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PROBLEMS OF NATURAL RESOURCES AND THE JAPANESE ECONOMY

HIROAKI FUKAMI

I. INTRODUCTION

In this paper, I take up problems of natural resources in the process of Japan's long-term economic development, analyse their place in the present and future prospects of the Japanese economy, and then examine how the economic and resources' relationships between Japan and other countries should ideally be.

As the principal subject of this paper, I would like to elucidate the essential qualities of the problems of natural resources, their true identity, and the present state of affairs in which it is not only impossible for the Japanese economy to exist without depending on other countries for supplies of natural resources, but in which all the economies of the world are becoming interdependent with the increase of economic internationalization. Under the present circumstances no country can be completely independent and operate a self-sufficient economy.

Based on the premise of such an increase in interdependent relations, I would like to study what should be done to increase and maintain mutually profitable relationships among countries and how Japan can positively cooperate and contribute to the establishment of smooth and stable relations with the countries it deals with in economic and resource matters.

Attention should be drawn to the fact that Japan was a natural resource exporting country in the years from 1870 to 1915, (from the Meiji Restoration to the beginning of the Taisho Era), and by exporting natural resources it was able to import capital goods and machines to promote industrialization. This experience of Japan might serve as a reference for some other countries which are now facing similar situations.

II. ESSENTIAL CHARACTER OF NATURAL RESOURCE PROBLEMS

From the viewpoints of the essential character and identity of natural resource problems, I would like to begin my examination by focussing on some concrete problems.

A. *Definition of Resources*

To begin with, the term "resources" as used in this discussion needs to be defined. Here, natural resources are dealt with. These natural resources do not necessarily represent those resources that exist in nature or the natural environmental condition, but are rather all economic resources that have a bear-

ing on human beings one way or another.

Namely, technology is needed as a factor to coordinate man with nature, and in this sense supply of resources is, as it were, a function of productive technology when it is boldly simplified. The concept of natural resources itself undergoes change with alterations and innovations in technological systems. The available quantity and value of natural resources depend on the level of science and technology.

In concrete terms, "natural resources" are basic elements such as land, water, forests, foods and beverages, agricultural raw materials, minerals and metals, energy, ocean resources, and so on.

Since the oil crisis in October 1973, interest has been concentrated on energy resources — in particular on oil. However, other resources such as foodstuffs, beverages, agricultural raw materials, minerals and metals are also drawing attention — as seen in the integrated program that UNCTAD is advocating regarding primary products. In this paper these resources will be discussed to an appropriate degree.

B. *The Character of Natural Resource Problems*

Second, it should be pointed out that in the past the Japanese had a tendency to search for ways to secure necessary resources most cheaply for the purpose of development and growth, though at present such a tendency is being seriously reconsidered.

Recently, the essential qualities of resource problems are being more substantially viewed from the standpoint of the mutual relationship between man and nature or the natural environment, wherein the question is how to maintain balance and harmony between these two factors with the two aspects of man acting on nature and nature reacting to human approaches. In the past, resource problems were handled unilaterally, e.g., man concentrated on efficiently developing, utilizing, and consuming natural resources while ignoring the important consideration of man's relation to nature. And this has caused serious problems.

As a result of a drastic increase in the exploitation and utilization of natural resources, waste and pollution have increased at a speed which has almost exceeded nature's assimilative capacities. This, in turn, is causing one functional disorder after another throughout the world. In other words, these disorders indicate the reaction of nature towards man's misuse of resources, pollution, and aggravation of environmental problems. Particularly in Japan these problems are becoming increasingly serious.

Therefore, the basic task of mankind in relation to the problems of natural resources is to deal with nature in harmony with the natural environment, to feel the true meaning of life, and to maintain existence by wisely developing, utilizing, and conserving natural resources. The course of economic activities should be changed from that of merely pursuing GNP to the establishment of new economic targets such as the NNW. Gross national products have been over-

rated and thorough consideration should be given not only to economic goods but also to economic bads which ought properly to be deducted from the GNP.

Third, I would like to point out that the Resources Research Committee of the Japanese Science and Technology Agency (Kagakugijutsuchō Shigenchōsakai) published in December 1971 a report entitled "Problems of Natural Resources in the Future" (Shōrai no Shigenmondai) (which is considered a "white paper" on natural resources in the true meaning of the term). It approaches problems of natural resources under the slogan, "Truly Affluent Age in which Humanity is Respected," (Ningen Sonchō no Yutaka na Jidai e) and six proposals are made concerning the fundamental direction Japan should take to properly utilize resources. The six proposals are:

1. To promote proper utilization of resources in order to realize a healthy and comfortable life in which humanity is respected.
2. To preserve the environment by promoting the proper utilization of resources in harmony with nature, and to improve the necessary technology accordingly.
3. To develop the Japanese islands in a balanced manner and to promote a land utilization plan aimed at maintaining the reproductive powers of nature, and at the same time, to make efforts to prevent natural disasters.
4. To promote an "up-grading" of the industrial structure in preparation for future changes regarding resource supplies, e.g., the fact that the international resource market might become a "seller's market" in the future.
5. To promote the development of original scientific technology for environmental protection.
6. To promote international cooperation regarding resource utilization on a world-wide scale.

