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Technical Assistance to the
Socialist Republic of Viet Nam for
Strengthening Agriculture Science
and Technology Management
(Financed by the Japan Special
Fund)

July 2005

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 01 June 2005)

Currency Unit	–	dong (D)
D1,000	=	\$0.0631
\$1.00	=	D15,842

ABBREVIATIONS

ADB	–	Asian Development Bank
ASDP	–	Agriculture Sector Development Program
AST	–	agriculture science and technology
CPRGS	–	Comprehensive Poverty Reduction and Growth Strategy
GDP	–	gross domestic product
M&E	–	monitoring and evaluation
MARD	–	Ministry of Agriculture and Rural Development
MOST	–	Ministry of Science and Technology
NAEC	–	National Agricultural Extension Center
NGO	–	nongovernment organization
PEAC	–	provincial extension advisory council
STC	–	Science and Technology Council
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Agriculture and natural resources
Subsector	–	Agriculture sector development Agriculture production, agroprocessing, and agribusiness
Themes	–	Sustainable economic growth Capacity development
Subthemes	–	Promoting economic efficiency and enabling markets Institutional development

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. The Government of Viet Nam requested Asian Development Bank (ADB) to provide technical assistance (TA) for strengthening agriculture science and technology (AST) management in conjunction with the proposed loan for the AST Project.¹ The Government reiterated the importance of the TA during ADB's Country Program Confirmation Mission in December 2004. The TA is included in the 2005 assistance program under ADB's 2004 country strategy and program update (2005–2006).² A TA fact-finding mission visited Viet Nam during 7–18 March 2005 and reached an understanding with the Government on the objective, scope, implementation arrangements, and terms of reference for the TA.³

II. ISSUES

2. In Viet Nam, the total production value of the agriculture, forestry, and fisheries sector was D172.8 trillion (\$10.9 billion) in 2004 or about 24% of the national gross domestic product (GDP). The sector growth in 2004 was 5.4% (4.2% for crops and livestock), representing a recovery in the second half of the year. About 80% of the rural population in Viet Nam is fully or partially engaged in the agriculture sector (crops and livestock), and agricultural growth is essential for the country's economic growth and poverty reduction.

3. The rapid growth of the agriculture sector over the past decade (about 4% per annum between 1991 and 2003) largely depended on increasing land, labor inputs, and investment in irrigation. The policy and institutional reforms launched in 1986 for the progressive decontrol of prices and market functions provided farmers with strong incentives for increased production and productivity. Export quotas on rice and fertilizers were abolished, although the participation of the private sector in trading these commodities is still small.

4. Strong emphasis is being placed on the agriculture sector in various plans and strategies of the Government, including the national 10-year Socioeconomic Development Strategy (2001–2010), the Comprehensive Poverty Reduction and Growth Strategy (CPRGS), the Government decision on science and technology policy issued in December 2003, and the strategies and plans of the Ministry of Agriculture and Rural Development (MARD). The 10-year strategy emphasizes the need for pro-poor growth, with investment focused on upland and remote areas. It also aims to speed up agricultural modernization and enhance potentials of AST, including information technology and biotechnology. In line with this strategy, the Government aims to restructure agricultural production and rural economy by strengthening linkages among agricultural production, processing, and marketing.

5. CPRGS aims to translate the 10-year strategy into a series of specific programs. In agricultural and rural development, CPRGS intends to (i) increase rural income through effective commercialization and diversification; (ii) achieve a socially equitable rural society by strengthening support for poverty reduction among vulnerable and disadvantaged groups of people in upland and remote areas; and (iii) ensure sustainable natural resource management.

6. To achieve these national development objectives, MARD aims to promote agricultural diversification into higher-value crops and products, and focus its pro-poor programs on upland and remote areas. In view of the limited availability of agricultural land and labor, agricultural

¹ ADB. 2003. *Technical Assistance to Viet Nam for Preparing Agriculture Science and Technology Project*. Manila (TA 4194-VIE). The ensuing loan for the Project is estimated at \$30 million and scheduled for 2006.

² ADB. 2004. *Country Strategy and Program Update (2005–2006): Viet Nam*. Manila.

