primary stage and is being continued particularly in the secondary stage. Combined with the beginning of specialization in preparation for vocational training and the learning of elementary vocational skills (polytechnical education), it is carried on into vocational training.

40. The constant changes in production techniques and in the scientific organization of work in different branches of production demand flexible vocational training to ensure the adaptability of the worker. Specialized vocational training has to be carried out in the factories in accordance with the actual scientific and technological level of production. The constant changing of means of production and production techniques demands organized, life-long adult education.

41. The implications of scientific and technological progress have made old forms of education outmoded and created a pressing need in all countries to set up an integrated system offering a general education (primary and secondary levels) to all, free of charge, to be followed by free vocational training and vocational retraining available to all adult workers. Equal opportunity should be available to enable capable adolescents to obtain higher education in order to enter highly qualified scientific and technological employment, as well as posts of responsibility in political, economic and cultural life.

42. The inclusion of all girls into such a system of education and training from earliest childhood and into large-scale training and retraining schemes for adult women not only provides the necessary pre-condition for their integration into society and for the all-round development of their personality, but is also a vital question for the whole of mankind, because, taking into account the developments just described, society cannot continue to ignore the talents and capabilities of half of mankind.

43. In order consciously and completely to incorporate women in the educational process and to ensure their vocational training, it is not only necessary to overcome material hindrances but also many prejudices and myths. Today in most countries girls are brought up with the idea that their principle if not exclusive role is to be a wife, mother and homemaker. Children's literature, school books and the mass media reinforce that outdated concept and influence the growing generation of girls as well as their parents.

44. Along with eradicating those prejudices and old-fashioned ideas, special promotion schemes must be implemented from the very beginning to enable women to

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harmonize their tasks of giving birth to children and their role in the family with the tasks arising from training and employment.

45. In the developing countries special measures should be taken to help adult women to overcome quickly the disgraceful colonial heritage of illiteracy. In the developed countries special measures should be taken to enable them to improve their general education during their vocational training. It is of special importance during the training period to provide facilities which relieve married women of time-consuming housework and help mothers in the care and education of their children (for example child-care services, such as day nurseries, kindergartens and after-school centres).

B. The present situation

46. The fact that women do not have equal access to vocational training and higher education is one of the major obstacles in the developed market economies.

47. In most western European and North American countries, there is equal access to education at the primary level, but even at that level there are great differences in the quality, owing to the existence of both public and private schools of various types. Secondary education differs widely in most of these countries because of different types of schools and curricula and because some schools are public and some private. There is often discrimination against girls in education partly because of the lack of co-education. Very often, there are no government funds allocated to supply school books and teaching materials free of cost. In some areas there is a lack of educational institutions and qualified teachers.

48. Usually little is done to train girls for so-called "men's" jobs and the training in traditional "women's" occupations such as saleswomen, clerks or administrative jobs is carried out completely independent of whether or not employment will be possible. In the socialist countries, on the other hand, most trainees already have signed a contract with their future place of work or their employment is guaranteed according to plan. In developed and developing market economies many working girls and young women take up work as unskilled or semi-skilled workers in industry, agriculture and in the service sector. During their entire working life they may remain in that position and are therefore paid the lowest wages or salaries even when they are officially and legally supposed to receive "equal pay for equal work".

49. Although a relatively great number of young women are university or college graduates in the highly industrialized countries, the great majority of them study for what are traditionally women's professions like teaching, medicine, etc.

50. Very few women rise to decision-making positions in science, economics or politics. This is especially true for married women and even more so for mothers;

51. The recent ILO report states in this regard that:

"In most countries girls still tend to drop out of school and university earlier than boys. This remains true, for example, in a good many of the more

developed countries and in almost all the developing countries despite considerable advances in the education of girls. A further factor affecting the drop-out rate is that, where parents have to make a choice between investing in the education of a girl or that of a boy, the preference is likely to go to the boy. And often an older daughter is needed at home to look after the younger children." 15/

52. Unquestionably, ideology alone will not improve women's education and vocational training. Existing employers have material interests in maintaining a large reservoir of cheap labour which can be quickly laid off when the economic situation worsens.

