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Implementing China's Agenda 21: From National Strategy to Local Actions

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Abstract

The paper analyzes the process of adaptation of the Chinese governmental policy in response to sustainable development. It reviews the historical roots, from which response to sustainable development arises.

Through examining the policy-making and implementation processes of China's Agenda 21, the paper attempts to gain a better understanding of: 1) the dynamic forces that contribute to the establishment of the national and regional Agenda 21, and the relationships between different institutional preferences, arrangements and their obstacles; 2) the driving forces that pro-active responses to implement Agenda 21 projects, and the role of local governments in the process; 3) the relationship between international environmental aid and national capacity building for the environment; 4) the obstacles and conflicting interests that limit the implementation of Agenda 21, and sustainable development in China.

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1 Introduction

Five years have passed since the United Nations Conference on Environment and Development (UNCED) was held in Rio in 1992. The political commitments and the international treaties signed at the Earth Summit have, since then, been translated into practical actions, although degrees of action vary considerably across nation-states.

In putting the concept of sustainable development into practice, the development of Agenda 21 has drawn considerable attention, both in governments and non-governmental sectors. The importance of implementing Agenda 21 world wide for sustainable development was stressed at the special session held by the United Nations General Assembly in June 1997:

We emphasise that given the accelerating pace of the globalisation process, the persistence of poverty, unemployment and violent conflicts, the growing gap between developed and most developing countries, and the continued deterioration of the environment, the comprehensive implementation of Agenda 21 as a programme of action for achieving sustainable development world-wide remains vitally important and is even more urgent now than ever.¹

Do the current changes in developing countries in response to sustainable development imply a real shift in their development strategies? Or are they no more than symbolic showcases in the bargaining with developed countries? And what are the driving forces that have led to the current changes? We still know little about how the transition toward environmentally sound development is being handled in countries with a strong preference for economic development. Therefore, there is a need to better understand how domestic tensions are resolved in the shift toward sustainable development.

This study is intended to analyze the process of transition, or evolution, in the Chinese political system in response to the international pledge to achieve sustainable development. It reviews the historical roots of the development of environmentalism and policy-making, from which demand for sustainable development arises. It examines the institutional changes inspired by international aid initiatives, from which pro-active responses toward sustainable development came into force.

It also analyses the tensions and potential conflicts that have emerged from institutional development for Agenda 21 at different levels in society. It shows how the transition takes place with the involvement and shared interests of various actors. Finally, it examines major barriers to the implementation of Agenda 21, including those that could be removed to facilitate further development.

2 Background: Environmentalism as Policy

From a historical perspective, the origin of environmental problems and the development of corresponding environmental policies in China have undergone several distinctive phases since 1949 when the People's Republic of China was established. These phases can be described as follows:

1949-57	Absence of clearly defined environmental policy
1958-72	State controlled social movements to clean up the environment
1973-82	Environmental consciousness build-up and institutional set-up
1983-92	Enforcing environmental management and science/technology
1993-	Experimenting with sustainable development

Table 1 shows the matrix of the evolving perspectives in the Chinese environmental management system. It indicates the inter-relationship of agenda setting and institutional development.

Table 1: Matrix of the Environmental Policy Evolution in China (1949 – Present)

Period	Objective	Character	Actor	Instrument	Driving Force
1949-57	Industrialisation	Growth-oriented	State Planners	Economic Planning	Maxist's Economic Theory
1958-72	Reducing Health Risks	Massive Social Movement	General Public	Propaganda	Concerning Health Effects of the Environment
1973-82	Clean-up the Environment in Urban Areas	End-of-Pipe Solutions	State Planners Bureaucrats	Command-Control Management Emission Fees	UN Conference on Human Environment
1983-92	Reducing Pollution at Source	Pollution Prevention	Environment Scientists & Engineers	Enforcing Env. Laws & Regulations EIA* TA** EPORS*** QECUER****	Environment Damage of Development Brundtland Report
1993-	Sustainable Development Eco-system Balance	Internalising Environment Costs	Ecologists Environment Economists Managers	Ecological Planning	UNCED