Thus the controversy over resource problems in Japan is not only concentrated on securing necessary resources for domestic use, but is being discussed in relation to the entire world—especially with regard to resource-exporting countries. In addition, the area of the problems is being expanded to a reexamination of the growth and development patterns of the Japanese economy itself, heavy and chemical industrial development, the international division of labor, the recycling of resources, and reorganization and redistribution of resource economy or cycles.

Furthermore, the problems of resources need to be thoroughly investigated and understood in relation to the interaction of man and the natural environment. Pollution and environmental problems are the most important problems we face, and to solve these problems resource utilization must be reexamined.

C. *Examination of the Energy and Resource Crisis*

Fourth, we must examine the true significance of the oil crisis, or "energy crisis" and "resource crisis". Some people have been greatly affected by *The Limits to Growth*, research report of the Club of Rome, and they approach the

problems in the "Limits to Growth" manner of assuming that the resources of the earth are approaching physical and absolute exhaustion and the crisis originates from this exhaustion.

On the premise that the earth is a finite space, it is of course impossible to continue allowing population and economic growth to increase unchecked. At present, the rate of growth of the world's population is 2% and the rate of economic growth had been 5%. These rates of growth are so tremendous that like figures in a geometric series—or like exponential progressions—their extent and effects are difficult to grasp. But the menace of unchecked growth must be fully recognized. It is absolutely essential to suppress the growth of population and to rescrutinize intense growth, especially in developed countries.

However, if we compare several of the recent research reports on the "Limits to Growth" theme, we find that now there are strong doubts and criticisms about the original forecasts. Instead of supporting the original theme, recent researches have proposed a new view that the earth still has great reserves of natural resources and therefore exhaustion of resources is not such an imminent problem at least for the foreseeable future. The basis for such opinions is as follows.

1. The usual object of discussion is the amount of proved or known reserves of resources which can be taken from the earth under the present limitations of costs and technology. It is thought that this amount represents only a small part of the ultimate amount of resources that are available (in the case of the non-renewable minerals, the estimated amount of ultimate resources varies from several million to several billion times the proved reserves).
2. There are great expectations of revolutionary changes in technology, the creation and utilization of new sources of energy and resources, especially the appearance of renewable energy, and changes in the current concepts regarding resources.
3. There are expectations of better recycling and processing of resources and waste and of substantial improvements in energy efficiency.
4. There are expectations of the transfer and application of technology to developing countries, where there are possibilities for technical improvements—but where there are also problems of technological absorptive capacities.
5. There are some exceptions, but it is thought that the production costs of resources tended to decrease in absolute and comparative terms over a very long period up to 1970.
6. Recently, however, grave fears have been entertained for the future availability of enough fossil fuel resources, centering on oil, to sufficiently cover a transition period until new sources of energy are developed for practical use.

In other words, these opinions stress that as long as man understands and

fully realizes the meaning and consequences of growth in a geometric series or exponential progression, tries to maintain flexible concepts of value and fundamental goals, and makes efforts to conserve and efficiently utilize natural resources, it can be boldly concluded that the exhaustion of the earth's resources is not an urgent problem.

D. *Resource Crises in International and Domestic Relations*

Fifth, oil or resource crises might be a result of mismanagement of international relations (particularly political and economic relations) or mismanagement of domestic activities affecting the development, supply, and utilization of natural resources anywhere in the world. That is, crises might be based on man's inability to control and manage problems. Even though it is very difficult, it is possible to solve the problems of such crises if man will only deal with them positively and make the best efforts for their solutions.

The significance and contents of such crises in international and domestic relations are enumerated as follows.