³ The TA first appeared in *ADB Business Opportunities* (Internet edition) on 16 March 2005.

productivity can be further increased mainly through efficient use of inputs and resources and effective delivery of AST to producers. However, investment in AST relative to agricultural GDP has been very low in Viet Nam (0.1% of agricultural GDP) as compared with Thailand (1.4%) and the People's Republic of China (0.4%). MARD will need to shift its sector strategy to strengthen AST and related support services for continued productivity improvement. In this context, it is essential to strengthen the AST management system to ensure that AST investments are carried out efficiently and according to an appropriate priority framework in line with the Government's policy. The proposed TA aims to help strengthen AST management and address the current issues in the agriculture sector and in AST management.

7. **Structure of Research Organizations.** The need to reorganize and rationalize the agricultural research system has been debated since 1996. The current structure of the research system is relatively complex and has resulted in dispersal of scarce resources and duplication of research efforts. MARD has drafted and intends to urgently implement a plan for agricultural research reorganization under the ongoing Agriculture Sector Development Program (ASDP).⁴ The plan needs to be in place to improve the country's AST system and effectively reflect regional and provincial needs in AST.

8. **Science and Technology Framework.** In Viet Nam, funding for agricultural research is sourced from the Ministry of Science and Technology (MOST) (28%) and MARD (72%). At present, different processes are being used to develop research programs, and the linkage between MOST and MARD needs to be improved, with strong senior-level commitments of the Government. An agricultural research master plan was drafted with assistance from the Food and Agriculture Organisation of the United Nations,⁵ but has not been fully institutionalized within MARD. A comprehensive set of national and regional research priorities need to be developed to provide a framework for coordination among the relevant ministries and for allocation of resources in line with the master plan.

9. **Design of Research Projects.** The general direction of national and ministerial research programs is decided at the highest level to meet national priorities for development in the agriculture sector. Design of research projects requires a series of consultation meetings and inputs from key stakeholders involved in agricultural research and extension. This process will generate innovative approaches and incorporate indigenous knowledge and experience to ensure that research is well matched with client needs of farmers and private enterprises. It will also ensure an appropriate transfer of AST to producers through the extension system. Coordination between research, extension, education, and information systems also needs to be strengthened.

10. **Reporting and Monitoring and Evaluation (M&E).** While the decisions governing the assignment of research tasks under MOST and MARD and extension tasks under MARD and provincial administrations specify a number of reporting, monitoring and evaluation, and appraisal procedures, in reality these procedures are not fully applied in the field. Consequently, it is extremely difficult for managers to get an accurate picture of the effectiveness and efficiency of the research and extension systems. M&E systems also tend not to have a high level of beneficiary participation.

⁴ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Agriculture Sector Development Program*. Manila (Loan 1972).

⁵ Ministry of Agriculture and Rural Development. 2001. *Master Plan for Agricultural Research in Vietnam*. Hanoi.

11. **Incomplete Mandates and Job Descriptions.** Changes to the structure and aims of the research system require revisions in mandates of organizations within MARD and in the research system. The mandates of research organizations have not been updated, although the actual situation and environment that they are operating in have changed substantially. Within the research and extension systems, there is no consistent set of job descriptions for various positions, and the tasks undertaken by various staff members depend largely on the number and type of activities undertaken by the organization and are mostly determined ad-hoc.

12. **Management Skills and Capacity.** Within the national research system, leaders of research institutes require training in management skills, as they have not been exposed to managerial aspects of their institutes. The management tasks involved in running a research organization are often complicated, involving multiple financing and reporting channels, research activities, technology transfer activities, commercial and contracting activities, personnel, and international cooperation. Leaders of research organizations have expressed a strong desire for assistance in updating their management skills. The activities proposed for the TA will address this issue.

13. The TA is in line with ADB's country strategy and program for Viet Nam (2002–2004), approved in January 2002 and updated in subsequent years, and will contribute to promoting sustainable economic growth in rural areas by strengthening the AST management system in the country.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

14. The development goal of the TA is to improve agriculture science and technology in Viet Nam, thereby contributing to the country's sustainable agricultural growth. Specifically, the TA aims to strengthen management of the AST system so that AST investment will be efficiently and effectively implemented in an environment where its objectives are fully understood and accepted.

15. The expected outputs of the TA will include (i) appropriate procedural documents for strengthened AST management system; (ii) improved knowledge and capacity of key stakeholders involved in AST management; (iii) improved coordination between agricultural research and extension; and (iv) appropriate M&E and reporting systems for AST activities. Specifically, the TA will help formulate (i) a national AST priority framework; (ii) charters for the central Science and Technology Council (STC) of MARD and provincial extension advisory councils (PEACs); (iii) operational guidelines for agricultural research, extension, and training programs; (iv) guidelines for appropriate reporting and M&E systems for AST projects and programs; and (v) relevant circulars and regulations for reorganizing agricultural research. The design and monitoring framework for the TA is in Appendix 1.