* Environmental Impact Assessment ** Technology Assessment

*** Environmental Protection Objective Responsibility System

**** Quantitative Examination for Comprehensive Urban Environmental Repairs

In the first phase of the industrialisation between 1949 and 1957, pollution control policy was absent. China mimicked the Stalinist big-push development strategy of the former Soviet Union, and emphasised the development of the heavy industry, along with the over-consumption of energy and raw materials. In this period, the separation of economic development from environmental and natural resources management was obvious.

The second phase between 1958 and 1973 coincided with the period of the Great Leap Forward and up to the economic adjustment period of the Cultural Revolution. During the mass movement of the Great Leap Forward (1958-60), decentralized economic policies encouraged the development of the iron and steel industry, which became the backbone of China's industrial policy. Consequently, without proper protective measures, environmental quality declined.

The most notable massive state-organized environmental movement at the time was the so-called Eliminating the Four Pests Movement, aiming at reducing the health effects of pests. During the Cultural Revolution (1966-77), not only did the national economy nearly collapse, but also environmental pollution and ecological destruction reached very critical levels. These were caused mostly by urban environmental pollution emitted from 130,000 factories built up during this period. Dramatic land-use changes and over-consumption of bio mass resources are the other sources of environmental deterioration.²

In the third phase between 1973 and 1982, environmental protection became institutionalized with the establishment of environmental protection agencies nation-wide. This development was largely inspired by the 1972 Stockholm UN Conference on the Human Environment. The "polluter-pays-principle" was introduced in China in 1979, which attributed the responsibility of polluters in environmental damage.³

This marked a turning point in prioritizing environmental management. A number of policy measures were introduced and strengthened, such as environmental lawmaking, environmental education, and environmental science and technology development. However, most measures used during this period were the so-called end-of-pipe solutions. There was little concern for optimising production processes and increasing efficiency, such as in energy use. A top-down approach in environmental management was introduced with the command-control system as the major instrument for environmental management, which tended to exclude public involvement in environmental protection.

The fourth phase from 1983 to 1992 was marked as a period of strengthening environmental management. Under the drive of economic reforms and the open-door policy, the development of environmental policies led to considerable changes in environmental institutions. A series of environmental laws and regulations were stipulated and implemented. In 1984, the government introduced a policy, under which economic development and environmental protection should be conducted simultaneously in national and regional economic planning. Local and regional environmental laws were also established and adjusted.

In this period, environmental policy evolved to stress the role of science and technology (S & T). The government realised the importance of environmental S & T in national development.

Clean production and pollution prevention became accepted practice, although conducted in a limited scope. Public investment in the environment increased from 0.4% to 0.7% of GNP. Environmental protection was integrated into the social and economic development plans. Due to the rapid industrialisation, environmental problems became widespread across rural areas. Emission fees were reinforced. Environmental Impact Assessment (EIA) was required in the preparation of major development projects. In 1989, a number of environmental management measures were introduced, including:

1. Environmental Protection Objective Responsibility System;
2. Quantitative Examination for Comprehensive Urban Environmental Repairs;
3. Permission System for Emission of Pollutants;
4. Time-limit System for Pollution Reduction; and
5. Centralised Pollution Control and Regional Environmental Quality Improvement.⁴

These instruments have become institutionalised in China's environmental management system. Their strength lays at the advancement of central control in environmental management, but lacks economic incentives and disincentives to motivate market responses of individual enterprises and sector institutions.

In the last and most recent phase beginning in 1993, environmental policy has evolved to include a new dimension. The concept of sustainable development started paving its way into the policy arena, partly inspired by international debate on development and the environment, and pressures imposed by the international community. However, the most important driving force is the concern of keeping the environmental deterioration under control. National policies are formulated to respond to the UNCED, and the Framework Conventions on Climate Change and Biological Diversity.