1. There are the important non-economic factors—especially politics.
   Historicallly, as symbolized by state policies of enriching a country with resources wherein a drop of oil was compared to a drop of blood, natural resources have been an important object of international conflicts. It is often pointed out that competitions for acquisition of natural resources among the "haves" and the "have-nots" were a major cause of war until the end of World War II.
   In view of the above, we should note that the resources issue is basically affected by international relations and political economy before it is a matter of pure technology or economics.
   After World War II this is shown symbolically in the oil strategy of the OAPEC which was adopted in the Fourth Middle East War to back up political and military demands, namely 1) the withdrawal of Israel from the areas occupied since the Third Middle East War, and 2) the recognition of the rights of Palestinians.
   However, at the time of the Third Middle East War in 1967, the same oil strategy was in effect—although the scale and sphere of its effects were different than in 1973—and an oil crisis on a world-wide scale was not publicized at all at that time. An examination of why the oil crisis in 1973 raised such an uproar shows that in order for such a strategy to work effectively there must be economic backing. It has already been noted that in the world's oil markets the sellers are in stronger positions than the buyers; and the markets are tight.
2. There is the rise of "resource nationalism". Demands are being heard from resource-producing countries to control the use and secure permanent sovereignty over their resources. The current state of affairs dictates that this permanent sovereignty be given, that the self-sustaining

national economy that each country is seeking be established, and that international cooperation be extended to these countries for their industrial and economic development. As a result of these measures, supplies of resources will be guaranteed by the producing countries.

3. There are demands from the developing countries for a more equal international distribution of world resources and world social justice. Recently there have been strong demands for correction of such inequalities as the difference in income between the Southern and Northern countries, the difference in consumption of resources, and the great difference in production and consumption between the South and the North. (A large part of the resources produced in the South is supplied to the North, where it is processed and consumed.) The Southern countries claim that the current problems of oil, resources, and population are caused by the developed countries where high-level development is pursured and the resources of the earth are almost exclusively consumed. They demand that this situation be corrected first—and then they can achieve the development of the South and secure a fair and proper amount of resources for their consumption. These fundamental problems are gradually being recognized but we must fully realize them and respect them.
4. Since the oil resource problems and the current major world economic problems are all closely related, it is difficult to try to solve only the oil or resource problems independently. More specifically, the oil or resource problems are closely connected with such major world problems as inflation, depression, unemployment, balance of payments' adjustment, international currency and financing, trade and commerce, direct investment and multi-national enterprises, North-South problems, international division of labor, and industrial adjustment. Therefore, importance must be placed on a "package deal" type of solution which can deal with several interrelated problems at one time.
5. Furthermore, there exist energy or resource crises in the domestic relations of many countries. Among them are crises which stem from regionalism, egoism, lack of administrative capability in government, and crises based on a lack of adaptability. Specific examples are problems connected with atomic power plans, (such as strife over nuclear power plant locations in Japan and other advanced countries), and problems of food production in developing countries in the South, particularly problems of increasing food productivity.

III. JAPAN'S POSITION IN THE CIRCULATION OF THE WORLD'S RESOURCES: CHARACTERISTICS AND SPECIALITIES OF THE JAPANESE SUPPLY AND DEMAND OF NATURAL RESOURCES

A. *Japan as One of the Nations where Natural Resources are Most Scarce*

It is widely known that Japan is one of the countries in which natural resources are most scarce. Japan's rate of dependence on other countries for major resources is extremely high, and it must be stressed that Japan's existence and many of its economic activities depend entirely upon resources from other countries.

Regarding minerals and energy which cannot be reproduced, Japan is importing over 90% of its needs, and this figure is expected to rise even more in the future. Oil, uranium, nickel, and iron ore are noted as the most important resources which Japan needs, but for supplies of these resources Japan depends almost 100% on other countries.

There is also external dependency regarding agricultural foodstuffs and agricultural raw materials that are indispensable to the existence of the Japanese people. In 1976, the overall self-sufficiency rate for agricultural foodstuffs was only 70%, that of grain was 37%, and the rate of grain for staple food was 68%. Although meat and eggs are produced in Japan, feed for poultry and livestock is imported. The self-sufficiency rate of "Basic or Original Calories," which is the ratio of calories supplied domestically against the total amount consumed, is just over 50%, which is the lowest for any country in the world. Japan also depends upon imports for 100% of raw cotton and wool, and for 60% of all its timber requirements.

However, it will be necessary to reexamine the meaning of Japan as a country of scarce resources. At present Japan is in a situation in which most of the demand for resources cannot be met by domestic supply. However, this can be considered a relative scarcity rather than an absolute scarcity. When we consider that the Japanese national land area occupies only 0.27% of the total land area of the world, the Japanese share of resource production compared to the total resource production of the world is fairly high. In 1975 the ratio of world production for several essential resources are as follows: Copper ore, 1.16%; Lead ore, 1.46%; Zinc, 4.69%; Coal, 0.80%; Natural Gas, 0.23%; Petroleum, 0.02%.

