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THE COMMUNITY'S SUPPLIES OF RAW MATERIALS

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(Communication from the Commission to the Council)

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## I. INTRODUCTION

The forging of closer links between the countries producing oil and some other raw materials, the nationalization of extractive industries, the sharp price rises occurring over the last three years, and the final declaration of the tenth Special Session of the United Nations General Assembly amply justify a serious examination of possible future problems in the supply of raw materials for Europe.

In the short term, the raw materials supply situation seems far less serious than, although not unconnected with, other current economic problems - inflation, the threat of recession, adverse balances of payments, the use presently being made of petro-dollars, and the danger of a return to protectionism and the consequent disruption of world trade. Moreover, the risk of an absolute worldwide shortage of most essential materials is, in the view of experts, extremely slight. Nevertheless, Europe is facing a real and serious problem.

Historically, Europe became the world's first industrial power because she was the first to extract coal, and iron, copper and zinc ores etc., from her soil. And, when she had exhausted or had almost exhausted her then known mineral resources she had to import the raw materials needed to supply her industries. Compared with all the other regions of the world, the density of Europe's population and industry, and the length of time during which her own natural resources have been exploited, have turned her into a region specializing in the processing of raw materials from other continents which she then resells to them as finished products.

Only one other power is faced with the same problem, and even more acutely, namely Japan, which has for long been aware of the risks inherent in such a situation and has developed a systematic policy on raw material supplies.

The other non-European industrialized nations (USA, Canada, Australia, South Africa, USSR) are markedly less densely populated than Europe or Japan. They also possess considerably greater mineral resources which, moreover, because they have been more recently developed, have not yet been exhausted. Consequently, some countries have been devoting more and more attention to the problems raised by the exhaustion of natural resources and by export restrictions.

In recent decades, the risks involved in Europe's higher level of dependences on imports than other continents' have continued to multiply. Increasingly, less developed countries are nationalizing foreign companies and, in particular, mining companies which can slow down prospecting and the working of new deposits. Producing countries are attempting, through concerted action, to obtain steep price rises for their raw materials. Moreover, they wish to pursue their own economic and social development through processing their own raw materials themselves.

Instead of being surprised by the UN declaration, we must, therefore, attempt to build a future assuring each nation a fair share of the world's economic and social development. In short, the problem facing Europe appears to be :

- a constantly developing range of manufacturing activities must be maintained as the cornerstone of Europe's economic and social structure;
- although it must not be disregarded, the potential offered by Europe's mineral resources, by material recycling and economies in use cannot guarantee maintenance of the economic development to which our countries aspire;
- it is therefore essential that Europe maintains access to sources of supply from developing countries on conditions offering mutual long-term satisfaction.

One must also ask whether the mining industry and distribution companies can alone bear the risks to which they are exposed and fulfil the economic and social obligations to the raw material producing countries as well as to Europe implicit in their role.

This document deals neither with foodstuffs, except for protein plants, nor with energy sources, which are in any case covered by the agricultural policy and by the joint proposals concerning energy policy.

When the time comes it would be desirable for the analysis also to cover basic foodstuffs. The Commission intends to put forward proposals on this subject.

## II. THE MAIN PROBLEM AND POSSIBLE SOLUTIONS

For the purpose of analysis raw material supply problems may be classified under the following headings :

- insufficient knowledge of the present and future outlook for each raw material.
- the prospect of relative or absolute shortages in the medium and long-term;
- insufficient diversification of sources of supply;
- the trend towards processing raw materials in their country of origin;
- the risk of temporary bottlenecks and price fluctuations.

### A. Insufficient knowledge.

A long-term Community strategy for the supply of raw materials cannot be based solely on the data which the Commission is able to assemble on its own account.

Different raw materials need specific strategies. Analyses, for a fairly large number of products, of supply and demand, the extent and location of known reserves, prospective growth in requirements broken down by consumer sector, problems with regard to pollution and the environment and potential for recycling and substitution are therefore needed to allow present and future problems to be pinpointed.

Only the close and systematic collaboration of experts in the relevant subjects (geological, technological, economic) from the member countries will make possible the assembly of all the facts needed for the evolution of a European raw material policy.

B. Prospects of relative or absolute shortages in the medium and long-term.

Few raw materials give rise to fears of permanent scarcity, although some do (e.g., protein products, leathers and skin, pulping wood); and it may prove necessary to avoid wasting certain others, largely for ecological reasons; thus, for most metals, recycling uses much less energy than ore refining.

Where there is scarcity the solutions, though easy to conceive, may be difficult to put into practice. Apart from regenerable materials, such as wood, which offer other possibilities, they comprise :

- optimum recycling of waste;
- substitution by other materials and by new manufacturing processes;
- extension of product life and improved operating economy.

This requires research, standardization and the dissemination of good practice.

