

AIDE MEMOIRE

28 August – 6 September 2012

Loan 2283-VIE (SF): Agriculture Science and Technology Project
- Loan Review Mission

ASIAN DEVELOPMENT BANK
Loan No. 2283-VIE (SF): Agriculture Science and Technology Project
Aide Memoire of the Loan Review Mission
Vietnam, 28 August to 6 September 2012

I. INTRODUCTION

1. From 28 August to 6 September 2012, the Asian Development Bank (ADB) fielded a Loan Review Mission¹ to Viet Nam to review the implementation of Loan No. 2283-VIE (SF): Agriculture Science and Technology Project (the Project). The Mission conducted comprehensive discussions with the Ministry of Agriculture and Rural Development (MARD)—Central Project Management Unit (CPMU), Department of Science, Technology and Environment (DSTE), Department of Planning (DOP), research team of 2 projects in Yen Bai and Sapa, and commune staff and key farmers participating in the Project.

2. The Mission (i) reviewed the implementation of the four components and update the project implementation schedule accordingly; (ii) followed-up on enhancing linkages between research and extension activities; (iii) reviewed the progress of private sector activities in the project i.e. in establishing inclusive value chain and in extension activities; (iv) discussed impact evaluation study and identify further studies required; (v) discussed the availability and timely allocation of counterpart funding; (vi) visited 2 research projects in Yen Bai and Sapa; (vii) reviewed contracts awarded and disbursements projections; (viii) followed up on submission of draft bidding document for the procurement of small-scale civil works and goods of remaining research institutes and schools; (ix) reviewed of farmer-managed on-farm trial activities; (x) reviewed the Borrower's compliance with the loan covenants; and (xi) reviewed achievement under the DMF, particularly on gender target.

3. The Mission concluded with a wrap-up meeting on 5 September 2012 in Hanoi, chaired by Mr. Nguyen Huu Khuong, Director General of APMB and attended by staff of MARD and representatives of other government agencies/organizations/stakeholders. A list of persons met and those present at the wrap-up meeting is shown in Appendix 1.

4. This Aide Memoire records the findings of the Mission, and agreements reached between representatives of the Government and the Mission. Agreements reflected herein are subject to approval by higher authorities of the Government and ADB. The Government's confirmation of the Aide Memoire is requested by 20 September 2012.

II. BACKGROUND

5. ADB approved the Loan on 11 December 2006 for SDR20.198 million (US\$30 million equivalent) from ADB's Special Funds resources. The Loan Agreement became effective on 13 June 2007 and the last loan review mission was fielded in April 2012.

6. The Project aims to strengthen the national agriculture science and technology (AST) system in Viet Nam, thereby contributing to the sustainable and equitable growth of the agriculture sector and ultimately to reduce rural poverty. The Project addresses critical issues involved in AST development, including the low level of linkages among key AST areas (agricultural research, extension, and training), and the gap in the capacity of physical and

¹ The Mission was comprised of Sununtar Setboonsarng, Mission Leader, and Eileen Quisumbing-Battung, Project Analyst (28-30 August 2012).

human resources for the national AST system. The Project contributes to the resolution of these issues and increase the effectiveness and relevance of AST activities for clients, to receive benefits of improved AST, and promote on-farm and off-farm sustainable use of natural resources. Inclusion of the three key AST areas under the Project as part of the integrated national system is vital if the full potential of AST development is to be realized. The Project has four components, namely: (i) client-oriented agricultural research and capacity strengthening; (ii) grassroots agricultural extension improvement; (iii) rural-based technical and vocational training; and (iv) project management.

7. On 10 December 2010, ADB approved the Government's request to extend the loan from 30 June 2012 to 30 June 2013 to allow: (i) some Ph.D. candidates to complete their studies before the proposed loan closing date; (ii) more time for transferring research results into the extension and preparation of about 30 training programs and curriculum revision so that the project impact would be maximized; and (iii) extract lessons in adoption of market mechanism in financing research and extension systems for public sector management.

8. Commensurate with the extension of the Loan, a number of consultants under the Project have been extended to support Project completion and additional consultants have been added to complete specific tasks in 2012. These changes received a no objection from ADB on 26 July 2011. The last review mission of the Project was fielded in April, 2012.

III. REVIEW OF PROJECT IMPLEMENTATION

A. Overall Progress

9. As of 15 August 2012, the EA estimated overall progress of the Project at 95% (Appendix 2) against the elapsed time of 87% since loan effectiveness. Despite the difficulties faced during the first 1.5 years of the project, the project was able to make up for lost time and has achieved most of its outputs and outcomes effectively. With the gain from exchange rate, the Project fund has increased from about \$30 million to about \$31.03 million, allowing for expanded scope of activities and thus allowing the Project to exceed its original project target outputs in some components, particularly on research and equipment supports. Implementation progress for each Project component is as follows: Component 1: Client-oriented agricultural research and capacity strengthening, 96.7%; Component 2: Grassroots agricultural extension improvement, 96%; Component 3: Rural-based technical and vocational training, 95%; and Component 4; project management 87%. As of 15 August 2012, cumulative contract awards and disbursement achieved 79% and 89% of the net loan amount of \$31.03 million.

10. The Project is approaching its completion with no major implementation problems. Targets on training, particularly for women in extension activities, remains to be accomplished. Given the Project's pioneering and successful roles in implementing new public expenditure management for research and extension activities, leading to improved linkages between research and extension for the poor, the Project activities are be institutionalized in the national research and extension systems. Lessons from this Project are to be extracted for sharing in both national and international forums. These activities along with financial liquidation should be among the focus of the Project in the remaining project period.