Japan has a population of over 113,000,000, making it one of the most densely populated countries in the world (298 per km^2). In addition, it has grown rapidly since the end of World War II, and as a result of the promotion of heavy and chemical industrialization, the demand for resources has also rapidly increased. Therefore, Japanese domestic resources are seen to be relatively scarce when one takes account of such factors. This relative scarcity will become even more severe in the future.

B. *Changes in Japanese Resource Problems After the Meiji Era*

Japan's reputation as a resource-scarce country can be clarified by briefly examining the changes in Japanese resource problems after the Meiji Restoration. All through the Meiji Era (1868–1912), Japan was a resource-exporting country. Although at present Japan depends upon other countries for major resources, it was not always this way. For example, in 1897, Japan exported 69% of the copper it produced domestically (in 1976 the rate of imports was over 92%), 41% of its coal (in 1976 the rate of imports was 76%), and 68% of its sulfur. In 1907, Japan exported 83% of its copper, 22% of its coal, and 94% of its sulfur.

In 1897, 44.8% of Japan's total exports was silk yarn and its by-products, 11.2% was minerals, 9.4% was tea products, and 3.8% was grain—in other words, most (70%) of the exported goods were made from domestically produced resources or their processed products. In 1907, 11.5% of Japan's total exports was minerals.

Natural resources were important to Japan as export goods or as a means of aquiring foreign exchange. By exporting resources and aquiring foreign exchange, Japan was able to import capital goods which were necessary for industrialization and economic development. On the contrary, at present, (as of 1977), 96.5% of all Japanese exports is manufactured goods, and 78.6% of all imports is natural resources, (44.0% is mineral fuels, 20.3% is raw materials, and 14.3% is foodstuffs), and thus a complete reversal of the situation has occured. At the early stage of its economic development, Japan was following the same trading pattern as the developing countries in the South are following at present.

Accordingly, it is undeniably important to link export of resources with domestic economic development, and to create an impetus for domestic development and a mechanism and fundamental conditions to absorb such an impetus. Even if a very advantageous impetus is given to a nation by exporting resources, the nation's development cannot be guaranteed by such an impetus alone. Rather, more importance must be placed on domestic factors and conditions for overall development.

C. *Problems of Japanese Economic Growth and Resources After World War II*

After World War II, the pattern of Japanese trade was entirely different from that of before the war. Until the oil crisis in 1973, Japan depended upon imported resources through free trade for rapid growth (the growth rate averaged 10%, which was twice as much as the world's average growth rate), and rapid heavy and chemical industrialization was strongly promoted. As pointed out earlier, Japan is presently organized in a network of dependence in which smooth international economic relations are a basic premise. Without importing resources Japan cannot prosper or even exist. These points must be fully realized in order to take new countermeasures.

Next I would like to analyse Japan's status with respect to the world's circulation of resources. In this analysis, six major points will be covered.

Firstly, it should be stressed that Japanese demand for resources (mainly mineral and energy resources in a narrow sense) has drastically increased—the rate of increase was once the highest in the world. Many of the demands for resources have been two to three times higher the world's average increase rate. In the case of oil, aluminium and nickel, consumption is increasing at a rate which is faster than the growth rate of the GNP and the growth rate of industrial production. From 1962 to 1972, the ratio between resource consumption and real economic growth (the GNP elasticity of demand) was: energy, 1.032; petroleum, 1.518; crude steel, 1.186; aluminium, 1.826; nickel, 1.712. These figures all indicate that the rate of growth of demand was very high. For lead, tin, and lumber, the figures are all below 1.0.

Secondly, Japan's import of resources, in a narrow sense (raw materials and fuels as classified by SITC 2, 3 and 4) exceeded that of the USA after 1967 when Japan became the world's top resource importing country. But in 1975 the USA took the place of Japan because of its huge import of oil. Japan's import of resources occupied 14.5% of the world's total resources trade in 1973, and 14.0% in 1975. The share of USA imports was 12.3% in 1973 and 14.2% in 1975.

Therefore, Japanese demand for resources is causing a great effect on the world's resource situation. Japan's imports account for from over 10% to 40% of world trade in major resources, and as a result, Japan has become the largest importer in the western world of wheat, corn, wool, raw cotton, lumber, iron ore, copper and coal.

Thirdly, Japan is importing major natural resources mainly from only a few specific countries. This means that for such resource producing and exporting countries, Japan figures importantly and decisively in their export situation.