1. Development of recycling and of the exploitation of by-products.

Recycling raises problems both for the organization of waste recovery, and

its profitability. Solutions to these may best be sought in the framework of environment policy. The improvement of technical and economic aspects of the recovery and use of waste and by-products ought to be the object of research and development projects launched by the CREST raw materials sub-committee.

2. Development of substitution.

Research should also be done with a view to replacing products for which there is a risk of relative or absolute shortage, by others not subject to the same supply difficulties.

3. Operating economy and extension of product life.

Improvements in product quality pave the way for large-scale economies. However, competitive pressures often lead the manufacturers of consumer-durables to reduce the durability of their products or disregard operating economy if lack of consumer awareness permits. There needs, therefore, to be study of the operation of such products, leading to the development of technical standards, and to consumers being better informed about what they are buying. Such a programme, which could include, inter alia, information campaigns and the introduction of a "European quality mark", should form part of the policy on consumer protection.

C. Insufficient diversification of sources of supply.

For most raw materials the Community's degree of dependence on imports from non-member countries varies between 70% and 100%. These figures clearly tend to increase in parallel with the growth of industrial activity in Europe.

Owing to the geographical location of known reserves, the Community depends, or will soon depend, for a number of raw materials on a very small number of supplier countries. This raises two questions :

- in some cases these may be political problems;
- in others the dominant position occupied by one or more producing countries on the world or Community market leaves the Community open to the unilateral imposition of unacceptable conditions regarding quantity or price.

Opportunities for spreading these risks should therefore be explored.

1. The possibility of self-sufficiency.

Europe cannot engage in autarchical policies. Such a response would lead to a final break between the industrialized countries and the rest, with disastrous political, human and economic consequences, especially for Europe. In any event, it would be foolish to hope that by better exploiting her own minerals, and improving her recycling and product utilization techniques, Europe could achieve a level of self-sufficiency great enough to shelter her from interruptions of external supply.

This does not, however, mean that the limited resources which the Community does have should not be exploited rationally. First of all, it is possible that the production of regenerable animal or vegetable materials such as pulping wood could be developed in the Community. In this instance the machinery of the common agricultural market and more particularly the EAGGF enable such action to be carried through.

Secondly, an overall re-examination and updating of the map of the Community's mineral reserves could produce useful results. A lasting rise in raw material prices and improvements in extraction techniques might make the working of low-grade ores economic. The potential opened up by new prospecting techniques such as remote sensing, and the presence in

the Community of territory not yet fully explored as in Greenland or, to a lesser extent, Ireland, suggest that such a re-examination would be worthwhile. Moreover, relatively recent discoveries of deposits of hydrocarbons, coal, uranium, lead, zinc, copper and fluorine show that substantial mineral resources may still be found beneath European soil.

## 2. Exploitation of the sea bed.

Whether the exploitation of the sea bed will count as own resources, or be considered an external source, will depend on the exact geographical location of submarine deposits and developments of the law of the sea.

Whichever the case, results already obtained in the North Sea are sufficient to justify the continuation, if not stepping up, of research in connection with the exploration and exploitation of the sea bed. Moreover work done for the United Nations indicates that for some metals production from metalliferous nodules to be found on the sea bed could by 1985 cover a relatively larger proportion of the import requirements of industrialized countries, for example 13% of manganese or 26% of nickel.

## 3. Diversification of external sources of supply.

Although efforts on these lines have not up to now been very successful, it is nevertheless true that, for a number of products, the supplier companies or countries are so few in number and their interests coincide so closely that they could agree amongst themselves on monopolistic action. In addition, the political instability of certain supplier countries threatens the regularity of supplies.

For both Community countries and mining companies the problem is, as it were, one of insurance and calls for an effort to spread the risks. The limits of this effort will of course depend on the comparative costs of exploring and exploiting such alternative sources as may be found.



(a) Company oligopolies

The potential risks inherent in oligopolies or dominant positions occupied by mining companies should be dealt with in three ways, in addition to the implementation of the rules governing competition set out in the Treaties;

First there is the adoption of a series of measures aimed at reducing the possibility of abuse open to multinational corporations<sup>x</sup> by means of effective collaboration among the public authorities. This course includes, inter alia, active participation by the Community and the Member States in the activities of the OECD and the United Nations in the same field.

Secondly there is the possibility of a close co-ordination of competition policies between the responsible authorities in the United States, Japan and the Community. Such co-ordination could help to avoid the distortion of competition which would result from unlawful agreements and abuses of dominant positions by industry.

Thirdly there is the way proposed a long time ago by the Commission in its memorandum on industrial policy. It consists of supporting the formation and development of European-based companies capable of taking on their overseas rivals and thus re-establishing that balance of competition which is so often lacking.

(b) Recourse to other developed countries.

An obvious initial action to reduce risks would be to look for supplies from the greatest possible number of developed countries. This is the path which mining companies prefer to tread.

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x see Commission communication to the Council of 8 November 1973 entitled "Multinational companies and Community regulations" (Doc. COM (73) 1930).

