



Vietnam Agricultural Science Institute
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Rural Environment Management
At Central Level

Summary

Pham Thi Ngoc Linh
Trinh Van Tien

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1. Introduction

In Vietnam where rural areas are home to more than 70 % of the population, the environment and natural resources have been heavily polluted by rapid economic growth. Since the first 5-year plan (1961-1965) the priorities of the government have been to control population growth, increase income, develop equality between regions, and decrease impacts on the living environment. Although much progress has occurred, many major challenges remain to be addressed:

1. The agricultural land base has been reduced;
2. Land area per capita has dropped and it is scattered;
3. The population continues to increase;
4. There is a surplus of labor and unemployment is high;
5. The working and living environment is polluted;
6. Poverty is a serious problem in most regions, particularly in rural and remote mountainous areas;
7. Natural resources are over-exploited.

Against this background a team of trained scientists from the Vietnam Agricultural Scientific Institute (VASI) undertook a study in late 2003 and early 2004.

Objective

The objective was to conduct research on the rural environment with an emphasis on the institutions and policies of governments. This involved taking a retrospective overview of more than 40 years of rural development in Vietnam. The review focused on environmental policies, socio-economic development strategies and programs, environmental protection programs and the make-up and inter-relationships of national and provincial institutions. The research also tried to build a picture of rural Vietnamese development since the war.

Methods

The VASI team possessed skills and experience in policy research, agriculture, and rural development. Its work focused on the following:

1. The organizational structure and environmental legislation for agencies at the national level that have responsibility for natural resource management;
2. Socio-economic development programs at the national and provincial government levels, related to the rural environment;
3. The policies of some other sectors involved in rural environmental affairs; and
4. Environmental management support from international agencies for Vietnam.

Specifically the research looked at natural resource planning and use, the agricultural ecosystem, rural organizations, and the quality of life for rural people. This required a review of:

1. The impact of national strategies, programs, and the macro policy mechanism, on the natural environment, the socio-economic environment, and rural people;
2. The transformation overtime of the economic structure for agriculture;
3. The development of the market economy with the household as the basic element of its foundation;
4. The problems of shifting agriculture and resettlement measures;
5. The context and practice of intensive farm production;
6. The environmental awareness of villagers and communities, including existing regulations and relationships between the people.

The first four of these approaches were used in combination to review the institutions and policies of national and provincial institutions at the macro level. This work began in October 2003 with preparatory meetings with an FAO advisor and other experts. Data collection and organization followed. In October and November 2003 interviews and meetings were held with some ministries. Report drafting and synthesis took place in December 2003 and in January 2004. Given the complexity of the task, the final report is comprised of component items prepared by sub-groups of the VASI team.

2. Environmental Issues

The land resource of Vietnam covers 33 million hectares, including many locations where the main land uses are farming and forestry. Much of the land has limited potential because of slope, erosion, alkali etc. In addition, all lands have been heavily degraded by over-use, erosion, flooding, and pollution from sewage, chemical waste water, pesticides and fertilizers.

Human activity has complicated the picture by:

1. Weak planning of land use;
2. Burning off land for farming;
3. Disorderly allocation of land for forestry;
4. Poor planning for the settlement of ethnic people in mountainous and foothill areas;
5. Lack of management of immigration and population pressure;
6. Poor land and water management;
7. Chemical contamination from the Vietnam war;
8. Slow acceptance of advanced technologies in farming and forestry.
9. Water resources are degraded by heavy usage for farming year round, although most rainfall occurs in a 3 – 4 month rainy season. High evaporation and rapid runoff affect reservoir use.

10. Surface and groundwater resources are overused and polluted by a combination of farming needs and chemical and sewage waste discharges. Coastal waters are also degraded and salinated with toxic heavy metal and chemical pollution.

Forest resources and biodiversity diminished from 1943 (coverage 43 %) to 1998 (32% coverage). The main causes are:

1. Physical damage and toxic chemicals from the war;
2. Farmland expansion and immigration to the mountains from a new economic and industry area on a delta area (1 million people) as well as normal migration;
3. Forest fire losses in 56 % of the forest;
4. Infrastructure growth (roads, electric works, dams and reservoirs, and industrial zones).

