FCG International Ltd

FINAL REPORT

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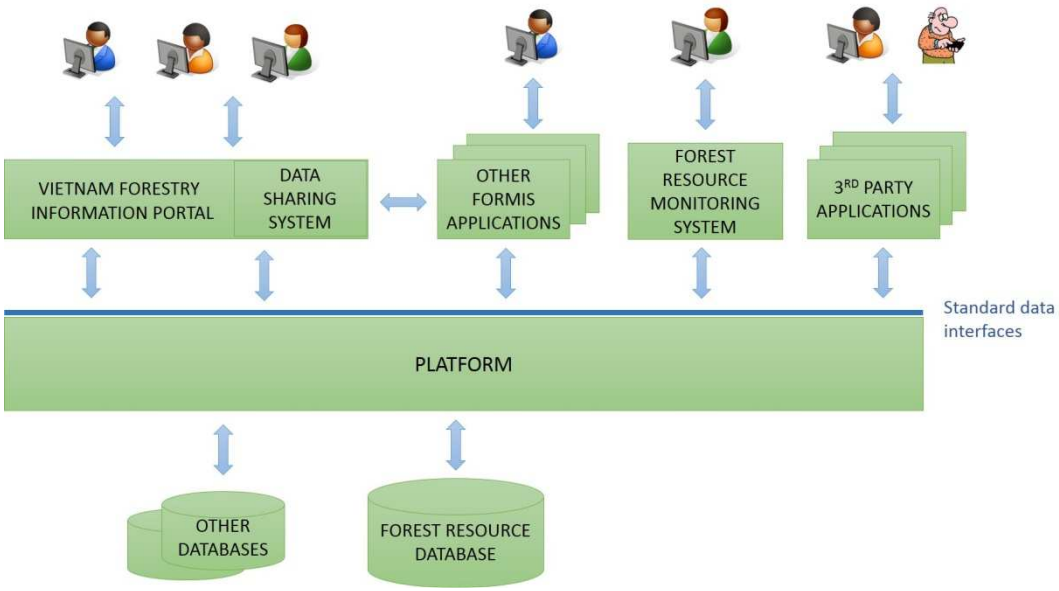
Foreign Affairs of Finland

Development of Management Information System for the Forestry Sector in Vietnam – Phase II (FORMIS)



Mid-Term Evaluation

October 2015

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Acronyms and Abbreviations

AAV	Action Aid Vietnam
AED	Agricultural Economics Department
CIS	Centre for Information and Statistics (MARD)
CNA	Capacity Needs Assessment
CSO	Community Support Organization
CTA	Chief Technical Advisor
DARD	Department of Agriculture and Rural Development (Provincial level)
DID	Data and Information Division
DSS	Data Sharing System
EU	European Union
EUR	Euro (currency)
FAO	Food and Agriculture Organization of the United Nations
FIPI	Forest Inventory and Planning Institute
FLEGT	Forest Law Enforcement, Governance and Trade
FOMIS	Forest Sector Monitoring and Information System
FORMIS	Development of Management Information System for the Forestry Sector
FPD	Forest Protection Department
FPDP	Forest Protection Development Plan
FRMS	Forest Resources Monitoring System
FSSP	Forest Sector Support Partnership
GDP	Gross Domestic Product
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (earlier GTZ: Deutsche Gesellschaft für Technische Zusammenarbeit)
GoF	Government of Finland
GoV	Government of Vietnam
GPS	Geographic Positioning System
GSO	General Statistics Office
HEI-ICI	Higher Education Institutions' Institutional Cooperation Instrument (of MFA)
HR	Human Resources
HRBA	Human Rights Based Approach
ICI	Institutional Cooperation Instrument (of MFA)
IT	Information Technology
JICA	Japan International Cooperation Agency
LogFrame	Logical Framework
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development
MFA	Ministry for Foreign Affairs of Finland
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
MTE	Mid-Term Evaluation
NFA	National Forest Assessment
NFIMAP	National Forest Inventory, Assessment and Monitoring Programme
NFIS	National Forestry Inventory and Statistics
NGO	Non-governmental Organization
NTFP	Non-timber Forest Product
ODA	Official Development Assistance
PCM	Project Cycle Management
PD	Project Document
PFES	Payment for Environmental Services
PFG	People Participation in improvement of forest governance and poverty alleviation in Vietnam –

	project
PMU	Project Management Unit
PSC	Project Steering Committee
REDD	Reducing Emissions from Deforestation in Developing Countries
RS	Remote Sensing
SEDP	Socio-Economic Development Plan
SEDS	Social Economic Development Strategy
SOA	Service Oriented Architecture
SRS	Software Requirements Specifications
SFM	Sustainable Forest Management
STICD	Science Technology and International Cooperation Department
TA	Technical Assistance
TFF	Trust Fund for Forests
ToR	Terms of Reference
ToT	Training of Trainers
UN	United Nations
UN-REDD	UN Collaborative Programme on Reduced Emissions from Deforestation and Degradation in Developing Countries
VFDS	Vietnam Forestry Development Strategy
VNFOREST	Vietnam Administration of Forestry
VPA	Voluntary Partnership Agreement
WB	World Bank

1. EXECUTIVE SUMMARY

1.1 FORMIS –project in brief

The origins of the FORMIS Project date about ten years back when Finland started to support the development of a new information system (FOMIS – Forestry Sector Monitoring and Information System) for Vietnam's forestry sector through the Trust Fund for Forests (TFF). At that time the main purpose was to strengthen performance monitoring within forestry sector. Thereafter, the first phase of the project "*Development of Management Information System for the Forestry Sector in Vietnam (FORMIS)*" was launched in October 2009. It focused on development of forestry management systems at central level (Hanoi) and in three pilot provinces (Than Hoa, Thua Thien Hue, and Quang Ninh). The present second phase of FORMIS was launched in April 2013 and is designed to be implemented over a period of five years, of which the first four years is planned to form the actual implementation period while the 5th year is planned to be dedicated to monitoring and handing over of the project outcomes. The focus is on further development and institutionalization of the information systems as well as on nationwide scaling up of the developed systems/applications and approaches.

The **overall objective** of FORMIS II is defined as "*Forest resources are managed in a sustainable way based on up-to-date information and they contribute to the alleviation of poverty in the socio-economic development framework of Vietnam*". The **project purpose** is "*A fully integrated Management Information System (MIS) for forestry sector decision making*".

The strategy of the Project is based on development of an open -source platform for data sharing and processing whereby various stakeholders are able to feed in relevant data through an IT-solution as well as have easy access to data through various applications. Forestry administration at all levels is the key user of the FORMIS systems, but the platform enables also numerous other users (e.g. industries, research and educational institutions, NGOs/CSOs, households, etc.) to have access to data for their own purposes and interests.

Structurally FORMIS II is composed of five result areas with the following results:

Result 1: Procedures, standards and mechanisms to transfer information
Result 2: FORMIS platform and tools operational in all provinces
Result 3: Forest sector data formalized and converted into FORMIS database, performance indicators in place
Result 4: Strengthened capacity for information management
Result 5: Information Centre for forestry sector / Forestry ICT unit

The Ministry of Agriculture and Rural Development (MARD) is the executive agency of FORMIS II and in charge of guiding and steering project implementation. VNFOREST is the project owner, the deputy director of VNFOREST acting as the Project Director. A Project Management Unit (PMU) consisting of a international and national technical assistance team is supporting VNFOREST in project implementation. Three FORMIS regional offices are established to support sub-regional Forestry Protection Departments to scale up the FORMIS systems and applications to provincial and local levels. In addition, the PMU coordinates project activities with Central and provincial Forestry Sector IT Groups.

Finland's funding for the Project is 9.7 MEUR and Vietnam's contribution equivalent to 0,44 MEUR.

1.2 Mid-term Evaluation

As part of the project cycle management (PCM) concept of the Ministry for Foreign Affairs of Finland (MFA), a Mid-Term Evaluation (MTE) was decided to be carried out in the beginning of the third operational year of the Project. The objective of the MTE is to provide an external, independent and objective view, information and assessment of the FORMIS II project. The MTE is expected to enable the competent authorities (MFA and MARD) to evaluate whether the chosen approaches are sound and sustainable and whether the resources made available to the Project are being used in an appropriate and efficient way, and make informed decisions on the strategy during the remainder of the second phase. The evaluation was carried out during July-September 2015, field work in Vietnam conducted during 23.8.-8.9.2015.

1.3 Key findings, conclusions and recommendations

Relevance

In general, the **relevance** of the Project for Vietnam is high. MARD/VNFOREST has prioritised modern data management in the development of forestry governance, and IT development is also a high priority in the country's overall development strategies. Improved quality and coverage, integration of various types of data, and easy access to data are important to planning and decision-making in all forestry-related issues, including economic development (development of forestry industries as well as more grass-root level poverty reduction processes in forest-covered areas), nature protection, reporting on international conventions, research and education, etc. Even if the project doesn't have any direct impacts on these matters, the developed FORMIS platform and various applications enable planning and decision making based on more reliable, accurate and easily accessible data.

However, it must be noted that FORMIS is especially developed to function as a tool for state management of forestry functions. For other stakeholders (households, NGOs/CSOs, industries, institutions) FORMIS provides a web-based platform to forestry-related data and information, but the applications are not developed for these stakeholders specifically.

Regarding Finland's development cooperation policy, FORMIS is well in line with its main principles, as open data access provides an opportunity to use data for any forest-related social development process. Cooperation with the project "People Participation in improvement of forest governance and poverty alleviation in Vietnam (PFG-Vietnam)" provides a possibility to further strengthen project's relevance to MFA's policy on human rights based development (HRBA).

It must be noted, however, that the relevance requires full nation-wide application of the developed systems; if data is only partial and if data reliability is not good, relevance to any user group will be marginal.

Impact

Regarding **impact**, targeted impacts are still to be seen as the applications are still subject to development and/or testing. By now, only some dissemination and training to the actual users has been conducted. However, even if the actual impact is still to be seen, some institutional impacts have already occurred, namely:

- The approach of ICT-supported data management is strongly adopted at MARD/VNFOREST whereby a strong ownership has been created.
- Compared to past, an approach of open and transparent data sharing has been created.

- FORMIS is also having an impact on standardisation of data management and reporting, which is expected to harmonise the approaches and altogether make forestry data management more efficient as well as improve its quality and usability.

Rather strong indications of expected impacts are seen also in various other issues:

- Quicker reporting and easier access to data through the FORMIS platform will save resources and time of all stakeholders
- Easy access to forestry data will provide better basis for planning and decision making and eases e.g. planning of forestry sector investments.
- Platform enables better linkage between forestry and socio-economic data to support planning both inside the forestry sector as well as within wider planning processes (e.g. poverty reduction programs, land-use planning, etc.)
- The systems provide potential for more efficient usage of the REDD+ and FLEGT mechanisms which may have an important contribution to economy
- Accurate and openly verifiable information may strengthen forestry governance against violations such as illegal logging
- Open and transparent data may enable also protection of rights of land owners (i.e. households and industries entitled for forestry land).

Effectiveness

Regarding **effectiveness** of the Project, the following key results have been achieved by the time of the MTE:

Result 1: Procedures, standards and mechanisms to transfer information

- Drafts for terms and conditions and permission policy on data sharing have been created, introducing a Service Oriented Architecture (SOA) for data management through platform services instead of one-to-one agreements between agencies.
- A joint circular is being prepared between ministries on data sharing.

Result 2: FORMIS platform and tools in all provinces

- FORMIS platform based on open source software is now functional.
- Forest Resource Database is produced.
- Upgrades of the Forest Resource Monitoring System (FRMS) and the Forestry Protection Department's (FPD) Quick Reporting System.
- Data Sharing System whereby for the first time stakeholders are able to have an access to forest resource data through the web-based FORMIS platform.
- Regulations on FORMIS have been drafted and the approval process is on-going.
- Central authentication system to manage the user access to FORMIS systems.
- Preparatory work for integrating three applications to FORMIS platform (UN-REDD GeoPortal, PFES-application, Seed management application)

Result 3: Forest sector data standardized and converted into FORMIS database and reporting of forest performance indicators in place

- After launching phase II, the National Forestry Inventory and Statistics (NFIS) data set was developed by VNFOREST, creating the base for forestry monitoring data parameters. NFIS data is now integrated to FORMIS from 15 provinces.
- Data from JICA-supported REDD+ –project has been integrated into the FORMIS platform. The data includes forest inventory data from 4 inventory cycles between years 1990-2010.
- VNFOREST leadership has become committed to share forest resource data and open it to other stakeholders.

Result 4: Strengthened capacity for information management and collection

- The first Training of Trainers (TOT) programs have been carried out whereby the initial resource base to continue training has been created.
- Various training materials have been created and made available in the Vietnam Forestry Information Portal.
- Basic awareness on FORMIS has been created at all provinces through dissemination workshops.
- Three regional FORMIS centres have been established and started their operations to support the provinces and sub-regional FPDs.

Result 5: Information Centre of the forestry sector / Forest IT Unit

- The "IT Unit" (Data and Information Division (DID) under the Data and General Affairs Section of VNFOREST) has been established with Project support, and a roadmap for its further development is processed and waiting for finalization.

In general the implementation lags a bit behind the originally planned schedule. The reasons for delays are justified (new developments within MARD/VNFOREST that require revision in the plans, some slow decision making processes, difficulties in recruitment). This is reflected also in the use of funds: the accumulated disbursement by June 2015 is 29 % of the total budget and 27 % of the annual budget of 2015. Therefore, the MTE team requested the PMU to prepare a rough work plan for the remaining period of the Project. This indicates that it still is possible to achieve the targeted results with some revisions to the plans and resource allocations. However, in case the budget allows, some non-cost extension (e.g. until end of 2018) should be considered to allow a bit longer time for sustaining of the results.

Capacity building is the key issue requiring improvement. To ensure a holistic and systematic approach for capacity development, a clear strategic plan is required.

Efficiency

No major issues were identified regarding the **efficiency** of Project implementation, except for some delays in the beginning of phase II, caused mainly by some recruitment problems and the gap between phases I and II that lead into remobilizing of the project.

Sustainability

Regarding **sustainability**, the following findings were made:

- Strong ownership of MARD/VNFOREST creates a good base for future sustainability. To support this, VNFOREST has made some wise institutional arrangements, especially establishing the Data and Information Division (DID) and linking the FORMIS regional offices with the regional sub-FPD offices.
- Sustainability depends strongly on VNFOREST's capacity to maintain and further develop FORMIS platform and applications. Therefore, the capacity building strategy proposed by the MTE needs to address post-project needs and cover human, institutional, financial as well as technical aspects of sustainability. Some additional resources are needed for preparation of the capacity development strategy. It is also foreseen that intensive capacity building must continue until the end of the Project.

Cross-cutting objectives

Regarding **cross-cutting objectives**, FORMIS is neither specifically addressing gender nor social equity issues. However, the data in the platform provides a possibility for various users to obtain forestry data for their own purposes, e.g. for planning of poverty reduction programs (e.g. protecting rights of communities in forest areas, or developing forestry investments that benefit communities) and for processes related to nature protection. It would also be relevant to integrate some key socio-economic data to the FORMIS platform to enable analyses on forest-poverty relationship. The Agricultural Census of 2016 may provide relevant data to be integrated to the platform.

FORMIS doesn't have any concrete gender focus. It follows the gender policies of MARD, and if a human resources management application is developed (as proposed by VNFOREST), it will enable e.g. gender disaggregation of sector's human resources data. Presently, all trained and all staff of the regional FORMIS centres are male. This indicates some need to strengthen female participation, especially for TOT training.

For climate sustainability FORMIS has more direct impact as the project is now in the process of integrating REDD+ data from projects supported by Japan (JICA).

Dissemination and management issues

Usage of the FORMIS systems depends also on whether key stakeholders know the platform and applications. Therefore, extensive dissemination is needed to ensure that all relevant stakeholders are aware of FORMIS and its potential. Linked with the capacity development strategy, a holistic dissemination strategy needs to be prepared as well to guide practical dissemination work.

The Project Document (PD) was not updated during the Inception Phase, whereby the Project has been lacking an up-to-date strategic plan covering the whole duration of the Project. Therefore, planning frame has covered only annual plans. To ensure a holistic strategy and relevant implementation process leading to sustained results, the PMU should prepare a strategic work plan until 2018 immediately after the PSC has made decisions upon the MTE's recommendations. When preparing this strategic work plan, also schedules as well as resources and budget allocations need to be revised.

Some minor improvements to the work plans and reporting formats are proposed in the detailed recommendations. Otherwise Project management has been professional and followed reasonably well the principles of results-based management (RBM).

1.4 Key findings and recommendations

The key **recommendations** are summarised in table 1. Even though the detailed analyses are made in accordance with the evaluation criteria (chapter 3), the summary below follows the structure of the key recommendations to enable the reader to have a quick review of the recommendations. As the Project is now entering its final years, the recommendations highlight key development needs related to ensuring impact, effectiveness and sustainability of its results. More comprehensive elaborations on findings, conclusions and recommendations are given in chapters 3 and 4. Key responsibilities are also indicated for actions. As the PMU will support all actions, it is not mentioned except for actions where it has the key responsibility.