B. Methodology and Key Activities

16. The TA will be implemented in line with the policy and institutional reform framework of the ongoing ASDP (footnote 4) and in coordination with investment activities proposed under the AST project (footnote 1). The TA will also contribute to these projects by improving managerial capacity for AST activities in the country. At TA inception, an overall work plan will be agreed upon with the Government, based on extensive consultations with key

stakeholders involved in AST management, including STC members, agricultural research institutes, MARD departments, and other agencies involved in agricultural extension.

17. TA activities will be focused on strengthening the institutional structure and mechanisms for AST management and on improving the capacity of staff involved in AST management. The TA will be implemented in close consultation with a wide range of stakeholders at the central and provincial levels, including the private sector, nongovernment organizations (NGOs), and farmer groups. The TA will help the Government (i) prepare an operational framework, charters, guidelines, and ministerial circulars and regulations relating to AST management (para. 15); (ii) provide training and awareness-building programs on agricultural research and extension management, in collaboration with the relevant departments of MARD, for central and provincial staff involved in AST management; (iii) set up an operational coordination mechanism between agricultural research and extension, particularly between the Department of Science and Technology and the National Agricultural Extension Center of MARD; and (iv) develop an appropriate M&E and reporting system on the country's AST activities. Participation of women staff in training and awareness-building programs will be encouraged, especially at the provincial level, where women constitute only about 20% of total staff. Some key activities of the TA include the following:

18. **National AST Priority Framework.** A draft national AST priority framework will be developed, using the relevant strategies and plans for research and extension orientation and the draft master plan for agricultural research as the basic building blocks. The priority framework will include a set of key AST activities for different agro-ecological regions in Viet Nam to meet client needs in the respective regions. The priority framework will be developed in a participatory manner, with the process of developing the draft framework being used to strengthen the planning capacity within MARD and the AST management system, and in close consultation with other external funding agencies involved in the agriculture sector.

19. **Circulars and Regulations for Implementing Reorganization of Agricultural Research.** To effectively implement the reorganization plan for agricultural research institutes, the TA will help draft a set of relevant ministerial circulars and regulations and mandates for national and regional research institutes. This activity will also contribute to improving collaborative and coordinating networks among the reorganized national and regional research institutes in the agriculture sector.

20. **Provision of Training and Awareness-building Programs.** The TA will provide key stakeholders involved in AST with training programs on agricultural research and extension management, covering the aspects of planning, priority setting, implementation, personnel management, reporting, and M&E. Awareness-building activities will be carried out at the national and provincial levels for the public, including the representatives of private agro-enterprises, NGOs, and farmer groups.

C. Cost and Financing

21. The total cost of the TA is estimated at \$875,000 equivalent, comprising \$460,000 in foreign exchange and \$415,000 equivalent in local currency. ADB will provide \$700,000 equivalent to finance the entire foreign exchange cost and part of the local currency cost, amounting to \$240,000 equivalent. The TA will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan. The balance of the local currency costs, amounting to \$175,000 equivalent, will be met by the Government in kind to cover counterpart staff support, training and seminar facilities, and office and administrative expenses.

Government representatives will be invited as observers for contract negotiations. The TA cost estimates are in Appendix 2.

D. Implementation Arrangements

22. The Executing Agency for the TA will be MARD. The Agricultural Projects Management Board of MARD will ensure effective coordination among the departments of MARD and other relevant agencies of the Government for TA implementation. The Department of Science and Technology of MARD⁶ will provide technical guidance for the TA. The TA will be implemented over a period of 18 months, until February 2007, and will require 19 person-months of international and 36 person-months of domestic consulting services. The international consultants will have expertise in agricultural sector management and team leadership (16 person-months) and agricultural research management (3 person-months). The domestic consultants will have expertise in agricultural research management (12 person-months), agricultural extension management (12 person-months), communications and training (5 person-months), and reporting and M&E (7 person-months). A team of consultants will be selected and engaged in accordance with ADB's *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for engaging domestic consultants. The quality- and cost-based selection method will be used, and simplified technical proposals invited from the short-listed organizations. Necessary office equipment will be purchased in accordance with ADB's *Guidelines for Procurement*.

