

# MULTILATERAL INDUSTRIAL COOPERATION FOR THE NEXT CENTURY

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## **Summary;**

Various mega-projects under implementation or planning using multilateral approach worldwide are described. It is highlighted that in the area of multilateral cooperation more holistic approach, such as synergy, inter-linkage, coordination, integration, is to be enhanced rather than current vertical divisional one for 21<sup>st</sup> century. Economic and Technical Cooperation among developing countries (ECDC/ TCDC) is becoming major stream and Information/Communication Technology (ICT) will play an important role as possible tool for filling economical gaps between North and South if intergovernmental cooperation has been executed properly and deeply avoiding the current vertical, divisional and bureaucratic systems.

## **1. Global Problems**

It is becoming evident to everybody that the burden of the modern industrialization on the environment is approaching the limit of nature's capacity. If humans continue to depend on the present technological systems

and lifestyles, chances are that the world of future will face an environmental catastrophe. It is also of concern that wars and conflicts could break out over the limited energy resources, food and other resources.

Therefore, in addition to the stabilization of the spiraling population, a major shift in the social system must be made away from one bases on mass-consumption and disposal, to one which has little or no burden on the environment and resources.

We must reduce the adverse effects of such goods and services, throughout their life cycle, on human health, ecosystems, resources, keep the amount of consumption to a minimum and sustainable level , and indicate the environmental burden of such goods and services.

In order to use energy effectively, it must be used efficiently. It is also important to, not simply try to minimize energy consumption, but to consider the effects of energy use on the natural environment, including the global environment. Bearing the environmental costs should also be considered.

Development assistance in the past failed to eliminate gaps in income-between areas, and between men and women, within a country. In order to improve this inequality ,development assistance in the future is to stimulate people's productive energy , to encourage the broad participation of all people in the production process, and to share the benefit more equitably.

Unless future puts greater emphasis on individual rather than groups, and allows wider latitude in holding different opinions, bureaucratic sectionalism will continue to prevail.

Sustainable development of society can't be promoted effectively if it is entirely left to the government and other institutions. Instead, each individual, in his/her own stance, should participate , make decision, and act to address the social and economic problems in a proactive and productive way.

In order to promote sustainable development and happiness, it is indispensable to do investigation and studies from the view points of science/technology, culture, economics, policy, sociology, education, and gender. For this purpose cooperation and teambuilding of those experts and holistic approach should be enhanced.

While improving the living standards, combustion of energy sources

caused a wide range of new social problems, including air pollution, water deterioration, conflicts over resources, disparity in industrial development between developed and developing countries, and gaps between wealthy urban areas and poor rural areas.

The Invention and utilization of machinery in and after the 18<sup>th</sup> century brought a drastic change in production systems, taking the place of traditional tool-based operations. After the Industrial Revolution, which took place first in the textile industry, the light and then heavy industries began to thrive. This industrial advancement brought significant progress in transportation with steam engines and other newly developed type of power, opening the way to mass production and international trade.

According to Professor Lukas (Chicago University), world total production at 10 century was several hundred billion dollars and current amount have reached to about thirty trillion dollars. Having the production growth exceeded the population growth in human history, people have firstly started to enjoy wealth life in general public bases. However, the mechanism of mass-production, mass-consumption and mass-disposal has started to spread in society and finally human has faced to global environmental catastrophe.