Table 1: Key findings, conclusions and recommendations

Issue	Recommendation	Key responsibility
Future work plan	1. Work plan needs to be prepared till the end of the project after the PSC has made decisions upon the MTE recommendations (latest before preparing the 2016 Annual Work Plan). In case the budget frame allows, a non-cost extension e.g. until the end of 2018 should be considered to support the sustaining of the Project's results.	PSC decisions, PMU to prepare the WP
	2. To ensure success in achieving the key results and ensure sustainable exit, the Project needs to focus on the key issues and de-prioritize work on "possible but not necessary" issues.	PMU, VNFOREST
Data coverage	3. To ensure the relevance and usability of the developed systems and forestry data integrated to the platform, especially the FRMS and FPD Quick reporting should be covered nation-wide by all provinces preferably by the end of 2016.	VNFOREST
	4. Regarding FRMS, FORMIS systems need to be brought to district level; rangers may still report as they do now (with updated parameters), but districts need to have the capacity to fill in data to the FORMIS systems.	VNFOREST
Data quality	5. Data quality is a key concern for all parties. Verification mechanisms with the support of satellite data needs to be developed with some FORMIS support. FORMIS could also launch a district pilot to strengthen comprehension of significance of data quality in field level data collection. Based on the findings of the pilot, mechanisms for data verification should be developed. In principle, nation-wide data that form the basis for FORMIS platform need to be subject to quality verification. For other data (e.g. from various projects) to be integrated through hyper-links in the platform, FORMIS/VNFOREST cannot be responsible for data quality. This should be noted in the platform.	VNFOREST
Result 1: Data sharing standard and mechanisms	6. Working groups with clearly assigned experts, work plan, schedule and resource allocations with MONRE and MPI/GSO need to be established to develop the data sharing mechanisms.	PMU, VNFOREST, MONRE, MPI/GSO
	7. The finalization and official approvals of the "Data License" and "Special Terms and Conditions for Information System Services" need to be processed by the end of 2015.	VNFOREST
Result 2: FORMIS platform and tools	8. Forest Resource Inventory Standard needs to be defined soonest possible to ensure unified set of parameters for application. FIPI/MARD should be brought in to cooperate in standardization of the inventory parameters and methods.	VNFOREST, FIPI
	9. Topographic maps should be integrated to the platform's map interface; this is one of the core issues for the working group with MONRE (rec. 6).	FORMIS, MONRE
	10. Regulation on FORMIS system (Forestry MIS) should be completed	MARD,

Issue	Recommendation	Key responsibility
	by the end of 2015.	VNFOREST
	11. Recommended new applications: (1) HR application, (2) Forestry industry database, (3) Document processing application (as part of the FRMS). Regarding the second application, an identification and feasibility study should be conducted as the first step.	PMU, VNFOREST
Result 3: Forestry sector data integration to FORMIS	12. Data integration should be conducted at two levels: • Integration of **data necessary for national forestry planning, decision making, management and monitoring** (based on approved data standards and parameters); this data should be fully integrated to the FORMIS system interface and should have full national coverage. • Integration of **other data** (variable data produced by various projects etc.). This data covers typically only some provinces and may use different kinds of parameters. Therefore, it cannot be used for national level monitoring, planning and/or decision making. However, if the data might be interesting for various users, it would be useful to make it available through the FORMIS platform with metadata descriptions and links to the original sources.	PMU, VNFOREST
	13. MARD/VNFOREST should define the forest data standard (NFIS or other?) soonest possible (by the end of 2015) to ensure that the applications are based on an approved parameters and data standard.	MARD, VNFOREST
	14. Based on the approved data standard, FORMIS should strongly focus on achieving national coverage of FRMS by using NFIS data during 2016 to ensure the usability of data to national policy formulation, planning and reporting. Full coverage is also essential for training on the usage of the FRMS application.	VNFOREST
Result 4: Capacity development	15. Comprehensive capacity development strategy needs to be prepared to ensure a systematic approach for capacity building. An international short-term expert should be recruited to support the work (allocation 2-3 working months in 2 work periods). As the first step, the expert should review the CNA plan and make relevant improvements. Based on the strategy, a clear capacity development plan needs to be prepared by the end of spring 2016. MARD's training staff should be brought in to this process to ensure continuity of capacity building.	PMU, VNFOREST
	16. Linked with the capacity development strategy, a comprehensive dissemination strategy should be prepared as well.	PMU, VNFOREST
	17. A small group of pilot provinces should be selected for developing and testing the capacity building approach down to ranger level. The actual capacity building for rangers will be the responsibility of VNFOREST and provinces/districts, but FORMIS needs to develop the training modules, programs and provide training for trainers.	VNFOREST, pilot provinces
Result 5: IT Unit	18. A working group should be established with DID and CIS to develop the relevant solution for server management and data security	DID, CIS

Issue	Recommendation	Key responsibility
	19. CNA and future capacity building should also address DID's and CIS's needs to ensure maintenance and system development after project exit.	PMU
	20. The role of the IT Working Groups (DARD/VNFOREST) in provinces should be clarified, and their capacity improved to support the usage and maintenance of FORMIS in provinces and districts.	VNFOREST
Social issues	21. A working group should be established with the AAV-PFG project to develop the "Forest Owners' Data Bank" and/or "Extension Toolkit" under the FORMIS platform to ensure easy access of forest owners to relevant data and guidance.	PMU
	22. The PMU with VNFOREST should clarify what socio-economic data is really needed for forestry management. Only highly relevant data should be integrated to the applications (especially FRMS). Some basic data will be made available through the Agricultural Census 2016. Otherwise, social-related data from other projects etc. may be included as "other data" described in recommendation 12.	PMU, VNFOREST
Climate sustainability	23. Discussions should be started with GSO/MPI to find out, if some General Census database containing demographic data could be integrated to FORMIS Platform to support processing of climate sustainability. See also rec. 22 as refers Agricultural Census 2016.	VNFOREST, GSO
	24. Working Group is needed with MONRE to settle issues related to integration of topographic map layers and fresh satellite images to the FORMIS platform to improve spatial analysis on climate sustainability. Reference to rec. 9.	VNFOREST, MONRE
Budget and TA allocations	25. Based on the decisions made by the PSC upon the MTE recommendations, the budget and initial TA allocations for the remaining period of the Project need to be revised. In case budget frame allows, a non-cost extension e.g. to the end of 2018 should be considered. The current financial agreement with MFA allows this arrangement.	PSC, PMU
Procurement	26. In procuring software development services, PMU should follow international standards taking into account the guidelines given by the governments of Finland and Vietnam to prepare detailed specifications (system definition process) in order to properly take care of client´s duties to manage and control development work according to the detailed contract orders.	PMU
Cooperation and coordination	27. A 2-3 day workshop could be organized with key potential data sharing partners to • make sure that FORMIS is well known and vice versa, and • elaborate joint action plans for data sharing	PMU
	28. A workshop could be arranged with research institutes and universities to identify mutual interests and to strengthen the usage of FORMIS in education and research. Based on the findings, an action plan should be prepared.	PMU
	29. VNFOREST has proposed that the Project should establish a fourth regional centre linked with the fourth regional sub-FPD in the Central	PSC, VNFOREST

Issue	Recommendation	Key responsibility
	highlands areas. The MTE supports this proposal; the fourth regional centre could be established with the similar arrangements as the other regional centres.	
Planning and reporting	30. Annual targets should be integrated to progress and annual reports to enable clear comparison. The progress estimates should reflect progress against annual targets. Both traffic light and percentage estimates are relevant. Altogether, the analyses on progress should follow the following logic in the reports: • Target (as now) • Achievements (as now) • Findings (deviations, other findings) • Actions/revisions for future (if any) Now this approach is applied to some extent but not consistently.	PMU
Future Finnish-Vietnamese cooperation	31. MFA should consider some additional funding for a "match-making" program to facilitate future cooperation between Finnish and Vietnamese institutions and companies. The program could consist of the following: 1) Identification survey on the interest of Finnish organizations (potentials for forestry sector business and institutional cooperation): interested institutions and companies, potential cooperation themes, what kind of partners from Vietnam would be interesting for Finnish partners, etc. 2) Based on the findings, identification of potential Vietnamese partners. 3) Study and match-making tour to Finland (or for Finnish organizations to Vietnam).	MFA

2. BACKGROUND

2.1 Background of the FORMIS Project

Cooperation in forestry sector between Vietnam and Finland dates to 1992, and several projects have been implemented since that. In the past, Finnish support has covered bilateral projects, regional multilateral projects as well as institutional cooperation projects. The origins of the FORMIS Project date back to 10 years when Finland started to support the development of a new information system (FOMIS – Forestry Sector Monitoring and Information System) through the Trust Fund for Forests (TFF). At that time the main purpose was the strengthening of performance monitoring within forestry sector. Based on the needs of the Government of Vietnam (GoV) and experiences of former cooperation, the project "*Development of Management Information System for the Forestry Sector in Vietnam (FORMIS)*" was launched in October 2009.

The first phase of the project included development of forestry management systems at central level (Hanoi) and in three pilot provinces (Than Hoa, Thua Thien Hue and Quang Ninh). The present second phase of FORMIS was launched in April 2013 and is designed to be implemented over a period of five years, of which the first four years are planned to form the actual implementation period while the 5th year is planned to be dedicated to monitoring and handing over of the project outcomes. The focus is on further development and institutionalization of the information systems as well as on nationwide scaling up of the developed systems, applications and approaches.

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The strategy is based on development of an open-source platform for data sharing and processing whereby various stakeholders are able to feed in relevant data through an IT-solution, as well as have easy access to data through various applications. Forestry administration at all levels is the key user of the FORMIS systems, but the platform enables also numerous other users (e.g. industries, educational and research institutions, NGOs/CSOs, households, etc.) to have access to data for their own purposes and interests.

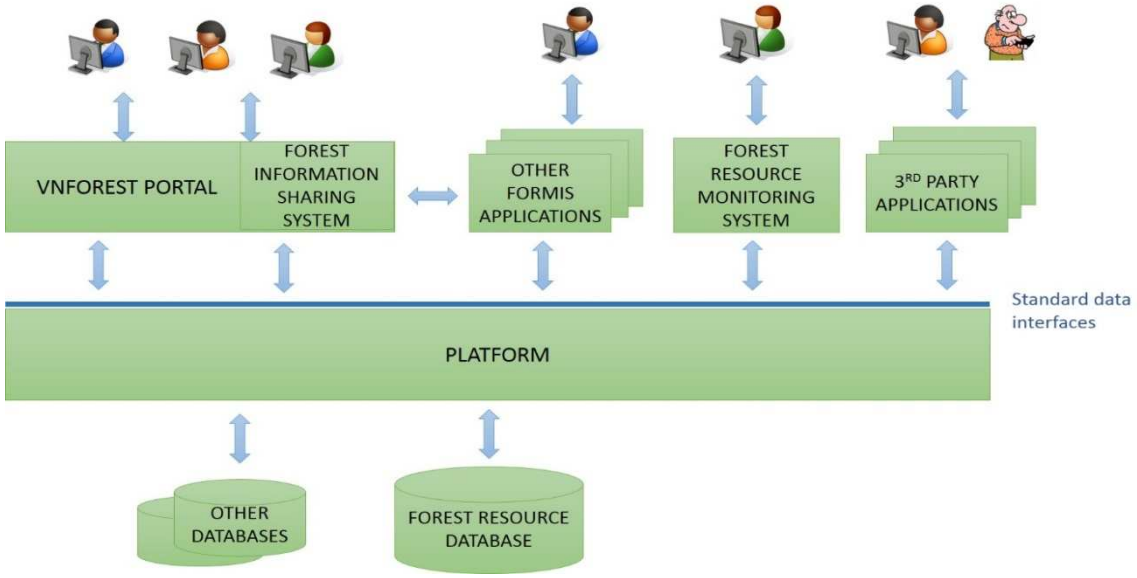

Figure 1: The FORMIS system

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Finland's funding for the Project is 9.7 MEUR and Vietnam's contribution is equivalent to 0.44 MEUR.

2.2 Forestry Sector in Vietnam

2.2.1 Key Characteristics of Vietnam's Forestry Sector

Legislative status of forestry sector

The key law on forestry sector is the *Forest Protection and Development Law,* which was revised in 2004 to meet Vietnam's new requirements set for socio-economic development, environmental conservation, international conventions and economic integration. The law builds an important legal and policy framework for the forestry sector in Vietnam. The *Land Law* (2003) governs the powers and responsibilities of the State as owner of land for uniform land administration land usage as well as defines the rights and obligations of land users. The *Law on Biodiversity* (2008) provides for the biodiversity conservation and sustainable development rights and obligations of organizations, households and individuals in the biodiversity conservation and sustainable development having a major effect on forest management.

Forest policy and sector plan

The main policy document guiding the development of the forestry sector is the "*Forest Protection and Development Plan for the period 2011-2020*" (FPDP). The objectives of the Plan highlight sustainable forest management, increasing forest cover up to 45% by 2020, improving incomes of forest-dependent people and contributing to hunger elimination and poverty reduction.

FPDP continues the government's efforts to develop the forestry sector. After a serious decline in both the area and quality of forests, the government prepared in 1992 the programme, "*Forestry Programme 327 on Policy to Regreen Barren Land",* which focused on protection of special use forests and protection forests and planting on barren land. The "*5 Million ha Reforestation Project (1998-2010)"* was a major step towards improved protection of existing forest resources as well as on speeding up forest planting to improve ecosystems, to conserve biodiversity and provide raw material for processing industries. In 2007, the Prime Mister approved the "*National Forestry Development Strategy* (VFDS)" for the period 2006-2020 to outline the overall objective of the state forestry sector, its planning and projects.

The "*National Target Program to respond to Climate Change"* (2008) was stipulated to focus on climate change adaptation and mitigation. MONRE is the focal agency in collaboration with relevant agencies to assist the Government in responding to Climate Change. The Decree on the "*Policy for Payment for Forest Environmental Services"* was issued in 2010 to regulate the policy for payment for forest environmental services. Accordingly, carbon sequestration and conservation are considered as forest services, which form an important legal foundation for the REDD+ implementation in Vietnam.

General figures of forestry

In 1943, Vietnam had 14.3 million ha of natural forests, covering 43% of the total land area of the country. After this, forest area declined rapidly and by 1990 forests covered only 9.18 million ha or 27.2% of the total land area. Consequently, also the quality of forests declined during this period. Since 1990s the government has focused on reforestation and improving the sector's sustainability, whereby at present, about 14 million hectares, equalling about 40.5 % of Vietnam's total land area, is covered by forests (Table 2). Around 25 million people are living in or near forests, particularly in mountainous regions, many of Vietnam's ethnic minorities living in these areas.

The forestry sector in Vietnam contributes officially just 1.3% of national GDP. This figure includes contributions from plantations, harvesting and a number of services. However, forestry also has significant contributions provided by the forest product processing industry, exports and environment values that are not included in the forestry sector's contribution to GDP. Altogether, the 1,3% figure underestimates the true socio-economic and environmental values of the sector in terms of forests' contribution to national economy, to local people's livelihoods and environmental values such as watershed and coastal protection and reduction of impacts of climate change.

Table 2. Forest Land

Forest type	Total Area (ha)	Special Use Forest Area (ha)	Protection Forest Area (ha)	Production Forest Area (ha)	Other
Total	13.796.506	2.085.132	4.564.537	6.751.923	394.914
Natural Forest	10.100.186	2.008.254	3.938.689	4.059.302	93.941
Plantation Forest	3.696.320	76.878	625.848	2.692.621	300.973

Source: Decision No. 3135/QD/BNN-TCLN of the Minister of MARD, dated 06 August 2015.

The total value of forestry production has been relatively stable, rising continuously from 2009 to the present with the highest rate, achieving 6.04% in 2013. The proportion of forestry production in the aggregated agricultural, forestry and aquaculture production is still less than 3%. Afforestation is done annually around 200,000 ha and regeneration around 400,000 ha. Contracts for forest protection are nowadays exceeding 4 million ha. Logging in natural forests has been annually varying from 160,000 to 400.000 m^3. The same figures in plantation forests range from 4 million to 8 million m^3 (up to 17 million m^3, when scattered trees and rubber wood are included). From 2014 onwards, there has been ban for logging in natural forests.

Forest fires occur annually, but in recent years there have only been some 300 fires to damage forests in around 1000 ha area. Illegal logging has decreased in the past years. In 2013, there were only 4,300 incidents and the damaged forest area was slightly more than 700 ha.

Total consumption of raw wood materials for processing in 2013 was 21 million m^3 including:

- Imported wood: 4 million m^3;

- Wood from concentrated plantation forest, scattered trees and rubber wood: 17 million m^3.

Raw wood materials were used in 2013 as follows:

- For processing furniture for export: 7 million m3 (4 million m^3 imported and 3 million m^3 domestic wood);
- For processing wood chip for exports: 12 million m^3; and
- For processing artificial boards and construction products: 2 million m^3.

Some time series in forestry statistics are presented in Annex E**.**

Exports of wood products

Total exports of timber and all wooden products including NTFPs has increased dramatically in recent years and reached USD 5.5 billion in 2013. Wooden products of Vietnam have been exported to over 120 countries. The major export markets are: USA with 38%, EU with 28% and Japan 12%. The major types of wood products: indoor furniture, outdoor furniture, handicrafts, lumbers, artificial boards (MDF, Plywood, Joint laminated board), etc.

International processes and climate change

The "*National Target Program to respond to Climate Change"* (2008) is focusing on adaptation to and mitigation on climate change. MONRE is the focal agency in collaboration with MARD and VNFOREST.

REDD process in Vietnam started in 2009, but it has progressed rather slowly. REDD+ process relies heavily on nationwide data. JICA projects have been dealt with 4-cycle data to make NFIs from 1990 up to 2010 comparable. Now there has been launched a quick process to collect NFIS data, a nationwide data based on SPOT 5 (SPOT 6) satellite images, eCognition software with automated segmentation through defined segmentation rules and field plot measurements. Data is presented in plots (to be checked and monitored in field). Carbon fund calculations are in process by using the 4-cycle data from the period 2000 to 2010.

One REDD-application will be integrated soon in FORMIS (UN-REDD-GeoPortal). It is necessary that in the future there is only one portal to be accessed to reach forestry data, not several ones. Data quality is the most important issue. National baseline data is now coming through NFIS, but that type of data collection is only one time inventory, not periodic one. Therefore, REDD+ process relies later on assessment of forest resource change as a periodic NFI (NFIMAP Programme), which is supported by FAO. Therefore, it is utmost important that the inventory scheme and collected forest attribute data (parameters) are comparable in the future. More detailed comparison of NFIS and NFIMAP is presented below in chapter 2.2.2.

The **EU-FLEGT action plan** sets out a range of measures that aim to combat illegal logging. Vietnam decided to start negotiating a Voluntary Partnership Agreement (VPA) in 2010. The aim is to have all VPA requirements settled by the end of 2015, latest 2016. From the forestry information needs point of view, implementation of VPA means that there should be data about

- timber processing companies and exporters of timber and timber products;
- harvested timber volumes, type of forest (natural forests, plantations), harvesting locations, harvesting year, and shipment code to facilitate the traceability of timber origin and limit the penetration of illegal sourced timber;
- production and depreciation rates of timber materials in processing by companies; and
- transportation, trading and export of timber and timber products.

2.2.2 Present Forestry Sector Inventories and Data Management

Forest inventories

At national level, the Forest Inventory and Planning Institute (FIPI) is in charge of carrying out forest inventories and assessments, preparing forest strategic and development plans, and developing, updating, maintaining and managing the national forest resource database. Other duties are synthesizing data and information on national forest inventory and statistics to serve the needs for forest planning and management of the Government. FIPI is a public service unit under the MARD. According to stipulations, FIPI has been running national forest inventories (NFI) since 1990's. Periodic NFI has been carried out four times, 4th one during 2006 – 2010. The 5th one has been planned to be more like the FAO supported national forest assessment (NFA).

National Forest Inventory and Statistics (NFIS) is a new nationwide program, which will produce forest resource data from the whole country. For NFIS, pilot inventories started in 2011 and the main inventory is carried out during 2013-2016. The inventory covers each province throughout the whole country including forest land and non-forest land. The objective of the inventory is to get nationwide information of the area, volume and quality of the forests and the potential forest lands. The NFIS data is aiming at serving the planning, management, guidance and monitoring for the forest development and protection plans from central to local level.

The NFIS inventory process will be carried out in two moderately separate and independent stages:

1) forest resource inventory; and
2) forest statistics for production of forest status maps and forest lands without forest, all based on forest inventory results.

The inventory method is based on high resolution satellite images (mainly SPOT 5 and SPOT 6 images) and sample plot measurements in the field. Based on inventory results, thematic forest maps in scale 1:10,000 for communes, 1:50,000 for districts and 1:100,000 for provinces are prepared. The inventory plot is a status plot (could be described as a stand or compartment), with smallest area of 0,5 ha for natural forests and 0,2 ha for plantation forests. The status plots are still divided into forest parcels, owned by one forest owner, with minimum area of 0,2 ha. FIPI is the service provider to run the NFIS inventory.

NFIS data is baseline data for the FORMIS system. According to the NFIS project plan, the NFIS data will be available by June 2016 from all (forest covered) provinces. Then monitoring and reporting can use unified data from the whole country.

Status plot is the main unit for forest resource data. NFIS data has more than 10 actual status attributes to divide plots. Land and forest areas are divided into smaller polygons, when there is a change in forest function, forest origin, owner type, soil condition, conflict situation or Red Book situation. The earlier Forest Status Map 2007 was much simpler than the new one, and it was based only on one status attribute (code for forest status/type). Therefore, comparison between old and new status maps is rather complicated.

In the future, all data collection could take NFIS status plots as their reference data. The objective is to update the existing status plot data to meet sustainability of data management and reporting. In order to have data content of status plot similar in all provinces, data content for NFIS data should be standardised. NFIS data content differs somewhat from the original FORMIS data model based on NFI data.

However, to complicate things, according to PM's decision from June 2012, there will be one National Forest Inventory, Assessment and Monitoring Programme after 2015 (NFIMAP).

- NFA would be the national component of the NFIMAP Programme answering to the FAO FRA and national level REDD reporting requirements; and
- NFI & Statistics (NFIS) would be the provincial component of the NFIMAP Programme targeting to produce accurate maps and forestry statistics at local level to be further updated annually by FPD and FIPI.

The decision has raised some questions and issues on how to implement separate inventories. Both NFA and NFIS could be carried out simultaneously, if field sampling is unified in both programmes. This means that same systematic sampling grid should be used throughout the country. In field measurements, nested circular sample plots should be used for improved efficiency. If NFIS requires higher accuracy for smaller units like district and commune, it is possible to select more temporary sample plots inside each unit or geographical area.

The proposed NFIMAP 2016 – 2020 meets all national forestry database demands:

- Forest coverage and annual changes in a reliable way and with known error estimates;
- Total volume, biomass and carbon sequestered into ecosystem (for REDD reporting);
- Annual growth of forests to estimate maximum annual allowable cut (basic principle in sustainable forest management);
- Impact of climate changes to growth (long term trends can be evaluated only with periodic NFIs and permanent sample plots); and
- Natural regeneration of forests, tree species proportions and their annual changes and losses in biodiversity can be found out only with periodic measurements.