This period has marked a transition from scientific debate on sustainable development into practical actions. The implementation of sustainable development has begun to be diffused into societal sectors with the push from the central government, although it is still conducted in a very limited scope. Ecological planning has become instrumental in designing sustainable projects and programs. Internalization of environmental costs is being put into practice, for example, through reducing governmental subsidies on energy to keep energy prices closer to market rates. The concept of social development has been put into practice by establishing experimental districts at the local level. With the establishment of regional administrative offices, Agenda 21 becomes institutionalised.

One characteristic of the recent development is the cross-sectoral phenomenon, with the integration of environmental criteria into development projects and plans. Another characteristic is the involvement of social groups, including environmental scientists, economists, managers and policymakers. There are also signs of increasing participation of NGOs in environmental protection.⁵

Science, in particular ecology, has come to play a central role in shaping development trajectories. Ecological planning is being experimented with in selected areas and local regions. There is also an international dimension in environmental policy. Climate change has become

an area of concern in governmental policy, despite the fact that no specific attempt to eliminate CO₂ emissions is made. Substantial assessments have been made to project the potential impacts of climate change on eco-systems and the agricultural sector. Environmental security has provoked attention in the government. As a result, substantial increases in environmental expenditures have been committed at high-levels of the government.

It should be noted that there is considerable overlapping between these phases of development. Some early phenomena in environmental protection, such as end-of-pipe solutions in industrial waste management, are still widely practised in many enterprises. A broad transition is taking place with new initiatives being imposed on the basis of old institutional frameworks.

3 The Making of China's Agenda 21

China was the first developing country to establish a national Agenda 21. After the UNCED, the government of China attached importance to the harmonization between development and the environment, and adopted a series of follow-up actions. First, China formulated the "Ten-point Tasks for the Environment and Development", in which the harmony between economic development and environment protection and the policy for sustainable development were emphasised.

China started making its national Agenda 21 in July 1992, immediately after the UNCED. The State Environmental Protection Commission of the State Council played a major role in setting up the institutional framework, i.e., regional administrative offices for Agenda 21. It was decided by the central government that the State Planning Commission (SPC) and the State Science and Technology Commission (SSTC) should be responsible for drafting the national Agenda 21.^A For that, the Administrative Center for China's Agenda 21 (ACCA21) was established. The draft of the national Agenda 21 was involved with more than 300 experts from 52 organisations with inputs from various ministries.

In 1994, the government of China formulated and approved China's Agenda 21 - the White Paper on Population, Environment and Development of China in the 21st Century. A master strategy, policy and action scheme to harmonize development of economy, society, resource, the environment, education and population are proposed in China's national Agenda 21.⁶ It serves as a guideline for the government at all levels to formulate plans for sustainable economic and social development by the years 2000 and 2010. The establishment of China's Agenda 21 has become a multiple action through different levels in society: national, regional, ministerial, and, to some extent, at the local level.

The formulation and implementation of China's Agenda 21 is considered of strategic importance in achieving sustainable development. This is not only the response of the Chinese government to fulfilling its commitment at the UNCED, but it is also the inevitable choice China has to make, due to the pressing environmental problems, which are the main driving force in the governmental attitude toward sustainable development. Xie Zhenhua, Administrator of China's National Environmental Protection Agency (NEPA), made the following remarks in his speech to the US Congress during his visit to Washington, DC on June 20, 1997.

Today's China is facing a severer environmental challenge than at any other time in history. Environmental quality is aggravated by an annual increase in population of 13 million, rapid urbanization and industrialization, over-exploitation of natural resources, inadequate technological and managerial capacities, and low environmental awareness among both decision makers and the public.