Growth in the urban and industrial sectors has brought with it pollution to air, water, and land resources and hence to the rural population. Only a very small percentage of waste is treated.

Growth in the rural areas has impacted the farm ecosystems and quality of life through degradation of the water supply, genetic resources and soil quality. Because of pollution, weak education and health care systems, and high illiteracy, rural people have been distracted from environmental concerns by the difficulties of day-to-day life. This mitigates against increased awareness on such matters as proper use of authorized pesticides, fertilizers and other farm chemicals.

A feature of rural degradation is the contribution of pollution from agro-industrial craft villages and small industrial farms making such products as pottery, bricks, wine, food processing, carpets, and metal castings. Pollution levels from these activities exceed national and international standards by large margins (by a factor of up to 1,000).

3. Environmental and Natural Resource Management Policies and Strategies of Vietnamese National and Provincial Institutions.

3.1 POLICIES

Vietnam has a comprehensive system of policies and plans relevant to this subject. Important subjects are well documented; however implementation is only partially in place. Examples include:

1. Sustainable development responsibilities in every organization;

2. Harmonizing the relations between national, sector and local plans, including EIA and environmentally friendly technologies;
3. Family planning to curb population growth in the interest of reducing poverty and environmental degradation;
4. Diversification of the rural economy in conjunction with urban and rural development planning;
5. Involvement of communities and all citizens in the promotion of environmental awareness, mass organizations and mobilization;
6. Participation in the full range of international agreements.

3.2. INSTITUTIONS OF GOVERNMENT

The National Government

As of 2002 the lead role in national environmental and natural resource matters is borne by the Ministry of Natural Resources and Environment (MONRE). Responsibilities include drafting legal documents and plans on land, water, minerals, the environment, hydro-meteorology, surveys and mapping. Three critical areas are of importance to the ministry at present:

1. Institutional improvement to create a “reasonable legalistic environment for environmental protection”, including the “polluter pays principle”;
2. Improvement to the knowledge base used to inform people on environmentally beneficial behavior;
3. Widening of the role of, and improving coordination of social and political organizations in socializing environmental protection needs. This includes the creation of a round table committee for staff and business people to develop a common voice on the subject of environmental protection.

Environmental protection regulations are planned at three levels:

1. The national government promulgates the legislation and carries out data-base management and research, and relates to international agreements;
2. City and provincial governments manage the regulation of environmental matters at the local level, including disaster response and education to enhance environmental awareness;
3. Ministries, enterprises and companies manage their responses to impacts and waste management and the application of modern technologies.

Related ministries

Several ministries carry specific mandates relevant to natural resource and environmental management:

1. Ministry of Agriculture and Rural Development (MARD) – reforestation, watershed management, clean rural water and the environment, preservation of natural areas and wetlands, and ecosystem rehabilitation;
2. Ministry of Resources and Environment – regulation of polluting small enterprises, disposal of wartime toxic chemicals, treatment of harmful waste, improvement of capacity in environmental protection, and, among other tasks, increased monitoring.
2. Ministry of Health – treatment of hospital waste.
3. Ministry of Construction – improving polluted water bodies, drainage systems, sewage disposal, and solid waste management for urban and industrial areas.
4. Nine other ministries also have specific mandates.

Provincial governments

As of 2003, MONRE was designated as the provincial agent under the People's Committee to manage land, water, minerals, hydrometeorology, and surveying at the provincial level. It also manages the subjects mentioned above at the national level. The relevant regulation specifies activities at the district, commune, precinct and town levels including dispute resolution, penalties for violations, and mandates of land officials.

Organizations, unions and associations

These entities are important in the mobilization of people to achieve rational use and regeneration of natural resources and environmental protection.

3.3 NATIONAL PLANS FOR ENVIRONMENTAL PROTECTION

Based on progress made on the plan from 1991 – 2000, the present plan (2001 – 2010) aims to improve and protect the environment and to increase the quality of health and life, and to ensure sustainable development.

