

THE NEED FOR TECHNICAL CO-OPERATION AMONG NON-ALIGNED COUNTRIES

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Introduction

This subject has engaged the author's attention ever since he got involved in industrial development of this country with the formation of the State Engineering Corporation of Sri Lanka in 1962 by the Hon. Maitripala Senanayake, the Minister of Industries in the first government headed by the present Prime Minister. The far-sighted policy of the Minister and the Prime Minister really laid the foundation for the industrial development of the country.

During the ten years, the author served as Chairman of the State Engineering Corporation, he felt quite strongly the necessity for active co-operation among the developing countries which form the majority of the non-aligned countries. This co-operation was most essential in the field of industry in order to free them from the economic hold that the developed countries had over them.

Sri Lanka was involved in one of the earliest recorded cases of international co-operation in technology. It is not very widely known that Sinhala Engineers proceeded to Kashmir in the 8th Century A.D. on the invitation of King Jayapida of Kashmir to carry out Irrigation projects there. This fact is recorded in the 'Rajatarangini' which is Kashmir's equivalent of our 'Mahawansa' which records the history of Sri Lanka from the arrival of King Vijaya in the 6th Century B.C. to the present day.

Technical Co-operation in the field of industry among non-aligned nations has become a necessity in view of the fact that these nations include most of the developing countries most of which are struggling for their economic existence under hostile conditions which exist due to historical reasons. Colonial rule over hundreds of years has left these countries in the present state, where they are far behind those Colonial powers. Most of the developing countries had and still have the natural resources that are necessary for the industries of the developed countries. However, it is a very sad state of affairs that these countries which provide most of the natural resources are unable to reach a standard of living which they deserve. Most of these countries have even the skilled human resources necessary for their development but the economic system prevailing in the world is such that even these human resources cannot be exploited in full for the development of their own countries. The only solution is the active co-operation among these nations in various fields which are vital to achieve this end. Co-operation in the field of industry is one of the urgent necessities in view of its vital role in all fields of human activity in the present day.

It is not realistic to expect the countries that benefit from the present situation to genuinely help destroy that very situation. Human nature is such that all the odds are against this help forthcoming. With all the sympathy that may have been generated this is too much to expect.

Therefore it is vitally necessary that the countries which are suffering from the present state of affairs should rely on their own efforts to change it and ensure a greater share of their own wealth. It is said that even God helps those who help themselves.

Even if the important field of agriculture which is necessary to grow the food necessary to feed the growing population is considered, it is clear that industry plays a vital role. The days when traditional and primitive methods were sufficient to produce the necessary food are gone. The output that is required to keep pace with the demand is such that intensive farming making use of products of other industries has become essential. The land available is limited, especially when the necessity for conservation of forests to ensure a suitable environment for human existence is considered. The destruction of forests has been responsible for a large amount of natural disasters. Industry on the whole has to come to the assistance of agriculture to get the necessary output from the limited land available which is being reduced still further by the necessity of providing housing for the millions.

At the present time agricultural development among the non-aligned developing countries has to lean heavily on the developed countries for essential requirements of fertilisers, farm machinery etc. without which the required production levels cannot be maintained. Very often the machinery that has to be purchased or obtained under unfavourable conditions of financing are not quite suitable for prevailing soil and weather conditions but this situation has to be endured under the present economic conditions.

A programme of active co-operation among the countries concerned can produce more suitable agricultural machinery and implements which can be made on better terms than now available. This co-operation will not only make them more suitable for requirements but also be able to market them at a more competitive price in view of the assured markets that such cooperation will provide.

What has been dealt with so far is mainly the role of industry in agriculture but there are many other areas of development where industrial co-operation among the non-aligned nations will go a long way towards the solution of a number of problems facing them. A few of the most important ones are discussed below:



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2. Housing

Great emphasis is now being laid on practical solutions to the housing of millions who now live under very primitive and insanitary conditions. There are so many institutions and people working on this problem but adequate solutions have not yet been found. It is unfortunate that a lot of work is being duplicated while very promising ideas cannot be investigated and developed due to shortage of resources, the most important being financial.

The author has found that unsuitable systems of construction are being used in many places because vested interests have been able to push them against the advice of local technologists whose voices are not heard. Systems which have been developed for one set of climatic and social conditions are being used under totally unsuitable conditions. Very suitable local materials are being ignored while other materials which drain the national wealth are being used. Designs which fulfil the national requirements in every way are being rejected by Consultants and advisors due to ignorance, apathy towards extra work or selfishness.