However, these countries are the ones most able to turn raw materials into finished products themselves. They would therefore frequently find it unattractive to exhaust their own natural resources to sell to Europe products with a low added value; it must be noted that, in this case, there is a divergence of interest between the European consuming nations and the mining companies, even where they are European-based, since the local processing of the raw materials which they extract does not conflict with their own interests.

Moreover such steps, like those in connection with self-sufficiency, should only be taken when they will not maintain or even widen the gulf separating the industrial from the under-developed nations.

(c) Prospecting and mining in the less developed countries.

The narrow geographic limits of the known reserves of many minerals cannot be regarded as definitive. Their concentration in North America, along the Andes Cordillera, in South Africa, Rhodesia, Zambia and Zaire, in the USSR, China, Korea and Australia probably merely traces the explorations of the past. It is hard to believe that similar exploration in neighbouring or even totally different areas would not lead to important discoveries which could diversify sources of supply and thus spread the political and oligopolistic risks which face us. But exploration and exploitation are linked activities. It would be absurd to expect private companies to spend money on prospecting without a firm expectation of a role in the exploitation of their discoveries or a share of the products extracted.

Mining companies with the skills and financial resources needed to discover and exploit reserves that could give us adequate supplies exist in the Community. However, there are many countries in which they would be chary of operating because of the risk of being nationalized. Such countries often do not yet possess the know-how or financial resources they would need to prospect and work their own territory effectively.

In consequence the technical and financial potential of the large mining companies often remains dormant for lack of adequate guarantees.

Action to guarantee and provide a return on private investment in less developed countries could release a flow of private funds and have surprisingly fruitful results for the under-developed countries as well as for Europe.

(d) Joint ventures.

There are two sorts of risk to be spread - those relating to the number of our sources of supply (just discussed) and those relating to investments in them.

Any system set up on a Community level ought, therefore, to provide incentives for mining companies in different member countries to pool their efforts - possibly in collaboration with others from non-member states - and spread their risks through joint ventures.

D. The processing of raw materials in their country of origin.

The trend towards processing in the country of origin is emerging for a whole series of raw materials, in particular wood, wood pulp, textile fibres, copper and zinc. It is therefore becoming essential to seek ways of reconciling the interests of the producing with those of the consuming countries.

1. Property and profit sharing.

A primary aim must be to enable local interests, public or private, to obtain an increasing share in the capital, profits and management of mining operations carried out on their territory. The conditions and pace of this gradual partial transfer of property and responsibility could be decided

and arranged on mutually satisfactory terms between the authorities and companies of the producing countries and those in the Community. In this way, the risk of nationalization, which is curbing companies' activities and thus both reducing the income of less developed countries and Europe's supplies of raw materials would gradually diminish.

If account is taken of the way in which the riskiness and profitability of mining and of manufacturing differ, it would also seem logical gradually to extend participation by public or private interests of raw material producing countries into the downstream manufacturing activities performed in Europe. Such a process should also be covered by framework agreements between the authorities in the producing countries and in Europe. In this way, solidarity between the less developed countries and Europe, which to date has been only too lacking, should take shape, and numerous sources of tension would be eliminated.

However, there must be no illusions about the difficulties to be overcome to make the use of joint ventures sufficiently widespread to be effective. First, the means available to the Communities' public authorities for inducing private companies to accept the idea of sharing the ownership of their installations with third country raw material suppliers are extremely limited.

Secondly, the most simple and straightforward way of implementing such a joint venture would be to exchange shares for raw materials. But the majority of the less developed countries urgently need the funds they receive in payment for their raw materials, and can hardly afford the luxury of foregoing these in order to obtain shares in European companies operating on their own territory or in Europe.

There are possible ways of operating mines which offer opportunities for profit sufficient to avoid both of these problems. In other cases it will perhaps be necessary for the political authorities to take specific action

in order to give the less developed countries the opportunity to buy shares in the local, or even the European operations of Community companies, on an instalment basis, and to provide such companies with guarantees sufficient to stimulate investment by them in these countries.

A Community organization specializing in overseas investment insurance and finance could perhaps be made responsible for pursuing these objectives.

2. Distribution of work throughout the world.

Despite its advantages a system of cross shareholdings cannot resolve all the problems facing Europe and the third world. Those less developed countries which possess both raw materials and underemployed populations justifiably wish to upgrade both on the spot.

Fear of this trend leads industrialists in developed countries to demand protectionist measures. But such an approach to the problem leads nowhere. The industrialized raw material producing countries already have this capacity and the less developed producing countries are bound to acquire it some day. Europe must be continuously aware of this trend, otherwise she will find herself with an industrial structure starved of raw materials.