China's Agenda 21 has three main characteristics: 1) Development is central to achieve sustainable

^A In the recent restructuring of the government in 1998, the SPC is now called the State Development Planning Commission (SDPC), and the SSTC becomes the Ministry of Science and Technology.

development, in which the development of the human being is emphasized; 2) The issues of population, environmental protection and sustainable utilisation of natural resources are given special consideration; 3) Priorities are given to capacity building for sustainable development, in particular the human resource development.⁷

It is clear that the Chinese government is one of the few developing countries in the world to have devoted considerable attention to Agenda 21, and to have set up a series of projects for implementation. In early 1994, a group of experts was organized by the SSTC to select 62 key projects from a wide-range of proposals submitted by various ministries. With a vision of attracting international aid and private sector investments, a high-level round-table international conference was held in July 1994. In October 1996, the second international conference for China's Agenda 21 was held with 128 proposed priority projects. These two conferences served as a window for participation of foreign partners in China's Agenda 21.

Among the projects proposed, energy conservation and environmental protection have been high in the agenda. New energy technologies are appraised and selected. In particular, the development of a number of key coal combustion technologies used in power plant, such as the Integrated Gasification Combined Cycle (IGCC) and Coal-fired Pressurized Fluidized Bed Combustion Combined Cycle (PFBC), is given high priority.

4 From National Strategy to Local Actions

In the five years of post-Rio period, China has experienced an institutional shift toward sustainable development. It has become clear that the attitude and reactions toward the implementation of Agenda 21 could be considered critical to test the acceptability and credibility of societal actors in response to sustainable development. The policy shift toward sustainable development is not taking place evenly across regions and sectors in society. As almost all the pilot projects are still in the process of being implemented and no results are visible at this stage, the main characteristics are summarized below.

- 1) Dissemination of sustainable development is promoted in a top-down approach with key governmental officials involved to ensure the credibility of project operation;
- 2) Capacity building is taken as a top priority with widespread participation;
- 3) Creation of a multiple input system, including supports from governments, banks, aid agencies and the private sector, to ensure the funding for pilot projects;
- 4) Integration of Agenda 21 into annual and long-term development plans;
- 5) Clean production and eco-agriculture as key elements in implementing sustainable development; and
- 6) Strengthening research on assessment, monitoring and auditing measures for sustainable development. For that, collaborative relationship is established between the government and universities, as well as the Academy of Sciences.

One particular character in implementing Agenda 21 projects is the heavy involvement of governments at the national and sub-national levels. With the established political and management frameworks, it has been relatively easy for the central government to set up a national network of centers and offices for Agenda 21. A top-down approach in policy formulation from the central government has promoted the regional governments to react positively to the implementation of sustainable development.

In June 1996, the State Council requested the regional governments to establish concrete plans for the regional Agenda 21 to be implemented. By 1997, 22 governments at the province level had formulated their regional Agenda 21 and corresponding priority projects. In addition, a number of cities established their own local agenda 21.⁸

There is a difference of emphasis in implementation. For the richer eastern coastal areas, the emphasis is to increase efficiency in resource use, to change traditional production and consumption patterns and reduce waste, and shift to cleaner production and environmental friendly energy technologies. For the poor inland regions, the emphasis is on poverty reduction, rational use of natural resources, conservation of energy in production process, and increase of investment on infrastructure development.

An interesting phenomenon emerges in the establishment of local Agenda 21 at the county level. It appears that several local Agenda 21 were established because of local initiatives, in the absence of the request or policy from either the central or regional governments. These initiatives come from relatively poor regions in the country, such as Luliang County in Yunnan Province and Tongbia County in Henan Province. By contrast, the richer regions along the

eastern coast have little innovative actions in pursuing sustainable development, despite a number of model cities being selected.⁹

One could raise a question based on this phenomenon: Do higher living standard necessarily lead to pro-active response to sustainable development? Or can poor regions be more sympathetic to environmentally sound development? The dynamics of change are not very clear at this stage. However, the function of what can be referred to as a "critical network" is important in promoting the establishment of the local initiative.