Proposed NFIMAP would also be suitable and functional for REDD MRV

- At the national and provincial scale, it would provide a solution for National Forest Monitoring System;
- At the lower levels, more intensive (field) data will be required about the changes of carbon pools;
- Error estimates can be provided for area, volume and biomass; and
- NFIMAP is also planned to meet the international reporting requirements.

Altogether, several changes in inventory schemes in Vietnam have occurred during the last years. It looks that there are two separate inventory schemes planned for future, their content and objectives being somewhat different. NFA looks more like the traditional periodic NFI with clusters and permanent sample plots. Such are always needed to verify the statistical ground for monitoring based inventories. NFIS has satellite image based status plots, which are monitored, when changes occur either by human or nature management. NFIS is more focused on thematic maps of forest resources status. To have the best results from both inventories, it is important to harmonize the schemes to be comparable and complement each other. The other issue is standardisation of inventory parameters, at least, the key parameters. Otherwise, comparison of results and processing of time series becomes rather complicated. There is a need for coordination and collaboration between agencies and administrations. FORMIS Team could act as facilitators in the harmonisation and standardisation process.

Forest data management

The significance of forest information and data management is highly appreciated in Vietnam. "*Developing and consolidating the information system for forestry sector management*" is one of the 21 project priorities, which are identified in the Vietnam Forestry Development Strategy 2006-2020.

It is implemented through the MARD Decision in 2006 on the "*Approval of the information and technology application and development programme*".

Forest data management has been mostly using commercial software packages in Vietnam, such as MapInfo, ArcGIS, ERDAS, eCognition, etc. VNFOREST data management and forestry staff has used MapInfo in all recent data operations. To start using open-source tools and applications is rather new for them. Therefore, training in QGIS has been very important to get familiarized with the open-source ideology.

The future data management tools and applications to be used in NFIMAP will be heavily supported by NFA project, which is run under FAO support. FAO has been contributing to **Open Foris Initiative** development. The principles of this initiative are:

- **Open** – freedom to modify and adapt to country needs without special permission
- **Free** – software available free of charge
- **Sustainable** – global community of users; avoids vendor lock-in and dependence on outside support
- **Tested** – incorporates knowledge and experience of many countries and institutions
- **Tailored** – FAO and partners working closely with countries to meet specific national requirements

Package includes tools for forest inventory data input, data management, and forest inventory results calculation as well as tools for remote sensing data processing. **Open Foris Collect** and **Collect Mobile** have the same basic functionalities either in server/PC version or in field data loggers. There is a proposal that in NFIMAP programme data loggers will be used in Vietnam. **Open Foris Calc** is tool for results calculation. It utilizes databases created with Open Foris Collect. End users in each country can define volume and height equations to be used. Development of Open Foris Calc result calculation tool has started in 2014 in Vietnam.

NFA project has promised to support NFIS by developing the following tools and trainings:

- Training on advanced forest inventory tools;
- Land Use and Forest Type Mapping using eCognition software and FAO Open Foris RS tools;
- Volume mapping tool utilizing knn-approach in satellite image and field sample plot data in simultaneous interpretation;
- Introduction of Open Foris Collect and Open Foris Calc tools to be utilized by NFIS Programme; and
- Development of tree species and coding lists could be utilized by NFIS programme.

At operational level, there are various monitoring and reporting systems in use to support implementation of the forest policy and forest protection and management. In order to enable more systematic and ad-hoc decision-making by all stakeholders at all organization levels, an integrated management information system (MIS) for effective generation of information on various elements of the forestry sector operations is now being built in the form of the FORMIS system.

Altogether, FORMIS will provide a unified ICT platform for the relevant agencies to integrate their data and applications. This will enable effective data management to facilitate better decision-making at all levels. The information system will support sustainable management of forest resources and contribute to the alleviation of poverty and stimulate the overall socio-economic development in Vietnam.

2.3 Mid-term Evaluation

In accordance with the project cycle management principles of MFA, the mid-term evaluation (MTE) was launched on June 2015, FCG International being selected through competitive bidding as the company providing the evaluation services. The MTE was carried out during July – September 2015 by a team comprising of Mr. Paul Silfverberg (Team Leader), Mr. Tuomo Kotimäki, Dr. Khoa Van Phung and Dr. Tran Ngoc The. The field work was carried out during 23rd of August – 9th of September 2015, including consultations in Hanoi and in three regions (Northern region / Quang Ninh province, Central region / Ha TInh province, and Southern region / Bing Duong province).

The objective of the MTE is to provide an external, independent and objective view, information and assessment of the FORMIS II project. The MTE is expected to enable the competent authorities of MARD and MFA to assess, whether the project is on track to achieve its objectives in a sustainable way, whether the approaches for FORMIS II are sound and whether the resources made available to the Project are being used in an appropriate and efficient way. Based on the findings and recommendations of the MTE, the competent authorities will make informed decisions on the strategy during the remainder of the second phase.

The evaluation has consisted of the following actions:

- Analyses of relevant documents
    - FORMIS: PD, Inception Report, work plans, annual and progress reports, various study reports, etc.
    - GoV: Forestry policies and strategies, relevant decisions and regulations, etc.
    - GoF: Development policy, country program, various guidelines
    - Documentation of selected other projects
- Interviews and round table discussions
    - MFA Project Coordinators at the Embassy of Finland
    - FORMIS PMU and key VNFOREST staff and units
    - MARD and VNFOREST IT units, MARD/FIPI, STICD (VNFOREST)
    - Other ministries: MONRE, MPI (including AED and GSO)
    - FORMIS II Regional Office staff (North, Central, South), regional sub-FPDs and representatives of provincial FPDs in Quang Ninh, Ha Tinh and Binh Duong provinces
    - Other donors and projects: JICA, GIZ, REDD+, FLEGT, Action Aid Vietnam, FAO/NFA
    - Interviews in Finland: MFA, Niras home office, FORMIS II planning team, FORMIS II IT and social experts, forest industry representative.
- Facilitated self-evaluation workshop
- Questionnaire on user feedback
- Several requests on clarifications to FORMIS PMU
    - Workplan update until the end of the Project, changes compared to PD, FORMIS priority users and intended usage, gender breakdown of trainings, etc.
- Other: analyses of forestry sector's social issues and potential of FORMIS in education and research

List of consulted stakeholders is presented in Annex A, list of documents reviewed in Annex B, and report on the facilitated self-evaluation in Annex C. The Terms of Reference for the MTE is presented in annex G.

3. FINDINGS

3. 1 Overall Progress of the Project

In general, some delays have been encountered during the first two years of FORMIS II implementation, caused by be several understandable causes: need to completely re-establish the project after some months' gap between phases I and II; need to revise Project strategy because of some new developments within VNFOREST (e.g. introduction of the National Forest Inventory and Statistics (NFIS) data as a national forest resources baseline data), and due to some problems in recruitment. This is reflected also in the disbursement of the budget, as accumulated expenditure by June 2015 has been about 30 % of the Project's total budget, compared to about 46 % of allocated budget by the end of year 2 in the PD.

The MTE team requested the Project to update the plans up to the end of the Project, and based on this update, the delays don't seem to include major risks. Actually, the budget allocations in the PD seem to be over-budgeted for the first years as especially the capacity building actions may start in full scale only after systems and applications are ready – which starts to be the situation now.

The MTE requested the PMU to prepare a rough plan until the end of the Project. PMU's own assessment indicates that the project exit may be possible within the originally planned schedule. However, the MTE team has some reservations on this due to the extensive capacity building challenge and due to ensuring sufficient time for sustaining of the developed systems. Therefore, when the next update of the work plan is made, based on the Project Steering Committee's (PSC) decisions upon the MTE's recommendations, a 3-4 months non-costs extension should be considered, if the budget allows it.

3.2 Relevance

3.2.1 Relevance to the Government of Vietnam

In general, the relevance of the Project for **Vietnam** is high. MARD/VNFOREST has prioritised modern data management in the development of forestry governance, and IT development is also a high priority in the country's overall development strategies.

Improved quality and coverage, integration of various types of data, and easy access to data are important to planning and decision-making in all forestry-related issues. Those include economic development (development of forestry industries as well as more grass-root level poverty reduction processes in forest-covered areas), biodiversity protection, and reporting on international conventions. Easy access to data is also essential for education and research. Even if the project doesn't have any direct impacts on these matters, the developed FORMIS platform and various applications enable planning and decision making based on more reliable, accurate and easily accessible data.

However, it must be noted that FORMIS is especially developed to be a tool for forestry governance, MARD/VNFOREST from central to local levels being the key users. Also other key ministries, Ministry of Natural Resources and Environment (MONRE) and Ministry of Planning and Investment (MPI) confirmed the relevance of FORMIS. FORMIS platform is relevant also to other stakeholders (various projects, industries, institutions and also forest owners' communities and NGOs/CSOs) as it provides a possibility to easy data access, thereby supporting their information needs. The key potential usages by other stakeholders may be summarized as follows:

- Industries: identification and assessment of forest resources for investment planning, identification of business potentials, location of resources, timber (material) flows, planning of logistics, etc.;
- Educational and research institutions: easy and open access to data for research and forestry education, platform to disseminate research results;
- Other projects, NGOs etc.: easy access to background and reference data (whatever the need) and a platform to disseminate results and information; and
- Communities and forest owners: in case a specific "Forest owner data bank" or "Extension Toolkit" is established under the FORMIS platform, relevant information may be found from place.

It must be noted, however, that the relevance requires usage of **standardised forestry monitoring parameters** as well as **full nation-wide application** of the developed systems; if data is only partial, relevance to any user group will be marginal. **High data quality** (data integrity, unity and coherence) is the third key requirement for relevance.

3.2.2 Relevance to Finland's Development Policy

Regarding Finland's development cooperation policy, FORMIS is well in line with its main principles of human rights based (HRBA) development. According to the international human rights conventions, access to information is one of the core human rights, thus FORMIS has a contribution to human rights. Altogether, information on forests and forestry is significant to poor communities who usually depend on forest. Thereby, FORMIS is an enabling system for livelihood development, rights protection of population living in forested areas, as well as tool for sustainable forest management and protection. Several interviewed stakeholders also emphasized that open data also increases transparency of forest operations, and therefore, decreases possibilities for violations such as illegal logging.

3.3 Effectiveness by Project's Result Areas

3.3.1 Result 1: Procedures, standards and mechanisms to transfer information between Vietnamese agencies

Result 1 aims at establishing clear information standards and mechanisms that enable data transfer to the FORMIS platform and applications from different sources, organizations and geographic regions. Standards and related parameters are necessary for scaling up applications nationwide as well as for setting the rules how different organizations transfer data.

Traditionally, open data sharing has not been a widely applied approach in Vietnam. Therefore, the challenge is not only to develop the technical data transfer mechanisms but also a new working culture, based on open data sharing, needs to be in place. The FORMIS platform also aims at creating a data sharing approach based on service oriented architecture (SOA) through platform services instead of one-to-one agreements between data sharing agencies. Therefore, data ownership and intellectual property rights issues have been identified as critical issues in data transfer.

Altogether, data standards provide the base for FORMIS applications as well as for data sharing mechanisms between agencies, especially between the key ministries (MARD, MONRE and MPI). By mid-2015, the following key results have been achieved:

- Approach for open data sharing is widely adopted by MARD/VNFOREST as well as by other sector stakeholders.

- Drafts for terms and conditions and permission policy on data sharing have been created, introducing a service oriented architecture (SOA) for data management through platform services instead of one-to-one agreements between agencies. In practice, the PMU has drafted two documents, "**Special Terms and Conditions for Information System Services**" to clarify the intellectual property rights to data and software. In addition, a "**Data License**" document has been drafted for data to be shared between the forestry agencies under MARD or between MARD and MONRE.
- A joint circular is being prepared between ministries on data sharing.

For the future, the key challenges are to finalize the procedures on data transfer. This requires intensified cooperation especially with MONRE and MPI/GSO.

The PD's structure of result areas is a bit unclear on this matter. The MTE recommends to limit the result area 1 to the data transfer mechanisms whereas the forest resource inventory parameters are dealt with under result area 2. This would clarify the scope of result areas, as the inventory parameters form the base for the key applications, especially for the Forest Resource Monitoring application.

3.3.2 Result 2: FORMIS platform and tools are operational in all provinces with a main focus on forest covered provinces

The key objective of result area 2 is to further develop the FORMIS platform and tools developed in phase I, develop two new applications, and scale-up them nationwide. The key achievements by the time of the MTE include the following:

- FORMIS platform based on open-source solution is now functional. Regulations on FORMIS have been drafted and the approval process has almost been finalized. It will give the official status for the FORMIS system to be used in Vietnam's forestry administration.
- The implementation of the Forest Resource Monitoring System (FRMS) has started; the service provider has been contracted and software requirements defined and approved by VNFOREST. Currently the implementation of the system is on-going. Deployment plan for piloting the FRMS is made for the first two provinces (Dak Lak and Ha Tinh).
- The Forestry Protection Department's (FPD) Quick Reporting System developed in phase I has been upgraded and is now subject to internal testing.
- Data Sharing System, based on the catalogue developed in phase I of FORMIS is now further developed; base in phase II is now available whereby for the first time stakeholders are able to have an access to forest resource data through web-based FORMIS platform. The established GIS and map interface provides a very concrete tool for all users.
- Central authentication system to manage the accessibility of users to FORMIS system has been developed.
- Some preparatory work has been done for integrating three applications to FORMIS platform (UN-REDD GeoPortal, PFES-application, Seed management application).
- Dissemination and training on the platform and applications has been started.

The key challenges and development needs related to result 2 include the following:

- The regulation on the Forestry MIS should be processed by MARD/VNFOREST in the coming months as it is a prerequisite for the platform's official usage.
- Topographic maps are essential for forestry management, but they are still missing from the map interface (Data Sharing System and FRMS). Quick joint action with MONRE is needed. Integration of new satellite images as an additional layer would further improve the

platform's usability, especially regarding verification of data processed from field monitoring. Also this requires extensive cooperation with MONRE. Until now this cooperation has been rather limited.

- Quick nationwide coverage of basic systems (especially FRMS) is essential to make the tool really operational for national level monitoring, planning and decision making. Piecemeal data does not provide help for any national level work.
- Quick decisions are needed upon the new applications to be developed for the platform. The findings of the MTE indicate that the following could be the most relevant:
    - Human resources application (prioritized by VNFOREST);
    - Forest industry database that would also enable tracking of timber flows (relevant e.g. for FLEGT and investment planning). Identification and Feasibility Study should be the first steps; and
    - As a smaller application, a document processing application would support the efficient usage of the FRMS. It might be also a part of the VNFOREST eOffice.

3.3.3 Result 3: Forest sector data standardized and converted into FORMIS standard database, reporting of forest performance indicators in place

The aim of standardization of forestry sector data and its conversion into FORMIS database is to ensure a holistic approach for forestry sector data management to achieve national coverage with good comparability of data. During the planning of phase II it was expected that the FIPI forestry inventory data would have been the formal standard, but after phase II was launched, MARD/VNFOREST started a new process – National Forest Inventory and Statistics (NFIS) – to be the basis for forest resource monitoring. Now integration of NFIS data to the FORMIS platform is undergoing. The target is to collect NFIS data from all provinces by June/July 2016. In practice, this may take a bit more time, i.e. until the end of 2016. Thereby, nation-wide integration of NFIS data to FORMIS could be completed during the first half of 2017.

To summarize, the key achievements under result 3 are as follows:

- NFIS data is now integrated to FORMIS from 15 provinces. As the algorithm for data integration has now been developed, it's rather easy to import NFIS data from the remaining provinces after data is made available.
- Data from JICA-supported REDD+ project has been integrated. The data includes nationwide forest inventory data from 4 inventory cycles between years 1990-2010.
- VNFOREST leadership has become committed to share forest resource data and open it to stakeholders; FORMIS platform is seen by the management of VNFOREST as the key tool for that.

However, two main challenges have to be solved under result 3:

- Standardization of the essential forestry management data, i.e. definition of **unified parameters** is a key prerequisite for the usability of FORMIS, as without clear and unified parameters and data collection methodology, comparability becomes impossible. A proposal for forest inventory information standard was prepared during phase I of the Project, based on GoV regulations in place at the time. Thereafter, FIPI developed a set of forest resource inventory parameters (NFI-data). Further on, the NFIS process was developed after launching of FORMIS II.

  Based on guidance from VNFOREST, FORMIS has concentrated on integration of NFIS data. However, the situation regarding data standards is somewhat confusing and there is some inconsistency between parameters and methods applied in Vietnam's forestry monitoring

(NFIS / NFI). At the moment, FORMIS assumes that NFIS will become the standard, but the issue is still open. As FORMIS cannot decide upon the standard, MARD/VNFOREST should define the data standard for the future inventories and monitoring, preferably by the end of 2015. According to PM's decision (2012), FIPI should carry out a new *National Forest Inventory, Monitoring and Assessment Programme (NFIMAP 2016-2020),* which also calls for quick decisions on the standardized parameters. Even if the Project doesn't have mandate to define the standard, it could facilitate the work, and the MTE team feels it is important to involve also FIPI in this work as it is the key service provider for forest inventories in Vietnam.

- To ensure relevance and usability of the FORMIS platform, **nationwide coverage of data** is the other key requirement. Therefore, the Project should strongly focus on 2016 and during the first half of 2017 to achieve full nationwide coverage of NFIS data integration. If the collection of NFIS data progresses in the provinces as expected (by the end of 2016), this target is achievable.
- Concrete information needs of other stakeholders than VNFOREST are not sufficiently known within FORMIS PMU. On the other hand, the Project is not sufficiently aware of developments in the other key ministries, e.g. about the Agricultural Census of 2016. To clarify the needs and to strengthen synergies, cooperation needs to be improved especially with MONRE and MPI/GSO (Agricultural Census 2016) as well as with FIPI.

3.3.4 Result 4: Strengthened capacity for information management and collection

Ensuring capacity to operate, manage and further develop the FORMIS systems is a prerequisite to achieve any benefits from the applications and to ensure long-term sustainability. Capacity building on FORMIS is a huge challenge as it involves almost 10.000 forestry sector staff members from commune-level rangers up to national level. Effective usage of the systems require on one hand deep understanding on the forestry issues and data parameters as data quality is dependent on this, and on the other hand, system operators need to have strong capacity in IT management.

To analyse capacity building needs, the PMU has conducted a quick capacity needs assessment and is now in the process of contracting a service provider to carry out a comprehensive capacity needs assessment (CNA). By the time of the MTE, the key achievements include the following:

- Three regional offices have been established with close link to regional sub-FPDs. This arrangement will provide the base for province-level capacity building. VNFOREST has proposed to establish also a fourth regional office with similar institutional arrangement; the MTE team considers this proposal highly relevant.
- The training of trainers program (TOT) has been launched and the first batch of TOTs (17) has been trained whereby the initial resource base to continue trainings has been created.
- Various training materials have been created and made available in the Vietnam Forestry Information Portal.
- Basic awareness on FORMIS has been created at all provinces through dissemination workshops.

However, FORMIS capacity building faces some serious challenges, as highlighted below:

- Even if training plans for 2015-2016 are developed and the CNA is to be conducted, the MTE team feels that the Project lacks a holistic approach for capacity building. The CNA will help to develop such, but altogether, a **clear and holistic capacity building strategy** is urgently needed to guide the capacity building processes. To guide and support the preparation of the strategy and facilitate the practical planning based on the strategy, an experienced

short-term international capacity building adviser needs to be recruited (approximately 3 months input).