Organisations can be set up in suitable locations and working on a system of co-operation can pool the resources of the participating countries to produce results uninfluenced by the selfish motives. Most of these countries have talented and devoted workers who will work with great dedication provided the necessary facilities and a suitable atmosphere are available. The results of work carried out under difficult conditions so far provide sufficient evidence to dispel any doubts regarding the success of such a project.

A project of this nature is a very urgent necessity under the conditions prevailing in many countries. It is not an idle dream as the various resources that are necessary are available within the group of countries. The author has personal knowledge of people working in this field and the work they are carrying out. Bringing some of them together to work on the basis of co-operative effort will produce the desired results. One of the present drawbacks of "Technical Assistance" which a lot of countries are receiving should be avoided at any cost. Reference is made here to the superior attitude of the giver of assistance even though this 'assistance' is tied up with the selling of certain products. The commercial interests of the giver of assistance should not be allowed to affect the programme of work being undertaken.

3. Construction including Heavy Civil Engineering

Large development projects have to be executed in most of the Non-aligned countries as part of the national development plans. If most of these projects are examined it will be found that the execution is in the hands of some of the highly developed countries outside the non-aligned and developing category. This means that the economic development of the developing countries depends to a great extent on the expertise, equipment and the financing from a few of the developed countries.

It is very essential for this situation to be broken if real progress is to be achieved. There are no insurmountable difficulties preventing the achievement of this objective. There are countries within the Non-aligned group that between them can provide all the resources that are necessary for national development projects to be executed successfully without dependence on the industrial giants outside the group. Some have the necessary finances, others have the manufacturing and construction capacity while still others have the necessary skills. If these are put together and what is lacking is bought in the open market, all the resources necessary for these projects are covered. Some projects are being executed on the above basis quite successfully in certain countries and there is no reason why this strategy cannot be used successfully elsewhere.

The Non-aligned countries that have the financial resources should come forward to finance some of these projects which are now being influenced to such an extent that national interests are being thwarted. There have been cases where proposals for the execution of projects of national importance using local materials and labour to a large extent have been rejected in favour of those using such resources from outside at higher cost to the country because of the pressure exerted by those providing the major part of the finance. This type of action delays considerably the day when these countries can be self-sufficient in the resources necessary to carry out their national development projects.

4. Agro-based Industries

Most of the agricultural and forest products which form the basis of a number of industries in the industrial world come from the non-aligned developing countries. Rubber, which is essential for many industries, comes from a few countries within the group but most of the rubber products are imported by these very countries for their own requirements. This could have been justified at a time when the 'know-how' and the manufacturing facilities were limited to a few of the industrially developed countries but this is no longer the case. The manufacturing processes are well known and the expertise is available among the countries that provide the raw material. The markets within these countries themselves may not be sufficient to meet competition but a system of co-operation among the Non-aligned countries can solve this problem and a number of others associated with the industry. To mention one item required for the industry, carbon black can be manufactured and supplied from the oil producing countries.

Another important material is timber. Properly used, this material can be used for a number of products in great demand at the moment. Timber housing can be used to advantage in certain countries where the money and the demand exists for housing but with a shortage of suitable building material and labour. The timber producing countries can manufacture high quality building components which require only assembly at the other end. It will be more profitable than shipping logs and it will create more employment in industry at the same time.

The pulp and paper industry is another example of an agro-based industry which can profit considerably from more active co-operation among the developing Non-aligned countries. The technology of pulp manufacture from rice straw has existed for a long time and such pulp can be substituted for a large proportion of wood pulp that is being used even for the manufacture of high quality paper. Bamboo is also a very good raw material for the manufacture of high quality pulp. There are countries with both rice straw and bamboo available in large quantities continuing to import expensive wood pulp for paper manufacture. If those responsible for the paper pulp industry are in better touch with progress in some other developing countries quite a large amount of foreign exchange spent on imported wood pulp can be saved.

Here again one comes back to a situation which is far too prevalent. These developing countries invariably engage the services of experts from outside to advise them on the development of this industry. The result is that, very often, the use of raw material available locally is not given sufficient consideration. This is also tied up with the problem of financing which enables foreign collaborators to provide the equipment and know-how as part of the equity. The fact that these commodities cost much more when obtained in this fashion is not sufficiently appreciated. The other fact that very often the advisors in the paper industry happen to be from countries with a big stake in wood pulp production is also lost sight of.