This solution necessarily involves a rational distribution of industrial activity throughout the world, particularly in favour of the less developed countries, i.e., Europe must be willing gradually to give up the exercise of industrial activities which can often be performed better elsewhere. Such a renunciation would be tempered to the extent that it was accompanied by European investment in the third world. Reason should therefore lead Europe to accept the processing of raw materials in their country of origin where such an operation is economically justified.

Europe has already taken some important steps in this direction, particularly within the system of generalized preferences, but accompanying measures would have to be considered. With the co-operation of industry and the representatives of European workers, and in consultation with the authorities in the various supplier countries, the public authorities in the Community countries should organize :

- the gradual run-down of aid to those European production activities which can be carried out more economically in the countries supplying the raw materials;
- the provision, as soon as possible, of a legal tax and financial framework that will encourage Community industrialists to participate actively in the development of such activities in the less developed countries;
- in suitable cases, the provision by the public authorities of the necessary financial resources and technical assistance;
- aid schemes to reduce the harmful social and regional consequences that may result from these changes.

E. The risk of temporary bottlenecks and price fluctuations.

Temporary bottlenecks in supply and the rocketing prices accompanying them may result from unforeseen increases in demand, insufficient investment, the actions of oligopolies of companies or producing countries or from speculative operations.

The second and third alternatives are dealt with mainly under C and D above. In order to cushion such risks a number of protective measures can be implemented<sup>1</sup>:-

1. The conclusion of long-term contracts.

Recent events affecting a number of raw materials or sources of energy,

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<sup>1</sup> Export restrictions are not discussed here because they can be of little use for the Community, which is a net importer of most raw materials and would expose itself to more effective retaliation if it adopted such measures. They should therefore only be used with care and deliberation.

and the differences that the existence of long-term contracts has made, where consuming companies have entered into them, to the impact of those events, has demonstrated the stabilizing effect of such contracts. In effect, the violent fluctuations in quoted prices have mainly affected dealings on the free market, which often account for only a fairly small proportion of our supplies.

Although long-term contracts can be broken unilaterally, Community companies should be encouraged to conclude such agreements; and, if they are not large enough to do so alone, they must be encouraged to form consortia or purchasing co-operatives that would be capable of doing so.

2. The building up of emergency stocks.

It may prove desirable for the Community to build up emergency stocks in those few cases where the Community is dependent upon a very limited number of suppliers (countries or companies) and where :

- those countries may, for reasons of domestic or foreign policy, cut off supplies if only for limited periods (tungsten for example);
- those countries might wish to exploit their oligopoly position in order to impose unacceptable conditions of sale;
- a sharp upturn in demand, clearly outpacing any possible expansion of existing capacity, becomes a probability (as in the case of platinum).

The measures to be implemented in such cases depend on the raw material involved.

For bulky materials, the only practicable solution would seem to be to require companies using them to build up emergency stocks expressed in

terms of number of days' consumption either themselves or, particularly for small and medium-sized undertakings, by forming consortia or purchasing co-operatives to do so.

In the case of materials having a high unit value, this function could be delegated to an agency, acting at a Community level and having a public or mixed status. However, before such decisions are taken it will be necessary to balance carefully the costs against the risks to be covered.

3. International listening posts.

For some products the activities of private or public international study groups improve knowledge of world needs and thus encourage necessary expansion of production. It would be useful to know to what extent the operation of existing groups (e.g., those for rubber, lead or zinc) could or should be improved and with what other materials this type of solution should be sought. Such groups should furnish better information about companies producing and distributing raw materials and their importance as Community suppliers. In any event it would be helpful, at an early stage, to seek a dialogue with the larger undertakings on which the Community depends for supplies. This dialogue should be aimed at obtaining a clearer picture of the state of our supplies.

4. Different types of international agreements.

Following the rise in the price of some commodities, the hazards of a situation in which export restrictions are not subject to international surveillance have been increasingly acknowledged. This calls for an effort by the international community to bring about some co-operative system that will prevent sudden disruption of trade and enable any necessary changes to be carried through gradually.



This subject should be taken up in multilateral trade negotiations. Greater clarity and international discipline through the observance of existing rules and adoption of any necessary new ones would appear to be essential.

The Community should point out emphatically that Article XI of the GATT prohibits quantitative export restrictions, except in certain clearly defined situations, and should try to establish a new notification and consultation procedure. At the very least, countries imposing quantitative export restrictions should be asked to justify them, as were those imposing quantitative import restrictions, in the context of the GATT joint working party on quantitative restrictions. The question of quantitative export restrictions cannot of course be divorced from that of export taxes which, in some circumstances, can be used to achieve the same effect.

Several other approaches could be considered, possibly in combination :

- effort to establish a code of conduct for export restrictions;
- detailed negotiations, product by product, between exporting and importing countries, and where appropriate sectoral agreements, to obtain better management of supplies and involving joint responsibility by supplier and consumer countries<sup>1</sup>;
- carrying the above approach further, international commodity agreements could be concluded, for some essential raw materials, to stabilize markets in the interests both of producing and consuming countries.

