

## Health in the third world

the role of international co-operation

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## HEALTH IN THE THIRD WORLD: THE ROLE OF INTERNATIONAL CO-OPERATION

*Luiz Pereira da Silva*

Expectations of the benefits from the introduction of new biotechnologies on the health of people in the third world is reflected in the immense publicity given to them not only in the specialized press but also in the mass media.

Therefore, it is not necessary here to re-emphasize the new possible applications to health sciences provided by DNA recombinant techniques, molecular genetics, monoclonal antibodies and other modern techniques for the diagnosis, prevention and treatment of human diseases.

Taking for granted that most if not all of the people in the audience are aware of these potential benefits, the speaker is more inclined to discuss a few general points related to the introduction of new biotechnologies in the third world. By assuming an 'against the stream' attitude, the speaker is conscious of the fact that he will probably be considered as having conservative views. He accepts this blame and asks for the comprehension of his younger colleagues.

The speaker will try to define some problems which he thinks are specific to third world conditions, to raise some questions on the introduction of new biotechnologies and to develop arguments in favour of particular policies he thinks must be followed by governmental agencies, either national or international to provide a rational basis for the use and development of biotechnologies. Finally, he will try to define the type of international co-operation that he thinks could contribute to accelerate socio-cultural progress in the third world and would lead to an improvement in the infra-structure necessary for the development of health policies.

### *Specificity of Third World Problems*

The first thing to define is the existence of specific problems of health in the third world. They consist first in the nature of the health problems: malnutrition, high incidence of infectious and parasitic diseases, high rates of maternal, neonatal and infantile mortality, low quality and

insecurity of housing and working conditions, with high incidence of accidents. Most of these problems, which drastically decrease the expectation of life and seriously deteriorate the living standards are determined by social and economical structures. Medical care measures are only of limited effect and correspond to the use of traditional products like antibiotics and chemical drugs.

The second important feature of health problems in the third world is the inadequacy or absence of the structures necessary to provide health care: hospitals, welfare centres, and the low (or insufficient) qualification of the staff responsible for health care. In respect to the subject discussed here, namely the introduction of modern biotechnology in health sciences and in medical practice, one important deficiency is the absence of national pharmaceutical and chemical industries for drugs and pesticides in most countries of the third world and the weakness or absence of a biological industry for vaccines, sera and blood products and derivatives. As a consequence, all the medical measures of the health policies in the third world, from the public health level to the private clinical medicine are entirely dependent on the importation of technology in the form of drugs, products, machines and equipment.

### *A Rational Policy for the Introduction of New Biotechnologies*

With this picture of the health problems in the third world we will try first to describe some errors and illustrate how they can be avoided.

1. New biotechnologies cannot, in any case, replace measures at the social-economical level responsible for the basic problems of health.
2. New biotechnologies are not obligatorily giving the best solutions for health problems in substitution to traditional biotechnology.
3. New biotechnologies cannot (or are difficult to) be introduced independently of the complex economical and technological infra-structures necessary for their functioning.
4. New biotechnologies cannot be employed out of context of a solid scientific environment and a precise evaluation of interdisciplinary and technological interactions.

5. New biotechnologies will not be an area in which can proliferate small new enterprises full of original ideas and opening fantastic opportunities for imaginative young people.
6. New biotechnologies applied to health will not be an area of activity from which important financial benefits are to be expected.

After having considered all of these negative views on the use of new biotechnologies in the third world, the speaker will discuss some positive ones which are important:

1. Some of the important problems of public health in the third world would benefit enormously from the introduction of new biotechnologies, like for the diagnosis and prevention of hepatitis, malaria, AIDS and other diseases.
2. Most of the countries in the third world, in addition to a majority of poor people, have also a fraction of the population with relatively high socio-economic conditions, and consequently health problems, equivalent to those of developed countries.
3. The absence of strong local industry occupying areas of economical activity and using traditional technology liberate countries of the third world from conservative pressure of lobbies.

A rational policy on the introduction of modern biotechnologies in health sciences and in medical care in the third world must take into consideration both the positive and negative constraints discussed above. According to the speaker's point of view it must respect some basic points:

- Development of scientific and technological education, scientific and technological research without any dicotomy but looking for equilibrium and association of both activities;
- Acurate planning of investments to provide, through the development of economical and technological backgrounds, the opportunity for the flowering of different innovation;
- Stimulate the participation of the scientific community through an open and large debate on selecting priorities and choosing technological alternatives;

- Define social priorities and integrate public health programs in a general project of socio-economic development.