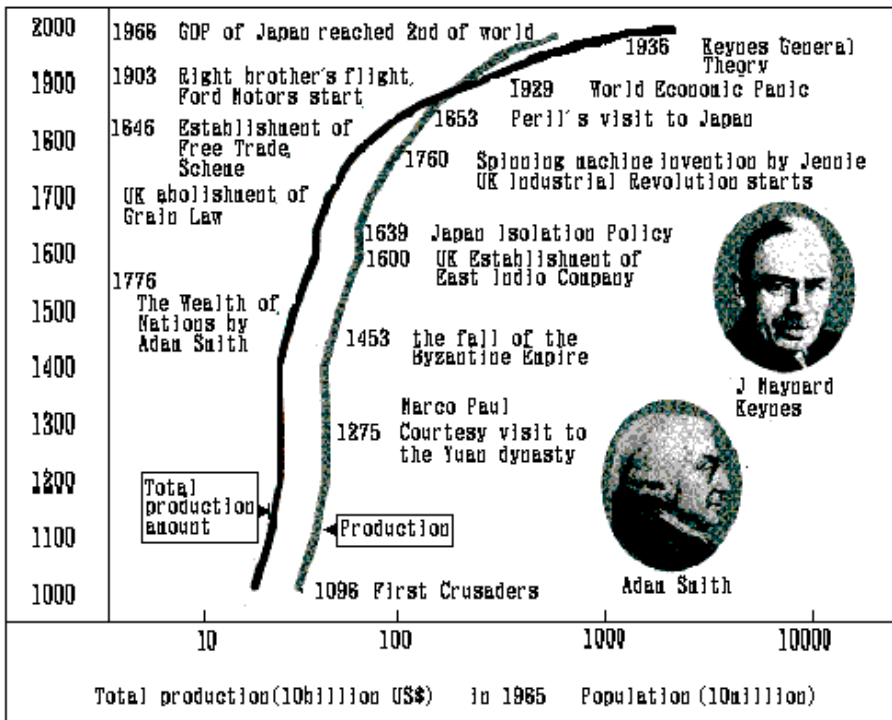
## **2. Macro-engineering and Mega Project**

At the end of 20 century, our common earth has been suffering global environmental issues, such as spiraling population, shortage of foods and sanitary, competition of limited natural resources, desertification global warming

For all the progress they have achieved in industrialization, most developing countries and countries in transition continue to face severe and complex challenges. These challenges are compounded by competitive pressures and technological changes that threaten to widen the gap between advantaged and disadvantaged nations. And while we have seen some developing regions progress in terms of participation in the global economy,

others, most notably the least developed countries, have fallen further and continue to be in urgent need of international assistance.

In its efforts to secure peace and prosperity, one of the key policy of all the governments of industrialized countries is ODA, which has played an important role in stabilizing the international economy through support to economic infrastructures and social development in developing countries.



Robert Lukas ' Industrial Revolution—Past and Future

In many developing countries, economic infrastructures which are the basis for their socio-economic development, are insufficient. Another pressing issue is the establishment of stable economics, to avoid a repetition of the recent Asian currency crisis. In addition, new issues that require global solutions (global issues), such as environment, population increases and AIDS, are coming to the forefront. In particular, environmental conservation is an issue for all human beings which needs to be tackled by both developed and developing countries working hand in hand.

In 20 century, huge challenging progress has been achieved in the areas of nuclear energy development, space technology and marine development. For promoting those mega projects, it is needed to do environmental assessment, social assessment, feasibility studies of economical effects, financial procurement, risk assurance, legal investigation and policy decision. Those procedure has to be collaborated among governmental bodies, individual firms, different academic bodies, multilateral, and multinational societies.

Every mega projects have to be implemented totally and in integrated way at every process of each project such as planning, feasibility study, location study, production technology assessment, recruitment, purchasing, sales, process management. This integrated approach has been commenced by Professor F. D. Davidson at MIT in 1983 and several affiliated organizations have established in USA, UK, Japan and other area in the world. Macro-engineering will implement studies about all the aspects and factors of each project on the basis of multi-diversified criteria and to achieve each target thorough precise and thorough assessment and project management. This is expected to spread and to be applied worldwide in order to create project future, most of them facing dilemma under current circumstances.

Dr. Medius of MIT issued a paper at Rome Club in 1972 about the limit of global development and made impact to the society by prospecting a shortage of resources, retardation of industrial development, decrease of environmental impact, lowering of agricultural productivity, and population decrease and finally living standards of people would returned to 19 century level. Although having many refutations, this report has made people recognition the volumetric limitation of resources and economical

development. Furthermore this report is likely to stress the importance of gear switching from hardware industry to software industry. This report also seems to put importance on information communication technology, service industry rather than machinery production and by promoting such investment, effective use of energy and resources will succeed to decrease of waste.