53. As far as the incorporation of girls in education schemes is concerned the developing countries have made progress in primary school education, although not all girls in Asia and Africa have been involved so far. The participation of girls in secondary education is still too low (between 30 and 40 per cent in Africa and Asia).

54. Because of the negative results of colonialism in most countries, only a start has been made in creating an educational system and organizing vocational training. But women cannot benefit to the same extent as men from such measures unless conditions are created from the very beginning which make it easier for girls to go to school and receive vocational training or, in the case of adult women and mothers, to overcome illiteracy and make up for the educational lag in order to be able to acquire special skills and professional knowledge. According to recent figures, about 27 per cent of all adult women in Latin America, 56 per cent in Asia and over 80 per cent in Africa are illiterate (E/CONF.66/3/Add.3, table 4).

"Figures fail to reveal the gravity of the educational situation of girls because they do not show the drop-out rate, which is considerably higher for girls than for boys at all levels of the educational system. In many developing countries girls complete only two or three years of schooling, not enough for the retention of literacy or numeracy. Needless to add, the position is always worse in rural areas, especially in the poorest ones.

"The reasons for this are the usual ones: shortage of educational facilities and of teaching staff, family poverty, the difficulty of combining school with seasonal agricultural and other rural work, the cost of education even when 'free', the irrelevance of curricula, the care by girls of younger children, early marriage and parental disregard for the education of girls and suspicion of its practical value. The inability of some developing countries to extend education to all children has meant that girls have been the first to suffer." 16/

15/ ILO, Equality of Opportunity and Treatment for Women Workers, p. 22.

16/ Ibid. p. 68.

55. Up until now the socialist countries are the only ones in which the Governments, regional departments and social organizations have invested a significant amount of work and money to create an integrated educational system which is open to everyone, free of charge and includes nurseries and kindergartens, as well as primary and secondary education and vocational training for all young men and women.
56. All talented people are given the opportunity for higher education even if, as in the case of married women, mothers or older women, additional measures must be taken to make housework easier or assist them in child care.
57. Let us take the German Democratic Republic as an example; a law was passed there in 1965 on an integrated socialist educational system embracing pre-school education in crèches (1-3 years), kindergartens (4-6 years), followed by general polytechnical schools (grades 1-10, that is 7-16 years) for all children and adolescents. After polytechnical school there is a two to three year obligatory vocational training combined with continued general education for both sexes. Those young people capable of scientific or technical specialization or other highly qualified work advance to higher educational level, that is, technical schools or after college preparatory classes (grade 11 and 12) go on to university.
58. The constant public campaigns in favour of higher educational standards, vocational training and life-long education has created a completely new attitude among girls, their families and public opinion so that today, in that country, vocational training appears to a girl as a necessary pre-condition for her life as an adult.
59. In the German Democratic Republic and in the other socialist countries not only fewer girls drop out compared to boys, but girls on the whole show higher achievement levels in school than the boys until they leave the school.
60. Every effort is made to enable older women (over 40 years of age), who have not received a 10-year polytechnical education and subsequent vocational training, to catch up systematically both in their general education and professional skills.
61. Owing to adult education, 52 per cent of all female workers and salaried employees have already completed vocational training, and, in agriculture, the figure is 66 per cent.
62. There are many different forms of adult education, including on-the-job training (with full pay), special classes for women, correspondence courses and evening classes, for which the firms and the Government jointly provide financial aid in keeping with the law. In order to make it possible for mothers to pursue university studies or attend adult education courses, large sums are appropriated for the construction and maintenance of child-care institutions. Parents only pay for the cost of meals in the crèches, kindergartens and after-school centres. In cases where the mother is alone or where there are many children, there is no charge for those child-care centres.

63. The pattern of distribution of girls and women under vocational training or studying at universities in the various trades, professions and science branches has changed widely as compared with the past. Nevertheless, there are still spheres where neither men nor women predominate. (It remains to be seen what proportion of men or women will be regarded as optimum or desirable to be engaged in work in the different spheres of modern social life.)