#### *International Co-operation*

The difficulty in defining a rational model for the development of international co-operation in the area of new biotechnologies is the difficulty in defining the protagonists. Since technologies are finally to produce goods and since the production of goods is a function of Industry, 'new biotechnological products' are as result produced by the different branches of the 'Industrie de pointe' in Pharmacy, Chemistry, Mechanics, Electronics, etc. As we know these industries are nowadays developing a tremendous international commercial war for conquering markets. To create artificial needs is often more important than to satisfy a real necessity. Marketing is more decisive than scientific accuracy.

The past experience of the third world of co-operation in Industry is quite negative. The example of what happened with the pharmaceutical industry in Latin America in the 1960s is illustrative. During the Second World War, and in the years just after, many Latin American countries had developed a promising pharmaceutical industry. This, however, collapsed when confronted with the multinational enterprises invading the market during the economical 'boom' of the 1960's which offered a series of new products like antibiotics, neuroleptics, tranquillizers, etc. (which, of course, were all covered by patents).

If we wish to avoid the repetition of this phenomenon with new biotechnologies we need to have very clear ideas on the mechanisms by which international co-operation and technological and commercial exchange must be oriented. For the moment there is no reason for an excess of optimism, since all the available indicators point to an undesirable evolution and this for a series of reasons:

- New biotechnologies and their derived products applied to health sciences and medical care are more and more the 'affaire' of giant chemical-pharmaceutical enterprises, which are normally more interested in selling products than in transferring know-how. In the 1970s we observed the creation of a large number of new small enterprises dealing with biotechnology, especially in the USA but also in Europe, nowadays most of them have disappeared or have

been absorbed by the giant industrial conglomerates either national or multinational.

- To regulate the exchange of technologies between developed countries and to conciliate conflicts arising from the industrial and commercial activities of national and multinational giant enterprises, European countries have created structures at the supranational level, like the EEC, which have all the political support from national governments and which are provided with the necessary social, political and economical authority to guarantee and support their role.
- Apart from some political tribunes in United Nations, there is no equivalent international organisations to regulate the interactions and exchanges among developed and underdeveloped countries with the exception of those in charge of the police supervision at the financial level like IMF.
- In these conditions it is easy to realize that free direct interactions between industrial protagonists, bringing together, on the one side experienced giant enterprises and on the other inexperienced small and poor companies will more often generate good business for the first than useful technological transfer for the second.
- Therefore, the natural tendency of trade, interactions and ‘co-operation’ will be (and already is in many respects) the invasion of nascent markets in the third world countries by commercialized products, either imported or produced by local subsidiaries of multinational enterprises. They will satisfy the needs (real or artificial) of the fraction of the population referred to above as being similar to the consumer society present in developed countries.

If following this model, transfer of new biotechnologies will reinforce economical and technological dependence, create artificial social needs, create foreign commercial exchange imbalance and deform the priorities of national health policies.

The only way that third world countries have to protect them-selves against all these negative consequences of ‘free exchanges’ and ‘open borders’ is to refuse them and to regulate the international co-operation according to their national interest and health policies.

### *Conclusion*

The speaker has already defined some of the main principles he thinks must be followed by third world countries in order to favour a rational introduction of modern technology obtained from developed countries.

If we assume that all men are alike and that all of them would benefit from a general improvement in the health of the third world, then it is possible perhaps to express some wishes concerning practical recommendations that could be addressed to the EEC to favour know-how transfer in the area of new biotechnologies.

- Creation of permanent bilateral structures between EEC and the equivalent regional inter-governmental organizations, for the study, regulation, financial support and control of technological transfer projects.
- Developing and amplifying the already existing programmes of scientific co-operation between third world and European laboratories. Give priority to institutions of the third world directly involved in research in health sciences to allow them to elaborate new adapted techniques and products.
- Developing programmes of scientific and technological training for third world students giving preference to projects conducted in local laboratories and institutions. The organization of permanent summer schools with a minimum of permanent administration and the participation of relevant European technicians and scientists would be a welcome formula.
- Elaborate programmes to drain the surplus of trained people in Europe to work for periods of one to a few years in laboratories of the third world with financial support from the EEC or international agencies. In this respect, a welcome initiative would be to stimulate well-trained young Europeans, during their military service, to go to work in third world laboratories.

All these and other possible initiatives might be developed in coordination with WHO and their regional agencies. A dose interaction with parallel projects related to agriculture would certainly increase their impact.