It appears that the local governments in the above mentioned regions are convinced by a few key persons who have direct relationship with either the central government, or the Academy of Sciences, which are better informed of the recent development at the national and international levels. This development has reinforced the notion of networking in establishing critical linkages for sustainable development, in which information and communication are important components.

Capacity building is an important component in project implementation. This has been stressed both by the international aid agencies and their Chinese counterparts. Training is taken as an important measure in capacity building. Capacity building has been prioritised as an important component for the implementation of local Agenda 21. This is largely attributed to the understanding that human resource development holds the key to the implementation of sustainable development.

From 1994 to 1996, six training workshops were organized by the ACCA21. More than 200 key policymakers involved in economic planning and S & T development from regional governments and various ministries were trained on the concept of sustainable development and related science and policy issues. This has been a critical step in generating local actions.¹⁰ In addition, some regional administrative offices for Agenda 21 have also organized training workshops for local managers and policymakers.

The government has realised that the implementation of Agenda 21 is not static, but a dynamic process, in which constant adjustment is needed to be able to adapt to new situations and changes. The Administrative Center for China's Agenda 21 has adjusted its function over the past three years. It has shifted from a management center with strong preference for project financing and management into a networking organization with mandates of providing information, monitoring and reporting progress, evaluation and policy-making. It is also intended to become economically independent in operation.

Recently, a Centre for Environmentally Sound Technology Transfer (CESTT) was established within ACCA21. This is part of the effort for capability building in Agenda 21, which received a grant of half a million U.S. dollars from the Asian Development Bank (ADB). It indicates a strategic shift for the ACCA21, from the mandates of co-ordination and fund raising to networking and information sharing, in order to facilitate regional and local development. It also aims to be financially self-supportive, through facilitating environmental technology transfer activities.

5 Experimenting with Social Development

Long before the UNCED, innovative thinking on harmonising development with the environment took place in the SSTC. In 1986, the SSTC together with the SPC started doing experiments with the establishment of a program called "Experimental Districts for Comprehensive Social Development". The idea was to try to harmonise development with the environment at the local level (cities and communities), aiming at developing models for further dissemination at the national level.

In 1992, a high level decision was made to speed up this development. By 1996, 26 national and 45 regional projects had been implemented across 23 provinces. From 1992 to 1996, projects at the national level had grown more than fourfold, and doubled at the regional level. It is projected that the total experimental districts will reach 160 by the year 2000.¹¹

With different emphasis, these experiments try to reach a balanced social development with the vision to harmonise economic development, social security, environmental protection and rational use of natural resources. Education and training as part of the effort for capacity building are emphasised. Policies are made to promote technological innovation in high-tech industries as the core of the reform.

With more than ten years' operation, these experimental districts had become the basis for further implementation of local Agenda 21. They are instrumental in provoking positive reactions on sustainable development at the local level. The national experimental districts can be characterised in Table 2.

Table 2: Characteristics of the National Experimental Districts for Social Development

Level	Type	Objective	Emphasis
County & mid- & small cities	Regional sustainable development	Comprehensive social development	Reducing urban-rural gap, infrastructure improvement
Urban	Sustainable urban development	Harmonizing urban development with the environment	Service industry high-tech industry Information technology
Suburb	Urban-rural development	Rational use of resources, cost-efficient agriculture	Eco-agriculture Waste management
Community	Minimum emissions District development	Reducing waste Minimizing resource use and population growth	Clean production Education, health care

6 Who Plays What Roles?

In China's practice on sustainable development, there are two key group actors, bureaucrats and scientists, who come to affect the policy processes from different perspectives. The increased interplay of policymakers and scientists has created a new framework to allow policy innovations to take place.