5. Technology at an intermediate level

A large proportion of the people in some developing countries are at such a level that industries requiring high skills and costly equipment cannot be introduced immediately. In these cases a start has to be made with small scale industries at village level and the skills and capacities developed to enable larger scale industries to be introduced at a later stage.

This strategy has great scope in rural areas which depend mainly on agriculture. A start can be made with the manufacture of agricultural tools and implements for which available skills properly harnessed, will suffice. Mechanisation of certain operations can be introduced and cheap and simple methods of power production also started in selected areas to popularise such improvements.

This is an area of activity where co-operation between developing countries can be exploited to great advantage. Certain simple processes and equipment have been developed and in use in some countries while others are carrying on in primitive style in ignorance of these developments. For example the process of drying paddy may be taken. In many countries producing rice, one obstacle against more crops per year is the difficulty of drying the paddy soon after harvesting before being spoilt by rain. Countries with sufficient resources are establishing paddy drying plants of large capacity but the drying can also be accomplished satisfactorily using small batch driers which can be manufactured in the rural workshops at low cost. The fuel can be paddy husk which has sufficient calorific value enabling all the heat necessary for drying a batch

being obtained from the husk resulting from milling the same quantity of paddy.

There are a number of similar cases where awareness of what is happening in other places can help small scale development in a country without the resources for large scale development. This position can be improved considerably by a better exchange of information between the developing countries. This type of exchange can apply to a large section of intermediate technology covering water supply, sanitation, power supply, rural housing, agricultural machinery, etc.

6. Methods of Achieving Co-operation

There are several ways of achieving the necessary co-operation between the Non-aligned developing countries in the broad field of industry. This involves co-operation in the relevant fields of science and technology.

One essential feature is that workers in a certain field in one country should be aware of what is happening in other countries. This exchange of information could be achieved by periodical reports on activities being circulated among workers in the same field but this alone will not be sufficient without personal contact between them. The travelling involved in such personal contact is expensive but it is an item which cannot be eliminated for reasons of cost. It is here that countries or agencies having the financial resources can give effective help.

It is also essential that the know-how available among the developing countries should be made use of before going out for such expertise. This will result in economy for the country needing the know-how, give added experience to those already possessing the know-how and also result in bringing the parties closer together for further co-operation.

It is generally assumed that expertise in most areas of science and technology are available only in the highly developed countries, which are mostly outside the group of Non-aligned countries, but this is not true. A large amount of such know-how is available among the developing countries themselves with the added advantage that such knowledge is more appropriate to the problems concerned.

Most of the assistance that the developing countries get in the fields of science and technology comes through the U.N. Agencies or directly from the countries providing such assistance. It will be advantageous if some system can be devised to obtain this form of assistance within the developing countries themselves so as to reduce their dependence on the developed countries with whose commercial and political policies such assistance can be in conflict.

Apart from the general exchange of information between workers in a particular field through circulated reports and personal visits, a closer form of contact and co-operation is necessary among workers in certain fields which are vital to progress of these countries. In these cases, the author proposes that institutions be set up in

suitable locations where workers from various parts of the world can work together. The author has proposed this earlier in the case of housing but there are a number of other subjects which deserve this arrangement. There are already some such institutions like the International Rice Research Institute but more are needed to cover other fields. There are at the moment leading research institutes in certain countries which can be enlarged to cover the broader requirements of technical co-operation among the Non-aligned nations.

In addition to the institutes engaged in common problems of research and development some organisations will have to be set up to ensure co-operation in other fields of industry like the planning and execution of industrial and development projects. Such organisations will have to keep track of available resources as well as of available projects among the Non-aligned, and especially the developing countries. The pace of development in most countries is high and there is plenty of scope for such a co-operative effort provided the true spirit of co-operation is followed.

7. Internal Policies Pertaining to Science and Technology

The concept of co-operation in science and technology especially relating to industrial development will work only if the government policies dealing with these subjects in each country are also in keeping with such a concept. It is fruitless trying to create this spirit of co-operation if the internal policies in the country are tending to frustrate the progress of research and development in science and technology. The importance of this work for the general progress of the country has to be appreciated and at least the minimum facilities for such work have to be provided.