64. Two examples of the success of the systematic, interconnected measures for women's education to qualify them for highly skilled activities and posts of responsibility in politics, the economy and culture should be mentioned.

65. In the Soviet Union the percentage of women working at the professional level who hold responsible posts has risen enormously. Fifty-nine per cent of all workers with college or university education are women, as well as 72 per cent of all doctors, 71 per cent of all teachers, 60 per cent of all economists and 33 per cent of all civil engineers. More than half a million women are works managers, run state-owned farms or agricultural co-operatives, supervise building sites or hold leading posts in the administration. Forty-seven per cent of all scientists and scientific assistants are women.

66. In the German Democratic Republic, 40 per cent of all university graduates and 43 per cent of all college students are women.

67. Women make up 32 per cent of all the members of the Volkskammer (the parliament of the German Democratic Republic). In the regional assemblies they comprise 36 per cent of the deputies, and in district, city, and village assemblies they account for 40 per cent. Twenty-one per cent of mayors of all cities and communities are women, as well as 43 per cent of all trade union officials, 25 per cent of all teachers and 36 per cent of all judges.

IV. THE INFLUENCE OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS ON THE ROLE OF THE WOMEN IN THE FAMILY

68. The full integration of women into the development of society as a whole is only possible if their work outside the home and their contribution to society can be co-ordinated with their role in the family.

69. This, however, requires basic changes in the family's way of life and in the living conditions. The traditional distribution of roles and the division of work between men and women in the family, the traditional forms of homemaking and raising the children which are almost completely the preserve of the woman are an important obstacle to the development of her personality and her integration into society. The propagation of false ideals with regard to the principal role of women as wife, mother and homemaker in the mass media and other institutions influencing public opinion in the developed countries of Western Europe and North America produces and fosters resignation and lack of confidence on the part of women in their own abilities and possibilities in professional, political and cultural life.

Liberating women from household drudgery

70. The traditional forms of individual housekeeping with their time-consuming and partly heavy physical labour including laundering, cooking, cleaning, and even carrying water in some cases, making and keeping clothing, bedclothes and shoes in good repair, etc. can, thanks to scientific and technological developments, be replaced to an ever-increasing extent by the industrial production of consumer goods or by services provided at an industrial scale such as community laundries, ready-to-serve foods, restaurants, etc. Even those tasks which still have to be done at home can be made easier and less time-consuming through the use of wash-and-wear textiles, prepared and frozen foods, and through the use of mechanized household appliances.

71. The full use of those new possibilities to lessen and alleviate the burden of housework, however, has been held back by the fact that it depended on individual initiative and the financial means of each family.

72. But it is an obligation of Governments and society to create, systematically and according to plan, the material prerequisites with regard to the social infrastructure, to town-planning schemes and housing construction; that is, economic planning must be harmonized with social planning.

The influence of biological and medical progress

73. In the fields of biology and medicine scientific and technological progress has had the following important consequences for the liberation of women:

(a) Medical research and progress in the public health services in the last decades have made it possible to check or eliminate widespread diseases and epidemics. Infant and child mortality rates have dropped considerably and the life expectancy of men and women has increased;

(b) Similarly, the development of secure means of contraception has helped to make family planning and birth control feasible and thus to liberate women from over-fertility and its negative consequences;

(c) The growing scientific possibilities for the prevention or early detection of health hazards for women working in modern industry and agriculture; for expectant and nursing mothers, for children and adolescents make it possible to take appropriate measures for safety at work, medical control and health care;

(d) Progress in the science of nutrition, in agricultural production methods and in the production of food-stuffs makes it not only possible to supply all people with sufficient food but also to provide special foods for expectant and nursing mothers and for children;

(e) If families other than those which are well off are going to benefit from these scientific advances, it is necessary to build up a unified, public

health system, including prophylactic care, therapy and follow-up care, available free of charge to everybody in urban as well as rural areas.

Changes in the care and education of children, in the relation
between men and women in the family

74. Education through planned and systematic teaching in schools and institutions for vocational training is a generally recognized necessity today. But the care of children and their education in pre-school age institutions is still not regarded as a necessary prerequisite for the integration of women into development.