Bureaucrats in China are the dominant social group as far as development policy is concerned. They are connected with a well-established political framework and operate through sophisticated networks. Since the late 1970s, policymakers in China have played a major role in pushing the rapid economic reform and industrialization. The development has tripled the national income and improved the living standards of the general public, but also led to severe environmental damages. In the early stage of the economic reform, the vision of development was very much occupied by the traditional economic growth model with the increase of personal income and national wealth as the main objectives for development.

However, this perception for national development has changed, because of the increasing integration of China into the international community. Some policymakers have realized the interlinkage of development and the environment. It is in part due to the process of professionalization in the government. The current state leadership is dominated by people with engineering backgrounds.

In recent year, a large number of young professionals, many with master's degree and some with doctoral degree, have been promoted into key positions in governments. Mostly educated with technical background, these young professionals have helped strengthen the so-called technocratic culture within the political system. There has also been a new trend of recruitment from the scientific community to the government. This is especially evident in the "one-way traffic", moving of personnel, from the Academy of Sciences to central governmental agencies.

For instance, the current Executive Director of the ACC21 is recruited from the Academy of Sciences, so is the new Executive Director of the Division for Social Development at the SSTC. This new blood of bureaucrats is bound to bring about shifts in governmental agenda and policies.

One character of this change is the respect for science, technology and scientific advice. They tend to support pragmatic policies with social and economic benefits. The diffusion of science and scientific ideas in governments has become apparent. There is a newly developed linkage between decision-making and science, through the mediation of this younger generation of policymakers.

Although most of these young professionals still occupy mid-level positions in governments, they have come to play an important role in shaping the governmental policy agenda. They are relatively more open-minded than the elder generation of the state leadership in supporting innovative ideas and policies. They have brought about new thinking and innovation into the bureaucratic system, through their networks of contact in the scientific community. This, in

turn, provides a basis for the diffusion of sustainable development in the governmental policy system. The political support for Agenda 21 has come out of this broader framework of governmental actors.

Scientists as a social group have become increasingly integrated into decision-making systems in China. Despite the influence of a number of prominent individual scientists, such as Prof. Ma Shijun who was instrumental in shaping the governmental policy-making on sustainable eco-agriculture, scientists as a group have established their positions in the political system as mediators for policy change.

The scientific community plays an important role in the process of establishing China's national capacity for sustainable development. They have become instrumental in bring about critical changes in the political.¹² Its influence has gone beyond the traditional mandate of research for the advancement of science, and diffused into the public policy arena and become prioritized in application of scientific results. Their functions in sustainable development are realized through several channels: scientific advice, conferences and workshops, management consultation, training for policymakers, and informal networks of contacts in government.

In the practice of implementing Agenda 21 projects, or more broadly the projects promoting social development, scientists, in particular ecologists, play an active part by bring about the concept of ecological planning into development objectives. In what is referred to as a Human Ecological Approach, Professor Rusong Wang indicates that:

The central objective [of the Human ecological Approach] is to promote highly efficient resource use rather than high-speed development, harmonious system's relationship rather than inflexible compartmentalization, and robust and vital self-organization rather than bureaucratic control. This ecological order is to be regulated through technological innovation, institutional reform, and behavioral incentives that promote positive economic development while mitigating negative environmental impacts.¹³

7 International Linkage

There is little doubt that China's response to sustainable development is rooted in an international context. Despite the inspirations UNCED has made in China's road toward sustainable development, international aid agencies have played a key role in shaping China's development path. China is currently the No.1 recipient country for World Bank loans, and the second largest recipient of United Nations Development Programme (UNDP) and Asian Development Bank (ADB)'s assistance.

The shift toward more environmental oriented lending at international aid agencies has helped raise positive responses and results in China.¹⁴ By 1994, China received US\$1.4 billion of loans for 13 large environmental projects from the World Bank and the ADB. In addition, there were 95 technical assistance projects supported by grants of US\$ 126 million from multilateral and bilateral aid agencies.¹⁵

It should be noted that international aid to China still plays a marginal role in China's development. Compared with the massive private investment activities from both domestic and the international business community, aid for the environment is very limited in terms of shaping the trend of development. There is also a potential conflict that foreign investment in development projects may offset the gains from international aid on the environment. One example is the energy sector.