Another aspect of internal policy is the recognition of local talent. The colonial concept of the superiority of

everything foreign should not be allowed to influence decisions any longer. There are fields of science and technology in which the local experts are superior to the foreign ones normally available. This is not meant to belittle the capabilities of some of the foreign experts nor is it to lower the value of the assistance that the developing countries get from the more fortunate and affluent ones but it is a plea for the unbiased assessment of the value of local talent. After all it has to be admitted that a large number of eminent scientists and technologists carrying out outstanding work in developed countries come from some of the developing countries which had enjoyed a good standard of education.

Investment in scientific and technological research and development is a good investment. Its value does not fluctuate with the prices of world commodities and it cannot be destroyed. The immediate value of results may be affected by world market prices but the long-term value of such work can never depreciate. The calibre of the scientists and technologists it produces will build up an asset and a tradition which cannot be measured in monetary terms.

8. Conclusion

This has been written with a feeling on this subject as the author has realised the value of technical co-operation among developing countries and the support that has to be given to scientific research and development within these countries themselves as he has been long associated with connected problems and seen many unfortunate experiences due to the lack of such co-operation and support. It is emphasized that the present economic hold that one part of the world has on the other has to be broken and one sure way is for the developing countries to co-operate actively and in the true spirit of such co-operation. Industry is a field where such co-operative effort will produce sure and tangible results.

கூட்டுச்சேரா நாடுகளுக்கிடையே தொழில்நுட்ப ஒத்துழைப்புக் கான தேவை

ஏ. என். எஸ். குலசெங்க

பொழிப்பு

அபிவிருத்தியுறும் நாடுகள் மீது அபிவிருத்தியுற்ற நாடுகளின் பிடியை முறிப்பதற்காக கூட்டுச் சேரா நாடுகளிடையே விஞ்ஞானம் தொழில் நுட்பம் ஆகிய துறைகளில் ஒத்துழைப்பின் தேவையை இக் கட்டுரையாளர் வலியுறுத்தியுள்ளார். கைத்தொழில், வீடமைப்பு, விவசாயத்தின் அடிப்படையிலான திட்டங்கள் மற்றும் ஏனைய அபிவிருத்தித் திட்டங்கள் போன்ற ஒத்துழைப்புக்கான சாத்தியமான துறைகளை யிட்டு இதில் ஆலோசிக்கப்பட்டுள்ளது. மூன்றாம் உலகின் அபிவிருத்தித் திட்டங்கள் அபிவிருத்தியுற்ற நாடுகளின் கைத்தொழிற் பூதங்களில் தங்கியிருத்தல் ஆகாது. ஏனெனில் அது அவர்களின் நலனுக்கே ஆகாது என்றும் மேலும் தேவைப்படும் நிதிகள், தொழிற்நிறமை, உற்பத்தி அல்லது நிர்மாணிப்புத் தகைமைகள் என்பவற்றை அபிவிருத்தியுறும் நாடுகளே தங்களுக்குள் ஒன்று திரட்டலாம் என்றும்

வலியுறுத்தப்பட்டுள்ளது. இன்றைய தினத்துக்கான சரியான தொழில்நுட்ப மட்டத்தைத் தெரிந்து கொள்ளும் உபாயமும், ஒரே விதமான சூழ்நிலைகளையும் பிரச்சினைகளையும் கொண்டதான கூட்டுச் சேராநாடுகளுக்குள்ளேயே மீளாய்வுகளின் மூலம் முறையான அபிவிருத்தியுறும் யோசனை தெரிவிக்கப்பட்டுள்ளது. தகவல் பரிமாற்றத்துக்கும், ஒரே வித துறைகளிலுள்ள தொழிலாளர் களிடையிலான தொடர்புகளுக்குமான வழிமுறைகளின் தேவையும்; விஞ்ஞானம், தொழில்நுட்ப ஒத்துழைப்புக் கோட்பாட்டுடன், விசேடமாக கைத்தொழில் அபிவிருத்தி, தொடர்பாக, அடியொற்றி உள்நாட்டு அரசாங்கக் கொள்கைகள் அமைவதன் தேவையும் வலியுறுத்தப்பட்டுள்ளன. கூட்டுறவு முயற்சிகள், நிச்சயமானதும் ஆக்கபூர்வமானதுமான விளைவுகளைத் தருமென இக் கட்டுரையாளர் முடிவு கூறுகிறார்.

(see page 62 for Sinhalese translation)