75. The concept that only the mother can properly care for a child in its first years of life was upheld for a long time by medical doctors and psychologists and even now it is still widely established and energetically advocated. But the progress made in health care, paediatrics and early education in the past few decades and the experience gained in the socialist countries is ample evidence that a combination of family upbringing and planned, scientifically substantiated group education is to the benefit of the general development of the children as a means of providing, together with the home, an enrichment of their environment and promotes their socialization.

76. Well-equipped and competently staffed crèches and kindergartens in residential areas make it possible for mothers, even of small children, to pursue their trade or profession, their studies or social activities without neglecting their duties as a mother. In the same way day-care centres in the schools also take care of pupils while their parents go out to work.

77. Because of the changes in the living conditions of the family made possible by scientific and technical progress, the relations between husband and wife must undergo change as well. The image of the "father" as someone who is almost never home, who is a pampered guest coming home just to relax, and who plays the part of "discipliner" of the children is just as distorted an image of real married life and family relations as the old "housewife" concept.

78. Only when both consider themselves equal partners with equal rights, when both help support the family, share the housework and the care and education of the children on equal terms, only then can women become truly free and equal. Only then will the last fetters of millennium-old slavery be broken and real human relationships between men and women be established.

The social infrastructure and the status of women

79. "Many nations are at present facing urgent and pressing social and economic problems that demand solution, if the very survival and well-being of their citizens is to be safeguarded. These include: high rates of unemployment and underemployment; mass poverty; rapid population growth; food shortages;

malnutrition and starvation; underdevelopment; inadequate school and health facilities, lack of trained manpower; shortages of housing and lack of amenities; and undesirable side effects of rapid urbanization and social change. Each one of these problems is complex in itself, and their solution is rendered more difficult because they are interrelated and often found simultaneously, the presence of one aggravating the other. There is growing evidence, moreover, that the status of women and many of these problems are interrelated and that improvements in the situation of women may be a vital factor in the alleviation of the problems." 17/

80. In many highly industrialized as well as developing countries, the existing political, economic and legal conditions stand in the way of a planned rearrangement of social relations in the interest of the liberation of women.

81. In market economies, private ownership of land, speculation in real estate and housing construction by large building firms for the purpose of private profit obstructs non-profit-making town-planning and housing schemes that could offer all inhabitants modern and comfortable housing in towns and villages.

"In most developing countries there is an increasing gap between production and the demand for housing. Underlying all associated statistics is the growing urgency of providing adequate shelter - a vital human need. In developing countries, a combination of adverse factors exacerbates the shortage more than in advanced countries; among these factors are the rapid increase in population growth, meteoric rates of urbanization and the lack of proper repair and maintenance of existing housing stock.

"The urban population growth is 6 per cent per annum in many developing countries and in some cases exceeds 10 per cent. Given the inadequate provision of urban facilities in these countries, the future trend is towards a continuous, and inexorable deterioration of urban life: congestion, pollution and general squalor and disorder." 18/

82. In the USSR and other socialist countries in Europe, the Second World War brought about tremendous destruction of cities and communities. In the German Democratic Republic, reconstruction was carried out along lines of social planning from the very beginning mainly by Government and local housing authorities. In connexion with communal housing schemes, measures were taken gradually to alleviate housework by establishing and expanding the service sector, equipping apartments with modern facilities such as central heating, bathrooms, warm water boilers, etc. Today in every new residential area the construction of house

17/ "Draft international plan of action: prepared by the Secretariat" for the meeting of the Consultative Committee for the World Conference of the International Women's Year, 3-14 March 1975 (E/CONF.66/CC/2), para. 12.

18/ World Plan of Action for the Application of Science and Technology to Development (United Nations publication, Sales No. E.71.II.A.18), pp. 205 and 214-215.

building is accompanied, by the construction of such facilities as crèches, kindergartens, schools and after-school care centres, laundries, supermarkets and shops, restaurants, playgrounds and leisure time facilities for adults and children. Rent only takes a small percentage of family income, and large families pay even less because they receive government allowances.