Particularly, in Asia and Australia, Japan has become so important as a market that it dominates the industries concerned. And there is a serious asymmetry between the high rates of export to Japan and the relatively low import share of Japan from each exporting country. Concrete figures are: iron ore (Australia 81.2% [export rate to Japan in 1976] vs. 45.8% [import share of Japan in 1974]; India 77.9% vs. 14.6%), copper ore (Canada 83.1% vs. 26.8%; The Phillipines 93.9% vs. 28.9%), bauxite (Indonesia 100% vs. 18.1%; Malaysia 100% vs. 12.0%), nickel ore (Indonesia 100% vs. 22.3%; The Phillipines 100% vs. 3.2%), and petroleum (Indonesia 55.8% vs. 12.7%). These are all extremely high rates, and Japan must endeavour to keep the import rates as stable as possible.

Fourthly, as stated earlier, the commodity structure of Japan's imports shows an overwhelmingly high ratio of natural resources compared to other developed countries of the West, and a large part of these are imported from developing countries of the South.

The geographical location of Japan is another factor that has caused increases in imports from such countries. In 1976, 45.8% of Japanese exports went to the developing countries of the South (20.8% to Southeast Asia and 10.0% to the

Middle East), in contrast to 34.4% of USA exports and 17.8% of EC exports. 58.2% of Japanese imports came from the developing countries (20.9% from Southeast Asia, and 31.5% from the Middle East) in contrast to 43.4% of USA imports and 21.6% of EC imports. Thus Japan and these countries have close relations of interdependence.

Fifthly, the industrial and trade structures of Japan characteristically consume huge quantities of natural resources. The amount of major natural resources consumed in Japan per $1,000 of GNP, and the amount compared to the national land area, are the highest in the world. Therefore it is only natural that pollution and environmental problems are also very serious in Japan. Japan has already achieved completely the primary stage of the heavy and chemical industrialization, and it may be that from now on the rate of increase in Japan's consumption of resources may be decreased by concentrating on quality instead of quantity and by up-grading and integrating technology and processes of manufacturing.

Sixthly, the structure of resource imports in Japan is based on the principle of refining and smelting resources at the place of consumption (*shōhichi seiren seisei shugi*). That is, Japanese imports are centered on unprocessed resources. Henceforth, Japan should seriously consider responding to requests from resource-exporting countries to switch to imports of processed resources. In other words, Japan should make efforts to cooperate with these countries and cooperate in refining and smelting resources in the producing or exporting countries or an intermediate area instead of in Japan, increasing added value in the exporting country, and promoting industrialization and economic development.

D. *The Japanese Economy and Resource Problems After the Oil Crisis*[1]

As already mentioned, the status and characteristics of Japan in the world circulation of resources are symbolized by its high dependency on other countries (as the world's top or second resource importer) for its resource needs and by the tendency of this dependency to increase.

The present circumstances are such that if the international resource situation suddenly changes, and stable supplies of resources are disturbed, these will be an immediate effect on the Japanese economy. That vulnerability to sudden change was not realized deeply enough while the international market was stable and advantageous to Japan, (and we should remenber that it used to be a buyer's market). However, the "oil crisis" (restriction of oil supply and raising of prices caused by the Fourth Middle East War in October 1973) precipitated a chain reaction which caused a food and resource crisis and successively raised prices to such an extent that it shook the entire world and Japan on a large scale, and for a while caused a near-panic. Prices of resources other than oil also

[1] This part draws partly upon the author's "Japan's Defective Energy Policy", *Japan Echo*, Vol. IV No. 3, 1977.

rose rapidly, but they were lowered somewhat after the latter part of 1974.

Since the occurrence of the oil crisis, especially the steep rise in prices, the world economy has been greatly affected. Inflation has been accelerated, the international economic balances of the oil-importing countries have been drastically changed, and foreign exchange problems have produced heavy burdens. The developed countries of the North simultaneously adopted tight policies and the most severe depression and unemployment since the end of World War II occurred. In 1974 and 1975, economic growth rate was below zero, and world trade in 1975 was substantially reduced. The "trilemma" of the developed countries, i.e., recession, inflation, and deficits in the balance of payments, was reflected in the oil producing countries, affecting the countries in the East, and in particular, striking a most serious blow to the non-oil-producing developing countries. The problems of the Fourth World, or MSAC (Most Seriously Affected Countries), are reportedly even larger now than ever.

On the basis of the increasingly closer international interdependency, countermeasures must be examined on the basis of international cooperation.

Regarding Japan, one notable development is that the oil crisis accelerated the inflation that was already underway and resulted in frantically raised prices. In 1974, wholesale prices increased 31.3% compared to the previous year,and consumer prices increased by 24.5%. These figures are of tremendous significance in view of the previous long-range rate of advance of a little over 1% in wholesale prices and 5% in consumer prices. The E.P.A. estimated that the price hike of oil directly or indirectly contributed about 8% to wholesale price advances and about 5% to consumer price rises. Soaring prices such as these have never before been witnessed in Japan except during the confused period immediately after the end of the Second World War. A second notable development is that the Japanese Government's "tight money policy" had an additional effect on the depression of economic conditions. The real growth rate of Japan in 1973 was 10.9%, and in 1974 it dropped to −1.3% — the first time minus growth had occurred in Japan since World War II. In 1975, the real growth rate was as low as 2.5%. It was 6.0% in 1976 and 5.1% in 1977.