11. Significantly, the Project has contributed effectively to strengthen the national science and technology research, development and extension system for the agriculture sector of Viet Nam, leading to more equitable and sustainable growth. Competitive bidding process for

awarding research and extension contracts has been effectively introduced, resulting in improved public expenditure management on agriculture research and extension. Outputs of more than 50% of research projects are appropriate for the poor remote regions and are now further tested for extension. The bottom-up, participatory approach in extension activities has been effectively implemented by the PPMUs resulting in the Project achieving high outreach to impoverished marginal regions, although gender mainstreaming could be further strengthened. Capacity building for vocational schools and colleges has effectively strengthened human resources for implementing the national plans. Training of research staff, including overseas degree and non-degree programs, short-term domestic training courses and study tours have contributed to the strengthening of technical and management capacity and have facilitated networking among researchers.

12. An in-depth impact evaluation study on economic return of activities in each component shows highly positive return on extension and client-oriented research components with economic rate of return (EIRR) from extension activities is as high as 68-72% and EIRR from research is at 50-52%. Despite the fact that impacts from project of this nature generally takes more than five years to materialize, the impacts of this Project is immediate and highly significant. It is expected that the positive impacts will increase overtime as the technologies promoted are further adopted in Project provinces and beyond. In addition to high rate of return on investment, the Project has also effectively incorporated new issues under MARD Climate Change Master Plan and other national plans related to food safety.

B. Progress of Project Implementation

13. The Mission reviewed the progress under each of the components and discussed the timetable for planning and implementation of various activities for the remainder of the Project. A revised implementation schedule is attached in Appendix 3.

1. Component 1: Client-Oriented Agricultural Research and Capacity Strengthening

14. **Client-Oriented Research Programs (Subcomponent 1).** The Project promotes agricultural research programs and timely application of research results' to clients' practical uses. Research proposals focusing on knowledge, information, and technologies relevant to the agro ecological regions serviced by regional research institutes are funded under the Project. DSTE continues to oversee activities under this sub-component.

a. Progress of Activities

15. As of 15 August 2012, all 125 research projects (100%) have been completed. Total disbursement for research projects is VND 89.28 billion (96.8%). The remaining capital expected to be disbursed in 2012 is VND 2.910 billion upon acceptance of the Project Review Council and submission of report to CPMU.

16. To date, the Research Project Review Council of MARD has reviewed and evaluated 120² out of 125 research projects. Evaluation results showed that 30 of 120 research projects (24.4%) achieved excellent evaluation (91-100 points); 90 of 123 research projects (73.2%) achieved good evaluation (76-90 points) and only 3 research projects (2.4%) are assessed as satisfactory (65-75 points). It is noted that all research projects headed by female researchers

² At the time of wrap-up meeting, review of two additional project have been completed, totaling to 123 projects.

were assessed as excellent and good. Out of 79 projects applicable for extension to farmers, 70 projects were selected for farmer-managed on-farm trials for possible further extension. The list of 70 projects currently being tested for on-farm trial is listed by MARD on the Notice No. 1893/BNN_KHCN dated April 20, 2012. The 70 projects include 40 research projects on crops (57%), seven projects on livestock (10%), four on forestry, two on environment, one on aquaculture, two on integrated crop and livestock. The remaining projects are on fruit trees, organic fertilizers, silkworms, and pest management.

17. As of 15 August 2012, 6,538 households have participated in the research projects, 52% of which were female-headed households and 38% were ethnic minority households. A total of 22,659 farmers and 1,216 extension staff have participated in training courses conducted as part of the research projects. Forty-eight percent of the participants in training were women farmers. Of the 125 research projects, about 38% address environmental issues, safe food production and climate change mitigation and adaptation, focusing on topics including: soil erosion control, land reclamation, agro-chemical management, biodiversity conservation, organic farming and VietGAP.

18. As of 15 August 2012, 197 varieties of crop and livestock were selected. Productivity improvements were shown to have improved in the range between 10%-15% compared to control (current varieties of crop and livestock). The research projects also recommended new 245 production practices and implemented 291 demonstration models. Productivity improvement of the new production practices increased from 10-25% compared to control (current technologies and methods). Estimates of improvements in net profits range from 10%-25%, with some increased by 50%-70% compared to control.

19. Data on impacts of the adoption of research results on household income are available for 95 research projects. Household income increased by 21-25% for 50 projects (60%), by 15-20% for 22 projects, and by 10-14% for 21 projects (22%).

b. Findings and Recommendations

20. **Pro-poor research with strong linkages between research and extension.** Field visits by the Mission to eri silk production project in Yen Bai and to orchid production in Sapa showed that research programs conducted by the Project are highly appropriate for the poor in marginal areas. In particular, the eri silk project which introduce farmers to grow silk worms which feed on cassava leaves, commonly available in marginal areas. Farmers are now producing silk worms for high-value protein food but can be further supported to produce cocoon for sale or to further process cocoon by spinning and knitting into high-value scarf as additional income earning activities. The project is highly appropriate for extension into other cassava production area to improve farmers nutrition and income. The research program on indigenous orchid collection and selection based on market demand in Sapa is also an example of smart and effective investment to improve income of rural poor. The Mission commends the research team for effective implementation of the research modality which effectively enhanced linkages between researchers, extension workers, and the rural communities.

21. **Institutionalizing research model in national systems.** The Project has successfully scaled-up improved linkages between research and extension and has achieved pro-poor outputs, leading to equitable growth in Viet Nam. This model of research management should be show-cased and be institutionalized by MARD and other ministries in Viet Nam. Since this research model may be more appropriate for applied research related to extension, other types of agricultural research such as basic research may need to be supported under different forms

of management; the Mission recommends that analysis on effectiveness of this research management be conducted by CPMU. Previous review missions have stressed the importance of proper documentation to extract lessons on factors toward success and constraints in further improvement of this research management model in the government system. The Mission requests that in-depth assessment and evaluation of research financing modalities be accelerated in the remaining project period.