Recent deregulation in the energy market has promoted massive foreign investment inflows in the power sector. These investments reinforce the supply side of the energy development that will have environmental consequences.

UNDP is an active player in China's Agenda 21. In the last few years, the UNDP's ability has been restricted by its financial constraints. UNDP has an interest in using its limited resources to influence high-level governmental decision-making. For this, Agenda 21 is an ideal project to be involved with. UNDP's interest in making China a model in implementing sustainable development is in accordance with the interest of the Chinese government. UNDP has provided strong support to the agenda setting and policy-making for China's national Agenda 21, through the means of project financing, international consultation, and training, etc.

The establishment of the mechanism for the implementation of Agenda 21 has provided a channel for international collaboration on sustainable development. Many bilateral aid agencies come to establish collaborative partnerships with local agencies through the mediation of ACCA21, especially in the early stage of their involvement in China. On the other hand, local governments are able to build up their networks with foreign counterparts through the ACCA21.

One example is the recent implementation of the China-Sweden Cooperation Programme on Local Agenda 21. It received support from both the Swedish International Development Agency (Sida) and the SSTC. This project attempts to disseminate the Swedish experience in implementing local Agenda 21 into China at the local scale.¹⁶

The implementation of China's Agenda 21 has drawn attention from neighbouring countries. In the last two years, India, Mongolia, and Vietnam have sent high-level delegations to China to learn from the Chinese experience in implementing Agenda 21. They are particularly interested in the implementation of local Agenda 21 and the measures used. It can be expected that south-south co-operation on sustainable development will increase its importance in the future.

8 Institutional Obstacles in Implementation

There are considerable institutional obstacles that limit China's capacity to adapt to changes toward environmentally concerned development. These problems are discussed below.

8.1 The Missing Linkage: NGOs' Participation

In the current political system, the Chinese government is reluctant to encourage the development of the non-governmental sector, namely NGOs, being anxious of political instability. This is related to the traditional system of governance within which governmental policies are implemented with a top-down approach with poor feedback mechanisms. This situation reinforces the so-called "blanket control" approach, which could lead to ineffectiveness in policy implementation.¹⁷ There is little doubt that a decentralized system with citizen's participation would be more cost-effective in implementation, especially in the case of implementing local Agenda 21.

Clearly, the present policy is vague in support of the participation of NGOs in sustainable development activities, despite the policy encouraging the involvement of women, children and young people, ethnic groups, labor union and the scientific community.¹⁸ Indeed, there is a gap between policy-making and policy implementation in China. NGOs' participation in the implementation of Agenda 21 projects is largely absent, as mechanisms to encourage the involvement of NGOs are not in place.¹⁹

Compared with some developing countries in Asia where NGOs play an active part in shaping governmental policy-making,²⁰ the critical function of NGOs in supporting environmental activities is weak in China. This is a major obstacle in implementing cost-effective programs for sustainable development. International aid agencies have been mostly accountable to governments. So far, few aid programs have been designed for, or related to, the participation of NGOs in China. Indeed, there is a need for new mechanisms to be set up to provide incentives for NGO's involvement in activities, particularly for those with local interest in sustainable development.

8.2 Inter-agency Relationships

One obstacle in achieving sustainability in China is the disassociated sectoral interests. China's political and management systems are sub-divided by divisions with different subject areas. Specialization and sectoral interests have prevented sectoral organizations from coordinating with each other. Lack of communication between sectoral institutions is also a common phenomenon. Separation in institutional interest may lead to conflicts and inefficiency in project operation.