A third notable development is the deficits in balance of payments. If the total amount of oil imports in 1974 was about the same as the total in 1973, a sudden rise in the price of petroleum would cause an increase of $13.7 billion in payments. That figure alone is enough to cause a tremendous foreign exchange burden, and a huge deficit in balance of payments. Japan suffered from three major troubles—inflation, depression, and balance of payments deficits, and it was said by some people that the Japanese economy might collapse and never recover again. The value of crude oil imports passing through customs in 1973 was $6 billion but soared to $19 billion in the 1974, although the actual tonnage of imports dropped 4%. This $13 billion was equivalent to 3% of 1974's nominal GNP of Japan, meaning that in effect, 3% of Japan's GNP

flowed into the oil producing countries and precisely that amount of demand was lost to the economy.

The minus growth in 1974, and the very low growth in 1975 had a decisive effect on the demand for resources and the import of resources in Japan.

The first year of minus growth since World War II saw, with the help of frugality and efficient utilization due to the prices leaps, a reduction in the absolute amount of petroleum imports and the consumption of oil—which had been increasing in a straight line—and it also reduced the import and consumption of other industrial raw materials on a large scale.

However, we must note that such minus growth, or low growth, and decreases in imports and consumption are causing serious reactions and shocks around the world—particularly in resource-exporting countries in Asia and Oceania. In other words, the world economy is tightly braided into a network of close interdependence, and on the basis of this interdependence countermeasures which are mutually beneficial and mutually cooperative must be sought.

The change was so swift as to confirm the wisdom of the proverb "Danger past, God forgotten." The crisis feeling of the winter of 1973–4 became a thing of the past, Tōkyō streets were once again flooded with brightly-lit neon signs, car sales boomed, and midnight television shows were resumed.

However, Japan somehow is managing to overcome this crisis and the threefold difficulties by showing an excellent ability to appropriately adapt to the steep rise in oil prices and the capability of converting the troubles into a "second miracle" (the first being the almost magical recovery after World War II).

The Japanese economy successfully absorbed the shock of the quadrupled crude oil price by 1975, when a major trade surplus (more than $5 billion) was produced. Trade surplus increased to $10 billion in 1976 and to over $17 billion in 1977. The resurgent Japanese exports, or the concentrated sales of particular products in certain regional markets, touched off trade disputes with the USA and Western Europe.

IV. BASIC DIRECTIONS ALONG WHICH THE JAPANESE RESOURCE PROBLEM SHOULD BE SOLVED

A. *Future Prospects of the Japanese Economy*

There are five main points to be considered. First, from the short-term view, the most urgent task of Japan and the developed countries of the North is not to shift the recession effect of the crisis onto other countries. Instead, it may be necessary to recover economically as soon as possible through cooperation with other developed countries, and to achieve and maintain a route to stable growth.

According to the Japanese Government, the rate of economic growth for the coming 5–6 years up to 1985 should be about 6%—considering current overseas and domestic conditions and their changes. The overseas and domestic conditions under consideration are, specifically, structual changes in the world economy,

(multipolarization and progress of interdependency in international economic relations, and the fact that the North-South problems are becoming increasingly serious), increasing awareness that the world's supply of resources is finite, and changes in national consciousness (desire for improvements in the quality of life and stability to be gained by enriching social consumption, such as increases in housing rather than in private consumption).

B. *The World Economy at the Turning Point——"Second Generation Problems"*

Secondly, as just stated, the future prospects of the Japanese economy are not aimed at recovery of high growth of 10% and maintenance of conspicuous materialism. Thirty years have passed since World War II, and if 30 years is considered as one generation, we have entered the second generation since the war—at the same time as we experienced the oil crisis. The world economy is on the threshold of a new era with the advent of second generation problems.