- Focus of capacity building should be on national, provincial and district levels. It's essential that these levels will have capacity to use FORMIS applications (feed in and use data) latest by mid-2017 in order to ensure sufficient time for sustaining the systems. At commune level, the rangers may continue reporting as now, as long as data is integrated to the FORMIS systems at district level.
- Altogether, the Project has neither time nor capacity to cover the commune/ranger level training needs. Therefore, VNFOREST and provinces will be responsible for this level of trainings. The Project needs to support the development of the approaches, programs, methods and materials for ranger training e.g. through piloting this in a few provinces. Thereafter, VNFOREST and provincial FPDs (with the help of regional sub-FPDs) will have the responsibility to continue ranger training.
- Successful dissemination requires also a clear strategy, based on the needs of the stakeholders. Therefore, linked to the preparation of the capacity building strategy, also a dissemination strategy should be prepared to guide practical dissemination work. The strategy should be based on tailor-made approaches, based on stakeholders and their needs. A simple model for a dissemination strategy is presented in table 2.
- Altogether, the big challenges indicate that both more time and additional resources are needed for capacity building and dissemination. It is foreseen that 2017 will be a major year for capacity building, and to sustain the systems, some additional/refresher trainings are foreseen also for 2018. Discussions with the PMU indicate that the capacity building budget will be utilized already in 2016 whereby the resources and budget need to be revised after completion of the capacity building and dissemination strategies.
- The training unit of MARD has not been involved in the Project so far. As it may have a role in the long-term capacity development, cooperation should be launched now.

Table 2: Logic of a dissemination strategy

Stakeholders (Target groups)	Issues	Method and form	Resource need	Schedule
VNFOREST departments and MARD				
FIPI				
Other ministries				
Provinces				
Districts				
Communes / rangers				
Educational and research institutes				
Other projects				
Forest industries				
CSOs				
Forest owners and communities				
etc.				

3.3.5 Result 5: Information centre of the forestry sector / Forest IT Unit is established and operated

In order to ensure IT management capacity, the PD defines the establishment of a "IT unit" as the fifth result of the Project. Its role was especially planned to provide necessary IT back-up as well as to support communication activities. To respond to this need, VNFOREST has reacted quickly and the IT unit is now formally established as the Data and Information Division (DID) under the Information, Data and General Affairs Section of VNFOREST. Altogether, this is a sound arrangement and creates the base for long-term sustainability. Basic staffing is already in place (altogether 5 persons), but the IT personnel need some capacity building in forestry issues and persons with forestry consequently on IT.

However, even if DID is now established, some challenges remain:

- Ensuring professional server management and back-up as well as data security is essential for long-term sustainability. As MARD's Centre for Information and Statistics (CIS) already maintains MARD's servers and protects data security, handing over of these tasks to CIS could bring a sustainable solution for both server management and data security.
- With CIS taking care of server management and data security, DID could concentrate on application management. However, the present capacity of DID to manage FORMIS system is not yet sufficient whereby its capacity in system architecture, database management and cartography needs to be strengthened.
- Capacity development strategy (result 4) needs to address also DID and CIS needs.
- Support mechanism (e.g. help desk) needs to be developed to serve all levels, as the first step for VNFOREST departments, provinces and districts, and in the long run, also for rangers.
- The role of DARD/VNFOREST IT Working Groups in provinces needs clarification and strengthening. Especially they should be brought in for training and dissemination.

3.4 Efficiency

Compared to typical projects, the share of TA costs in FORMIS is very high; the total budgeted international and national TA, support staff fees and salaries plus related reimbursable costs totals 6.537.170 Euro, or 67 % of the GoF contribution. However, the MTE considers this justified due to the nature of the Project to require extensive TA input.

Regarding the remaining period of the Project, the TA allocations need to be reviewed based on the PSC's decisions upon the MTE's recommendations. Some revisions need to be made to the initial TA allocations (both long- and short-term), but the exact revisions can be planned only after PSC's decisions. Altogether, there is a need to clearly focus on the priority issues (i.e. ensuring that FORMIS becomes an operational tool for national level forestry management) to ensure efficient usage of the resources. This calls also for some de-prioritization; for example some initially planned studies which do not directly support this priority may be rejected.

As noted earlier, the implementation has suffered from delays during the first years, mostly caused by the remobilization of the Project, change in some basic issues (e.g. introduction of NFIS), some recruitment problems and some delayed decision making. The MTE team requested the PMU to prepare a rough work plan for the Project's remaining period, and based on it the delays are not yet critical if the implementation efficiency will remain good.

3.5 Impact

Regarding targeted long-term impacts on sustainable forest resources management and poverty alleviation, impacts are not yet visible as systems are still under development and/or waiting for full-scale deployment. However, some impacts are already emerging:

- The approach of open data sharing has been widely adopted, creating a good momentum for future usage of the FORMIS platform and applications. This is further supported by the strong ownership of VNFOREST, which indicates that the systems will be taken into active use.
- Altogether, the MTE team became reasonably convinced that there are good prospects to achieve impacts related to the sustainability of forest management as standardized, more reliable and easily accessible data clearly **enables** improvements in planning, monitoring and decision making.
- It can also be expected that in the long-run reporting based on the developed applications with IT solutions will improve both the efficiency and timeliness of reporting.
- FORMIS systems also enable easier and more profound analyses on forestry issues for economic development and poverty alleviation programs.
- The systems have also potential for improving monitoring, reporting and verification (MRV) on FLEGT and REDD+ processes. Both include some possibilities for increased revenue.
- Altogether, FORMIS platform and applications strengthen IT development within VNFOREST and contribute thereby positively to Vietnam's IT leap.

However, we want to emphasize once more that all the potential impacts require full national coverage, standardized parameters, and reliability of basic monitoring data (data quality issue).

3.6 Sustainability Analysis

Rather positive development regarding institutional sustainability has emerged during the first two years of FORMIS II. Altogether, VNFOREST has taken strong ownership of FORMIS, and the awareness on the sustainability challenge seems to be high, as indicated by two important institutional arrangements:

- Establishment of the regional FORMIS centers side-by-side with the regional sub-FPDs ensures rather well the continuation of the support to be provided by regional sub-FPDs after phasing out of the Project. The key staff of the regional centers actually comes from the regional sub-FPDs, and it already has been agreed that the persons will return to the sub-FPDs after their contracts with FORMIS are over. Thereby, the capacity developed for the regional centers will not disappear when the Project is ending.
- Rather quick progress has been achieved in establishing the new "IT Unit" for VNFOREST. Now the "unit" is formally established (as DID) with key staff members in place. However, the capacity of the unit is still weak, and especially server maintenance and data security would require a better arrangement, e.g. handing over these tasks to the CIS of MARD.

Other relevant actions/approaches for sustainability include the following:

- The selected open-source solution for applications provides a good possibility for future upgrading of the systems.
- When the platform and applications have official status, defined e.g. in MARD/VNFOREST regulations, units and departments at different level are obliged to use the systems, creating

thereby a base for institutional sustainability. Standardization of parameters further strengthens the sustainability.

However, major challenges still prevail for sustainability:

- Clear and realistic plan on post-project institutional arrangements and resourcing (human resources, technology support and funding) is urgently needed to form the base for capacity building. The CNA should provide the answers to this issue. If the proposed short-term capacity development expert is recruited as proposed by the MTE, the CNA plan should be urgently reviewed by him/her to ensure that the sustainability issues are adequately addressed in the CNA.
- As with impact, clear standardization, full national coverage and official status defined by regulations are essential to ensure sustainability.
- The Project has been lacking a comprehensive work plan until the phase out. This creates a clear sustainability risk as critical actions to ensure sustainability are covered only partially in the annual work plans. Therefore, there is an urgent need for a comprehensive strategic work plan covering the rest of the project (until 2018).

Altogether, it must be noted that sustainable exit starts latest now; actions during the last 1-2 years usually are not sufficient to ensure sustainability. With VNFOREST's strong ownership and some of the key institutional arrangements now in place (see above), there is a good chance for sustainability, but only if the strategy for the remaining period of the Project focuses on institutionalizing the developed systems.

3.7 Cross-cutting objectives

3.7.1 Gender and social equity

The PD is rather unclear on the Project's gender and social inclusion strategy. To concretize the issues and approaches, a Poverty and Gender Mainstreaming study was carried out by a short-term TA expert. Several socio-economic data sets were identified in the study with potential to be integrated to the FORMIS platform. However, otherwise the study didn't concretize the Project's approach on social issues (gender, inclusion).

The reason for the fact that no clear idea has emerged on how to deal with the social cross-cutting objectives is actually rather simple: FORMIS does not have a strong linkage to social issues as it is first of all a technical tool to provide data support for forestry decision making, planning, management and monitoring. If we think about the needs of forest owners (households) and communities, two key needs can be identified:

1) In case of disasters (forest fire, storms) or forest damage (e.g. by insects), forest owners need quick help. FORMIS is not for this; in case of fire, one makes a phone call to fire protection, in case of other damage, the commune ranger is contacted. The role of data management comes only at the stage of reporting, and this is done by the ranger. Thereby, for quick information delivery, the collaboration between forest owners and rangers becomes more important, because the rangers are the key stakeholders for reporting from the field.
2) Otherwise the needs are more extension-related; i.e. information on sustainable forest management practices, information on where to get assistance, etc. For these needs FORMIS may provide a solution, i.e. a "Forest Owners' Data Bank" and/or "Extension Toolkit" with relevant information found from one place. In practice, the FORMIS website could include such a link, including information such as

- Key legislative and policy documents
- Forestry development plans
- Information on available support (application forms, contacts, deadlines, etc.)
- Some best practice guidelines for sustainable forest management
- Instructions on how to act if problems/disasters occur

Regarding planning and monitoring, it would be relevant to integrate to the FORMIS some key socio-economic indicators, e.g. poverty ranking of communes/districts to be seen and used through the GIS and map interface. However, it's not relevant to integrate piecemeal and only weakly relevant socio-economic data, but only data that is necessary and highly relevant for forestry management and planning of livelihood development related to forestry, e.g. data enabling analyses on forest-poverty relationship. MARD will support GSO/MPI to carry out an Agricultural Census in 2016, and some basic data from this census may be relevant to be integrated to the FORMIS platform. To get started, FORMIS should organize a Working Group to settle Agricultural Census issues on best practical way. Real integration should be made only for data that is available nationwide and that is actually needed. Otherwise, FORMIS platform may include links to various projects so that various data sources can be easily found from the FORMIS website.

Altogether, gender issues are only marginal for the FORMIS platform. Some interviewed persons proposed that it would be useful to have gender disaggregation of forest ownership (i.e. whether husband/wife/both have signed the land-lease agreements) as FORMIS data. In practice, this is not necessary as it is commonly known that the land leases are mainly signed by the husbands of households. Instead of dealing with this issue under FORMIS, a clear directive that both the husband and the wife should be signatories should be prepared by MARD and defined as the standard procedure.

Regarding participation of women in FORMIS activities, the MTE found out that all recruits of the regional offices are male, as well as all persons trained as TOTs. Altogether, only 14% of the participants in trainings and dissemination events have been female. In general, these findings indicate that the Project should make some effort to include in the future TOT trainings also women. However, the key criterion is to select TOTs that are best qualified for the task; as the work force in the forest sector is male-dominant, it's not possible to look for equal participation. However, to strengthen the Project's impact on gender equality, participation of female staff in trainings and as experts should be actively encouraged and promoted.

After FORMIS II was launched, the Embassy of Finland started preparations for a parallel project to address specifically social issues related to FORMIS. A proposal by Action Aid Vietnam (AAV) was selected through a call for proposals process to implement the project, "*People Participation in improvement of forest governance and poverty alleviation in Vietnam (PFG – Vietnam)".* The idea of the PFG project is to develop the usage of FORMIS applications at the grass-root level to support livelihood development. However, as the FORMIS platform is first of all a technical tool for forestry administration, the potential for this idea is marginal. Possible synergy between the two projects may be found mainly in development of the "Forest Owners' Data Bank" and/or "Extension Toolkit" described above, and if this "application" is developed, in creating awareness on it. In practice, the two projects could form a working group to develop this "data bank"; the two projects could identify information relevant to forest owners, and PFG could then edit it into an easily understandable form. Otherwise, PFG could concentrate on livelihood development (with IT usage) in the selected communes without any strong link with FORMIS.

3.7.2 Climate sustainability

According to MFA's Development Policy, vulnerability to climate change could be reduced by integrating adaptation and mitigation measures into development cooperation programs. In Vietnam, this is a high priority as Vietnam is considered to be one of the top five countries in the world threatened by climate change. This is also reflected in Finland's country programme with Vietnam which highlights cooperation on environment and climate change, as well as development of information and knowledge society. The former FAO-Finland Forestry Cooperation Programme supported protection of forestry resources, development of sustainable forest livelihoods and provided Vietnam (and other participating governments) with the knowledge to mitigate and adapt to climate change. FORMIS is a practical continuation to that process.

Climate change resilience requires a lot of reference data including both ecological (forest data) and social (socio-economic) data, as well as advanced systems and tools to process and combine huge data sets. For such purposes, the FORMIS platform and applications are very relevant, useful and efficient. Some results in the framework of FORMIS to support climate sustainability have already been achieved:

- System for collecting monitoring data (FRMS) has been created to provide data for resource change detection;
- UN-REDD GeoPortal is under integration to FORMIS Platform to make all REDD-related information and forest data available through one portal;
- The former 4-cycle data (collected by FIPI and processed by JICA) is also integrated to FORMIS Platform to bring full set of historical forest data (since 1990) for resource change detection; and
- 4-cycle data and the presently collected NFIS data form a baseline data for REDD+ reference scenarios and both data sets are planned to be integrated to FORMIS Platform.

However, major challenges still prevail for climate sustainability:

- In general, socio-economic data is still not available through FORMIS Platform and it is not yet defined, which socio-economic data should be integrated. The key issue is to define WHAT data will be needed by WHOM and for WHAT;
- FORMIS Team should start discussion with GSO/MPI to find out if some General Census database containing demographic data could be integrated to FORMIS Platform, and establish a Working Group to identify and include relevant socio-economic parameters to be collected through Agricultural Census in 2016; and
- A Working Group should be established with MONRE to settle issues regarding the integration of topographic map layers and fresh satellite images to the FORMIS Platform to improve the platform's usability regarding spatial data. This is highly important both for climate sustainability and for social issues.

3.8 Coordination and cooperation

Good success has been achieved in coordination with VNFOREST (national level, regional sub-FPDs, some provinces). Thanks for this go both to VNFOREST (strong ownership) and PMU (active approach for cooperation with VNFOREST). Also otherwise, project has succeeded to raise interest on FORMIS, and about 20 projects have indicated interest to cooperate in data sharing. Eight projects are now selected for data integration (4 ongoing), and especially cooperation with JICA has been a good example of open data sharing. However, when integrating data from various projects, two levels of integration should be applied:

- In case of nationwide data highly relevant for forestry management, full integration may be applied, e.g. transforming data into the FORMIS platform to be used through GIS and map interfaces.
- In case of more piecemeal (e.g. data covers only some provinces) "interesting to know" – type of data, it's relevant to make the data available through the FORMIS website, but clear metadata descriptions and linkages to the original data sources may be sufficient.

However, despite the active networking approach, some weaknesses in coordination/cooperation were found out. Especially there is an urgent need to strengthen cooperation with MONRE, MPI/GSO, MARD/CIS, MARD/FIPI, and MARD's training staff. To strengthen the cooperation, clearly established working groups with designated persons, jointly prepared work plans and clearly allocated resources seem to be needed instead of having ad hoc meetings.

FORMIS has also a high potential for education and research. To assess this potential, the MTE team elaborated the potential of FORMIS to education and research in more detail, and a summary of this assessment is presented in annex F. To summarize, easier access to data creates an enabling environment for education and research, whereby it would be relevant to establish a working group also with some key universities. Like with forest owners (chapter 3.7.1), the FORMIS system could include also a "Education and research databank" with links to research publications (with metadata descriptions) and instructions to institutions on the usage of FORMIS data.

As discussed in chapter 3.7.1, cooperation with the PFG-project is important to strengthen the Project's human rights approach. Basis for cooperation have been established by now, but in order to concretize the cooperation of the two projects, a joint working group (with clearly defined scope, targets and responsibilities) should be established to work on a couple of concrete themes, e.g. to develop the "Forest Owners' Data Bank" and/or "Extension Toolkit" proposed in chapter 3.7.1.

3.9 Project Management, Reporting and Budget

The Project Document (PD) should always be the strategic management tool of a project. With FORMIS, the PD has been somewhat dated from the very beginning due to two key reasons:

- The draft PD (2011) was prepared in accordance with the standard MFA (and international) practice. Thereafter, an appraisal (2012) was conducted to review the feasibility of the draft PD. After this the competent authorities should have made clear decisions for preparation of the final draft PD subject to tendering of the TA support. However, a negotiated tendering process was selected as the method for tendering whereby the final PD is a combination of ideas from the appraisal and tenders of the companies that submitted their tenders. Altogether, the negotiated tendering process has not been very successful for development cooperation projects, and also in this case the MTE team considers it somewhat problematic.
- After commencing phase II, an Inception Phase was conducted in accordance with MFA's normal project cycle approach. Normally, the Final Project Document is finalized in the end of the Inception Phase, ensuring that the project has an updated strategic PD from the right beginning. However, in case of FORMIS the PD was not updated, and as some important changes (e.g. introduction of the NFIS as basic database) had occurred, the PD was somewhat dated from the start. Luckily, the Logical Framework was updated, providing a rather functional tool for monitoring and progress reporting.

Obviously, also the delays that occurred during the first year (e.g. due to the need to re-mobilize the Project, some recruitment problems, introduction of the NFIS) have affected the relevance of the PD. When asking why the PD was not updated, the MTE team was told that in the Vietnamese administration the PD cannot be revised after it has been included into the country agreement. The MTE team has some doubts on this, and even if this was the case, a strategic work plan to cover the whole Project should have been prepared as a key result of the Inception Phase, thereby updating the PD de facto. However, this update was not made; now only annual plans have been made. This creates a risk that some serious gaps are found in the Project's intervention logic/approach as well as a risk of sufficiency of resources for sustaining the results in the last two years. Therefore, the MTE team requested the PMU to elaborate a rough work plan (with updated budget) until 2018. Based on this work plan, the Project seems to be reasonably well on track to achieve its results. However, to ensure that the Project has a clear strategic approach for its remaining period with updated resources allocations, a detailed work plan until 2018 needs to be prepared immediately after the PSC has made decisions upon the MTE's recommendations. In case the budget allows, some non-cost extension would be relevant, e.g. until the end of 2018, as the sustaining of the results will take time. Consequently, the updates to the work plan require also revisions to the original budget allocations. Especially capacity development needs more resources, as described in chapter 3.3.4.

MFA has requested the Project to apply a clear results-based management (RBM) approach. Therefore, the Logical Framework was revised during the Inception Phase, providing now a reasonably good base for RBM. The annual work plans as well as the progress and annual reports follow now the structure of the LogFrame, whereby the planning and reporting models are rather consistent. However, this approach is not used in MARD's/VNFOREST's normal planning and reporting, which are based on activity and budget planning/reporting, whereby RBM has remained mainly a MFA issue. As such, this does not create any major problems. Altogether, taking into account that a "tradition" of planning and reporting has already emerged in FORMIS and as the approach functions reasonably well, the MTE does not recommend any major changes to the planning and reporting structures as only three years are left for Project implementation.

In general the implementation lags somewhat behind the originally planned schedule. The reasons for delays are justified (new developments within MARD/VNFOREST that require revision in the plans, some slow decision making processes, difficulties in recruitment). This is reflected also in the use of funds: the accumulated disbursement by June 2015 is 29% of the total budget and 27% of the annual budget of 2015. Therefore, the MTE team requested the PMU to prepare a rough work plan for the remaining period of the Project. This indicates that it still is possible to achieve the targeted results with some revisions to the plans and resource allocations. However, in case the budget allows, some non-cost extension (e.g. until end of 2018) should be considered to allow a bit longer time for sustaining of the results.

Otherwise, Project management has been professional and only some minor issues need to be addressed:

- The preparation and approval of annual work plans (AWP) should be made already December previous year, or latest January. Now the 2015 AWP was approved by the PSC only in May.
- Based on some comments on the PSC, it seems that the working modalities and reporting to the PSC could be improved. For this, we recommend that the PSC reviews its working modalities (reporting prior and after PSC meetings, participation of PSC members, decision-making processes) in the next PSC meeting. Based on the findings, relevant improvements should be processed (if any).