In the form taken hitherto, commodity agreements have not been primarily concerned with supply problems - their essential aim has been to stabilize markets in the interests of producers.

In a new form these agreements - which, in the nature of things will always be few in number - could guard against supply problems by the

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<sup>1</sup> In other cases, especially where state trading countries are involved or the number of supplier countries for the product concerned is limited, the Community could also envisage the conclusion of bilateral agreements on industrial and technological co-operation incorporating in return certain arrangements to ensure regular supplies of raw materials.

systematic building-up, where appropriate, of stocks of raw materials or indeed of semi-processed products. To their traditional function of regulating markets could be added that of regulating supplies. This would involve the joint management of stocks, by importers as well as exporters, who would then share the costs involved.

### III. THE IMPLEMENTATION OF THE SOLUTIONS

The supply of raw materials for the Community is an aim calling for an overall strategy to be taken into account in the whole range of Community policies -- that is, the external affairs, co-operation, industrial, regional, social, research, environment and consumer protection policies. This can only be brought about by the adoption of common guidelines which provide a spur to action in addition to serving as an instrument of co-ordination.

It must be admitted that a number of elements needed for the definition and implementation of such a strategy are currently lacking. These are :

- an adequate instrument for the analysis of future prospects and the definition of the measures called for;
- a prospecting service befitting Europe;
- adequate guidance for research activities;
- means of finance and guarantee capable of stimulating the necessary investment;
- an overall concept for commodity agreements and a methodical seeking after multilateral solutions.

#### 1. Organization of co-operation.

It is therefore essential to organize close co-operation and consultation between the national authorities responsible for raw material supplies.

The main purposes of this co-operation, for which support should be sought from the private sector, would be :

- to collect economic information on raw material supplies (inventory of common resources, assessment of needs, possibilities of substitution, recycling and economies in use, ecological constraints);
- to compare available resources and future needs and monitor the emergence and development of factors likely to influence supplies to the Community (risks of breaks in supplies, formation of producer cartels, etc.);
- to appraise action taken at national level for ensuring adequate supplies, so as to highlight any gaps or duplication and identify the areas in which co-ordination would be desirable;
- to provide contacts with the large raw material winning and distributing companies;
- without prejudice to existing responsibilities, to obtain an overall view of present or future activity by way of external negotiations in a number of bodies (OECD, UNCTAD, GATT, etc.) which might affect raw material supply;
- to finalize and propose, with details of costs, the joint steps which the Community should undertake in order to overcome any difficulties pinpointed.

Recommendations of this type could, for instance, relate to the encouragement of long-term contracts, the setting-up of purchasing groups, implementation of stockpiling formulae, support of programmes for prospecting and use, substitution, recycling, more economic consumption of materials or the reconstitution of renewable resources through the granting of aid, tax concessions and guarantees or financing facilities.

The sub-committee on R & D into Raw Materials, which the CREST Committee decided, on 30 October 1974, to set up would provide a natural forum for

co-operation in R & D, particularly for guiding geological and mining research, updating the Community map of metal deposits, providing technical assistance for prospecting in less developed countries, developing techniques for remote sensing, for exploring and exploiting the sea bed, and new techniques for winning and processing ores, for recycling and for economies of use.

Ways of obtaining Community co-operation in other fields have yet to be found or established. In order to define these the Commission intends to call in the near future a meeting of senior national officials responsible for various aspects of raw material supplies.

## 2. Financing and guarantees.

One of the main problems is to encourage the investments needed for the prospecting, exploitation and upgrading of mineral resources. This has been made difficult in several developing countries by the nationalization of foreign mining companies. As discussed on page 10 above, the development of new forms of property shared between local and foreign interests can help to avoid the pressures leading to nationalization. However, such forms of property will demand more initial financing of investment projects which are already very expensive. Under the circumstances it is necessary to consider setting up a finance and guarantee institution.

Under agreements between European authorities or companies and their counterparts in less developed countries, such an institution could, with funds borrowed on the capital market, subscribe some agreed percentage of new investments in less developed countries in the form of shares in either the local or parent company which it would then transfer to members of the local population (private or public) either immediately, or in step with the distribution of profits which could then be used to repay the original loan.

In addition, if arrangements acceptable to the host country could be reached in order to ensure fair sharing of the responsibility for the potential risks, Community companies accepting such a plan for the partial transfer of their assets could, in addition to initial funding, be protected by a guarantee against political risks.

Special conditions could perhaps be agreed upon to encourage joint ventures by Community undertakings.

The Commission will also examine any concrete suggestions concerning these financing and guarantee problems at a Community level as part of a coherent financial programme.

#### IV. PRODUCT-BY-PRODUCT EXAMINATION

A raw materials supply strategy can obviously not be mapped out or implemented without a prior study of the position as regards individual products.