The main "second generation" economic problems are:

1. A reexamination of the past emphasis upon rapid growth and economic progress both in the world economy and individual national economies is being made, and a search for new goals and new values is underway.
2. Such new goals must include considerations of justice and fairness on a global scale, as well as the relative share of wealth enjoyed by each nation.
3. Many nations, primarily the developing countries of the Southern Hemisphere, have begun to challenge the principles upon which the world economy has been managed in the past, i.e., "freedom," "multilateral relationships," "nondiscrimination," and "favored nation status," and are now calling for a new international economic order based upon such principles as "planning," "protectionism," "preferentialism," and "unilateral action."
4. The principles of the Bretton Woods and GATT agreements, which heretofore formed the managerial and organizational framework of the world economy, are being reexamined.
5. Although the previous bipolar structure of world economic leadership consisting of the USA and the Soviet Union is moving in the direction of multipolarity, new structures and ideals for leadership appropriate to the changed conditions have not yet been formulated.
6. "Resource nationalism" is gaining strength, as evidenced by the resolution of the developing nations to the effect that they enjoy "permanent sovereignty over their natural resources."
7. The advanced industrial countries are losing their ability to shift their economies to meet new conditions, and consequently are confronted with the "trilemma" of inflation, unemployment and international balance of payments unbalances.
8. Lastly, the most significant basic structural change or contradiction is the fact that despite the increasing degree of interdependence and internationalization that has strongly characterized the postwar economy, the fundamental unit of economic management is still the nation-state. These

two situations are thus in direct conflict with each other, and serious consideration of how to eliminate this contradiction and bridge the gap between the political, legal and economic systems is a basic requirement of any deliberations on international cooperation.

This may seem to be an extremely bold simplification of the issues, but with due recognition and understanding of these problems, unless a clear idea is grasped of our basic stance and approach to the question of how Japan and the rest of the world are to handle the challenges, a smooth development of international cooperation is probably impossible.

Now we are facing a period of great transitions in policies and goals—a new direction towards stable growth, better living standards, more humanistic living, and world-wide cooperation and harmony.

C. *Relationships of True Interdependence*[2]

Thirdly, Japan should aim at positively cooperating with the resource exporting countries in developing their self-sustaining national economies and industrialization, respecting their permanent sovereignty over natural resources, and in return, expecting a guaranteed supply of resources. The basic ideals of future policy for all countries should be regard for international cooperation and mutual profit—not narrow-minded searching for one-sided national profit.

In order to realize such ideals we must seek a broad range of plans from a long term point of view. Plans which should be considered are general economic development, construction of towns, construction of infrastructure, transfer of technology, transplanting of industry, and cooperation with refining and processing of resources at producing countries.

It is nessessary to get rid of illusions or simple, one-way thinking regarding the resource problems. There can be no policy that could drastically curtail Japan's ratio now standing over 90% of reliance upon foreign countries, for supplies of resources at least in the immediate future (5 to 10 years). Therefore, Dr. Saburo Okita has declared that Japan's resources policy should be basically predicated upon a strategy of "defenselessness on all sides" (Japan must maintain friendly relations with entire world) and that Japan cannot afford to make enemies. We must look starkly at the realities without entertaining an illusion or overoptimism that massive self-supply of resources would be possible.

It is open to question whether this high reliance upon foreign nations in energy and resource supply would simply lead to vulnerability of the Japanese economy as generally argued in Japan. If such reliance represents Japan's unilateral dependence upon resource-exporting nations, for instance, it would spell serious vulnerability for Japan. But if a relation of true interdependence is established between the two sides, it could function as a factor of stability rather than vulnerability. Namely, if severance of relationship would cost both sides a great

[2] This part draws partly upon the auther's "Laying the Foundations for New Development After the Injuries Caused by the Oil Shock," *The Japan Times*, Jan. 19, 1979.

deal, there can considered to be a relationship of interdependence.

As stated before, international interdependency is conspicuously spreading throughout the world economy and it is becoming increasingly impossible for any resourceful nation to manage its economy smoothly without depending on other countries. As a fundamental premise we need to be positively aware of this situation.

A smooth increase of interdependence on multilateral and bilateral levels will result in stabilization, and it is fairly possible that as a result the room for individual countries to take adverse arbitrary actions will be gradually reduced.

To take the oil-producing Middle East countries as an example, there will be a relationship of interdependence if they are supplied by Japan with capital goods, machinery, industrial materials and manufactured consumer goods, which are indispensable for them, in return for oil supply. In that case, Japan will not be unilaterally vulnerable. Moreover, if Japan positively contributes to the industrial and economic evolution of those countries, and Japan's supply of technology, capital and human ability, and if, moreover, Japan's capability of absorbing the products of industries constructed in the Middle East nations and marketing them in third countries becomes an absolute necessity for those countries, the relationship of interdependence would be further expanded and strengthened.

Further, if Japan's money and stock markets are further opened and liberalized to accept "oil money" in a positive way, and if investment of such funds in the stocks of major Japanese enterprises is highly welcomed, relationships of true interdependence would make a further advance.