3.10 Procurement issues

During the MTE Mission, also procurement issues were taken up, especially regarding procurement of software development services. Developed systems and customized software are always part of larger system architecture having several sister systems and interfaces with them. Therefore, it is very important to specify the needed systems as detailed as possible (system definition process). The result of such a process is a software requirements specifications (SRS) document, which clarifies what the client is willing to have and the supplier finds out the detailed wishes of the client.

The outcome of the SRS process has several major benefits:

- to establish basis for the contract between the client and the supplier (service provider);
- to provide basis for estimating costs and schedules;
- to provide baseline for validation and verification;
- to facilitate transfer of new technology
- to provide basis for wider system development and extensions;
- to provide detailed description of system framework and interfaces to other linked systems;
- to facilitate change and effectiveness analysis to become clearer and easier; and
- to create stronger ownership when specifications and requirements are defined by the client.

Especially, when the funds of GoF and GoV are used for buying services, PMU should follow international standards taking into account the guidelines given by the governments of Finland and Vietnam to prepare detailed specifications (system definition process) in order to have the required SRS document. Consultant (PMU) should prepare the SRS document through a participatory process with the end-user (primary client). Based on the SRS, service contracts and their follow-up should be carried out. For buying IT services, a standardized contract format should be used. In FORMIS context, the contract format should follow the IT2010 contract format, applied widely in Finland for procurement of software development services.

3.11 Future cooperation possibilities

As Vietnam has become a middle-income country, the old bilateral development cooperation between Vietnam and Finland is now gradually ending. Thereby, also for FORMIS the present phase II will be its last phase. Therefore, there is now both a need and a momentum to lay grounds for other types of cooperation mechanisms for forestry sector cooperation between Vietnam and Finland. Potential future cooperation areas include e.g.

- Cooperation between research institutions; funding through the Institutional Cooperation Instrument (ICI);
- Cooperation in forestry education; funding through the Higher Education Institutions Institutional Cooperation Instrument (HEI-ICI); and
- Business-to-business cooperation (forestry industries, forest machinery industries, etc.); various co-funding sources available (e.g. TEKES-BEAM, FINNFUND).

FORMIS II could provide some facilitation to support match-making and planning of future cooperation. In practice, the following measures could be carried out:

1) Identification survey on the interest of Finnish organizations (potentials for forestry sector business and institutional cooperation): interested institutions and companies, potential

cooperation themes, what kind of partners from Vietnam would be interesting for Finnish partners, etc.;
2) Based on the findings, identification of potential Vietnamese partners; and
3) Study and match-making tour to Finland (or for Finnish organizations to Vietnam).

This work could be conducted by PMU and Niras home office in Finland. Some additional funding should be channeled through MFA for this process. Thereafter, highly potential ideas will be processed further by the partners.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Key conclusions

In general, the Project is highly relevant for Vietnam, both in terms of providing basis for sustainable forest management and as a Project supporting Vietnam's IT leap in the forestry sector. FORMIS II is also well in line with Finland's development policy and country program for Vietnam.

In general, the relevance of the Project has been high both for Vietnam and for Finland. As reliable, comprehensive, open and easy access data is essential for sustainable forestry management, the FORMIS platform and applications create an enabling system for improved monitoring, planning and decision making. Easily accessible data will also provide tools for planning of forestry-related livelihood development, and is also important in protecting the rights of communities living in forest areas. However, it must be noted that this does not automatically guarantee improved planning and decision making; improved data management provides only a technical platform for this.

By the time of the MTE, the implementation was somewhat behind the planned schedule, mainly due to delays caused by the re-mobilizing of the PMU, some changes in the operating environment (e.g. introduction of the NFIS) and some recruitment problems. However, based on an initial plan prepared by the PMU (as requested by the MTE team), the delays are not yet critical whereby in general, the Project may be considered to be on track.

A detailed analysis of the Project's relevance, effectiveness, (expected) impact, efficiency, sustainability and governance issues (cross-cutting objectives, cooperation and coordination, Project management) is presented in chapter 3. Based on the analyses, the key conclusions are summarized below:

FORMIS platform and applications

- In general, the approach of open, web-based platform to make data available and share it is a highly relevant one. The Internet-based interface is rather user-friendly and makes it possible to integrate data from different sources for common use.
- Three applications have been developed by now (VNFOREST eOffice, Forest Resource Monitoring System (FRMS), and Forest Protection Department's (FPD) Quick reporting system. All these applications are highly relevant, but still wait for full data coverage and/or user training.
- Official decisions (regulations) are needed to clearly institutionalize both the platform as well as the applications.
- The systems improve planning, decision making and monitoring, especially at national level. Therefore, there is a need to get full national coverage of the key forest monitoring parameters. This requires also clear decisions on the standardized parameters. It's important that the IT-applications are used soonest possible at provincial and district levels whereas the rangers may still report with the old systems (Excel sheets), as long as data is brought to the system at district and province levels. Some applications (e.g. FRMS and the data sharing application) support also decision making at operational level (forest owners, communes and districts).
- Regarding the additional applications to be developed by FORMIS II, three applications seem to be the most relevant ones:
    - Human resources applications (prioritized by the management of VNFOREST).
    - Forestry industry database (would enable tracking of timber flows and benefit FLEGT-processes). An "Issues Identification and Feasibility Study" should be the first step.

- Document processing application (as the first step, this could include the document processing/approval process related to FRMS).

Data integration

- FORMIS platform has a potential for integrating almost any kind of data, and altogether it would be useful to find relevant forestry data for various needs and purposes from one source, i.e. the FORMIS platform. However, data to be integrated should be classified into two levels:
    1) Data that is relevant and necessary for national-level forest planning, decision making, management and monitoring; this data needs to have a full national coverage and it should be integrated to the FORMIS Platform to be used through GIS and map interfaces.
    2) Data produced by various projects, etc., and not having full national coverage. Regarding this kind of data, inclusion of the data under relevant links and metadata descriptions is sufficient.
- To improve the usability of the map interface, topographic maps should be integrated.
- For monitoring and verification purposes, fresh satellite images should be integrated.

Cross-cutting objectives

- It must be noted that FORMIS is first of all a technical tool to provide data support for forestry decision making, planning, management and monitoring. Data from FORMIS applications can be used also for planning of social development programs, but it is not its main objective. Therefore, one must be realistic when integrating social data to the systems. Also for this, two levels of data integration should be applied:
    - Social data that is highly useful for planning and decision-making, e.g. poverty data by districts. For example, it would be useful to have a possibility to identify in the map interface the communities under the poverty line. The Agricultural Census of 2016 will obviously bring some relevant data to be integrated.
    - Data from various social forestry and livelihood projects; links with metadata descriptions would be sufficient.
- To improve the platform's relevance to forest owners, the platform could also include a "Forest Owners' Data Bank" and/or "Extension Toolkit" with more extension-type of information for forest owners. This could be developed in cooperation with the AAV-PFG Project.
- FORMIS can be seen as a practical continuation of Finland's cooperation in Vietnam focusing on environment and climate change, and information and knowledge society.
- Climate change resilience requires a lot of reference data including both ecological (forest data) and social (socio-economic) data, and systems and tools to process and combine huge data sets. For such purposes, created FORMIS system is very relevant, useful and efficient.
- There are already several achievements in the framework of FORMIS to support climate sustainability:
    - 4-cycle data is already integrated to FORMIS Platform to bring full set of historical forest data (since 1990) for resource change detection. The same applies with the monitoring data (FRMS).
    - REDD GeoPortal is under integration to FORMIS Platform to have all REDD-related information and forest data available through one portal.
    - 4-cycle data and the NFIS data will form a baseline data for REDD+ reference scenarios and both data sets are planned to be integrated to the FORMIS Platform.
- However, major challenges still prevail for climate sustainability:

- In general, socio-economic data is still not available through FORMIS Platform and it is not yet defined, which socio-economic data should be integrated.
- Discussions should be started with GSO/MPI to find, if some General Census database containing demographic data could be integrated to FORMIS Platform, and a Working Group is needed to identify and include relevant socio-economic parameters to be collected through Agricultural Census in 2016.
- Working Group is needed with MONRE to settle issues related to integration of topographic map layers and fresh satellite images to the FORMIS Platform to have access to spatial data to support climate sustainability.

Capacity development

- To ensure the capacity and skills to use, maintain and further develop the platform and applications, extensive capacity development is needed. Now capacity building has to some extent lacked a strategic approach as the focus has been on acute training needs. The planned trainings for 2015-2016 seem to be relevant as such, but in order to sustain the systems and their usage, FORMIS II should urgently develop a more holistic capacity development strategy, and based on the strategy, prepare a concrete implementation plan on capacity development until 2018.
- FORMIS has capacity (funds, time and human resources) to address mainly national and provincial level training needs whereas training at lower levels (especially ranger training) will be the responsibility of VNFOREST and provinces. However, the training strategy needs to cover all levels whereby FORMIS should develop and test the training programs and materials also at ranger level in a few selected provinces. Thereby, VNFOREST will have a ready-made program and materials to continue training after FORMIS has been phased out.
- Altogether, capacity development should focus on long-term management and operation of the developed systems. Therefore, responsibilities of the recipient agencies need to be clarified for all application management and maintenance tasks. When the responsibilities become clear, the capacity development of the Project may (and should) support the handing-over of operational responsibilities. For example, the responsibility of the FRMS help desk service should be handed over to FPD early 2016 whereby related capacity development should go hand in hand with the handing over process.
- In addition to trainings, very concrete guidelines as well as video instructions on the usage of the applications are needed.

The responsibility of the recipient agency concerning the final system deployment and management should be emphasized more clearly. If the FORMIS experts continue to keep a full responsibility of the management and the help desk services of all system components to the end of the project, the transfer of the system is not on the sustainable basis. For example, the responsibility of FRMS help desk service (instructing the end users with the application and data problems) should be handed over to FPD soon after the beginning the year 2016. The FORMIS experts may give support if needed and they will have more time for the other system development work.

Dissemination

- The benefits of the FORMIS platform and applications will be realized only if the system is widely used. Therefore, extensive dissemination is needed to ensure that intended (and potential) users know the system and are capacitated to use it. Therefore, linked to the capacity development strategy, also a dissemination strategy would be needed to guide concrete dissemination activities.

System maintenance and back-up

- Capacity for application management and user guidance (e.g. help desk service) is essential to ensure full benefits from the developed systems. The Data and Information Division (DID) established by VNFOREST will provide this service, even if its capacity is still weak. However, also server management, data security and back-up mechanisms are essential. It seems that it would be relevant to cooperate on these issues with the Communication and Statistics (CIS) unit of MARD as it already has resources for these functions. Thereby, the DID could concentrate on application support and maintenance. For Help Desk services and user support, IT Working Groups should be capacitated and equipped.

Way forward

- In order to ensure sustainable exit, the PMU should prepare a strategic work plan for the rest of the Project (considering the possibility for non-cost extension that would enable at least some more time for sustaining the results) immediately after the PSC has made its decision upon the MTE's recommendations.
- FORMIS could also be used as a tool to lay grounds for future Finnish-Vietnamese forestry sector cooperation by acting as a match-maker between interested Finnish and Vietnamese institutions and companies. Some other funding mechanisms are available for future cooperation, but some additional funding would be required for FORMIS to carry out the support activities.

4.2 Recommendations

Based on the findings and key conclusions, the following recommendations are given:

Issue	Recommendation	Key respon-sibility
Future work plan	1. Work plan needs to be prepared till the end of the project after the PSC has made decisions upon the MTE recommendations (latest before preparing the 2016 Annual Work Plan). In case the budget frame allows, a non-cost extension e.g. until the end of 2018 should be considered to support the sustaining of the Project's results.	PSC decisions, PMU to prepare the WP
	2. To ensure success in achieving the key results and ensure sustainable exit, the Project needs to focus on the key issues and de-prioritize work on "possible but not necessary" issues.	PMU, VNFOREST
Data coverage	3. To ensure the relevance and usability of the developed systems and forestry data integrated to the platform, especially the FRMS and FPD Quick reporting should be covered nation-wide by all provinces preferably by the end of 2016.	VNFOREST
	4. Regarding FRMS, FORMIS systems need to be brought to district level; rangers may still report as they do now (with updated parameters), but districts need to have the capacity to fill in data to the FORMIS systems.	VNFOREST
Data quality	5. Data quality is a key concern for all parties. Verification mechanisms with the support of satellite data needs to be developed with some FORMIS support. FORMIS could also launch a district pilot to strengthen comprehension of significance of data quality in field level data collection. Based on the findings of the pilot, mechanisms	VNFOREST

Issue	Recommendation	Key responsibility
	for data verification should be developed. In principle, nation-wide data that form the basis for FORMIS platform need to be subject to quality verification. For other data (e.g. from various projects) to be integrated through hyper-links in the platform, FORMIS/VNFOREST cannot be responsible for data quality. This should be noted in the platform.	
Result 1: Data sharing standard and mechanisms	6. Working groups with clearly assigned experts, work plan, schedule and resource allocations with MONRE and MPI/GSO need to be established to develop the data sharing mechanisms.	PMU, VNFOREST, MONRE, MPI/GSO
	7. The finalization and official approvals of the ”Data License” and ”Special Terms and Conditions for Information System Services” need to be processed by the end of 2015.	VNFOREST
Result 2: FORMIS platform and tools	8. Forest Resource Inventory Standard needs to be defined soonest possible to ensure unified set of parameters for application. FIPI/MARD should be brought in to cooperate in standardization of the inventory parameters and methods.	VNFOREST, FIPI
	9. Topographic maps should be integrated to the platform’s map interface; this is one of the core issues for the working group with MONRE (rec. 6).	FORMIS, MONRE
	10. Regulation on FORMIS system (Forestry MIS) should be completed by the end of 2015.	MARD, VNFOREST
	11. Recommended new applications: (1) HR application, (2) Forestry industry database, (3) Document processing application (as part of the FRMS). Regarding the second application, an identification and feasibility study should be conducted as the first step.	PMU, VNFOREST
Result 3: Forestry sector data integration to FORMIS	12. Data integration should be conducted at two levels: • Integration of **data necessary for national forestry planning, decision making, management and monitoring** (based on approved data standards and parameters); this data should be fully integrated to the FORMIS system interface and should have full national coverage. • Integration of **other data** (variable data produced by various projects etc.). This data covers typically only some provinces and may use different kinds of parameters. Therefore, it cannot be used for national level monitoring, planning and/or decision making. However, if the data might be interesting for various users, it would be useful to make it available through the FORMIS platform with metadata descriptions and links to the original sources.	PMU, VNFOREST
	13. MARD/VNFOREST should define the forest data standard (NFIS or other?) soonest possible (by the end of 2015) to ensure that the applications are based on an approved parameters and data standard.	MARD, VNFOREST
	14. Based on the approved data standard, FORMIS should strongly focus on achieving national coverage of FRMS by using NFIS data during 2016 to ensure the usability of data to national policy formulation, planning and reporting. Full coverage is also essential for	VNFOREST

Issue	Recommendation	Key responsibility
	training on the usage of the FRMS application.	
Result 4: Capacity development	15. Comprehensive capacity development strategy needs to be prepared to ensure a systematic approach for capacity building. An international short-term expert should be recruited to support the work (allocation 2-3 working months in 2 work periods). As the first step, the expert should review the CNA plan and make relevant improvements. Based on the strategy, a clear capacity development plan needs to be prepared by the end of spring 2016. MARD's training staff should be brought in to this process to ensure continuity of capacity building.	PMU, VNFOREST
	16. Linked with the capacity development strategy, a comprehensive dissemination strategy should be prepared as well.	PMU, VNFOREST
	17. A small group of pilot provinces should be selected for developing and testing the capacity building approach down to ranger level. The actual capacity building for rangers will be the responsibility of VNFOREST and provinces/districts, but FORMIS needs to develop the training modules, programs and provide training for trainers.	VNFOREST, pilot provinces
Result 5: IT Unit	18. A working group should be established with DID and CIS to develop the relevant solution for server management and data security	DID, CIS
	19. CNA and future capacity building should also address DID's and CIS's needs to ensure maintenance and system development after project exit.	PMU
	20. The role of the IT Working Groups (DARD/VNFOREST) in provinces should be clarified, and their capacity improved to support the usage and maintenance of FORMIS in provinces and districts.	VNFOREST
Social issues	21. A working group should be established with the AAV-PFG project to develop the "Forest Owners' Data Bank" and/or "Extension Toolkit" under the FORMIS platform to ensure easy access of forest owners to relevant data and guidance.	PMU
	22. The PMU with VNFOREST should clarify what socio-economic data is really needed for forestry management. Only highly relevant data should be integrated to the applications (especially FRMS). Some basic data will be made available through the Agricultural Census 2016. Otherwise, social-related data from other projects etc. may be included as "other data" described in recommendation 12.	PMU, VNFOREST
Climate sustainability	23. Discussions should be started with GSO/MPI to find out, if some General Census database containing demographic data could be integrated to FORMIS Platform to support processing of climate sustainability. See also rec. 22 as refers Agricultural Census 2016.	VNFOREST, GSO
	24. Working Group is needed with MONRE to settle issues related to integration of topographic map layers and fresh satellite images to the FORMIS platform to improve spatial analysis on climate sustainability. Reference to rec. 9.	VNFOREST, MONRE
Budget and TA	25. Based on the decisions made by the PSC upon the MTE recommendations, the budget and initial TA allocations for the	PSC, PMU

Issue	Recommendation	Key responsibility
allocations	remaining period of the Project need to be revised. In case budget frame allows, a non-cost extension e.g. to the end of 2018 should be considered. The current financial agreement with MFA allows this arrangement.	
Procurement	26. In procuring software development services, PMU should follow international standards taking into account the guidelines given by the governments of Finland and Vietnam to prepare detailed specifications (system definition process) in order to properly take care of client´s duties to manage and control development work according to the detailed contract orders.	PMU
Cooperation and coordination	27. A 2-3 day workshop could be organized with key potential data sharing partners to • make sure that FORMIS is well known and vice versa, and • elaborate joint action plans for data sharing	PMU
	28. A workshop could be arranged with research institutes and universities to identify mutual interests and to strengthen the usage of FORMIS in education and research. Based on the findings, an action plan should be prepared.	PMU
	29. VNFOREST has proposed that the Project should establish a fourth regional centre linked with the fourth regional sub-FPD in the Central highlands areas. The MTE supports this proposal; the fourth regional centre could be established with the similar arrangements as the other regional centres.	PSC, VNFOREST
Planning and reporting	30. Annual targets should be integrated to progress and annual reports to enable clear comparison. The progress estimates should reflect progress against annual targets. Both traffic light and percentage estimates are relevant. Altogether, the analyses on progress should follow the following logic in the reports: • Target (as now) • Achievements (as now) • Findings (deviations, other findings) • Actions/revisions for future (if any) Now this approach is applied to some extent but not consistently.	PMU
Future Finnish-Vietnamese cooperation	31. MFA should consider some additional funding for a “match-making” program to facilitate future cooperation between Finnish and Vietnamese institutions and companies. The program could consist of the following: 4) Identification survey on the interest of Finnish organizations (potentials for forestry sector business and institutional cooperation): interested institutions and companies, potential cooperation themes, what kind of partners from Vietnam would be interesting for Finnish partners, etc. 5) Based on the findings, identification of potential Vietnamese partners. 6) Study and match-making tour to Finland (or for Finnish organizations to Vietnam).	MFA