22. **Central database management beyond project period.** Since impact of research projects in agriculture normally take years to materialize and since the Project is approaching its completion, the Mission reiterates the importance of DSTE in establishing a comprehensive database of baseline and monitoring systems of all 125 research projects for future use beyond AST project period, in particular for future impact evaluation.

23. **Training of Research Staff (Subcomponent 2).** The subcomponent addresses the shortage of qualified research staff by providing short-term on-the-job training and postgraduate and postdoctoral study programs for the staff of agricultural research institutes and other institutions of the national AST system. The on-the-job training will enable staff to more effectively utilize existing laboratory equipment and facilities procured under the Project, and improve their knowledge and skills to manage sophisticated facilities. DOP continues to oversee activities under this sub-component.

a. Progress of Activities

24. **Overseas Training.** The Project target to support 55 candidates to attend post graduate programs overseas has been exceeded with 57 candidates sent for overseas training. There were savings on tuition fees which were used to support two additional candidates and to organize short-course training overseas. Of the 57 candidates 26 are studying in Australia, 7 in the United States, 6 in Germany, 5 in the Netherlands, 3 in Japan, 5 in Thailand, 1 in Sweden, 1 in Denmark, 1 in UK, 1 in India, and 1 in Norway. Overall, women represent 22.8% of the total candidates. Twenty-three Masters Degree candidates, 1 Doctoral Degree candidate and 4 Post-Doctoral candidates have completed their programs and have returned to their respective institutes to apply the new knowledge gained in their studies. Two candidates for PhD degrees have withdrawn, one for health reasons and the other due to language difficulties and both have returned to work in their institutes. With the extension of the project, all remaining students will be able to complete their studies within the Project period. The overall progress of this Component has been satisfactory. Total of 28 candidates (about 50%) successfully completed their overseas courses. On short course and study visits, the Project organized one study visit to Korea in 2010, 2 short-term training courses on organic cultivation and climate change in Taiwan in 2011, and one short-term training course in USA on climate change in 2012.

b. Findings and Recommendations

25. **Completion of oversea training.** DOP reported to the Mission that 11 PhD students and one master student will not be able to complete their degree program by June 2013, the closing date of the Project. Majority of them requested for a six month extension to complete their research programs. Since the Project cannot support the students beyond Project period, to assure their successful completion and return to contribute effectively to MARD, the Mission recommend that DOP review their request on a case by case basis by requesting for formal letter of assurance from their universities, stating their academic status and source of funds to support them to complete the degree programs. Letters of concurrence from the student's institutes will also be required to submit to ADB in Q3 2012.

26. **Benefits of overseas training.** An overall impact evaluation of this component was conducted and showed an EIRR of a little over two percent. It is noted that the evaluation study used differential salary after overseas training as the main indicator of benefits, which is less than comprehensive. The Mission recommends that the study be revisited to improve the methodology to ensure proper benefit accountability.

27. **Benefits of short-term overseas training.** There is a high demand for the Project to support short-term overseas training and study tours. However, the effectiveness and benefits of this form of training over degree programs and domestic training to MARD are unclear. For future decision making of MARD, the Mission recommends that evaluation be conducted on these various models of overseas training, including recommendation on target of who to be trained, length of training, etc.

28. **Local Training for Researchers.** The subcomponent addresses the shortage of qualified research staff by providing on-the-job training and postgraduate and postdoctoral study programs for the staff of agricultural research institutes and other institutions of the national AST system. The on-the-job trainings will enable staff to effectively utilize the existing and proposed laboratory equipment and facilities, and improve staff knowledge and skills to manage sophisticated facilities. DOP is overseeing activities under this sub-component

a. **Progress of Activities**

29. This subcomponent of the Project completed its activities in November, 2011. The component organized a total of 48 training courses by Vietnam Academy of Agricultural Sciences (VAAS) with 1,467 participants, of which 47% were women. This exceeds the target participants by more than 200 persons. Overall assessment of the training courses by participants has been high with the majority indicating that course content met their needs (median assessment for 2010 courses was 96% and 91% for 2011 courses) and that they would be able to apply what they had learnt in their work place (median assessment for 2010 courses was 75% and 82% for 2011 courses).

30. Of the 48 courses, post evaluation was conducted on 40 short-term training courses conducted from 2008 to 2010. Post-course assessments were sought from trainees and their managers or supervisors six months or more after attending the training course. Individual questionnaires were sent to 578 trainees from 17 institutes including staff from the 10 institutes participating in the AST Project. Responses were received from 442 trainees which is equivalent to a 77% response rate. As a number of the trainees attended more than one training course a total of 545 individual responses were received, from a total of 770 sent out (71% response rate from trainees). Responses were received from 418 managers or supervisors of the trainees, which is a 54% response rate. Trainees considered that all 17 training course topics were relevant to their individual needs whereas the managers considered that 16 were relevant to the needs of the institute. They considered that the course on macro-economic modeling was not relevant. The trainees assessed that 16 of the 17 courses met more than 70% of their needs while the managers' assessments were that 12 courses met greater than 70% of needs. The majority of trainees' were able to apply the skills learnt during training, and in most cases they could apply between 50 and 90% of the skills taught. For two courses they were able to implement less than 50% of the skills taught at the course (website design and GIS for environmental impact assessment). Managers' assessments concurred with those of the trainees. A majority of trainees indicated an increase in their work effectiveness and the quality of their output with two exceptions - website design and macro-economic modeling.