23. Tripartite review meetings among the Government, the consultant team, and ADB will be organized during the TA period to discuss the inception, midterm, and draft final reports, and to review the progress and outputs of the TA. The consultant team will prepare (i) an inception report, including a detailed work program, to be submitted within 1 month of the start of the TA; (ii) a midterm report on the TA activities during the first year and any revisions of the TA work program, to be submitted at the end of the first year; (iii) a draft final report about 2 months before TA completion; and (iv) a final report upon TA completion. The consultants will also prepare brief quarterly progress reports, based on the format agreed upon at TA inception, and technical working papers as required under the TA. Key technical working papers and the final report will be translated into the Vietnamese languages as required. The outline terms of reference for the consulting services are in Appendix 3.

IV. THE PRESIDENT'S DECISION

24. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$700,000 on a grant basis to the Government of Viet Nam for Strengthening Agriculture Science and Technology Management, and hereby reports this action to the Board.

⁶ The Department of Science and Technology is responsible for planning and management of MARD's activities related to agricultural research and provides secretarial support for the Science and Technology Council.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Sustainable agricultural growth</p>	<ul style="list-style-type: none"> • Agricultural production value increased at about 4% annually • Agricultural exports increased from \$2 billion in 2004 to \$5 billion in 2015 	<ul style="list-style-type: none"> • National income data • Trade statistics 	
<p>Outcome Agricultural science and technology (AST) management system strengthened to ensure efficient and effective AST investment in the country</p>	<ul style="list-style-type: none"> • Research programs increasingly match client needs • Allocation of AST resources improved and becomes more efficient 		<p>Assumptions</p> <ul style="list-style-type: none"> • Continued government commitment to improvement of the AST system • Active participation of key stakeholders in planning and implementing AST projects and programs
<p>Outputs</p> <p>1. Appropriate procedural documents for AST management system developed</p> <p>2. Knowledge and capacity of key stakeholders involved in AST management improved</p>	<ul style="list-style-type: none"> • Draft national AST priority framework • Revised charters for central and provincial research and extension councils • Circulars, regulations, and guidelines for implementing national agricultural research reorganization and for proper monitoring and evaluation (M&E) of major AST activities • Leaders of 25 agricultural research institutes and other related organizations trained in managerial skills • Awareness-building programs of the current AST situation and issues organized for public and private stakeholders in five regions 	<ul style="list-style-type: none"> • Progress reports and technical working papers under the technical assistance (TA) • TA tripartite review meetings • Dialogue with relevant government agencies and external funding agencies • Progress reports and technical working papers under the TA • TA tripartite review meetings 	<p>Assumptions</p> <ul style="list-style-type: none"> • Consensus generated for necessary forms of the AST management system and AST priority framework • Research reorganization plan implemented under the ongoing Agriculture Sector Development Program • Timely provision of counterpart support for the TA <p>Assumptions</p> <ul style="list-style-type: none"> • Continued government commitment to improvement of the AST system • Timely provision of counterpart support for the TA

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks				
<p>3. Operational coordination between agricultural research and extension improved</p> <p>4. Effective monitoring and evaluation (M&E) and reporting system in place for major AST activities</p>	<ul style="list-style-type: none"> • Effective mechanism formally established between the Department of Science and Technology and the National Agricultural Extension Center of the Ministry of Agriculture and Rural Development • Appropriate M&E and reporting system incorporated in the relevant procedural documents and guidelines for AST management 	<ul style="list-style-type: none"> • Progress reports and technical working papers under the TA • TA tripartite review meetings • Progress reports and technical working papers under the TA • TA tripartite review meetings • Dialogue with relevant government agencies and external funding agencies 	<p>Assumption</p> <ul style="list-style-type: none"> • Timely approval and adoption of the recommended coordination system <p>Assumption</p> <ul style="list-style-type: none"> • Timely provision of counterpart support for the TA 				
<p>Activities with Milestones</p> <ol style="list-style-type: none"> 1. Detailed work plan formulated and agreed upon (within 1 month of TA inception) 2. TA inception report completed and submitted (within 1 month of TA inception) 3. Training programs prepared on AST planning, priority setting, implementation, personnel management, M&E, and reporting (within 6 months of the TA) 4. Operational coordination mechanism set up between agricultural research and extension (within 6 months of TA inception) 5. Formulation of M&E and reporting systems initiated (within 6 months of TA inception) 6. Preparation of awareness-building activities on the current situation, issues, and changes related to the country's AST system completed (within 9 months of the TA) 7. TA midterm report completed and submitted (at the end of the first year of the TA) 8. Drafts of appropriate procedural documents completed for AST management (during the first year of the TA) 9. TA draft final report completed and submitted (2 months of TA completion) 10. TA final report completed and submitted (at TA completion) 			<p>Inputs</p> <table border="0"> <tr> <td>ADB</td> <td>\$700,000</td> </tr> <tr> <td>Government</td> <td>\$175,000</td> </tr> </table> <p>Consulting services</p> <ul style="list-style-type: none"> • International, 19 person-months • Domestic, 36 person-months 	ADB	\$700,000	Government	\$175,000
ADB	\$700,000						
Government	\$175,000						