Therefore, Japan's resource policy should be basically and primarily geared to establishing and expanding such a relationship of true interdependence and thereby curbing the possible arbitrary conduct of resource-exporting countries and strengthening Japan's own bargaining power, in order to build up ties of mutual cooperation and prosperity.

D. *Comprehensive Resource Policy*[3]

Fourthly, it is important to adopt a long-term policy for stable supplies and balanced demands, but it is also indispensable that short-term measures also be taken to prevent drastic changes in prices and to remove unbalances in supply and demand. Japan should not vainly refuse or avoid requests from other countries to share resources. Instead, Japan needs to continue to buy from other countries as much as those countries want to sell, and if necessary, in order to stabilize supply, to stockpile resources. Furthermore, Japan should try to initiate the resolving of international problems. It must be carefully considered that Japan, like other developed countries, is also suffering from fiscal deficits and depression is becoming serious. There are great restrictions in funds for such an initiative task, but Japan should not be tied too much to short-term profit in its efforts to stabilize and secure export earnings of other countries.

[3] This part draws mainly upon the same article cited in Note 1.

With regard to the resources policy, the resources issue cannot be resolved merely by trade policies, overseas resources development or acquisition policy. For final solution to this problem, restudy of Japan's economic growth target and comprehensive system of policies covering domestic and overseas policies which include basic conversion of economic, industrial and trading structures are essential. Furthermore, with recent progress of internationalization and increase in interdependent relations with the background, international economic policies will have to be formulated on the basis of integrated political system covering the whole of international economic relations comprising transfer of factors of production, direct investment, transplantation of industries, adjustment of policies, etc., as well as policies on foreign trade.

To take the comprehensive energy policy as an example, the preparation and implementation of a truly comprehensive energy policy addressed to specific ranges of energy resources, space, and time is an urgent task. By this I mean to say that we must prepare ourselves for possible energy crises in the short, medium, and long terms in a comprehensive manner, and give adequate consideration to the time before the various energy projects begin to yield results (the gestation period).

Our comprehensive policy must also be directed at a wide range of energy sources including not only fossil energy sources but also nuclear energy and other new forms of energy. It must also be addressed to the entire world and just to our relations with OPEC. Relations among the industrialized countries of the communist and non-communist world and with non-oil-producing developing countries should also be brought into the geographical scope of our energy policy. I propose that such an overall energy program allow for flexibility to cope with changes in the situation. Specific measures and responses need to be taken or made according to an order of priority so that components of the overall policy will complement, rather than counteract, one another.

Moreover, we must get rid of conventional notions and free ourselves from the familiar practices of the past. We must be ready to execute a radical change in our ideas and approaches to energy matters—for example, by turning to the "soft path" in meeting our future energy needs. Likewise, in our relations with oil-produing countries, we may exploit the positive aspects of the increased economic interdependence with them.

After having developed our thinking along these lines, we should find it necessary to ask if the oil crisis we face is all negative in its implications. I would rather think that it has its beneficent side. The high cost and strained supply of oil prompt us to change our attitudes and spur our search for substitute energy sources. And when we realize that oil-producing countries are not omnipotent but linked with oil consumers by ties of economic interdependence, the rational response seems to lie in increased cooperation with them rather than building a hard, expensive house of bricks to fight off an imaginary wolf.

The biggest question is how we can enlist the cooperation of oil-producing nations in the common endeavor of humankind to meet its future energy needs.

The oil-producing nations aspire for industrialization because they know their oil resources are finite and do not assure them a lasting source of income. It seems essential, therefore, that the advanced countries of the North offer positive assistance to their efforts in industrialization and plan for establishment of international machinery through which the oil producers will have access to new energy sources in the future in return for their guarantees of a stable supply of oil at present.

E. *Development of a Concrete Resource Strategy——"Accomodation Approach"*

After all, if we seek solutions of our problems, or search for ways of establishing economic and resource relations too idealistically, there will be little success. And if we seek only narrow profit for our own country there will be little benefit. We will have to start from a mutual understanding of conditions and deeping mutual understanding. On the premise of such mutual understanding, the so-called "accomodation approach" will be in the near future useful and indispensable when two countries search for a point of compromise.

In future negotiations each country involved should consider the profit for the other country and all should adjust their mutual interests until an agreement can be reached. In this way all parties concerned should take an interest in the increase of total profit and income and expansion of shares, and at the same time, if conflict should appear, all parties should deal with each problem in order to solve it on the basis of the realization that a decrease of profit or income will result if the conflict cannot be resolved.

Simultaneously, it will be necessary to understand such fundamental characteristics of resource problems and economic relations as the "non-zero-sum-game", to define boundaries of time, and to deal with problems realistically with an internationally-oriented frame of mind.

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