Annex A: List of Persons Interviewed

Name	Position	Organization
Dr. Nguyen, Ba Ngai	Deputy General Director of VNFOREST, Steering Committee member	Ministry of Agriculture and Rural Development (MARD) / VNFOREST
Mr. Lam, Anh	Senior Expert	MPI
Mr. Bien, Quang Tu	PFG Project Coordinator	Action Aid
Mr. Bui, Tuan Tu	IT expert	FORMIS II Project/ Southern Regional Office
Mr. Cao, Xuan Y	IT Staff, Data & Information Division (DID)	VNFOREST/ MARD
Mr. Dang, Anh Quynh	Vice-Head of Division No. 3	Sub-FPD Region No. 1 in Quang Ninh Province
Mr. Dang, Quang Huy	ICD, MARD	MARD
Mr. Dang, Thinh Trieu	National Forestry Expert	FORMIS II Project
Mr. Dinh, Ngoc Minh	Vice Director of Department of Agricultural Economics	Ministry of Planning &and Investment (MPI)
Mr. Duong, Van Lam	Director of Sub-FPD Regional Office No. 3	Sub-FPD Region No. 3 in Binh Duong Province
Mr. Ha, Hai Nam	Senior IT Training Expert	FORMIS II Project
Mr. Ha, Huy Anh	Training Coordinator	FORMIS II Project/ Southern Regional Office
Mr. Ho, Manh Tuong	Director; FAO/NFA Project's National Coordinator	FIPI
Mr. Hoang, Duy Tung	IT Staff, Data & Information Division (DID)	VNFOREST/ MARD
Mr. Kanda, Tsuyoshi	Senior Project Formulation Adviser	JICA
Mr. Leppanen, Tapio	Chief Technical Adviser	FORMIS II Project
Mr. Ly, Van Hop	Training Coordinator	FORMIS II Project/ North Regional Office
Mr. Mai, Nguyen Viet Cuong	IT working group	FORMIS II Project/ Central Regional Office
Mr. Miyazono, Hiro	Chief Technical Adviser	JICA
Mr. Nguyen, Binh Minh	Director of VNFOREST Administration Department	VNFOREST/ MARD
Mr. Nguyen, Duy Thao	IT Specialist	FORMIS II Project
Mr. Nguyen, Huu Ha	Deputy director of CIS	MARD
Mr. Nguyen, Huu Huan	Training coordinator/facilitator of FORMIS Project.	FORMIS II Project/ Central Regional Office
Mr. Nguyen, Huy Loi	Chief of Forest Protection Department	Sub-FPD in Ha Tinh Province
Mr. Nguyen, Kim Phuc	Director-in-charge of Center for Information and Statistics (CIS), Steering Committee member	Ministry of Agriculture and Rural Development (MARD)
Mr. Nguyen, Nghia Bien	Director General	Forest Inventory and Planning Institute (FIPI)
Mr. Nguyen, Phan Dong	GIS expert	FORMIS II Project

Name	Position	Organization
Mr. Nguyen, Phu Hung	Director of STIC Department	VNFOREST/ MARD
Mr. Nguyen, Thanh Dien	National Training & Communication Coordinator	FORMIS II Project
Mr. Nguyen, Van Dang	Head of Network Section	MARD
Mr. Nguyen, Van Nguyen	Senior Interpreter	FORMIS II Project
Mr. Nguyen, Van Tien	Regional Coordinator Member of Forest Ranger of Region 2.	FORMIS II Project/ Central Regional Office
Mr. Nguyen, Van Tra	Vice-Head of Forest Protection Division Technical Expert	Sub-FPD in Dak Lak Province
Mr. Nguyen, Van Trang	Regional Coodinator	FORMIS II Project/ North Regional Office
Mr. Nguyen, Xuan Linh	IT working group Staff of Forest Protection and Nature Conservation Division	Sub-FPD in Ha Tinh Province
Mr. Nivala, Mikko	Associate Forestry Adviser	FORMIS II Project
Mr. Pham, Phu Binh	Director General of International Cooperation Department Steering Committee member	MONRE
Mr. Pham, Quang Vinh	Deputy Director General of General Statistics Office	MPI
Mr. Pham, Thang Luong	Deputy director of Database Unit	MARD
Mr. Pham, Van Bon	Forestry Expert	FORMIS II Project/ Southern Regional Office
Mr. Phan, Thanh Tung	Head of the Forest Protection and Nature Conservation Division	Sub-FPD in Ha Tinh Province
Mr. Phung, Van Doanh	Forestry ICT Expert	FORMIS II Project
Mr. Sarajarvi, Ismo	International Training & Communication Advisor	FORMIS II Project
Mr. Stanculescu, Dominic	CTA, Programme on Conservation and Sustainable Use of Forest Biodiversity and Ecosystem Services in Vietnam	GIZ
Mr. To, Van Thao	Head of Data & Information Division (DID), VNFOREST	VNFOREST/ MARD
Mr. Tran, Hung	Vice-Head of Division No. 2	Sub-FPD Region No. 1 in Quang Ninh Province
Mr. Tran, Van Thanh	Regional Coordinator	FORMIS II Project / Southern Regional Office
Mr. Trieu, Van Luc	Director of Forest Development Department	VNFOREST/MARD
Mr. Truong, Le Hieu	National Coordinator	FORMIS II Project
Mr. Vo, Sy Hoai	Senior Interpreter	-
Mr. Vu, Viet Dung	IT expert	FORMIS II Project/ North Regional Office
Ms Nguyen, Thi Hong Ly	Deputy Director of VNFOREST	VNFOREST/ MARD

Name	Position	Organization
	Administration Department	
Ms. Do, Thi Lam	Vice Director of Sub-FPD Region 1	Sub-FPD Region No. 1 in Quang Ninh Province
Ms. Giang, Thi Thanh Mai	Procurement adviser	FORMIS II Project
Ms. Hai	Deputy Director of ICD, Steering Committee member	MONRE
Ms. HEGENER, KIRSTEN	Programme Director, Programme on Conservation and Sustainable Use of Forest Biodiversity and Ecosystem Services in Vietnam	GIZ
Ms. Kaipola, Annika	Counsellor	Embassy of Finland in Hanoi
Ms. La, Phuong Thao	Financial Manager	FORMIS II Project
Ms. Le, Thi Thu Huong	Programme Coodinator	Embassy of Finland in Hanoi
Ms. Nguyen, Thi Lien	PFG Project Officer	Action Aid
Ms. Sell, Raisa	Forest Information System Adviser	FORMIS II Project

Annex B: List of Documents Reviewed

Author	Name of the document	Year
Action Aid International Vietnam	People Participation in improvement of forest governance and poverty alleviation in Vietnam (PFG - Vietnam); Project Document	2014
Action Aid International Vietnam	People Participation in improvement of forest governance and poverty alleviation in Vietnam (PFG - Vietnam); Inception Report	2014
FAO/Forest Science Institute of Vietnam	Vietnam Forestry Sector Outlook Study	2009
FIPI / MARD	Report on Existing National Forest Resources Data Assessment (Dien and Phuong)	2010
FIPI / VNFOREST / MARD	Overview of Improved NFIMAP Methodology. Technical Report under the Support to National Assessment and Long Term Monitoring of The Forest and Tree Resources in Vietnam Project	2013
FORMIS	Mainstreaming Cross-Cutting Issues (Suzanne Robertson)	2012
FORMIS	Project Completion Report, FORMIS 2009-2013	2013
FORMIS II	Annual Progress Report 2014	2015
FORMIS II	Annual Report 2013	2013
FORMIS II	Annual Work Plan 2015 (with Annexes)	2015
FORMIS II	Bi Annual Progress Report (January – August 2014)	2014
FORMIS II	Bi Annual Progress Report (January – June 2015)	2015
FORMIS II	Deployment plan/Report of FRMS in 15 provinces	2014
FORMIS II	Developing Framework for MIS in the Forestry Sector (Harri Seppänen)	2015
FORMIS II	Directory of FORMIS	2015
FORMIS II	Factsheet: Forest Data Sharing System (FDSS)	2015
FORMIS II	Factsheet: Forest Resource Monitoring System (FRMS)	2015
FORMIS II	Factsheet: FORMIS Platform and Architecture	2015
FORMIS II	Factsheet: FPD Quick Reporting System	2015
FORMIS II	Factsheet: VNFOREST eOffice	2015
FORMIS II	Forest Resource Monitoring System (Raisa Sell)	2014
FORMIS II	FORMIS Framework Consultancy Report	2015
FORMIS II	Inception Report	2013
FORMIS II	Information System for Forestry Sector (Tapio Leppänen)	2013
FORMIS II	IT Centre Road Map (Kari Mikkonen)	2014
FORMIS II	NFIS Data Integration Progress report	2015
FORMIS II	Poverty and Gender Mainstreaming	2014
FORMIS II	Procurement Plan 2015	2015
FORMIS II	Progress Against LogFrame Indicators Q1/2015	2015
FORMIS II	Progress Report (January – March 2015)	2015
FORMIS II	Project Implementation Manual (for Finland Funding Source)	2014
FORMIS II	Requirements specification for the Forest Resources Monitoring System	2014
FORMIS II	Revised Annual Work Plan 2014 (with Annexes)	2014
FORMIS II	Software requirements specifications for Forest protection quick reporting application	2015
FORMIS II	Training Course evaluations	2014-15

GOV	Decision On approval of the Forest Protection and Development Plan for the period 2011-2020	2012
GoV	Decree on investment management of information technology applications using state budget	2009
GoV	Forest Protection and Development Law (revised In 2004)	2004
GoV	Law on Biodiversity (No 20/2008/QH12)	2008
GoV	National Forestry Development Strategy (VFDS) 2006-2020 (approved in 2007)	2007
GoV	National Target Program to respond to Climate Change (Decision No 158/2008/QD-TTg)	2008
Institute of Electrical and Electronics Engineers, Inc. IEEE	IEEE Recommended Practice for Software Requirements Specifications	1998
JUHTA – Julkisen hallinnon tietohallinnon neuvottelukunta	JHS 173 ICT-palvelujen kehittäminen: Vaatimusmäärittely	2012
KPMG	Audit of the FORMIS II 4/2013-12/2014	2015
MARD	Decision on functions, duties and organizational structure o VNFOREST office	2014
MARD	Decision on regulating functions, tasks, authorities and organizational structure of the administration of forestry under the Ministry of Agriculture and Rural Development	2014
MARD	Decision on stipulation of the functions, duties, authorities and organizational structure of the Forest Inventory and Planning Institute	2014
MARD	Forestry Policy in Vietnam – Current Status and Orientation for 2011-2015	2010
MARD	Readiness Preparation Proposal (R-PP) of Socialist Republic of Vietnam	2011
MARD	VNFOREST – Organization Chart	2015
MARD/FIPI	Report on Existing National Forest Resources Data Assessment	
MFA	Appraisal of Development of Management Information Systems for Forestry Sector (FORMIS II) in Vietnam	2012
MFA	Comments to the draft AD by Timo Tokola and Lauri Vesa / 10.4.2012	2012
MFA	Country Strategy for Development Cooperation with Vietnam 2013–2016	2013
MFA	Finland's Development Policy Programme	2012
MFA	Finnish Planning Mission Vietnam – FORMIS Phase II (Debriefing Memorandum)	2011
MFA	Mid-Term Review of Development of Management Information Systems for Forestry Sector (FORMIS) in Vietnam. Final Report	2011
MFA	Programme of Field Mission of "Forestry Formulation Mission: Development of Management Information Systems for Forestry Sector Project (FORMIS) in Vietnam, Phase II"	2011
MFA	Project Document: Development of Management Information Systems for Forestry Sector project, phase II (FORMIS II), April 2013	2013
MFA	Terms of Reference for Mid-Term Evaluation: Development of Management Information Systems for Forestry Sector project,	2015

	phase II (FORMIS II)	
Nguyen Ton Quyen	Current Situation and Development Orientation of the Wood Processing Industry in Vietnam to Adapt to Market Changes. Vietnam Timber and Forest Product Association	2015
Tokola Timo, Vesa Lauri, Mr. Doan Diem, Mr. Mai Ky Vinh	Debriefing Memorandum; Finnish Planning Mission Vietnam – FORMIS Phase II, September 4th to September 16th, 2012	2012
Tokola Timo, Vesa Lauri, Mr. Doan Diem, Mr. Mai Ky Vinh	Summary Report of Main Findings at Conclusion of the MTR Mission. 7 August 2011	2011
VNFOREST	Decision on functions, duties, competence and organizational structure of the Information, Data and General Affairs Section under the Office of VNFOREST	2015
VNFOREST	Establishment of Provincial IT Working Group	2014
VNFOREST	VNFOREST Data License Agreement	2015
VNFOREST	Work Plan / Complete the Functions and Strengthen the Capacity of the IT Group under the Information, Data and General Affairs Section	2015

Annex C: Report on the facilitated Self-evaluation

Date: 26.8.2015

FORMIS II Self-evaluation / result-specific evaluations

Name of the project / project component	Development of Management Information System for the Forestry Sector in Vietnam – Phase II (FORMIS II)
Self-evaluation team	FORMIS II PMU, key staff from VNFOREST, MTE Team (see Annex 1 for the list of participants)

(For each evaluation question, elaborate shortly the key achievements, problems and lessons learnt / recommendations)

	Key achievements / Success stories/Strengths	**Problems and challenges encountered/foreseen, reasons for deviations**	**Lessons learnt for the remaining period of FORMIS II**
How has the Project succeeded to implement the planned activities and produce the targeted outputs?			
Result 1: Procedures, standards and mechanisms to transfer information	▪ The project has introduced and applied a modern approach on data sharing. Instead of traditional sharing agreements between the parties, the project has created Terms and conditions and permission policy on data sharing. These can be applied direct in the information systems when accessing the data.	▪ Creating the forest resource information standard is behind the schedule. There are conflicting views inside the project on the actual necessity of this target, because VNFOREST perceives the new NFIS regulation as a new standard. ▪ The co-operation with MONRE hasn't started as planned. The situation is still unclear how to proceed with MONRE on data sharing issues. MONRE doesn't yet provide data through WMS, WFS etc. services, which would be the best technical option for using their data in the FORMIS system. ▪ Other activities have been prioritized.	▪ The meaning of the information standard has to be clarified: Will the NFIS regulation be the standard also in the future forest inventories or does the NFIS regulation apply only to the one-time forest inventory (2013-2016)? ▪ Data sharing: The next step is to put the terms and conditions and permission policy on data sharing into use ▪ An appropriate approach and target have to be found out for the MONRE co-operation, e.g. sharing the topographic map.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
Result 2: FORMIS platform and tools in all provinces	▪ FORMIS platform: right and modern architecture, sustainable solution for the base of the forest information system for VNFOREST. ▪ The FORMIS system is almost totally based on open source solutions → The price for the maintenance in the future is lower for VNFOREST compared to commercial licenses. ▪ Centralized Forest Resource Database has been established, key forest resource data has been integrated into it. ▪ In the beginning of the FORMIS Phase II a decision was made to upgrade the Forest Resource Monitoring System (FRMS) and the FPD Quick Reporting System before the deployment → Without upgrading these after FORMIS phase I the deployment would have been a disaster because the NFIS programme brought a new database structure in 2013. The systems wouldn't have met the current user requirements. By upgrading the systems also new technologies were able to be taken into use. ▪ VNFOREST owns the source code of	▪ Some delay in the deployment of the FRMS and the FPD Quick Reporting System because of the need to upgrade the systems after FORMIS phase I. The need for upgrade arises from two main reasons: 1) NFIS programme brought new parameters and database structure for forest resource database (FRMS), 2) Phase I FPD QR system had province as data entry level, in Phase II FPD required that the data entry level is district (FPD Quick Reporting). ▪ Content in Vietnam Forestry Information Portal is not satisfactory: Very little improvement has been done on the Portal during the FORMIS phase II. Other activities have been prioritized. ▪ Two new applications to be developed haven't been decided yet. The project has concentrated to other key applications. If the decision takes longer it will no longer be possible to develop the applications during project lifetime. ▪ There have been different views on the application development approach and methodology between the parties. VNFOREST has traditionally developed applications without requirements specification, but the Finnish (and	▪ Decision on the Portal development/merging into the VNFOREST web sites has to be made. Enough resources have to be allocated to develop and maintain the Portal/web site. ▪ It should be considered whether it is still realistic to develop (and deploy) 2 new applications during the project time or would it be wiser to concentrate to the improvement and deployment of the current applications. ▪ The decision on 2 new applications ought to be done urgently. International and national forestry expertise needs to be extended to enable development and deployment of applications. ▪ The approach for application development is a core process in FORMIS II, and also in the future DID (IT-Unit in VNFOREST), therefore it is important to clarify and agree on application of best practice. ▪ Clarify and agree on the approach for basic practices in information

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	the upgraded applications → More sustainable solution for the maintenance in the future. ▪ Data Sharing System: For the first time stakeholders are able to have an access to forest resource data through Internet. ▪ VNFOREST has committed on creating the regulation on FORMIS system. The regulation has almost been finalized. It will give the official status for the FORMIS system to be used in the Vietnam forestry administration.	international) approach requires creating requirements specification before the tendering and implementation.	system development. ▪ Long-established international standards should be preferably used in the system and application development to enable high quality products.
Result 3: Collection and standardization of data and reporting indicators	▪ International standards have been followed in data integration. ▪ NFIS data (for 15 provinces) and national forest inventory data from the past 4 inventory cycles (1990-2010), the so called 'JICA data' has been integrated into the Forest Resource Database. ▪ Stakeholders begin to see the usefulness of the data integration, in total 14 projects are interested in integrating data and/or applications into FORMIS platform or obtaining data from FORMIS. ▪ VNFOREST leadership is committed	▪ Data governance, which is an essential part of integrating data and information systems into FORMIS, is a new issue for VNFOREST and there is insufficient understanding on what it means and how it can be addressed in an organised manner.	▪ VNFOREST IT staff (DID) have to be trained to manage data integration in the future, although the actual data integration work may need to be outsourced to specialist organisations. ▪ Strong VNFOREST commitment is required to enable data integration.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	to share forest resource data and open it to stakeholders.		
Result 4: Strengthened capacity for information management and collection	▪ A training plan has been drafted for 2015 and 2016. ▪ TOT trainings have been implemented, they are still going on. ▪ Training materials have been created and made available in the Portal. ▪ Dissemination workshops have been carried out for 3 regions (North, Central, South). ▪ The TOT approach is the right approach in the training. ▪ Regional FPD offices have been selected to support in the deployment and maintenance of the systems.	▪ The challenge is that the approach for system deployment and for training, which is supporting the deployment, is specific to the information system and must evolve during the project lifetime when new systems are introduced. As a consequence, it is not possible to do a comprehensive training need assessment and training plan for the entire duration of the project. ▪ VNFOREST aims at getting the first, official 'forest cover change report' for the first 15 provinces from the new FRMS application by January 15, 2016. This is a challenging target that would require FORMIS II support, not only in training the province level trainers as planned, but also the district rangers in 15 provinces. ▪ Province level IT Working Groups, thought to be the trainers of FORMIS users at local level (district, commune), don't have a clear mandate for training activities, and they don't have a budget for training. IT Working Groups' role is still somehow unclear. ▪ Many FRMS users don't have the forestry skills, which they were assumed to have	▪ System specific training can be planned only after the system design and the deployment plan has been completed. ▪ In support of the VNFOREST objective, plan FORMIS II support for the province rangers in the first 15 provinces. Ensure strong role for FPD in managing the training. ▪ Don't rely only on the IT Working Groups, involve also universities and the FPD regional centres as training providers. ▪ The approach on FRMS training course content has to be re-considered due to the lack of competence on forest parameters and forest monitoring work., FPD needs to take main responsibility of training the forest monitoring work, FORMIS II resources alone are not sufficient for basic forestry training. ▪ FORMIS II will assess need of IT infra and report to the province authorities and to the VNFOREST