Managers indicated that trained staff demonstrated increased effectiveness for 10 of the 17 courses and improved work quality for 12 of the courses. With the exception of the macro-economic modeling course all trainees considered that their work attitude had improved since the training. Managers assessed that trainee's attitudes had improved in all but two course areas - GIS methods and macro- economic modeling. Almost 80% of the trainees indicated that they had shared their knowledge and skills from the training with an average of 6 other work colleagues. The majority of training courses aligned with the needs of individuals and their research institutes with three exceptions. These were technical topics requiring a specific level of pre-existing knowledge and experience. It is likely that for these courses the attending trainees did not meet these pre-requisites and found the material challenging and difficult to apply.

31. In October 2011, CPMU in cooperation with VAAS conducted 2 training classes on "Scenario on climate change mitigation and adaptation, development mechanism, environmental impacts on agricultural production, environment- friendly cultivation".

32. Based on current needs of institutes, VAAS and CPMU appraised the lecture outline, prepared for 2 training courses at the end of September on (i) Method for design, implementation and analysis of the results in advanced crop experiment; (ii) Processing, statistics and analysis the crop experiment results through some specialized software.

b. Findings and Recommendations:

33. Overall implementation of this sub-component by CPMU and VAAS has been satisfactory. Post-course evaluation has been conducted with positive results for the individuals and institutes, in line with their training needs. The Mission recommends CPMU to facilitate institutionalizing these training into MARD system so the good experiences in this Project could continue beyond Project period.

34. During the review mission in December 2011 and April 2012, it was agreed that in order to support the implementation of Decree 115 and given the need to enhance knowledge and skills on climate change related research in agriculture, additional funds will be allocated to conduct training courses on research proposal writing, carbon accounting, life-cycle analysis of green house gas emission, CDM related methodologies and analysis, and other relevant courses. Distant learning modalities should be explored by VAAS in reaching large number of researchers in research institutes in remote areas. The Mission notes that these recommendations were not yet taken up by CPMU.

35. During the review in April, CPMU reported that training need assessment was on-going but no results were reported yet..

36. Lessons for future training activities beyond AST project.

37. **Upgrading of Research and Laboratory Equipment (Subcomponent 3).** The Project is providing and upgrading essential research and laboratory equipment of selected MARD agricultural research institutes to fill critical gaps in research due to outdated equipment.

a. Progress of Activities

38. The sub-component has a total of 49 packages for research and laboratory equipment (including 3 additional packages approved by ADB on 18 April 2012). Forty-six packages have been awarded, 45 of these contracts have been installed as of 15 August 2012. Equipment installation and necessary training are expected to be completed in Q4 of 2012. A summary of the status of the procurement of packages for institutes can be found in Appendix 5. A checklist for environmental safeguard for safe disposal of toxic waste from equipment has been developed by the Project.

39. The consultant completed the environmental impact assessment report based on comments from institutes/schools and CPMU, submitted to ADB in May 2012.

b. Findings and Recommendations

40. The consultant on environmental safeguards conducted a study on laboratory equipment use and found that in general, the laboratories of the research institutes and colleges are aware of environmental concerns and have complied with environmental regulations. For example, chemicals have stored at the regulated place; bottles containing chemicals are stored separately for safe disposal according to regulations; safety regulations in the laboratory are well implemented.

41. Scope of activities in laboratories of research institutes are larger than that of colleges and activities are more frequent so the environmental impact caused by gas emissions and waste is more serious. The main issues that need to be solved are the collection/ treatment of exhausted gases from the laboratories and collection/ treatment of laboratory wastewater.

42. The report also noted the followings that need to be rectified:

- i. Almost all laboratories do not have, or have but don't meet the standard, the exhaust pipe from the laboratory to discharge toxic air from the cabinets or exhaust pipes of the atomic absorption spectroscopy.
- ii. Ten out of 20 research institutes and schools do not have separated wastewater treatment system for laboratory wastewater and wastewater treatment system for domestic wastewater.
- iii. Most of institutes/colleges do not have water spraying showers for the case that alkali/acid spills into human body and eyes.
- iv. Institutes/colleges need to install the smoke/ exhaust treatment system for toxic gases emissions from their laboratories and need to have separated wastewater treatment system for laboratory wastewater.
- v. Radioactive waste, biologically infectious waste chemical waste etc. must be collected separately, specified the chemical composition and disposed by the assigned authorities. If the amount of waste is small, it should be stored at safety place and periodically take to the disposal in accordance with regulation.

43. The Mission requests CPMU to ensure that all environmental safeguards are rectified and report the measures in the next progress report.

44. Monitoring of the utilization and maintenance of the equipment is to be continued by CPMU and report in the next progress report.

2. Component 2: Grassroots Agricultural Extension Improvement

45. The Project is improving farmers' access to participatory and pro-poor extension services and is strengthening linkages between agricultural research and extension services. Activities are being implemented in Dak Nong, Nghe An, Ninh Thuan, Quang Nam, and Thanh Hoa provinces. NAEC continues to oversee activities under this component.

46. **Pro-poor Provincial Agricultural Extension Services (Subcomponent 1).** This sub-component provides: (i) ongoing technical training programs for local extension staff and farmer groups and; (ii) procurement of basic equipment and provision of support for incremental costs of the information and communication capacity and networks of NAEC, provincial agriculture extension centers, and district stations for agricultural extension.

a. Progress of Activities

47. A total of forty-five extension staff from five provinces have participated in the Training of Trainer (TOT) program. Only 4 of the TOT members are female, equivalent to 9%. A total of 1052 training courses have been conducted for 26,445 extension staff, including extension service providers. Of the 1,472 extension staff trained at the sub-district level, 22.8% were female and 27.2% were ethnic minorities. One hundred and thirteen training courses have been organized for service providers since 2008 with 2904 participants of which almost 34% were female. Since 2008, 865 courses were organized for 21,743 provincial and district extension workers with 25.9% female participants. In 2011, NAEC conducted 18 training courses for 452 provincial extension staff in which women participants were 37.6%. In addition, 1,365 technical training courses were conducted for 37,449 participants through extension models by service providers, including 61% of women and 30.3% of ethnic minorities.