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	380.0	0.0	380.0
ii. Domestic Consultants	0.0	108.0	108.0
b. International and Local Travel	16.0	18.0	34.0
c. Reports and Communications	12.0	0.0	12.0
2. Equipment and Materials ^b	7.0	0.0	7.0
3. Training, Seminars, and Conferences			
a. In-country Training Programs	0.0	60.0	60.0
b. Seminars and Workshops	0.0	16.0	16.0
4. Miscellaneous Administration and Support Costs	0.0	18.0	18.0
5. Representatives for Contract Negotiations	5.0	0.0	5.0
6. Contingencies	40.0	20.0	60.0
Subtotal (A)	460.0	240.0	700.0
B. Government Financing			
1. Office Accommodation and Transport	0.0	36.0	36.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	45.0	45.0
3. Training and Seminar Facilities	0.0	40.0	40.0
4. Other Administrative Expenses	0.0	54.0	54.0
Subtotal (B)	0.0	175.0	175.0
Total	460.0	415.0	875.0

^a Financed by the Japan Special Fund, funded by the Government of Japan.

^b Office materials and computer equipment, including a printer.

Source: Estimates by the Ministry of Agriculture and Rural Development and Asian Development Bank Mission.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The consultants recruited under the proposed technical assistance (TA) will undertake the following assignments. The team leader will be the international agricultural sector management specialist.

A. Agricultural Sector Management and Team Leadership (international, 16 person-months)

2. The agricultural sector management specialist should have (i) an advanced degree in the area of agricultural science and technology (AST), with extensive experience in system management and organization; (ii) familiarity with the AST system in Viet Nam; and (iii) experience in designing reporting and monitoring and evaluation (M&E) systems, preferably in the context of AST management. The specialist will do the following tasks.

- (i) Formulate a detailed work program based on extensive consultations with key stakeholders involved in AST management, including STC members, agricultural research institutes, Ministry of Agriculture and Rural Development (MARD) departments and agencies involved in agricultural extension.
- (ii) Lead the process of drafting appropriate procedural documents for strengthening AST management systems as specified in the TA paper and agreed upon at TA inception, including (a) the national AST priority framework; (b) revised charters for the Science and Technology Council (STC); (c) operational guidelines for agricultural research, extension, and training programs; (d) guidelines for appropriate reporting and M&E systems for AST projects and programs; and (e) relevant circulars and regulations for implementing reorganization of agricultural research.
- (iii) Assess performance of the current AST management in Viet Nam and identify the areas where technical and advisory support is urgently required.
- (iv) Design, organize, and facilitate awareness-building activities and training programs on the current situation and issues involved in AST management in Viet Nam, taking into account the participants' backgrounds, needs, and different levels of expertise, and lead the process of preparing relevant materials to be used for these activities.
- (v) Assist MARD and STC in developing an M&E and reporting system for improved AST management and identify appropriate indicators for monitoring the impact and use of AST.
- (vi) Assess current AST management in Viet Nam and recommend specific measures and actions to improve overall AST management and related services.
- (vii) Assist MARD in setting up an operational coordination mechanism between agricultural research and extension and ensuring its effectiveness.
- (viii) Facilitate liaison with external funding agencies and international agricultural research centers involved in AST in Viet Nam, and help ensure close coordination and complementarity of the TA with other activities of ADB and the programs of other external funding agencies.
- (ix) Help the TA Executing Agency organize TA tripartite review meetings among the Government, the consultant team engaged under the TA, and ADB.
- (x) Arrange for the use of various media services for awareness-building activities planned under the TA and for public campaigns, as required, on the use of advanced AST knowledge and information and related AST service delivery.

- (xi) Procure materials and equipment for offices and laboratories required for the TA activities, in accordance with ADB's *Guidelines for Procurement*, and lead the process of preparing technical working papers and progress reports.