83. In addition, work canteens, where lunches are prepared according to scientifically determined nutritional standards at low cost, alleviate the burden of working women. Most working people take advantage of such facilities.

84. In rural areas, local government together with the agricultural co-operatives take care of establishing and expanding the infrastructure and public services on modern lines. All villages are supplied with running water and drainage for every house, with laundries and canteens which prepare lunches similar to those available in factory canteens in towns.

Safety at work and health protection for women, mothers and children

85. As a result of international conventions and such United Nations organizations as the ILO, WHO and FAO and in consequence of the struggle waged by the trade unions over decades for measures to be taken in the fields of safety at work and health protection, there is protective labour legislation in many highly industrialized countries for women working in industry and there are also social security measures (see E/CONF.66/3 and E/CONF.66/3/Add.1).

86. Such measures usually exclude women working in agriculture or in the service sector. The absence of a unified national health service and complete coverage in a social security system in some industrialized countries that is guaranteed by the State has an especially bad effect on the situation of working women in the lowest paid groups.

87. Progress has been made in the protection of expectant and nursing mothers and in health protection for children and adolescents in various market economies, particularly in France, the United Kingdom and the Scandinavian countries. The effectiveness of that protection, as regards regular pre-natal supervision, free hospital delivery, regular health care for nursing mothers, infants, pre-school and school children depends mostly on the funds available in individual communities, the availability of the respective staff in the public health service and the funds provided for medical care for less well-off families through social security or public welfare services.

"While everyone has an undeniable right to health, conditions have often precluded the actual enjoyment by women of this right equally with men. The situation becomes more accentuated in societies with considerable shortages of health personnel and facilities and constitutes a high cost to the family, society and development by impairing the productivity of women. Women also need special care during pregnancy, delivery and lactation.

"Attention should be given to the development of comprehensive simple community health services in which the community identifies its own health needs, takes part in decisions on delivery of health care in different socio-economic contexts and develops primary health care services within easy access of every member of the community. In the development of primary health care for the entire population, provision should be made to ensure that women have the same rights and access to that care as men." 19/

88. The application of the latest medical findings, especially with regard to industrial health, the prevention of health damages in new industrial branches that may be caused by the use of new raw materials, production techniques or chemical processes, as well as in agriculture and residential areas, is in its initial stages in the industrialized and the developing countries of the western hemisphere. The special needs, if any, and the protection of working women and mothers have been examined or considered in daily practice least of all.

89. In the socialist countries there is a well developed and co-ordinated system of research on industrial health to discover possible negative effects of new scientific or technological developments on working conditions for women at an early stage. Factory health services are comprehensive, so that medical establishments are also found in agriculture and in the service sector. They offer free medical treatment and organize medical check-ups at regular intervals.

90. Special supervision is compulsory for pregnant women, mothers of infants and small children, for adolescents, for the elderly, and for women whose jobs involve health hazards. The job of the medical staff is to inspect and control the sanitary conditions at the place of work together with those responsible for occupation and technical safety.

91. The specific demands made in the draft international plan of action for health protection for girls, women, mothers and their children have been largely realized for the urban and rural population in the socialist countries. 20/

Child care facilities

92. It has been noted that:

"Despite the steady increase in the number of married women workers with young children and despite the growing recognition of the importance of pre-school education from the standpoint of child development, the infrastructure of child-care services and facilities needed to ensure the welfare of the children and the peace of mind of their parents has in most countries been slow to respond to new needs. There is a shortage of such services and facilities almost everywhere for reasons which are not far to seek but which are very complex, whether they are economic and financial, political and ideological or cultural and social."

19/ "Draft international plan of action" (E/CONF.66/CC.2), paras. 89-90.

20/ Ibid., paras. 84 and 91.