48. Networks of exchange for extension workers have been established through overseas study tours to Thailand (December 2008) and Taiwan (April 2011) and 16 in-country, visits organized by 5 provinces-Thanh Hoa (3), Ninh Thuan (3), Quang Nam (4), Nghe An (5) and Dak Nong (1) for staff of the PPMU, extension centers and extension service agencies totaling 197 people at 31 October 2011. Training on extension M&E was organized for all project provinces in Thanh Hoa in July, 2011 with a total of 20 project/extension staff (25% Female). Beside, provinces organized training courses on M&E for monitoring officer at district and communal level and service providers in each province from 2 to 6 training courses.

49. CPMU and NAEC developed a communication program to use mass media in five provinces to disseminate information on subjects related to sustainable and equitable agriculture development. As of March 2012, a total of 20 programs were developed and broadcast on Radio and TV station. Ten technical DVDs have been completed.

50. During 2012, provinces requested project districts and communes to increase female participants by 50% (in Thanh Hoa and Nghe An). However, to date, female extension staff participated in training classes were only 27.2% of total due to limited number of female grassroots extension staff (female extension workers consist of 22=30% of total extension

workers). NAEC is in the process of producing new training materials for poor participants and indigenous people and it is expected to be completed by the end of September 2012.

51. **Promotion of Extension Contracts (Subcomponent 2).** The sub-component finances on-farm demonstration trials in the provinces through contractual arrangements with regional or national research institutes to strengthen the provincial links between research and extension.

a. Progress of Activities

52. As of 15 August 2012, the five provinces had implemented 615 demonstration models and 36 research trials (5.8%). Demonstration models for the provinces are: 231 demonstration models and 7 research trials in Thanh Hoa, 131 demonstration models and 10 research trials in Nghe An, 90 demonstration models and 7 research trials in Quang Nam, 81 demonstration models and 9 research trials in Ninh Thuan, and 46 demonstration models and 3 research trials in Dak Nong. According to the DMF, at least 20% of the remaining extension contracts have to be research trials. The low figure of 5.8% to date is strongly influenced by the level in Thanh Hoa, where just 7 (2.8%) of the 238 contracts implemented have been research trials, 10 in Nghe An (7%); and 3 in Dak Nong (6%), and in Ninh Thuan 10% of contracts have been for research trials. The demonstration models include 388 livestock models (63%), 176 crop production models (28%), and other types such as fisheries and mechanization of agriculture models account for 9%.

53. The evaluation and acceptance result of 576 demonstration models revealed that: 447 demonstration models (77.6%) are good, 114 models (20%) are moderately good, and only 64 models in Dak Nong on livestock are not satisfactory due to disease break out; and in Ninh Thuan 2 crop models have poor harvest due to adverse weather. Five hundred and one of 576 demonstration models (87%) have 16-25% higher productivity compared to mass production. The national value chain development specialist conducted a training course on survey methods and data analysis to representatives from each PPMU to guide them conduct of surveys of indigenous knowledge and possible marketable products. Provinces conducted surveys; 2 submitted report on survey results to CPMU; the others are expected to submit by the end of August, 2012. The delay in data collection in the five provinces has slowed progress of the value chain development for indigenous products. A final report is expected to be completed by September, 2012.

54. As of 15 August 2012, there have been 240 service providers participating in the bidding process in 5 project provinces, with 164 service providers awarded the contracts to implement 615 extension models. Since 2010, increased number of non-government service providers participated in the bidding process, raising competitiveness and quality of extension services in the project areas. An assessment of extension service providers study, found that competition varied among the five provinces, with one PPMU (Quang Nam PPM) awarding contracts to five types of organization (three government organizations and Quang Nam Farmer's Union) while contracts in other provinces spread among six to nine different types of organizations. However, participation of private sector is still limited.

55. Under Component 2.2 the PPMUs were required to implement both field demonstration models and participatory on-farm research trials. Demonstration models accounted for 94% of all extension trials. Since identification of extension needs is a bottom-up process with priorities set each year using a participatory process involving farmers. Where suitable technologies exist, farmers' needs are best met through field demonstration models. Where technologies or

suitable solutions are not readily available, the need should be relayed by the extension service to identify suitable research institutes to conduct research trials to verify the technologies under farmer-managed on-farm trials prior to demonstration extension.

b. Findings and Recommendations:

56. Extension activities are almost completed in all five provinces. Implementation progress in five provinces remains on track and will all be completed by December 2012.

57. Gender mainstreaming and gender-responsive training program remain to be improved. If the number of female extension workers is limited at the grass-root level, the Mission recommends that CPMU should work with PPMU to rectify the situation in the medium and long-term as female farmers account for 70% of household food production. Until extension systems effectively address gender issues, it couldn't be considered an effective extension program.

58. The Mission is pleased with the high level of extension programs implemented for indigenous people but reiterate the need to take into consideration their specific cultural differences in developing extension materials.

59. **Impacts of equipments for extension workers.** The Project has supported equipments particularly ICT equipments for extension workers at the provincial level and supported DVD Studio for NAEC. Since the impacts of these equipments are yet to be evaluated, the Mission request that this activity be carried out in Q3-Q4 2012 and reported to ADB in the next progress report. The evaluation should also include assessment of new electronic devices such as tablet which can also be a projector at the same time, so saving costs on purchasing both computer and projector.