Newly invented machines and products have effectively function and been specially used with a limited, specified narrow but deep purpose. Production system after Industrial Revolution pursuit mass production and the production, but supporting system such as insurance, storage, financing, sales, market research, safety assurance, waste management, has immensely deepened and specialized in these days after 1990 in the world. Along with enlargement of investment and measures for large scale materials delivery, it becomes importance to invite participation of financial syndicates.

Accordingly, complexity of large scale development in recent years requires risk minimization by coordinating several different activities into same direction without causing inside conflict. Macro-engineering approach is very effective measures and tools for mega-projects and programs.

**Table 1. Mega projects**

Historical examples	Pyramids The great wall of China, The Suez Canal, The Panama Canal
Projects	Urban development, Cross road of Tokyo Bay, Bullet Train, Alaska pipeline, Euro Tunnel, Tunnel between Denmark and Sweden, Super highway, Space Development, Second Panama Canal, Mont Blanc Tunnel
Future Projects	Soya Tunnel, Korean Tunnel, Malaysian Peninsula Tunnel, Siberian Pipeline, Hyper-city Project, The Red Sea Tunnel

Private firms capital investment for developing countries has increased in spite of ODA direct investment amount being shrunk in these days. Such projects as constructs huge mega-watt power station, installs pipeline by

opening virgin forest, develops mines, constructs roads are some cases likely to change local society rapidly, deteriorate natural environment and finally violate human rights.

**Table 2. Projects example worrying environmental deterioration in Asia**

Project	Implementation body	Purpose	Possible problem
San Roque Multi-Purpose Project (Total budget; 1.1billion us dollars)	San Roque Power Company (Japanese Trade firm 42.4%, US Energy supplying firm50%, Japan Power company7.5%)	Hydro power generation, Irrigation, anti water flood, Water quality improvement	Local community annoyance (Evacuation of family 309→426→741) Soil accumulation and influence for lower reaches
The Sakhalin Energy Project	Sakhalin Energy Investment Corp (USA) US oil company (37.5%) Japan Trading Firm (37.5%), Shell (25%)	In north-east area to exploitation of oil(0.7 billion barrel)Natural Gas(400billion cubic metre) and transport to Japan, Korea and China	Earthquake region Oil spillage from well and oil tanker accident. Influence to ecological system

### 3. Multilateral and Multinational Cooperation

The period between the early to middle of 1990s was a time when the market globalization has given people the prospect and hope. The economics of all the developed nations, except Japan, grew as well as those of many nations in East Asia. From 1997 to 1999, the world took a quite different turn from what was anticipated and showed us the reality when the internal weakness of market globalization existed, the market economy of each nation would face economical turbulent. The Thai bath crises in July 1997 quickly spread throughout the rest of East Asia, in which the end result was a serious economic crises for entire region. During 1998 and 1999, the negative chain

reaction took place and will not dissipate in the near future.

In Japan, facing economical crisis, ODA mechanism is said to come at the crossroads that means many donor countries including Japan, became exhausted to continue monetary support for developing countries

The main arguments are,

- ① Total amount of ODA should be decreased taking into consideration of decreasing tax payers due to appearance of an aging society.
- ② Reinvestigation is needed from the view point of political restructuring aiming at increase of efficiency, elimination of waste money, and rationalization of support policy.
- ③ To prioritize the receipt countries or regions from the view point of diplomatic strategy and policy.

The discussion about governance of each nation has become brisk and DAC has issued the importance of governance as a deep concern. This means every multilateral and multinational cooperation should be thoroughly investigated from the standpoint of effectiveness, efficiency, fairness and transparency. On the contrary, most of the bad governance has been brought about from political corruption, violence of human right, autocracy, confusion, inflation, poverty, disparity in wealth, gender discrimination, explosion of population, high infant death rate, environmental deterioration, low literacy rate, destruction of cultural heritage, biological deterioration. Multilateral cooperation should be stopped to such governments who have performed those bad governance for a long period of time. Furthermore discussion that project results should give priority to measure satisfaction degree of the receipt citizens rather than the index of GDP or GNP of nation which has been adopted as an quantitative index so far.