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
		(understanding of parameters used in NFIS and in monitoring forest cover change, monitoring process, basic GIS). Using the FRMS requires these skills but FORMIS II mandate for training is limited to the use of application. ▪ IT infrastructure is quite poor in some districts. ▪ In general, it is a challenge to deploy the system into the whole country in all provinces (63), districts (about 600) and communes (about 10000). For reference, the existing, conventional forest cover change monitoring system is deployed in 33 provinces.	so that they can plan additional IT investment. ▪ Question arises whether the objective of reaching all 63 provinces is realistic. At this point however the FORMIS II continues to aim at training trainers in all 63 provinces. However, FORMIS II is not aiming at supporting all the districts and all the communes in all the 63 provinces.
Result 5: Establishment and operation of the Information Centre of the forestry sector / Forest IT Unit	▪ The IT Unit (DID) has been formally established through a decision by MARD and recruiting the personnel has started. ▪ FORMIS II PMU has worked in close collaboration with the DID. ▪ The roadmap for creating full capacity for the DID has been drafted by the Department of Administration, VNFOREST. ▪ IT governance has been developed (Forestry MIS framework, data governance, architecture governance). The regulation on the	▪ The number and competence of the DID staff is not sufficient yet, and the turnover of staff has been considerable during the first year of operation. Recruitment of competent staff for the DID has been difficult because of government recruitment policies that make it difficult to recruit from outside VNFOREST and from outside the government. Sometimes insufficient basic education prevents further training by FORMIS II project. ▪ The magnitude of the task of putting in place IT governance has been underestimated. It is a new concept in	▪ Outsourcing of complex tasks should be considered as a short term solution to get the DID going. ▪ Competence of the DID staff should be improved within the limits of the basic education of the existing staff. ▪ FORMIS II needs to come up with an appropriate approach to support the VNFOREST in deploying the IT governance practices. Enhanced training and communication is needed.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	FORMIS system is expected to be approved in 2015. ▪ Modern technologies including platform technology, cloud computing, and service oriented architecture, are used in the FORMIS system. This improves cost-effectiveness and sustainability of IT in VNFOREST.	VNFOREST, where IT investment decisions take place mainly at department level. ▪ Server downtime is at a high level. This will be a serious problem soon when the provinces and districts start to use the FORMIS system in larger scale. ▪ The DID does not have sufficient IT equipment yet, hence quick decisions from MFA are expected to procure the equipment.	▪ Consider outsourcing servers or server administration to reduce downtime. ▪ Complete a credible roadmap in order to release the Finland funding for DID IT equipment.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
How the Project is in the process of achieving its targeted impacts; what impact has already been achieved, what impacts are foreseen, what are the challenges?			
Impact on forestry management and planning at national level	▪ Information for decision making can already be found in one centralized place (database), available for different administrative levels (central, province, district, commune). ▪ The accuracy and reliability of data has been improved through the process of integration into a central database and also through centralised web-applications that aggregate reports in a standard way. ▪ Transparency in information management has increased because the stakeholders are able to view the data down to the entry level as opposed to viewing aggregated output reports only. ▪ Considerable improvement in transparency when, in case of forest cover change monitoring, the stakeholders can view and verify the spatial data, the actual change areas, and not only the aggregated report tables as before. ▪ The provinces will use the same consistent method for aggregating	▪ The users and system administrators don't have enough resources (number of personnel, skills and budget) to use and maintain the system and the data (e.g. satellite images). ▪ The formal approval process of the official reports at different levels of administration may delay the usage of the data in management and planning processes. ▪ Challenges to achieve the impact, if openness of the data is not allowed and data sharing turns out problematic. ▪ Different data structure/parameters will be used in different forest inventories if information standard is not agreed upon and enforced. ▪ Overlapping system development projects and IT investment may occur in the VNFOREST and in MARD in case of insufficient IT governance at central level.	▪ The project can provide information on the required capacity so as to inform the decision makers at local and national levels. ▪ More effective strategy should be created to capacity building. The project should show and teach the national level staff on how to use the centralized forest resource data. A wider training program should be considered for the DID staff. ▪ FORMIS II needs to advocate 'open data' concept and support actively the approval of appropriate permission policies and data licensing for NFIS and other important data resources. ▪ The forest resource information standard should be created and approved. ▪ FORMIS II and VNFOREST need to consider all means to ensure that the trained staff in DID will stay in the DID. A plan B, outsourcing, needs to be put in place in case

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	data and reports because the aggregation is done by an application in a standard way. This removes the inconsistencies in province level reporting. ▪ Annual forest monitoring reports are expected to be available earlier, six months earlier each year than before, because of the new FRMS.		the staff cannot be recruited or the turnover of staff is too high.
Impact at provincial/district/local levels	▪ Information for decision making can be found in one centralized place (database) without additional investment in servers and other IT infra at local levels. As a result state management tasks can be done more effectively. ▪ People involved in forest related businesses can access the forest resource data to plan and operate their business and to create new products. ▪ Forest owners and forest based industries can have access to the data → They can report if they find errors in it → Better data quality ▪ Other development projects have accessed forest resource data through FORMIS system → Impact to the effectiveness of other projects	▪ Internet connection is not good enough in all the communes in all the districts. ▪ It will take time before the local forestry staff is able to use the system and train local people on how to use it. ▪ It may happen that the forest owners don't want to reveal the detailed information on their forest assets through the FORMIS system.	▪ VNFOREST with support from the project must put in place sufficient data security including back up of all the data in the centralised database. ▪ VNFOREST needs to consider whether forest owners consent is needed when publishing information on specific forest owners. ▪ Continue good and effective cooperation with other projects that compliment FORMIS II implementation strategy. ▪ Dissemination of information on the availability and benefits of FORMIS data to various development partners and stakeholders

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	and further to the provinces in which the projects work. ▪ Often the above projects support sustainable forest management in ethnic minority areas that are suffering from poverty. ▪ Increased transparency of the data as explained above.		
Impacts on forestry economy	▪ The FORMIS system can help Vietnam to implement the VPA agreement with Europe, related to EU-FLEGT legislation, and thereby ensure acceptability of Vietnamese forest industry products in European market also in future. Total value exporting wood industry products is currently in the range of USD 6 billion, a very important factor in economy. ▪ The FORMIS system will help Vietnam to receive REDD+ funding → A big impact to the economy, biodiversity and climate change. FORMIS platform services and data has already been used in developing the UN-REDD GeoPortal that will be integrated into FORMIS platform. ▪ National and foreign companies can access the forest resource data →	▪ Server downtime may affect the everyday work if IT security issues are not fully addressed when deploying FORMIS. ▪ The use of FORMIS as an integration platform must continue for future. ▪ VNFOREST and GoV need to modernise the formal approval processes related to plans and reports.	▪ VNFOREST, with support from FORMIS II project, must ensure credible IT governance in order for the stakeholders to trust the FORMIS system. ▪ Effective and tailored communication to introduce the FORMIS system to wide group of local, national and international level stakeholders.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	New investments, creation of new business and products, which can contribute to the foreign direct investment (FDI), one of the key economic indicators in Vietnam. ▪ Savings and improved effectiveness in sustainable forest management processes when government agencies, forest sector companies and forest owners can use FORMIS for planning and reporting.		
Impacts on biodiversity conservation	▪ Forest conservation is one of the core SFM processes and can take use of the FORMIS system. Some of the existing data, e.g. the NFIS data already contribute to biodiversity conservation; two projects have taken use of FORMIS data (JICA Biodiversity Database Project, under MONRE; and the GIZ ecosystem mainstreaming project, under MONRE. ▪ The accurate, transparent forest resource information available for local communities can prevent illegal activities. ▪ FPD Quick Reporting System supports giving information of incidents quickly to relevant authorities.	▪ Opening detailed data on biodiversity, for instance on location of endangered flora and fauna, might risk their existence.	▪ Information of endangered species shouldn't be published due to risks of illegal actions.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
Impacts on livelihood development at communities	▪ More accurate data on forest resources already available for decision making to recognise the role of forests in income generation and livelihood development. ▪ Livelihood development and poverty reduction projects can use the FORMIS system and data for planning and implementation of activities. ▪ Transparency in official reporting on forest cover change can prevent unauthorised use and conversion of forest when local residents can compare detailed spatial data to the real situation in their neighbourhood.	▪ Everyone may not be allowed to access the data (data permission policy). ▪ There may be resistance to revealing the fact based data through the system. ▪ Relevant information may not be accessible to the most remote locations	▪ FORMIS II should support forestry projects, including the PFG Vietnam project, in deploying the FORMIS system at commune level. ▪ Need to identify the opportunities to use FORMIS data at local level s and inform commune level stakeholders of the benefits FORMIS system and data.
Impacts related to reporting for international conventions etc.	▪ Forest resource data (NFIS and 4 cycles data) and forest monitoring data available for international convention purposes including REDD +, CITES, convention on desertification, FAO forestry reporting and ASEAN forestry reporting. ▪ FRMS supports the REDD+ MRV mechanism. UN-REDD GeoPortal is using FORMIS platform services and data and it will be integrated into FORMIS.	▪ Concerned agencies, responsible for reporting on international conventions, may not be aware of FORMIS or not able to take use of the data without additional analysis.	▪ More communication is needed to inform stakeholders of the FORMIS system. ▪ Consider supporting concerned agencies with analysis of data contained in FORMIS.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
What is the sustainability of the achievements; will MARD/VNFOREST and provinces be able to maintain and operate the developed systems?			
Institutional sustainability (organisational long-term set-up, human resources)	▪ Regulation on the Forestry MIS has been drafted and is expected to be endorsed in 2015. The regulation will give FORMIS a formal status. ▪ The applications are being developed in close collaboration with the VNFOREST, which is expected to formally approve them and deploy them. ▪ GoV has invested significant financial and human resources to collect baseline forest resource data through NFIS to enable forest monitoring system.	▪ It is unlikely that the DID will have sufficient capacity during the project lifetime, by April 2018. ▪ The role of the IT Working Groups is not clear; they don't have formal mandate to maintain and train FORMIS.	▪ DID, VNFOREST needs to outsource some complex activities to IT service providers or to a suitable organisation within MARD (e.g. Center for Information and Statistics, CIS). ▪ Do not rely on IT Working Groups alone; take use of FPD Regional Centres and the universities. ▪ Consider in-service training of crash nature for key DID staff.
Financial sustainability (long-term funding)	▪ Open source solutions reduce the costs for system development and maintenance. ▪ Centralised database and web-applications reduce IT investment cost. ▪ Improved decision support for local, operational level will reduce costs related to planning, reporting and delivering government services to forest owners.	▪ Maintaining open source solutions requires more competent staff that is capable of administering, updating and customising the software. ▪ The system will change the cost structure of state management agencies and other stakeholders. VNFOREST and local agencies may not have the budget to maintain the IT infra and the competence.	▪ A capacity needs assessment will be made to estimate the budget needs to maintain the system. ▪ Option to outsource some tasks should be considered
Operational and technical sustainability (operations,	▪ VNFOREST, with support from the project, has been able to maintain	▪ DID is unlikely to be able to manage the maintenance of the systems without	▪ Complete a credible roadmap, outsource complex tasks and

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
hardware, software)	and administer the FORMIS platform, the forest resource database system and the data sharing application. ▪ The IT infrastructure for central level is currently sufficient.	outsourcing and without recruiting competent staff from outside VNFOREST. ▪ Additional IT investment is needed quite soon in order to store the large amount of data that is currently being integrated and in order to provide the computing power for the applications that are being developed and integrated currently. It is not sure if Finland or VNFOREST are prepared to make the additional investment. ▪ Some of the applications being integrated have insufficient design documentation and the intellectual property rights to software and data may not be clear. This can affect the possibilities to maintain the application. It may also affect the depth of integration. ▪ Internet connection not yet available in some areas, particularly in some remote communes.	recruit competent people. ▪ FORMIS II will support DID in preparing an investment plan. ▪ Enquire the interest and resources of other development partners to invest in VNFOREST IT infrastructure. ▪ Increase awareness of good IT governance practices and in information system development approaches and train key people in DID and in the VNOREST departments. ▪ The internet infrastructure in remote areas is beyond FORMIS II mandate, and beyond VNFOREST mandate. The situation can be expected to improve in future. In the meantime the remote areas need to maintain the conventional system in parallel to the new system.
Have the outputs/results been **disseminated** more widely or **replicated**? For whom and how?	▪ SUSFORM-NOW, JICA project supporting SFM and livelihoods in poor communities in North-West Vietnam, has used the FRMS parameters and database structure created by the FORMIS project when	▪ FORMIS as an integration platform must maintain and improve credibility as an integration platform that is sustained in the future.	▪ Complete the FORMIS regulation. ▪ Continue to work effectively with projects and organisations interested in integrating information systems or data, or interested in finding data

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	developing a mobile application for forest monitoring. ▪ UN-REDD is using FORMIS platform services, and the forest resource data contained in FORMIS, to develop a UN-REDD GeoPortal. ▪ PFES application, supporting the conservation and management of forest in important watersheds, is being integrated in FORMIS platform. ▪ SEED management application, supporting the improved productivity in commercial plantations and in rehabilitating indigenous forests, has been integrated in FORMIS. ▪ VNFOREST intends to put the new FRMS into use in all the communes nationwide. ▪ VNFOREST intends to put the new FPD Quick Reporting System into use in all the districts in Vietnam.		through FORMIS.

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
Project management			
How well Project management has functioned? ▪ GoV contributions ▪ Work planning, M&E and reporting ▪ Decision-making including SC ▪ Release of resources ▪ Financial management	▪ Decision-making: FORMIS II is receiving good attention from leaders. The SC and co-chairs have made timely decisions upon the proposals prepared by the PMU. ▪ VNFOREST has been committed in the project and as a result the FORMIS system and applications can be expected to support directly the state management functions and to be formally approved by the VNFOREST and MARD. ▪ Financial contribution from both governments has been released timely. ▪ GoV in-kind contribution has exceeded the planned GoV contribution. ▪ Recruiting and mobilising human resources has been done in a transparent and systematic manner in conformance to the recruitment guideline issued by the Embassy and the VNFOREST at the start of the project. ▪ Work planning, M&E and reporting: Result-based approach has been applied in planning, monitoring and	▪ Decision-making: Apart from logframe, which is a result-based plan, the steering and management of the project is focusing on controlling input as opposed to result, consequently the approval process consumes considerable time and resources. ▪ The development and deployment of FORMIS system requires continued, active participation and formal commitment in forestry agencies at all levels. The counterpart staff have to perform the regular duties assigned by managing agency in addition to their FORMIS II tasks. This can cause a delay in the implementation of project activities. ▪ Additional forestry expertise, both international and national, will be required to deploy the applications and to develop the 2 new applications. ▪ Unlike assumed in the Project Document, there was a gap between Phase I and Phase II and the new phase started by recruiting staff. As a result there is a need to restructure the TA budget to match with the actual need. ▪ Mobilising national PMU personnel has taken considerable time and resources in	▪ Decision-making: Review the administrative procedures to reflect the Result Based Approach and delegate input control more to the PMU. ▪ The possibilities for the project to influence the management practices of the two governments are limited but collaboration with MESMARD, a project introducing result-based management in MARD, will continue. ▪ GoV contributions: 1) PMU will make estimation for the counterpart in kind contribution; 2) Further communicate detail work plan with stakeholders to harmonise with the participation of the partners. ▪ Extend the positions of the international and national forestry experts. ▪ Work planning, M&E and reporting: Validate the structure with the stakeholders. ▪ Financial management. Communicate with Home Office

	Key achievements / Success stories/Strengths	Problems and challenges encountered/foreseen, reasons for deviations	Lessons learnt for the remaining period of FORMIS II
	reporting. ▪ Financial management: The project follows strictly the finance guideline as set out in PIM for efficiency and effectiveness of finance management as well as minimization of risks/mistakes for Finland fund. Disbursement and payments are well monitored.	a number of cases. This has caused some delay in project activities, including the deployment of the FORMIS applications. The recruitment guideline may not be completely appropriate in this regard. ▪ Work planning, M&E and reporting: Structure of the work plans and progress reports are different between GoV and MFA. As a result, planning and reporting take more time than normally. ▪ Financial management: The accounting software needs review and improvement to better facilitate budget monitor reporting.	to achieve intended improvement of the accounting software.

Based on lessons learnt: Proposed actions		
Issue	**Proposed actions**	**Schedule**
Continue the success story in order to make FORMIS the de facto integration platform and gateway to forest information.	Make a conscious effort and ensure sufficient resources to make sure that the platform, forest resource database system, data sharing system, FRMS, and FPD QR system are running smoothly, deployed effectively, and improved continuously.	2015 - 2018
Forest resource information standard has not yet been agreed, but it would be important for the continued use of the unified, nationwide forest resource database.	Clarify the meaning and approach for this target. Prepare a proposal for standard.	2015
Data sharing, maintain data created with public funding as 'open data' for the stakeholders to use.	Support the VNFOREST in approving and putting into use the permission policy, data license and the terms and conditions for information services.	2015 - 2018
Regulation on the Forestry MIS (FORMIS regulation) that provides official status for FORMIS system.	Facilitate the approval process of the regulation and thereafter raise awareness of the regulation.	9-12/2015, 2016-2-18
VNFOREST and the PMU have somewhat different understanding of the approach and practice for developing information systems.	Clarify and agree on the approach for good practices in information system development. Help VNFOREST to put in place good IT governance practice in VNFOREST.	10-12/2015
The mandate of the province IT Working Groups in training the use of FORMIS at district and local level may not be sustainable.	Consider taking use of the FPD Regional Centres and the universities along with the IT Working Groups.	2016-2018
DID capacity to maintain FORMIS system is a key challenge.	Finalise a credible roadmap for the DID. Consider outsourcing inside and outside MARD as a short-term option, while recruiting competent staff in the DID and training them is a long-term plan. FORMIS II PMU will continue to support the maintenance of FORSMIS during the project life time.	11/2015-2018
Some of the adviser positions end in 2016 while the FORMIS development and deployment activities are still accelerating and will continue until the end of the project.	Extend the positions related to international and national forestry expertise.	2016-2018
Awareness of the FORMIS system amongst the stakeholders.	Prepare an effective communication plan and implement it during the remaining project time.	2015 - 2018

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MIDTERM REVIEW SELF-EVALUATION WORK SHOP

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Annex D: Questionnaire on the feedback on developed tools

Mid-term Evaluation (MTE) conducted a small questionnaire for the users and developers of FORMIS applications. The following user feedback was found from stakeholders who have been testing the systems and applications developed by the FORMIS-project. In addition, the questionnaire surveyed the feedback on the trainings and guidelines provided by the FORMIS-project.

The questionnaire was sent to 30 staff members and 16 of them returned their answers. The results of the questionnaire are summarized as follows. Note: In several returned tables some grids were left empty.

A. Definition of the FORMIS systems/applications

1. Present in the following table which definition processes* of the FORMIS applications you have been involved, and in case of involving, what has been your role in the definition process (tick x in the table to the relevant points) and describe shortly your findings of the process and final result.

* Definition process means defining system/application needs, system interface, main users, user requirements and preferences, user interface, data content and standards, etc., and based on those, defining preliminary system design.

Definition processes	Involved		Role		Comments (success stories or problems during the definition process)
	yes	no	Definition specialist	IT specialist	
Integration of data and systems (data and system harmonization)	2	9	1		- Integration of data and systems are not complicated, easy to use and highly successful potential.
Planning of database structure	1	10		1	- Database of forest resources has been very well developed by the IT experts of this project. Good result is that database of forest resources has been standardized.
Planning of information systems		8			
Definition of data standards	1	10			
Regulation for managing forest information (FORMIS regulation)	1	9			
Developing reporting indicators		9			
FPD Quick Reporting	3	8	1		- In FPD QR the approach was to define only the key requirements and let the service provider define the detailed requirements for system to achieve the key requirements. This allowed quick start for the process and only short time for the definition process. At the end, it was really hard to define, which were baseline and which were additional requirements. This was a good learning process to project, also to VNFOREST.
Forest Resource Monitoring System	2	7		2	- Project's IT experts conducted software test use and provided feedback for modifying software based on real users' needs. - In FRMS the approach was different to define all the requirements really detailed. More time consuming, but we were able to monitor much easier the progress and agree with service provider on baseline and additional requirements. This makes for us easier to handle the budget, know the quality and have a good user-friendliness of the system. Of course, it requires more time and expertise to define the process.
HR system	1	9			
Trainers training	7	2	1		- Training content of TOT based on FORMIS applications is

Definition processes	Involved		Role		Comments (success stories or problems during the definition process)
	yes	no	Definition specialist	IT specialist	
					appropriate, but should be more details and specialized. (2) - In training courses we have used lot service providers but more and more in-house capacity.

The questionnaire showed that participants in definition process found both positive and slightly negative things. Main argument was that detailed definition process gives client more power to control and monitor the process and the final product was considered better. Service provider driven approach was quicker.