60. **Quality of extension material.** The Mission reviewed extension materials provided by NAEC and note that while they are in general of good quality, the pro-poor nature of the materials could be significantly improved. It is also noted that the AST project title is not included in the DVD and extension material produced. The DVDs reviewed were well documented. The extension materials were, however, largely focused on external inputs-based agriculture written using highly technical language, appropriate for well-off and literate farmers. The Mission requests that additional extension materials appropriate for poor illiterate women farmers be produced by NAEC using equipment supported by the Project, particular on pro-poor and climate resilience agriculture.

61. **Farmers making DVD.** Learning among farmers is one of the most effective way to promote adoption of new technologies. The Mission recommends CPMU to contact Microsoft Cooperation which has a program to provide free software on extension material production for illiterate people. The Mission also requests that equipment purchased by the Project be used by extension workers to support farmers to make DVDs to extend their successful experiences to other farmers. These activities are to be reported in the next project progress report.

62. **Award for successful/innovative poverty impact stories.** The Mission recognized that there are a number of successful poverty impact experiences in the Project, with grass-root extension workers having the knowledge of these experiences. To draw out these successful stories, the Mission recommends that CPMU hold a contest of successful stories among project participants in Q3 2012. A simple format should be provided on how the stories are to be reported and small rewards can be given by CPMU. Based on these experience stories, proper DVD could be considered to be produced for wider dissemination.

63. **AST Project website.** The Mission noted that not all materials produced by the Project, including report of progress on various component of the project, are posted on the Project website. The Mission request that the website be update regularly and report of hit on the website be reported in the Project progress report.

64. **Lessons from AST project.** Preliminary impact evaluation of the Project showed an EIRR of 72% for extension systems which is extremely high and the Project Team is to be congratulated. The Mission recommends in-depth evaluation to extract lessons from the Project for national and international communities. The in-depth study should include, but not limited to following:

- i. How participatory process was effectively used in identifying poor households to participate in the project
- ii. How demand from poor-households were derived and translated into bidding documents
- iii. Quantifying how public expenditure utilization has been improved by adopting bidding systems for extension contracts.
- iv. Financial implications from extension contracts for participating schools and research institutes.
- v. Opportunities and constraints to further improve pro-poor, gender responsive extension systems, including the use of ICT.

3. Component 3: Rural-Based Technical and Vocational Training

65. The capacity of ten rural-based technical and vocational training schools is being strengthened by (i) improving technical knowledge, teaching, and managerial skills of teachers and administrators and curricula; and (ii) upgrading library and laboratory equipment and materials, teaching and laboratory facilities, and office equipment for school administration. DOP continues to oversee activities under this component.

a. Progress of activities

66. The activities under this subcomponent are making steady progress. As of 15 August 2012, 28 training programs have been completed with 234 approved sets of training materials. Completed training materials have been put into use, meeting demands of schools.

67. Training Program Executive Boards have been established in 10 schools involving representatives of private sector.

68. Training courses conducted under this sub-component include:

- i. Ten courses on "Developing Training Curricula" for 261 participants (32.2% women participants)
- ii. Six courses on credit transfer system for 205 participants (24.4% women)
- iii. Eight courses on compiling training materials for 119 participants (46.2% women)
- iv. Two e-library training courses were conducted for library management staff (including 44 participants of which consisted of 34 women (77.2%)).
- v. English training courses were organized at each of the 10 project schools for school leaders and teachers (15-20 participants in each school).

69. In addition to domestic training, two overseas study tours were organized to visit People Republic of China in 2008 and to Thailand in 2012.

70. To identify causes of low level of participation of women in training conducted in participating college, a review on gender distribution of participating college found that female staff ratios have been increasing in all ten schools since 2007, however the range is wide with one school approaching 70% female staff and another with less than 10% female staff. The review proposed that an achievable target for participation of women in Component 3 activities is 35%. To date, female participation in training courses under the project has been more than 35.3%.

71. The sub-component has a total of 70 packages for 10 schools (including 14 for small-scale civil works for the construction and renovation of classrooms, libraries, and laboratories and 56 for laboratory equipment). All 14 civil works contracts have been completed and fully paid. Fifty-two contracts have been awarded for equipment. Draft bidding documents and bid evaluation reports for the remaining packages continue to be prepared and submitted for ADB approval. The summary of package implementation status is presented in Appendix 6.

72. The Project is supporting the establishment of an e-library system to facilitate sharing of knowledge products and information among 10 schools in association with the Center for Information and Statistics under MARD. Bid opening was done on 30 August 2012 and the bid evaluation report will be submitted to ADB in September 2012. It's expected the e-library system will be operated in Q4 2012.

b. Findings and Recommendations

73. **Progress of e-library system.** The Mission noted the significant delay in implementing the e-library system and request CPMU to accelerate the implementation of this activity as well as to ensure that proper monitoring systems are set up and implemented.

74. **Quality of curriculum developed by the Project.** The Mission reiterated the need to report not only the quantity of curriculum produced but also how quality of curriculum are ensured. Importantly, curriculum development needs to incorporate new issues such as climate change, low carbon agriculture, food safety, etc.

75. **Additional training for teachers of vocational schools/colleges.** CPMU, in collaboration with DOP, plan to organize 2 training courses to support teachers in vocational schools to: 1) adopt new training/learning methodology for vocational education, and 2) develop vocational training materials 10 project schools/colleges in Q4 2012. The Mission agrees with the additional training on the condition that at least 75% of participants will be women, to correct the current gender bias in the Project.

4. Component 4: Project Management Support

76. The CPMU is the overall project management support, acting as the central contact and coordination point for the Project, and monitoring the progress of all components. There are five, provincial project management units (PPMU) in five provinces and 20 institute project management units (IPMU) comprising ten research institutes and ten agricultural colleges & vocational schools implementing the various project activities.