"In the USSR and the socialist countries of Eastern Europe, the development of child-care facilities has reached a high level. This is a reflection of the social philosophy of these countries in respect both of the equality of the sexes and of the care and up-bringing of children. In the USSR, in 1971, over 9.5 million children attended pre-school establishments and nearly 5 million went to seasonal kindergartens or other part-year establishments; these are publicly maintained and the parents pay only a small share of the cost, the amount depending on their earnings and on the size of their family." 21/

93. The German Democratic Republic has greatly extended its network: by 1974 there were places for some 80 per cent of all children aged from 3 to 6 and for about 42 per cent of those under 3 years of age.

The overburdening of working women in the family

94. It can also be concluded that, although progress has been made in a number of countries towards a greater sharing of parental responsibilities in the home for domestic tasks by other family members, the heaviest burden continues to remain with women in almost all countries. Recent studies of the time budgets of men and women workers show that the time spent by women on household tasks far exceeds that spent by men on such tasks. Married women workers with children are the worst victims of this overwork.

V. PROPOSALS FOR ACTION

95. The historical process of the integration of women throughout the world has two aspects:

(a) The material aspect, that is, the change in women's social being, their all-round integration into society and, most of all, into the economic development at all levels, and the change of their way of life within the family;

(b) The spiritual aspect, that is, the change in women's views, ideas and attitudes, as well as in social consciousness as a whole towards the role of both sexes.

Both processes, material and spiritual, influence one another, are interdependent and interact with each other while in the long run the changes in the material existence of women are decisive.

96. The real as well as the spiritual processes of women's liberation have progressed most, as has been indicated, in the socialist countries because:

21/ International Labour Organisation, Equality of Opportunity and Treatment for Women Workers, p. 61.

(a) There exists agreement between the social character of the productive forces and the social character of the ownership of the means of production. Because of that unity the positive results of scientific and technological progress are speedily translated into practice in economic and social planning to an ever growing extent without being hampered by private profit interests and negative aspects, as they become evident, are being prevented or eliminated;

(b) In building socialism, general social progress has been connected from the very beginning with the conscious encouragement of women's integration into every sphere of social life, as a reflection of the social philosophy in respect of the equality of sexes, and

(c) The Government, social organizations and the mass media consistently pursue the goal of changing people's ideas and concepts regarding the role and status of the sexes and the necessity of achieving absolute equality and partnership between man and woman.

97. The great successes achieved in the actual integration of women into society and the eradication of old prejudices, habits, ideas and modes of behaviour among men and women in the 30 years since liberation from fascism are convincing proof that in other countries which today are still less developed, quick progress can also be made in the integration of women if scientific and technological advances are applied in a systematic and positive way. Changing economic and social conditions, as well as the attitudes and views of people is not easy but the more determined and well organized women are, the more quickly can that great goal be reached.

98. Only by taking systematically into account the powerful new impulses which science and technology exercise on the productive forces and labour productivity in the rearrangement of the social conditions and the improvement of the working and living conditions will it be possible to avoid negative consequences and exclude possible dangers to peace in the world, to human life and the environment.

99. The full participation of women is imperative for the renewal and further development of the social order in favour of peace, equity and social justice, integrated central economic and social planning, combined with the political and professional education of the people to qualify them for their task in the joint efforts to attain those goals.

100. In the International Women's Year and especially at the World Conference at Mexico City, the Governments of all nations should be called upon to make their contribution by deciding on effective measures towards the full integration of women into society and the elimination of all discrimination.

101. The World Conference should therefore take steps:

(a) To ensure the recognition of the relationship between scientific and technological progress, social and economic planning and the integration of women in the proposed Convention on the Elimination of Discrimination against Women;

(b) To include all necessary measures for the integration of women in development in follow-up resolutions to be presented to the General Assembly at its thirtieth session. Such resolutions should be accorded the same importance as the Charter of Economic Rights and Duties of States adopted by the General Assembly in its resolution 3281 (XXIX) of 12 December 1974, the World Plan of Action for the Application of Science and Technology to Development and similar plans;

(c) To encourage countries, as well as the regional and international organizations within the United Nations system, to compile comparable statistics and documentation and make them available at regular intervals. Such information and data should analyse precisely the influence of scientific and technological progress on the status of women and their integration into society, as well as their participation in scientific and technical life.