Strategic targets include:

1. Improvements in water resource protection and sustainability in nearly 40 % of rivers and drainage systems with emphasis on flows across crowded industrial and urban areas, and on 90 % of the main contributors to pollution in industrial zones. Forest cover is to grow to 40 % of the country by 2010 and 90% of the population is to have clean water and standard sanitation;
2. Provinces and national governments have to complete the drafting of strategies and legal documents on the protection of land resources, and on land use, including conflicts between mining and other sectors;

3. In relation to biodiversity, inter-ministerial collaboration will be improved to help in the management of national land sea parks, protection zones, increased forest zones and improved funding from agencies. Furthermore, local communities and associations will be assisted in the local management and protection of biodiversity zones;
4. Air quality is to be strictly monitored for enterprises and state agencies with a focus on CO₂, SO₂, and CO, as well as the lead in petrol;
5. By 2010 environmental protection in first and second class cities and industrial zones is to be improved by establishing areas for solid and toxic waste disposal. Collection and processing systems are to be in place for 90% of waste in industrial zones and 100% of industrial waste of hospitals. 60% of cities are to meet an ecological and planning standard.

Uniform measures are to be in place to punish enterprises which cause serious pollution and contamination. It will also be necessary to renovate and improve water supply and sewage systems in large national and provincial cities.

There are several other strategies planned which are non-specific and which are aimed at alleviating or correcting degradation in rural areas:

1. Rural environmental initiatives including more emphasis on family planning, clean water in 90% of households, and processing 90% of household waste by 2010, and meeting basic standards in the processing of toxic and hospital wastes;
2. Protection of coastal and island environments;
3. Protection of underwater areas including the termination of harmful practices;
4. Protection of natural and cultural heritage;
5. Clean production technologies;
6. Increased environmental planning between contiguous areas, regions and countries;
7. Linkages in environmental planning in agriculture, forestry and the rural economy;
8. Sustainable infrastructure and transportation planning;
9. Environmental research in advanced technologies including a research facility.

4. National policies and legislation on socio-economic issues, environmental protection, and management.

Among the important environmental policies is the new land law (2004). This allocates long term land use to farmers; 20-year periods for annual crops and aquaculture and salt and 50 years for perennial crops.

Land use for forestry is available for institutions and households. Up to 30 hectares of land may also be rented for forestry for up to 50 years or more if warranted. The laws

emphasize the right of access and land use to assure the utilization of the land by the public.

There are problems in land use planning including incomplete plans, overlaps and contradictions within sectors, slow allocations in forestry, development taking place in advance of plans being put in place, and lack of local participation in the planning and allocation of lands.

Problems in the issuing of land use rights have their basis in unclear and confusing legal documents, slow allocation of land, lack of coordination between cadastral offices and forestry offices, inequities in land allocation between rich and poor, invasion of agriculture into forested lands because of a lack of forestry extension and credits afforded to forest land lessees, and weak laws to prevent invasion of forested lands and resources, including illegal logging.

Forestry laws seek to shift from exploitation to sustainable practices which support rural inhabitants. This will require attention to land tenure and land use; these have already been strengthened so that 12 million hectares of forest land has been allotted to state organization, households, joint-venture companies and commune people's committees. This total represents approximately 67 % of the land available for such use. Of this total, approximately 2 million hectares went to 700,000 households for plantations and protection forests to counter erosion and other forms of degradation.

The policies for forestry credits and investment have been improved to encourage a wider interest in funding forestry for a variety of purposes. The national government has provided investment assistance through lending, post-investment assistance on loan interest, and credit guarantees. In the period 1993 – 1998, these and other incentives resulted in 638,000 hectares of land being allotted for plantations. Households obtain loans for land allotment and planting with a time limit, as the forest products provide income after a period of time, thus reducing government subsidies.

Similar policies and tax incentives have been introduced for agriculture, natural resources, imports and exports, forest exploitation, utilization and markets, and for scientific research and forestry

Extension work

Extension work helps with technology transfer and training of technicians as well as with defining funds for forestry extension work.