77. The following highlights the Mission's findings and recommendations:

- i. **Downsizing of Project team.** With the project approaching completion, staff in IPMU has declined by 50%, PPMU by 30% and CPMU by 20%. The downsizing will continue along with revision of TOR for remaining staff. This is to be reported in the next project progress report.
- ii. **Project monitoring system.** The Mission request CPMU to pay greater attention to the Project monitoring system in all components. Although the Project is approaching its final year, there is still a need consolidate the various datasets from the different sub-components to organize into a comprehensive database which can be used beyond Project period.
- iii. **Project Completion Report (PCR).** With all project activities approaching completion, the Mission request that first draft of PCR be completed and submitted to ADB by Q4 2012.
- iv. **Documenting lessons learnt under the Project.** The Mission reiterates the importance of sharing successful experiences in the project implementation and to inform MARD in nationwide implementation of Decree No. 15 and Decree No. 2. The Mission note the delay in engaging consultants to assist with this activities and request CPMU to speed up the activities, Suggested topics to be documented are listed in various component of this Aide Memoire. These should include, but not limited to: strong and weak points in implementing activities of each sub-component, including procurement procedures, and overall public expenditure management under market mechanism implemented by the Project.

C. Procurement of Civil Works, Goods and Services

78. An updated list of procurement status at schools and institutes provided by the CPMU is shown in Appendix 5 and 6, respectively. The status of procurement activities for each component in the project design is listed as follows:

- i. **Component 1:** Forty-six contracts for research and laboratory equipment have been procured and awarded. Three additional packages have been approved by ADB in April 2012. Delivery and installation is expected to be completed by December 2012.
- ii. **Component 2:** The procurement of office equipment for the PPMUs and extension equipment for agricultural extension station has been completed. As of 15 August 2012, one package (preparation of DVD) has been completed. One package (material preparation) is in bidding process and two other packages will be implemented upon the results of DVD and material preparation packages.
- iii. **Component 3:** A total of 66 packages (14 for small-scale civil works and 52 for library, laboratory, teaching and office equipment) have been awarded. Four additional packages, approved by ADB in April 2012, are in bidding process. Completion is expected by December 2012.

D. Consulting Services

79. **Status of Consulting Firm Inputs.** Of the 177.8 person-months of consulting services inputs, 160.91 person-months (24.57 international and 136.34 national) have been utilized as of 15 August 2012, equivalent to 91%. The schedule of consultants' inputs is presented in Appendix 7 and the list of reports prepared is in Appendix 8.

80. Regular discussions between CPMU and the consultants are held to update each other on key project issues and outcomes. The relationship between the consultants and the CPMU has strengthened over the course of the Project with a high level of cooperation for all Project activities. Relations between the consultants and MARD partner departments and agencies are satisfactory. During 2012, most of consultants have finished their inputs, only 2 national consultants work intermittently in the Project.

81. **Status of Individual Consultants.** As of 15 August 2012, the Project had engaged 7 national consultants (extension specialists for the 5 provinces, a training consultant, and a CPMU coordinator) for a total of 204 person-months input. Five consultants have completed their inputs and two withdrew from project due to personal reason. To date, 183 person-months have been delivered (Appendix 7). ADB approved the recruitment of additional individual consultants: 3 person-months of international and 10 person-months of local to provide intermittent inputs to support project implementation for the remaining project period, including project reporting and monitoring system, documentation of lessons learnt, and finalization of Project Completion Report.

82. **Status of Consultancy Projects:** In November 2010, additional consultancy projects commenced, following recommendations of the ADB Midterm Review. Update on the consultancies are as follows:

- i. The Value Chain Development Specialist has not finished his scheduled work because his respective report is now under preparation and completion. He provided training on survey methods and data analysis to the PPMUs in June 2011. However at 31st July 2012, five PPMUs had conducted indigenous knowledge and product survey and are now preparing the report. The consultant will complete his assessments of the potential of indigenous products and technologies for niche market development by Q3 2012;
- ii. A national consultant is investigating the utilization of information dissemination channels by farmers in Thanh Hoa province and assessing farmers' demands for information and how they acquire it. In particular this project is assessing the potential of teletext. The report is being prepared and will be submitted in the beginning of Q3 2012;
- iii. Three consultants have been appointed as part of contract variation 4 to assess the impacts of investments made under the AST Project. One of these is a national specialist who will assess the utilization of equipment procured by research institutes and schools under the project. This specialist carried out the evaluation in almost institutes/schools and completed the respective report in May 2012. The other two are the international and national impact assessment specialists who assessed the return to investment in activities of the Project. The consultants finished their inputs and completed the report in March and May 2012;
- iv. The national agricultural research management specialist (NARMS) (Deputy Team Leader) and the national agricultural vocational training specialist (NAVTS) were extended to support the continuation of the Project in 2012. A national project evaluation specialist consultant (NPES) has been appointed to assist CPMU with preparation of the Project Completion Report. A draft schedule of consultant inputs has been prepared with most finishing contract commitments. The NARMS and NPES consultants will distribute their inputs throughout finishing in December. They

will be supported by the National Communication Specialist who will assist with translation of final reports and supporting documents.

E. Project Reporting

83. The last Project Progress Report for Q2 2012 was submitted on time (25 July 2012). The quality of Progress Report submitted has improved but could be further enhanced to be in line with the indicators and targets specified in DMF. Compliance with loan covenants, project outcomes, outputs and impacts should be included in the reports.