For practical reasons the Commission has initially confined itself to examining twenty or so minerals (aluminium, chromium, cobalt, copper, tin, iron, magnesium, manganese, mercury, molybdenum, platinum, lead, titanium, tungsten, vanadium, zinc and phosphates), a few products of vegetable origin (natural rubber, cotton, vegetable oils, wood pulp), two products of animal origin (wool, and skins and leather) and proteins.

This examination will of course have to be taken further with the assistance of national experts and extended to at least ten or so other raw materials.

##### 1. Products not giving rise to major problems

This initial examination has revealed that a number of products do not present any major supply problems.

##### (a) Minerals

These are cobalt, magnesium, mercury, molybdenum, nickel, lead, titanium and vanadium.

Although two-thirds of the world cobalt production is concentrated in Zaire, the fact that it is to a large extent extracted from copper and nickel ores, and the scope for substituting chromium, molybdenum, nickel or vanadium make the risk of a shortage very remote.

Deposits of magnesium are widely distributed across the world. Reserves are practically inexhaustible and Norway alone could provide the Communities' needs.

Antipollution measures should lead to a very substantial reduction in mercury consumption, the market for which is facing a crisis of over-

production; mercury is available in very many countries, but in particular Spain and the USSR, the world's main producers.

Although largely concentrated in the American continent, molybdenum reserves are adequate. Despite the fact that the main production centres belong to a few large firms, price manipulation would be difficult as about half the production comes from the processing of copper ores.

At the present time there is surplus production of nickel. The known reserves are about 150 times the present annual world consumption, and are divided between North and South America, Africa, Asia, Australia and the USSR. The oligopoly exercised by four large companies has been dissolved and possibilities exist for substitution by other elements such as manganese, cobalt, molybdenum, chromium and aluminium.

The problem of lead is somewhat like that of mercury. Pollution control will prevent anything more than a moderate increase in consumption in the future, while considerable deposits have just been discovered in Ireland, and a large part (38%) of the Community's supply is provided by recycling.

Titanium consumption is closely related to developments in the aviation and space fields. This may perhaps justify participation in the exploitation of rutile deposits in Africa and Latin America.

Known reserves of vanadium are very high. Since this element is also a by-product of the reduction of many iron ores, of the phosphate industry and of oil refining, there appears to be no risk of a shortage.

(b) Vegetable products

The case of natural rubber appears to be marginal. Thanks to synthetic

rubber, the Community is self-sufficient to the extent of two-thirds of its supplies. Eighty five percent of the world production of natural rubber comes from four countries (Malaysia, Indonesia, Thailand and Sri Lanka). However, competition from synthetic rubber, the consumption of which is rising twice as rapidly as that of natural rubber, makes oligopolistic action very improbable. The supply situation could possibly be improved by an improvement in the technical qualities of natural rubber, which should be achieved by the producing countries, and, if necessary, by the development of production in Africa.

2. Products giving cause for concern.

Attention will therefore be concentrated on the other products under consideration.

(a) Minerals

The Community is totally dependent on outside sources for its supplies of other mineral ores, with the exception of tin, iron and zinc, 80 to 90% of which comes from outside.

Aluminium is required in particular by an affluent society and has taken the place of less noble materials such as steel or wood. In the event of shortage, a return to the earlier materials would be possible. Bauxite is available in many places. Thirty countries, few of them possessing refining plant, produce it. Electrolytic treatment of bauxite uses so much energy that its development in the Community should be avoided if adequate supplies of the metal can be secured. Greater participation by Community firms in the mining of bauxite and in electrolytic treatment operations in producer countries thus appears desirable.



Although the known world reserves of chromium cover about 100 times the present annual consumption, the fact that South Africa and Rhodesia own 70% and a Japanese consortium has obtained control of a further 15% shows the type of risk to which the Community is exposed.

Copper reserves do not lead one to foresee difficulties at least for the next 50 years. Problems result essentially from heavy dependence upon the CIPEC countries, possible lack of steps to open up new mining sites, and the need for Community industry to fall in with the pressure to undertake the initial processing of ore in the producing countries.

For tin the main problems are the improvement of the working of the International Agreement and buffer stock, and the transfer metal production to the ore producing countries.

Iron reserves present no problem. Nevertheless, difficulties may arise from the fact that Community industry plays almost no part in opening up new mining sites and therefore does not gain sufficient control over its sources of supply, and that it resists the trend towards ore reduction in the source country instead of adapting to it.

In the case of manganese, the fact that half the known reserves are in the USSR and a third in South Africa, while substitution of other products for manganese is barely conceivable, provides a natural incentive for prospecting in other countries to diversify sources of supply.

Platinum raises a similar problem. 96% of the known reserves are in South Africa and the USSR. Antipollution standards may lead to increase in platinum and palladium consumption. In this particular case, attention should be given to the idea of building up suitable stocks.