Policies on water resources are not unified in an overall strategy. However a number of legal documents give guidance to 10-year plans and several other much-needed plans are being drafted by the MARD to fill the gaps. Examples of these include:

1. Fee levels for collection, waste disposal and anti-pollution measures;

2. Watershed management;
3. Inter-departmental cooperation.

Policies and regulations are in place for national parks and protected areas. At present there are a total of 101 protected areas (2.1 million hectares containing 10 national parks, 60 preservation gardens and 31 historical and cultural heritage parks).

There are several other policies which indirectly impact on environmental protection. One relates to emigration and development in new economic zones to stimulate rural and agricultural development, labor, inhabitant redistribution, and national security. Resettlement policies were put in place to give alternatives to farmers in shifting agriculture. After 30 years there has been progress although there remains a poverty problem among minorities in hill areas. Efforts continue to secure permanent settlements for these people.

Policies on poverty alleviation, hunger elimination and rural development have focused on, for example 1,870 communes in remote mountainous places. The objectives are to bring clean water, health care, drug control and prevention, including replacing opium crops with alternatives.

Other policies have empowered owners of households and fields to make their own decisions on the organization of production and sale of farm and forestry products. Investment policies have permitted another 1.4 million hectares of irrigated land to be created.

Fish farms are popular but they suffer from chemical pollution. A recent law aimed at bringing more environmental sustainability to the industry.

There are numerous legal documents on environmental management, exploitation, and protection, including fourteen laws. However they are scattered in government and require some collation.

4.1 NATIONAL SOCIO-ECONOMIC PROGRAMS RELATED TO THE RURAL ENVIRONMENT

The move from shifting agriculture to settled farming proceeded in phases starting with a period of residence and settled farming (1963 – 1989). In the period up to 1997 the system was improved. From 1998 to date the program stressed the development of rural mountain areas. As a result about 440,000 persons were located in 1,640 communes practicing settled agriculture. However there are still a large number of households (about 367,000) using shifting cultivation and 28,000 households which are in wandering hill tribes. A new program has been in place since 1998 to deal with poverty, particularly among communities in mountainous and remote areas. The program has reduced the proportion of poor households from 15.7% to 13.1%. The program is made up of eight projects including projects dealing with infrastructure for

poor communes, assistance for ethnic minorities in difficulty, credit assistance, and extension.

Poorer communities will receive technical assistance from extension work and in business management. Extension includes about 400 performance models on high yield soybean and rice species. Provinces in northern mountains have doubled production using new varieties. An associate policy has provided land to some 1.2 million people and assistance to another 1.9 million people.

Further assistance is available in the form of credit which guarantees that 90–95% of poverty households will have short term access to loans without collateral and at lower interest rates. Irrigation systems are also being extended.

A program of clean fresh water and sanitary measures is underway for the period from 1998–2005. The general objective is to reduce pollution and to enhance the health of rural people. Specifically there are three detailed objectives:

1. That 80% of the rural population will have access to clean water,
2. That 50% will use adequately hygienic latrines,
3. That 30% of animal breeding facilities and 10% of craft villages will have waste treatment systems.

The priority is areas in the uplands, frontiers and islands which are difficult to reach, and where about 15 million people live. Inter-departmental collaboration will be necessary to guarantee the success of this project.

Reforestation of barren lands has been underway for over a decade. About 12–13 million hectares lie above the farm and forest areas in Vietnam. In the period from 1992–1998 \$270 million USD was spent in direct investment and for preferential interest on loans. As a result, large areas were reforested, ethnic minorities in wandering tribes were settled, and the burning of forests was curtailed. However the results were modest and the program had weaknesses; “Invisible projects” were carried out, household participants in the projects were excluded, and only a part of the budget (23 %) was spent on projects. Forestry and agricultural planning continue to overlap as planning, supervision, and monitoring are weak.

A UNDP assessment found that the replanting project did not have sufficient support from the authorities. Nor did the forestry project appear to pay off. The priorities of farmers and other workers lie in having enough food, accommodation, and health services. Planting trees is not a priority.

A new tree-planting program was launched for the 1998–2010 period, at a projected cost of \$2.5 billion USD. Already it appears that this new project has problems in relation to incorporating in the project advice it receives from farmers. More community involvement is necessary to make this initiative work. A particular

problem is the notion that land is a common asset and that the allocation of lands to all households is unacceptable.