F. Project Costs and Financing

84. **Contract Awards and Disbursement.** As of 15 August 2012, the CPMU reported total disbursement of VND774 billion (approximately \$36.854 million) comprising of VND590 billion (approximately \$28.100 million) of ADB funds and VND184 billion (approximately \$8.754 million). A schedule showing overall project expenditure to date is in Appendix 10.

85. The status of ADB Loan utilization as of 15 August 2012 can be found in Appendix 9. The dollar-equivalent value of ADB's loan (SDR20.198 million) is \$31.03. The cumulative contract award and disbursements reached \$24.56 million (79%) and \$27.47 (89%) million respectively.

86. **Adjustment of the Contract Awards and Disbursement Projections.** The Project is rated as "On Track" since cumulative contract awards and disbursements are 99% and 106% respectively against the cumulative projections. However, achievements against the 2012 projections are only 27% (\$1.35 million against \$4.92 million) for contract awards and 33% (\$2.05 million against \$6.15 million) for disbursements. A withdrawal application (for expenses incurred in July 2012) for replenishment, amounting to \$1.01 million, is being processed by ADB. This will bring 2012 achievement to 49% and 52% for contract awards and disbursements respectively and still maintain its "On Track status.

87. The Mission and CPMU revisited and agreed on revised projections based on the implementation plan for the remainder of the Project. The revised figures (Appendix 10) reflect actual contract awards and disbursements in Q1 and Q2 2012 based on the LFIS, provide a more achievable Q3 and Q4 projection, and allow for the liquidation of the imprest account in 2013. Details of the revised projections are presented in Appendix 11. The Mission noted that the projections are achievable provided that CPMU continues close coordination and monitoring of all PPMUs and IPMUs.

88. The Mission will request for management approval to revise the contract awards and disbursement projections upon its return to Headquarters. A formal advice will be sent to CPMU as soon as approval is obtained.

89. **Imprest Account.** The Mission advised CPMU that, in accordance with paras. 10.22-10.23 of ADB's Loan Disbursement Handbook, imprest account advances are to be gradually reduced within 6 months before the loan closing date to ensure that sufficient time is provided for the CPMU to obtain supporting documentation for clearing the outstanding advances before the loan account is closed. As agreed, the imprest account would be liquidated beginning January/February 2013.

90. **Audited Financial Statements.** The Audited Financial Statements (AFS) for the period 2011 was submitted on 1 July 2012. CPMU is requested to follow up on the recommendations of the auditor raised in 2010 and in 2011. A detailed fax will be sent by ADB upon the Mission's return to Headquarters. CPMU also confirmed that AFS for the period 1 January to 31 May 2013 will be submitted on or before 30 June 2013 and payment to the external auditor will be done on or before the loan closing date.

91. **Counterpart Funds.** Of the VND 22.1 billion counterpart funding requirement reflected in the Project's projected expenditures for 2012, all has been committed. An amount of 16.6 billion VND has been committed by the Central Government for expenditures covering Components 1, 3, and 4; while a total of VND 5.5 billion has been committed by the five participating provinces for activities in Component 2. CPMU has submitted application for additional fund with counterpart fund of VND 2.6 billion for additional packages in 2012.

92. CPMU reported that counterpart funds for 2012, including that for all PPMU in five provinces, are already committed and will be sufficient for activities in 2012.

93. **Project Completion Report.** The final PCR was to be submitted to ADB by 30 June 2012 but ADB is yet to receive them. The Mission discussed with PCR consultants on the need to prepare the PCR now and to capitalize on the lessons learned and experience gained through Project implementation. Key outputs of each component should be supported by appropriate tables as appendixes. The Mission advised that financial tables, for ADB-financed and counterpart funds, should show expenditures on a per component, per category, and per year basis.

G. Benefit Monitoring and Evaluation

94. The various subcomponent of the Project has established, to a certain degree, benefit monitoring systems in each IPMU and PPMU. With the Project approaching completion, CPMU is to ensure that all datasets are copied to CPMU and organized for future use in project evaluation. A copy of the comprehensive database is also to be submitted to ADB for post project evaluation, five years after the project period. Progress on this is to be reported in the next progress report.

H. Environmental and Social Safeguards

95. As the Project works largely in environmental and social sensitive areas, ADB safeguards should be strictly adhered to. During the last review mission it was advised that awareness on social and environmental safeguards remains to be improved. CPMU prepared a summary of environmental safeguard policy to disseminate to PPMUs and conducted a number of field trips to Institutes/schools and prepared a progress report on status of compliance with EMP in implementation of extension models. Four training courses on environmental protection and climate change adaptation measures in agricultural production were conducted for PPMUs. An environmental evaluation for research project was prepared. It was shown that all projects more or less help rehabilitate/improve the environment and mitigate/address the environmental impacts. Most varieties preserved/improved are indigenous ones or those which are cross-bred with high yield, drought/ heat-tolerance, short growth duration and high climate change adaptability. However, effective follow-up by the CPMU on compliance is required to ensure that the safeguards are adequately implemented.

I. Compliance with Loan Covenants

96. The Mission finds the loan covenants to be generally complied with. Weaknesses On gender, environment, and social safeguards will be corrected in the remaining period of the Project. The Project Steering Committee meets twice a year, independent of other project activities i.e., wrap-up meeting of ADB Mission, to effectively guide and resolve issues on the Project. An updated schedule of covenants is given in Appendix 13.

IV. ACKNOWLEDGEMENTS

97. The Mission would like to thank MARD especially the following agencies: ICD, APMB, CPMU and the Consultants, DSTE, Plant Protection Department, research team of 2 projects in Dien Bien Phu, Dien Bien Phu Department of Agricultural Extension, commune staff, farmer leaders and participating farmers for their supports during the Mission. The next loan review mission is tentatively scheduled for February 2013.

Signed in Hanoi on __ September 2012

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