This is the case in policy-making. Like many other countries, coordination among governmental agencies in environmental policy-making and implementation has been a major obstacle. In China, an environmental committee under the State Council has been set up to

coordinate the activities of different sectoral ministries. Those ministers meet once every three months to discuss latest problems. But reality shows that such a committee is far from being enough to solve the major problems and conflicts among themselves.²¹ There is a need for effective mechanisms to be set up in order to eliminate this obstacle. A special task force could be set up in each agency with the mandates of coordination and communication. There is also a need to adjust the inter-agency relationship between international aid agencies and their counterpart organizations, which could improve the effectiveness of project negotiation and operation.

8.3 Central and Regional Governments

In the past fifteen years or so, China had undergone a process of decentralization: from the concentration of power in the central government to an increased regional autonomy. This is particularly true in regions with faster economic growth and industrialization, such as Guangdong Province and Zhejiang Province. Therefore, we have witnessed a diminishing power of the central government in making macro-level adjustment.²²

There are conflicting interests between the central and regional governments, including local governments, in their response to implementing sustainable development. Regions often have their own agenda for economic and social development that may not be in consistency with those set up by the central government. Many regions have to make choice between faster economic development or more investment in the environment. As mechanisms for the internalization of environmental costs are still not in place, preferences for economic development often overtake the demand for environmental sustainability.

8.4 Financing Local Agenda 21

Financing for the implementation of Agenda 21 is a crucial element. There are national priority projects supported by the central government and international aid projects. However, there has been no specific funding for local Agenda 21. This is a major challenge in making Agenda 21 operational at the local level. Many local governments have budget deficits and have difficulties to commit themselves to long-term sustainable development projects, which usually do not provide immediate economic returns.

The central government is slow to offer policy incentives for local governments to reorient their priorities, which may often put preference on quick economic profits, rather than environmental quality improvement. So there are conflicting interests between the central and regional governments in reaching expected development objectives. One possible means of provoking stronger local interest and action is to have the business community and the industrial sector involved directly in sustainable development projects.

For doing so, policy incentives need to be established to internalize environmental costs in development and industrial projects. The financial sector should be promoted to provide soft credits to support initiatives in sustainable development.

9 Conclusions

The Chinese experience demonstrates that practices for sustainable development can be integrated into a society with strong governmental intervention and in a country with high preference for economic development. The experiment for sustainable development in China can be viewed as a positive sign of a massive shift toward environmentally sound development in developing countries. China's success can be attributed largely to strong government support, which is also a weakness in itself.

In particular, the domination of governmental intervention may undermine potential contributions from the NGO sector that is so vital in shaping societal responses for sustainable development. China's experiment in implementing Agenda 21 shows its willingness to pay back its past debts on the environment, and its commitment to a sustainable future.

However, it should be realised that it would be a long-term process for China to transform itself from a growth oriented to an environmentally concerned nation. In many aspects, the growth-oriented pattern of development still dominates many local governments and communities. Behavioral change is, therefore, needed for further development.

The Chinese experience demonstrates that there are several determining factors in establishing a national capacity, or competence, in sustainable development. First, active participation of the scientific community; second, convinced government policymakers and corresponding institutions; third, commitment and active participation of local governments; fourth, effective management networks for project coordination; finally, involvement of NGO's in project design and operation. Above all, capacity building is the most crucial step in the transition toward sustainable development, in which education and training are two key elements.

International aid has played a positive role in China's transition to sustainable development, but it has been a limited factor. Without the domestic shift in environmental behavior, it would not have been possible to reach the current progress. It could be viewed that the present move in environmentally concerned development is part of the evolutionary process that may lead China into equilibrium in development. However, the present practice may not be the most cost-effective, due to the impact of various institutional conflicts and obstacles.

In many aspects, China is taking a "learning by doing" approach with carefully designed social experiments. It is intended to develop models that could fit into different local conditions. By doing so, large-scale mistakes may be avoided. This may prove to be a useful experience for other developing countries in their practice toward sustainability.

10 Footnotes

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