For tungsten, 80% of the known reserves are in Communist countries, 60% in China. To avoid remaining almost entirely dependent on China, the Community should engage in prospecting in the hope of diversifying its sources of supply and also give consideration to the possible use of relatively low-grade ores. What is more, the production of the main substitute product, molybdenum, to some extent linked to copper production, poses pollution problems. The chances of temporary interruptions of tungsten deliveries cannot be discounted. Stock piling could therefore be justified in this case.

Zinc ore producing countries are showing a marked tendency to develop the production of metal. Known reserves are situated mainly in industrialized countries or in stable or accessible regions. In order to retain its role as the main world processor, the Community should promote geological prospecting in Ireland and Greenland.

Phosphates represent to some extent a typical case of a product for which a supply policy is required. On the one hand, phosphate is difficult to replace; on the other, the Community's soil contains practically no phosphates. The Community obtains three-quarters of its supplies from North Africa and the United States. Less developed countries which produce phosphates are increasingly tending to process the phosphates themselves into phosphoric acid and fertilizers.

Supply, already tight in 1972, was not able to meet the 1973 demand, and this imbalance was further aggravated by the withdrawal of the American tonnage from the market (more land under cultivation, supply contracts signed with the USSR). Morocco has quadrupled its prices in 4 years and its example has been followed in varying degrees by other producers.

This product thus raises not only problems of diversification of supply sources, but also of participation in mining ventures in non-

member countries, of long-term contracts, and of concentration between producer and consumer countries.

(b) Vegetable products

Questions raised by vegetable products differ from those mentioned previously in that plants grow again.

Cotton, like other natural fibres is subject to considerable cyclical fluctuations - its price doubled in 1973 only to fall back in the following year. Some stability might be sought through the negotiation of medium-term agreements.

Supplying the Community with vegetable oils hardly raises any problems. Nevertheless, it is expedient to guard against a narrowing of the market by maintaining a certain level of self-sufficiency, by encouraging a diversification of supply, more especially through agricultural and tropical research, by developing cultivation in the developing countries and by participation in world agreements.

The production of paper at an acceptable cost is threatened by a relative shortage of pulping wood in the 1980s. The Community depends for its supplies of pulp or paper mainly on the countries of North America and Scandinavia, which wish to process their semi-manufactured products themselves.

This calls for a policy of reforestation in the Community, developing forestry ventures and initial processing in developing countries, and an improvement in recycling.

(c) Animal products

In the case of products of animal origin, considerable fluctuations in the price of wool could probably be buffered by some international regulating organization. On the other hand, the relative but growing

shortage of leather and skins prompts a move to keep a watch on exports and to encourage recovery and the development of the unexploited resources of the third world.

(d) Protein products

Lastly, the supply of the Community with proteins, of both vegetable and animal origin, raises great difficulties which will increase in the future. The supply policy should aim at developing the production of proteins in the Community (dehydrated fodders, soya beans, synthetic proteins), seeking a long-term agreement with the United States, whose soya bean supply covers 40% of the Community's protein consumption, and promoting protein production in the associated countries.

3. Examples of the applicability of different types of agreement by product.

Among the materials examined three metals, chromium, copper, and tungsten, pose problems which seem to justify closer examination of the relations between the Community and the supplying countries.

Chromium

The developed countries. The only developed countries producing appreciable amounts of chromium are the Republic of South Africa and the USSR. These are the Community's biggest suppliers. If the Community wishes to increase the dependability of its supplies it must turn to the developing countries.

The less developed countries. Just one or two bilateral agreements with less developed supplier countries would be quite inadequate in view of the low percentage of world supplies provided by each of them. A whole series of such agreements could be concluded, but the Community's supply system would then be very complicated, and would still be dominated by

South Africa. It is probable that the best path would be to conclude a multilateral agreement on good conduct, or a world agreement containing at least the most useful features of existing commodity agreements. As an additional benefit to the less developed producer countries our imports of their chromium could always be brought within the scope of one of the beneficial agreements already in force such as the GATT or the SGP.

#### Copper

the developed countries. Although major producers and holders of reserves, their own consumption will not permit them appreciably to increase their exports to the EEC. In addition they are perfectly well aware of the situation as regards world reserves. A "developed country" approach alone would not provide a solution even if it were politically acceptable.

The less developed countries. This really means the four CIPEC countries, since the others do not possess the same potential. Against this background :

An attempt will have to be made to conclude a world agreement. Although the CIPEC countries and the other less developed copper producing countries occupy different points on the political spectrum, they all need development aid. This common factor should make an agreement incorporating our co-operation in their development in parallel with certain guarantees with regard to supplies very acceptable to them. This aid could cover the setting-up or expansion of copper-processing facilities in the country or countries in question. The manner and rate of such development should be co-ordinated with a slowing down of the expansion of capacity in Europe.