B. Agricultural Research Management (international, 3 person-months; domestic, 12 person-months)

3. The agricultural research management specialists should have advanced degrees in agricultural science with extensive experience in agricultural research management and organization, and familiarity with the agricultural research system in Viet Nam. The specialists will

- (i) determine the exact status and existing structure and operations of STC and identify specific needs for strengthening overall capacity agricultural research management and for building awareness of advanced AST knowledge and information;
- (ii) help MARD and its agricultural research institutes develop their revised mandates and job descriptions for key positions of research management;
- (iii) help strengthen the mechanisms for research collaboration and coordination among the national and regional institutes and enhance linkages between agricultural research and extension;
- (iv) assist the Government in improving the competitive research grant systems so that increased inputs by key stakeholders can be used to refine the design of research projects and programs;
- (v) help develop the M&E information systems and websites for AST management and related services;
- (vi) design curricula for training and awareness-building programs on agricultural research management, covering planning, implementation, personnel management, reporting, and M&E;
- (vii) prepare technical working papers related to agricultural research management as required; and
- (viii) advise the Government on the resource requirements for improving agricultural research management and help identify possible sources of external funding.

C. Agricultural Extension Management (domestic, 12 person-months)

4. The agricultural extension management specialist should have an advanced degree in agricultural science, with extensive experience and expertise in agricultural extension and familiarity with the issues and constraints in the agricultural extension system in Viet Nam. The specialist will

- (i) review the existing management structure for agricultural extension at the national and provincial levels and identify specific training needs for strengthening managerial capacity in agricultural extension;
- (ii) lead the process of drafting the operational guidelines for the grassroots extension training and contracting systems;
- (iii) assist MARD and provincial extension advisory councils (PEACs) in strengthening linkages and collaborating and coordinating mechanisms between extension planning and implementation and the activities of regional research institutes;
- (iv) help develop the revised agricultural research and extension M&E and reporting guidelines and procedures;

- (v) lead the process of designing the curricula for training and awareness-building programs on extension management, covering planning, implementation, personnel management, reporting, and M&E; and
- (vi) monitor and evaluate the training and awareness-building programs related to extension management.

D. Communications and Training (domestic, 5 person-months)

5. The communications and training specialist should have postgraduate-level qualifications in designing awareness-building and training programs, and adequate practical experience, preferably in the context of agriculture research and extension management training. The specialist will

- (i) in collaboration with other consultants, make an inventory of STC members, key staff of MARD departments involved in AST management at the national and provincial levels, PEAC members, and other key stakeholders in the private sector and nongovernment organizations (NGOs), and identify primary training needs for capacity strengthening in AST management;
- (ii) review currently available training programs and materials, including those provided by external funding agencies and NGOs;
- (iii) design and implement training systems and courses for training of trainers for the AST management curricula, including agricultural research and extension management;
- (iv) help design institution-level training courses for research and extension management at the national and provincial levels and prepare a user-friendly manual in both English and Vietnamese languages for M&E of awareness-building and training programs; and
- (v) review the training and seminar facilities of MARD and its agricultural research institutes and make necessary recommendations for improving the facilities.

E. Reporting and M&E (domestic, 7 person-months)

6. The reporting and M&E specialist should have postgraduate-level qualifications in designing reporting and M&E systems and adequate practical experience, preferably in the context of agriculture research and extension management. The specialist will

- (i) assess the existing reporting and M&E systems of MARD departments, STC, and PEACs for AST management and its linkage with planning, budgeting, and implementation;
- (ii) examine the human and financial resources of MARD, STC, and PEACs available for effective gathering of data and information, reporting, and M&E, including staff capacity;
- (iii) identify key indicators for reporting and M&E activities relating to AST management to be included in the revised systems and procedures;
- (iv) help develop unified formats for effective reporting and M&E activities on AST management;
- (v) make necessary recommendations for revisions in the relevant circulars and regulations governing reporting and M&E systems and procedures and for cost-effective options for improving the existing reporting and M&E systems and procedures;
- (vi) recommend specific measures for improving STC's direct linkages with relevant international and regional AST information networks and databases;

- (vii) help STC develop a formal M&E mechanism to monitor the country's AST activities and provide necessary technical and advisory support to institutionalize the new mechanism to improve general access to accurate knowledge and scientific information on the subject;
- (viii) provide the relevant staff of MARD departments, STC members, and PEAC members with necessary training programs on the use and management of the improved system for reporting and M&E and on the collection and analysis of appropriate data and information.
- (ix) arrange for the use of appropriate media services for training and awareness-building programs on AST management.