Ms. Tomoko Ogata, United Nations High Commissioner for Refugees pointed out that the importance of multinational assistance should be focused on maintaining safety/welfare social net, sound forming of social structure and stability of life rather than sovereignty of government. That means the growing role of citizens should be introduced into the activities in every aspects of social work. Nation will exist only for the national benefit pursuit



within the territorial sovereignty and it has system-defect for pursuit of common and global goodness for all the human kind. Considering those comments and opinions, it is easily understood the difficulty of achieving ideal solution for prevention of global environmental bad effects and international trade affairs at conferences or forums in these days.

ODA is understood as a tool for diplomatic achievement, maintenance of democratic market economy, humanitarian activities, natural resources preservation and ODA had, in some cases, given certain groups in developing countries vested right in the past. Vertical divisional ODA work also invites the arguments which shows defects in performing economical development and brings to financial bankruptcy at the end.

It is eagerly requested in the area of multilateral and multinational cooperation to introduce measures which can reorganize complicated and plural factors in projects by making relevance each other for attaining effective, efficient, fair and transparent results

#### **4. Past and Future**

Globalization has brought us huge potential for human development but wealth discrepancy has growing between nations and individual persons in reality.

The discussion about development of developing countries will call for the importance of North-South Relation. Sir Oliver Franks, a president of Oxford University, addressed a speech titled "New International Equilibrium" at Lloyd Bank in 1960 and stressed that ignoring the gap between wealth in North and poverty in South would surely invite severe confrontation between North and South in future. This becomes reality.

It is now reorganized that economic and technical cooperation (ECDC/ TCDC) among developing countries works best on the basis of initiatives taken by developing countries, with the needs and capabilities of partners being clearly identified. In this context, a significant opportunity is offered by the increasing importance role that regional and sub-regional groupings of

the developing countries.

Economic and technical cooperation is the execution and management of developmental activities and projects by institutions of developing countries in which they share one another's experience and technical capacities and utilize, whenever necessary, advice and financial support from external sources including multilateral and multinational organs. In this regards, those activities should be seen as an integral part of country, regional and interregional programming of international technical cooperation, as a modality of technical cooperation, a cost-effective instrument for enhancing technical cooperation to developing countries.

External assistance in the field of industry could catalyse the opportunities offered by these groupings, enabling them to benefit from each other's experience and avail themselves of the potential economies of scale and complementarities of production promised by these groups.

The world is undergoing a revolution in Information and Communication Technologies (CTI) that has momentous implications for the current and future economic and social situation of all the countries of the world. In March 2000, an estimated 276 million persons worldwide were users of the Internet e-commerce or business conducted over the Internet, totaled \$45 billion as recently as 1998 and an estimate in January 2000 projected it could explode to over \$27 trillion as early as 2004. These are astonishing figures, unprecedented by any measure, but reflect activities by less than 5 percent of the world's population. The gross disparity in the spread of the Internet and thus the economic and social benefits derived from it is a matter of profound concern. The formidable and urgent challenge before national governments and the development community is to bridge this divide and connect the remainder of the world's population whose livelihoods can be enhanced through ICT. Exploding e-commerce ties individuals, firms and countries closer and closer together, while those who do not try to catch the Internet express run the risk of being further and further marginalized. Developing countries have great potential to compete successfully in the new global market, but unless they embrace the ICT revolution promptly and actively, they will face new barriers and the risk of not just marginalized but

completely bypassed.

The potential benefit of the ICT revolution to economic and social development, including the achievement of the goals of Sustainable Industrial Development, are such magnitude that they warrant global action. The current inequalities in participation in the ICT revolution dictate the necessity of coherent action on the part of international community, thus same kind of procedures which Mega projects have adopted in the past should be applied in order to minimize the gaps between rural and urban areas, developing and developed countries for future.

After cold war, intergovernmental dependency increases, international framework and observation of its rule have been strongly demanded by international society. Under such circumstances, most of the developing countries have to reorganize their internal economic and social systems in order to fit for international standards and regulations, although having conventional pressing groups which had vested right in the past as well as human right/democratization complainers. Comparing the progress of industrialized countries in the past, more rapid and huge restructuring is requested for developing countries in order to access and catch up the progress of social and industrial changes which have been accelerated by ICT and other relevant management method spread in developed countries.