#### Tungsten

In view of the strategic importance (in the military sense of the phrase) of tungsten, it would be rather risky to attempt to develop our trade

with the three Communist countries (China, USSR, North Korea), which are both the largest producers and holders of the largest reserves. Considering, furthermore, the diversity of the other producing countries, it would seem desirable to apply the same agreements and to pursue the same policy on tungsten as on chromium, i.e., a world agreement and/or the offer of specific aid in the development of the resources of those countries concerned which have need for it.

4. Example of the application of a supply policy to wood pulp and paper.

One material, wood pulp, has already been the subject of a communication from the Commission to the Council<sup>1</sup>. By expanding on the ideas in this document, it is possible to outline by way of example a policy for a material that lends itself to almost all types of action.

The Community meets almost 60% of its needs by importing paper and paperboard, wood pulp, pulping wood and waste paper. In 1972 these imports were worth 2500 million u.a. Scandinavia, a traditional supplier of pulp and paper to the Community, is already importing wood from the USSR. In addition the major producing countries in Scandinavia and North America are pursuing the aim of processing their resources themselves and are tending to restrict their sales of raw materials (wood and pulp) in favour of finished products. Thus, the Community's paper-making industry which, with more than 1000 undertakings employing about 230.000 people, occupies second place in the world league behind the United States, is put in jeopardy.

In view of the threat of world shortages in the 'eighties some possible solutions open to the Community are as follows :

- an increase in the amount of pulping wood obtained from forests within the Community through the more efficient use of existing and the planting of new forests;

<sup>1</sup> Doc. SEC (74) 1215 final of 28 March 1974.

- better recovery of sawmill waste;
- more recycling of waste paper;
- the elimination of wasteful consumption of paper and board;
- improved co-operation with traditional suppliers;
- long-term agreements with state-trading nations;
- technical assistance to developing countries.

In addition, any non-discrimination guarantees obtainable in GATT in connection with wood pulp would be particularly beneficial.

As regards forestry, pulping wood and sawmill waste currently cover 20% of the Community's requirement for raw materials for pulp. The more efficient use of existing forests and better recovery of sawmill waste should enable available pulping wood to be increased by 20-30% over the next 5-10 years.

In the longer term, it would be possible to double that increase by the afforestation of marginal or of derelict agricultural land.

The proposal for a directive on forestry measures forwarded to the Council by the Commission on 26 February 1974<sup>1</sup> concerned mainly the afforestation of derelict agricultural land. Although useful, this is no more than the beginning of a solution. Therefore the Council should instruct the Community's forestry authorities to prepare, in conjunction with the Commission, a programme of reafforestation and forestry management and define aid schemes for its implementation, with details of their approximate cost.

A number of research projects could help to bring about an appreciable improvement in supplies, and in particular the development of new processes for the treatment of waste, recovered fibres and animal plants, the production of pulp from wood drawn from coppice, small wood from high forest (mostly thinnings), straw and lower grades of waste paper, and finally the improvements of yields by new methods of mashing.

<sup>1</sup> Doc. COM (74) 1070 final

There ought to be an immediate Council agreement to the principal of such a programme of research the details of which should be worked out by the Commission in collaboration with the "CREST" Committee.

In the matter of recycling waste and economy in the use of raw materials the Community should draw inspiration from the measures adopted in the United States, where the Federal Government has already instructed its administration to use, for internal purposes, paper made at least to the extent of 50% from waste. This has encouraged the creation of a new commercial market for recycled paper, which has extended to all consumers of writing paper.

Finally, with regard to external supplies, the Council and Member States should agree to :

- Encourage cross investment, including joint ventures, with industrialized nations, such as Canada;
- Seek to conclude with state-trading nations long-term agreements for the supply of given quantities of wood pulp and paper products at firm prices in return for the construction of industrial facilities, and in particular pulping plants;
- Encourage the forestry industry, the production of pulp, and of paper in bulk in the developing countries through technical assistance and incentives to private investment. These measures should include support for research aimed at enabling specific raw materials from these countries (e.g. bagasse) to be exploited economically.

##### 5. Conclusion.

The problem of Europe's raw material supplies is a vast but long-term one which does not lend itself to spectacular, instant solutions. Consequently the question is whether the Community will be able to take advantage of the absence of immediate pressure to set up, in an atmosphere of calm, those information, co-ordination and planning systems needed to map out a long-term policy which are currently lacking.



We must not allow the complexity and gravity of the problems of the moment to cause us to lose sight of the other problems we shall have to face in the future. Rather should we let them make us aware of how adequate preparation can at least facilitate the solution of such problems if not make it possible to forestall them.

In short, it must be recognized that the scale of this problem is too great for individual Member States; and its importance demands the establishment of that point of cohesion, currently lacking, for all the different projects and initiatives underway here and there throughout the Community in this enormous field.

The Commission therefore judges it essential to provide a structure that will make possible the co-ordination of the activities now being undertaken at different levels, and if necessary the launching of common initiatives in this field; and now asks the member governments to provide it with all the help and support it will need in drafting the specific proposals which it will lay before the Council.