A recent strategy (2001-2010) aims to industrialize and modernize rural areas by using new technology in commodity production, processing and markets. Industry is to increase in the importance given to agriculture is to decrease. MARD has drafted the relevant strategies with a target of 2010 to make agriculture effective and sustainable by applying science technology. The role of state-owned business and cooperatives is not mentioned.

The Comprehensive Poverty Reduction and Growth Strategy (CPRGS) forms part of a 5-year plan (2001 -2005) to advance the livelihood of the rural population. Much top-down work and organization of the project has been done (2002 – 2003) and the work continues.

Conclusions

The report concludes by noting the following:

1. A large challenge is how to ensure economic growth while protecting the environment. Rural people can destroy the environment in pursuit of economic gain.
2. Farming is a major exploiter of water and land. The use of farm chemicals is becoming dangerous and is threatening the environment.
3. Non-agricultural sectors are assuming a more important role in rural areas and they bring high levels of pollution and other undesirable effects.
4. At the macro level the main reasons for environmental degradation from both agriculture and agro-industrial craft villages include the following:
 - a.) Agricultural land use planning is weak, including what to do about outward migration.
 - b.) Lands are being destroyed by excessive use of chemicals and by erosion. Drought and floods are common.
 - c.) All water bodies are polluted by one or more type of chemical or animal wastes. Immigration was too rapid for the government to intervene on planning and environmental protection.
 - d.) Chemicals for plant protection and veterinary use have not been handled properly and sales outlets are often not licensed.
 - e.) People have little awareness of the harmful effects of chemical and so they are not used properly.
 - f.) Farm products are being processed without regard for waste water, noise, and dust. Local planning offices do not pay attention to such matters at the permit-issuing stage.
 - g.) Despite passing a National Environmental Protection Law in 1993 and issuing many legal documents to guide environmental management, the present administrative situation lacks coordination. National, provincial, and district agencies work in a confused arrangement of legal documents

- and responsibilities with staff that often lacks environmental knowledge and funding.
- h.) In rural areas environmental standards are available but food processing and craft villages lack modern equipment, credit services, available workers, and coordination of services for production. With a lack of environmental monitoring and surveillance, it is very difficult to apply these standards.
5. In this increasingly dangerous situation, both short-term and long-term solutions are needed. For example:
- a.) Farm products must be produced in a sustainable manner.
 - b.) The state laws on environment provide for enforcement and penalties; they need to be applied.
 - c.) Management of farm chemical has to be improved, including that of state and private companies. Harmful medicines also have to be forbidden.
 - d.) Traders in and users of chemicals must be dealt with strictly to avoid human poisoning and deaths, and damage to the ecosystem, forests, animals and water bodies.
 - e.) Advanced technologies need to be applied in animal breeding, organic fertilizers, Integrated Pest Management, tillage of erosion-prone slopes, and in food processing
 - f.) The environmental challenge needs to be understood by all stakeholders. Awareness of production profit and environmental issues is crucial. In this regard social groups and the media are most effective in informing public opinion and condemning destructive practices.
6. These problems can be addressed with more bottom-up approach and through involving all stakeholders. This project held regional workshops at each study area and learned a great deal, including these key points:
- a.) Rural people often know the impacts of their activities but they have no other choice as they cannot afford to work in a sustainable manner.
 - b.) They accept the current conditions knowing that solving the problems requires more work and more money for investment, with vague results for the people.
 - c.) Local people are generally not aware of the special value of natural resources and the landscape in which they live. For example, hill people lack an appreciation of the watershed and biodiversity values in forested uplands.
 - d.) Therefore a priority is to encourage local people to focus on all activities that solve their problems. This will help these people to be aware of, and to believe in environmental issues. Top-down and bottom-up cooperation will be a powerful combination in natural resource and environmental management.

Annexes

1. ODA environmental projects in rural areas which started in 1993. In general, ODA has flowed to the industrial and urban sectors and farming and rural sectors have attracted little investment.
2. Organization charts of MOSTE and MONRE.
3. Listing of legal documents and decisions.