In July 1999 in Tokyo, a topic of Synergies and Coordination between Multilateral Environmental Agreements was discussed. Panel participants issued statements unanimously the need of Synergy, Inter-linkage, Holistic approach Coordination, Integration for pursuing the common goals of multinational cooperation at the very important period for qualitative change towards 21 century.

It becomes necessary and fundamental requirement that all the citizens of the world should fully recognize and understand the existing of value diversification of people caused by difference of culture, history, tradition, education and the level of industrial development in order to seek for compatible resolution between developing and developed countries.

**Table 3. Human Development Report**

	Global Progress	Global Deprivation
Health	In 1997, 84 countries enjoyed a life expectancy at birth of more than 70 years, up from 55 countries in 1990. The number of developing countries in the group has more than doubled, from 22 to 49. Between 1990 and 1997 the share of the population with access to safe water nearly doubled, from 40% to 72%.	During 1990-97 the number of people infected with HIV/AIDS more than doubled, from less than 15 million to more than 33 million. Around 1.5 billion people are not expected to survive to age 60. More than 880 million people lack access to health services, and 2.6 billion lack access to basic sanitation.
Education	Between 1990 and 1997 the adult literacy rate rose from 64% to 76%. During 1990-97 the gross primary and secondary enrolment ratio increased from 74% to 81%.	In 1997 more than 850 million adults were illiterate. In industrial countries more than 100 million people were functionally illiterate. More than 260 million children are out of school at the primary and secondary levels.
Food and Nutrition	Despite rapid population growth, food production per capita increased by nearly 25% during 1990-97. The per capita daily supply of calories rose from less than 2,500 to 2,750, and that of protein from 71 grams to 76.	About 840 million people are malnourished. The overall consumption of the richest fifth of the world's people is 16 times that of the poorest fifth.
Income and Poverty	During 1990-97 real per capita GDP increased at an average annual rate of more than 1%. Real per capita consumption increases at an average annual rate of 2.4% during the same period.	Nearly 1.3 billion people live on less than a dollar a day, and close to 1 billion cannot meet their basic consumption requirement. The share on global income of the richest fifth of the world's people is 74 times that of the poorest fifth.
Women	During 1990-97 the net secondary enrolment ratio for girls increased from 36% to 61%. Between 1990 and 1997 women's economic activity rate rose from 34% to nearly 40%.	Nearly 340 million women are not expected to survive to age 40. A quarter to a half of all women have suffered physical abuse by an intimate partner.
Children	Between 1990 and 1997 the infant mortality rate was reduced from 76 per 1000 live births to 58. The proportion of one-year-olds immunized increased 70% to 89% during 1990-97.	Nearly 160 million children are malnourished. More than 250 million children are working as child laborers.
Environment	Between 1990 and 1997 the share of heavy polluting traditional fuels in the energy used was reduced by more than two-fifths.	Every year nearly 3 million people die from air pollution, more than 80% of them from indoor air pollution and more than 5 million die from diarrhoeal diseases caused by water contamination.
Human Security	Between two-thirds and three-quarters of the people in developing countries live under relatively pluralist and democratic regimes.	At the end of 1997 there were nearly 12 million refugees.

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This will be attained through the concept of EAROPH which aims to stay abreast of all human settlement issues and problems which resulted from rapid development in developing countries.

## **Reference**

- Keiki Fujita; Human and Environment. Nisshin Publishing Corp, Tokyo, 1998.
- Keiki Fujita; Leadership for Environment and Development Program. Keio University Press, Tokyo, 1998.
- Keiki Fujita; UN Conference for Energy Saving, Financing and Investment, Kazakhstan, 2000.
- Keiki Fujita; Global Environment and Technical Transfer, Obirin University Forum for citizens 2000.
- Friend of the Earth Japan; Overseas Investment and Credit Export Bank, Tokyo, 2000.
- Keiki Fujita; Problems of the Global Environment, AOTS, Tokyo, 1995.
- Kazuo Takahashi; Agenda for International development, Fasid Tokyo, 1999.
- United Nations; General Assembly, fifty-fifth session, Globalization and interdependence, NY, 2000.
- Keiki Fujita; Meeting of TCDC Agency Focal Points, Geneva, 1993.
- UNDP: Human Development Report, 1999.