2. Give your comments on what you consider as good and/or problematic in the final results of the definition processes (i.e. present versions of the applications/systems).

Definition processes	What is good?	Problems/weaknesses?
Integration of data and systems (data and system harmonization)	- The integration system has nice interface, simple, easy to use and convenience. (2)	- Area boundaries in report map were not the same as in the forest inventory map. - Some Website errors happened.
Database structures		The database of forest resources monitoring system follows good standard.
Planning of information systems		
Definition of data standards		
Regulation for managing forest information (FORMIS regulation)	- If well applied, the management of forest information will be much better.	
Developing reporting indicators		
FPD Quick Reporting	- The definition was done fast and we were able to do the work before the deadline from VNFOREST	- Hard to check what belongs to baseline and what to additional requirements. - Too big trust for service provider.
Forest Resource Monitoring System	- Definition process was time consuming but with hard work we met the deadlines. It needs expertise from both IT and Forestry to do the work + communication. Easy to monitor pace of development and quality of functions.	- System is based on an open source, easy to extend and save cost. General design is good. - Need a lot of effort and expertise to do it. Is not flexible for service provider and the time to make the system ready can be longer.
HR system		
Trainers training	- The organization of the training was very good, logistics and schedules were well managed, material facilities/ training materials were appropriate for the trainees (2)	- The training was not long enough, lack of time for practices. (2) - Tendering process is time consuming and in-house capacity is not efficient used.

The questionnaire showed that detailed definition process is very demanding and time consuming task and it requires a team having both IT & forestry operations expertise to carry out the process. Service provider needs continuous feedback and communications from client to enter into good and functional final result.

B. Usage of the FORMIS applications

3. Present in the following table which of the applications you have used (or test used), and in case of usage, what has been your role in the usage (data entry/data search) and for what purpose you have used the application (tick x in the table to the relevant points).

Application	Test Use		Use		Role		Usage of data			
	yes	no	yes	no	Data entry	Data search	Moni-toring	Plan-ning	Repor-ting	Decision making
FORMIS platform	8	5	2	5	2	8	3	2	2	1
Forest Resource Database System	10	4	2	5	2	10	3	4	2	1
Data Sharing System	6	5		6		5	3		1	
VNFOREST eOffice	5	6	1	6		4		3	1	
Vietnam Forest Information Portal (FORMIS Portal)	3	5	4	4	1	7		2	2	1
FPD Quick Reporting	5	4		6		4	1		2	1
Forest Resource Monitoring System (FRMS)	6	5	1	5	3	6	3	1	3	

4. In case you have used applications, explain a bit more the purpose of the usage:

Type of usage	Concrete issues for which you have used the applications
Monitoring	- To monitor the forest resources at the district and commune levels. - Testing how the aggregation rules are working and how the forest cover reports are created with help of the FRMS. Check the integrated data using Data Sharing System. FPD Quick Reporting system testing the monitoring process what the system can provide.
Planning	- Update, collect new information related to our jobs for timely producing work plans (2) - Testing how to plan activities using DSS System and FRMS, but also our internal decision making plans using our VNFOREST Portal as all the files are located there to be shared.
Reporting	- Provide reports to the Province's People Committee and VNFOREST. - Useful for making plans for field checking, patrolling, use the data in each province. - All the systems what I have ticked can be used for reporting in many way (Forest cover changes, Forest area, Volume, etc.)
Decision making	- Provide consultancy to the leaders for issuing annual data of forest change. - Monitor the forest resources change in each province to make decisions for verifications. - All the systems what I have ticked can be used for decision making with help of reports.
Other (specify what)	- The Portal of Vietnam Forest Information is useful to make queries, searching and planning. - Make reports of the status of functionality of applications, e.g. technical errors/issues, etc.

Great variety of usages was found, such as data entering for collected and updated data, monitoring change, testing systems and applications, preparing various plans and reports, consulting decision-makers, making queries, data logging and searching, etc.

5. Feedback on the usability of the applications from the point of application user; e.g. when filling in data, or using it for monitoring, planning, etc. (see question 4).

Application	What is good in the application	Problems/weaknesses of the application
FORMIS platform	- Can integrate multiple applications for managing the data of agriculture and rural development. - Quick and overall searching data down to each forest owner, to provide needed information for forest mgmt. - It integrates many applications and many different data under one platform. It is flexible for changes	- Not be able to convert coordinates of 1 determined point (with an existing one). - No statistical tables made for group of provinces to get the synthesis data. - To make it official platform and have more data to be integrated and finally

Application	What is good in the application	Problems/weaknesses of the application
	and new services	approved by MARD or higher level.
Forest Resource Database System (FRDS)	- FRDS will include all the needed information of Vietnam Forest. It will be updated and used by several other application such as DSS System and FRMS.	- Same data is still missing or is not integrated.
Data Sharing System	- Transparent (2) - Possible to compare many kind of data from various users. User can download forest data easily. Supports transparency on Vietnam's forestry policy/forestry issues.	Limited amount of data at the moment integrated. Downloading data is limited by user accounts, but should not be a problem to get a user account.
VNFOREST eOffice	- Desktop is convenient, friendly, easy to use and search. - Continuously and regularly update the guidance, documents, policies in the agriculture & forestry sectors.	
Vietnam Forest Information Portal (FORMIS Portal)	- Desktop is convenient, friendly, easy to use and search. - I have used FORMIS portal to share data between project and stakeholders. It is a communication channel.	Could be used more efficient but this will be done when we have more results to share.
FPD Quick Reporting	- Desktop is convenient, friendly, easy to use and search. - This tool will help FPD a lot to prepare quick reports of Human Resource related issues & Forest related changes.	- Some attribute tables need to be modified for more practical and fitting in the reality.
Forest Resource Monitoring System (FRMS)	- Complete data for each forest plot and forest stand. - Desktop is convenient, friendly, easy to use and search. - A wonderful tool for Vietnam forestry officers to update NFIS plot information + land cover changes using monitoring parameters. - Includes spatial data and attribute data entry, updating, report generator for monthly and annual purposes.	- Not have enough funds & human resources for collecting data of each forest plot to meet the requirement of the applications. - Is still under development, but minimum requirements are ready.

The applications were considered as a wonderful tool for Vietnam forestry officers to update NFIS plot information and land cover changes by using monitoring parameters. Desktop interface was considered convenient, friendly and easy to use. Systems integrate many applications and many different data sets under one platform. It was considered flexible for changes and new applications. Some weaknesses were also found, such as it should be further developed and finalized and made official platform and have more data to be integrated and finally approved by MARD or higher level.

6. Do you have any proposals for improvements (e.g. how to make the systems more standardized, how to make data entry and usage easier, is some information lacking, data formats, etc.)?

Issue	Proposal
Aggregation	- Many parameters and reports could be generated with the help of aggregation.
Normalisation of data	- Data normalisation is a good way to make data in compact form and present in thematic maps. That has already been tried in the development work.

Issue	Proposal
User interface	- User interface needs to be flexible and easy for non-IT people. Testing group includes both IT, forestry but also "end-users" to make sure that the quality of product is user friendly.
Validation	- All systems have validation rules to avoid wrong data entry or missing reports or values.
QGIS operation/use	- QGIS needs to be furnished with better functions for data query.
Computer specifications	- The memory capacity, speed of the computers in the organizations/agencies is very low. - Computers in organizations responsible for updating/modifying data need to be upgraded.
Forest Resources Monitoring System	- It is necessary to make distinction between the required information and not required information for each forest plot/stand having the change.
Technical error	- Technical errors are obvious in current versions, it is necessary to overcome such errors.

C. Technology

7. Give comments on the sufficiency of your organization's technical capacity to use the applications.

Issue	Comments	Development needs
ICT technology (hardware)	- Good (25 %); Intermediate (25 %) - Fair (35%), Meet 10% of the real needs. - Lack of laptops/computers is a problem	Should have more equipment, facilities, instrument for the local forest rangers.
Internet access and speed	- Good (60%); Slow or weak (40%) - Meet 100% real needs at province level, 70% at district level, 10% at commune level. - Internet is good enough. The systems can be worked also offline.	- Should develop more forestry applications - Transferring bigger amount of data can be sometimes slow. Internet speed will develop slowly in Vietnam
Technical skills (software and hardware –related skills, e.g. IT and GIS skills)	- Good (40%); Fair (60%) - Meet 100% real needs at province level, 70% at district level, 10% at commune level. - GIS skills are needed in many applications. - The need of each application is covered by teaching GIS basic and advanced courses.	- Need to be trained more and specialized. - GIS skills in lower level are not good enough, but paper maps made by the lowest level can be digitized and used in applications.
Reliability of electricity	- 100% - Only problem occur when server is down.	This can be hard to solve by FORMIS, we have tried to find back-up systems for our servers + trained people to re-start them.
Other (specify what)	- Lack of fund to monitor the forest change. - Forest rangers at commune level should be trained more. They are very important in forest change monitoring – they decide the accuracy of the data in reality. The higher the level of knowledge and skill of the forest rangers is, the better the accuracy of the data → the high potential that policy making can meet the actual needs.	

The main finding was that forest rangers at commune level should be trained more. They are very important in forest change monitoring – they decide the accuracy of the data in reality. The higher the level of knowledge and skill of the rangers is, the better the accuracy of the data. This gives high potential that policy making could meet the actual needs.

8. Give comments on the sufficiency and quality of guidelines for the usage of the applications

Application	Comments on the sufficiency and clarity of the guidelines	Development proposals
FORMIS platform	- Very good (75%); No documents (25%) - Obvious guidance found while accessing to Platform to explore guidelines.	The usage of platform could be better documented?
Forest Resource Database System (FRDS)	- Very good (75%); No documents (25%) - Obvious and comprehensive.	- Need to publish detailed guidance for users. - Use and updating of FRDS is done by couple of people. A proper documentation is needed.
Data Sharing System	- Very good (75%); No document (25%) - Not really yet complete.	- Need to publish detailed guidance for users. - User test cases available, guideline still missing
VNFOREST eOffice	- Obvious guidance found while accessing to eOffice to explore guidelines.	- Need to publish detailed guidance for the users.
Vietnam Forest Information Portal (FORMIS Portal)	- Lack of data. - Obvious and complete.	- Need to publish detailed guidance for the users. - Brief guideline for Admin people could be needed.
FPD Quick Reporting	- Obvious and complete. - Guidance via application and documents.	- Need to publish detailed guidance for users. - Guideline is under development.
Forest Resource Monitoring System	- 60% complete. - Obvious and complete.	- Need to publish detailed guidance for users.

D. Training

9. Give comments on the trainings provided

Training program/course	What was particularly good in the training	Proposals for improving the training
Basic QGIS	- The training program, materials, documents were appropriate for training course and the knowledge level of the trainees (2) - Good understanding of basic sections: editing, map printing (2) - Training content and duration was relevant to trainees be able to use the new software. - Good understanding of basic knowledge/skills - Good teaching methods (2) - The organization & logistics was good. - Training content and duration was relevant to trainees to be able to use the new software. - Good organizing work, basic knowledge and skill of mapping. - Systematic approach and calmness of the Trainer.	- It is proposed to make guidelines in more details, step by step for practicing each content on the application/software, less time for theory sections, should focus more on helping to use the software - Should upgrade the Internet system at training sites so that trainees are able to practice more on the assignments which require the Internet access - Practical skills should be repeated more, should conduct more short refreshing training - Should conduct trainings continuously, avoiding long interruption to create better training events - Should select trainers having good knowledge and skills of GIS for making more effective trainings (2) - Should conduct more in-depth training - Should publish applications guidelines - Moodle environment and capacity building

Training program/course	What was particularly good in the training	Proposals for improving the training
		with help of that should be done more
Advanced QGIS	- Are practicing/accessing. - Trainees were able to practice how to make data integration, data checking, filling, holding and completing for the proposed objects. - Systematic approach and calmness of Trainer.	- Should conduct more advanced training. - Publish the user guides, careful select the trainers. - A lot has been done by using service provider. Moodle environment and capacity building with help of that should be done more.
FORMIS Platform		
VNFOREST eOffice		
Training Skills for Trainers	- Trainers were very good, the teaching methods were good - The learners were provided new knowledge and skills necessary to become effective TOT. - Professional trainers (service provider) was necessary as in-house capacity is not enough.	- Should select the teachers coming from institutions having high rank of conducting TOT. - Design more time for the training length. - More capacity for in-house coaching is needed to use resources more efficient. A lot has been done by using service provider.
Other (specify)		

The questionnaire showed that training program, materials and documents were appropriate for training courses and the knowledge level of the trainees was good, at the same time, they were willing to have more training to increase in-house capacity and skills in FORMIS framework.

10. Do you have proposals for necessary additional trainings?

Proposals for additional training (if any)
- IT Administration skills on each application are needed; Should train more details and specialization for TOT. - Provide more training for TOT in regions to gain more understanding & skills on advanced QGIS + DB updating. - Enhance training of application software in forestry sector, making reports to the FPD. - Organize more training for using basic QGIS and advanced QGIS on such a way to ensure using of software continuously, not be interrupted due to the time intervals between training courses being too long (2)
Conduct training for advanced QGIS – it is proposed to conduct a training needs assessment prior to the training for making practical textbooks, lectures, teaching materials.
Need more training for forest rangers to use GPS, searching/making queries online by using the FORMIS systems.
The forest resources monitoring systems should be trained often and continuously for the forest rangers, should have training strategy for the technicians of the forest protection sector.
- Conduct more general training on knowledge and skills to work with the forest information systems (2)

E. IT Unit

11. Give your professional opinion and comments on the newly established IT Unit to manage expanded IT needs and required services for clients.

	Working in the IT Unit	Client of the IT Unit
Your role	0	3
Issue of IT Unit	**Comments**	**Development needs**

Is the role and are the services of the IT Unit clear for you?	- Yes. - Obvious (2)	-
Are the Unit's services relevant to the needs?	- Yes. - Appropriate (2)	-
Does the IT Unit have sufficient capacity to provide required services?	- Not stable (2)	-
Other comments (specify what)	- I can't comment for that issue as I am not working in IT Unit or client of IT Unit.	I can't comment for that issue, I am not working in IT Unit or client of it

Annex E: Selected forestry statistics

Results of Implementing Forest Management in 2009-2013

Indicator	Unit	Implementation of 2009 - 2013 period				
		2009	2010	2011	2012	2013
I. Overall objective indicator						
1. Forest coverage	%	39.1	39.5	39.7	40.7	41.1
In which						
- Covered by forest trees	*%*	-	-	-	*39.9*	*40.2*
- Covered by industrial trees with the same crown as trees on forest land	*%*	-	-	-	*0.8*	*0.9*
2. Value-added rate of forestry production	%	3.40	4.62	5.18	5.50	6.04
3. Proportion of forestry production over the agricultural, forestry and aquaculture production	%	2.8	2.6	2.3	2.7	2.9
4. Export turnover of forest products (including NTFPs)	USD billion	2.799	3.665	4.193	4.909	5.500
II. Forestry activities						
1. Centralized afforestation	1000 ha	243	253	212	197	227
- for protection and special use purposes	1000 ha	48	62	18	12	15
- for production forest	1000 ha	195	191	194	186	212
2. Forest maintenance	1000 ha	279	261	261	399	304
3. Regeneration practice	1000 ha	563	644	376	350	372
- New regeneration	1000 ha	66	80	15	17	57
- Transmitted regeneration	1000 ha	498	563	361	333	315
4. Contract of forest protection	1000 ha	2.871	2.470	2,660	2.845	4.149
5. Scattered tree planting	Million of trees	53	56	28	50	75
III. Exploitation of forest products, total		**3.986**	**4.881**	**5.512**	**6.892**	**8.160**
1. Logging in natural forest	1000 m^3	220	392	350	262	160
- Final cutting	1000 m^3	190	187	196	60	80
- Salvage exploitation	1000 m^3	30	205	154	202	80
2. Exploitation of timber in plantation forest	million m^3	3.766	4.489	5.162	6.630	8.000

Violating the Law on Forest Protection and Development and Damaged Forest Areas in 2009-2013

Items	Unit	2009	2010	2011	2012	2013
1. Forest fires						
- Number of fires	Nos	324	897	241	387	260
- Area of damaged forest	Hectare	968	4,549	1,186	1,385	971
2. Illegal deforestation						
- Number of violation	Case	9,392	6,624	6,148	5,903	4,326
- Damaged forest areas	Ha	3,459	3,942	6,703	2,170	707
3. Disease/Pest	Ha	38	39	285	95	100
4. Converted purposes of forest uses	Ha	38,636	46,549	24,069	59,172	70.5

Annex F: FORMIS platform, tools and data in research and education

1. Present situation and challenges on obtaining data for research and education

1.1 Data sources

Data sources for research and education are very diverse and depending much on specific needs of each research and/or education purpose and objectiv. Different data sources are managed by different agencies and organizations responsible for collecting, managing and sharing data. Most of data used in research and education are collected from published data available in both hard copy and digital forms from the relevant agencies and sources, of which the most important are:

- Departments of the Ministry of Agriculture and Rural Development (MARD), including the Forest Protection Department (FPD), VNFOREST, the Information Center, the Board for Enterprise Reform, and the Forest Sector Support Program and Partnership.
- Forest Inventory and Planning Institute (FIPI).
- Department of Land Registration and Statistics and the Department of National Remote Sensing in the Ministry of Natural Resources and Environment (MONRE).
- Ministry of Planning and Investments (MPI), especially the General Statistics Office (GSO).
- Ministry of Labor, Invalids and Social Affairs (MOLISA).
- The Information Center of the World Bank office in Viet Nam.
- The library for the Ha Noi office of the Food and Agriculture Organization of the United Nations (FAO).
- National Library of Viet Nam in Ha Noi.
- Forestry sector Development Projects in Vietnam: JICA, GIZ, SVN, WB, UNDP, etc.
- Natural resources related NGOs.

1.2 Relevance and usability

Current data is mostly scattered (some districts or provinces), single (one time data collected for a single use and area) and rather low in systematic level (not unified and not based on compatible standards). FORMIS data is useful for research, but only, if the available data is checked and validated and the detailed source information has been cited (information about satellite image or maps, time of investigation, investigator, data owner, where data is stored, standards followed, etc.). Data sources would be accessed and downloaded freely or required some payment. Some of the domestic sources of data are provisory provided based on data use permission or payment based on the current regulations. The users also have to pay for using some of the national remote sensing data. As an example, in 2012 the Ministry of Finance issued Circular No.70/2012/TT-BTC regulating the collection rate, collection regime, submission and use management of the fees of exploiting and using the national remote sensing data.

1.3 Data limitations on Forest Land Tenure:

Data on forest land tenure are obtained from MARD and MONRE, including the former classification of forest tenure according to the following tenure groups:

MARD classifies land tenure according to	MONRE classifies land tenure according to
- State enterprises	
- MB-SUFs	
- MB-PFs	
- Joint-venture companies	- Foreign and joint-venture companies
- Households and individuals	- Households and individuals
- Collectives	- Economic organizations
- The armed forces	
- CPCs	- CPCs
- Others	- Others (this category includes land that is non-allocated or leased)

While forest tenure data collected by MARD is more detailed, MONRE data is considered official, as it is the ministry in charge of land management in the GoV. This means that data on forest land tenure will mostly be used from MONRE databases, and MARD data will be used only, when necessary forest land data is not available in the MONRE database.

In many cases, data simply does not exist, or exists only for some districts or provinces. As a consequence, it is impossible in some cases to aggregate the regional and national data.

1.4 Description of key problems

The issue of data ownership and immaterial property rights is taken up quite often, while using and integrating data from other sources. Therefore, clearly defined data sharing agreements are needed. Another obstacle is the accuracy of the data, either its is not known or does not comply with user's needs. Sometimes, it is not clear how funding for keeping, maintenance and updating of data collected by other partners should be solved. Data on plots has not been widely published, which is limiting its efficient use.

Some issues in data availability, data content and quality will directly limit researchers work in carrying out studies and investigations for the forest sector development in the GoV, as follows:

- Technical and data quality issues while making research in:
  - Species and plantation forest productivity
  - Genetically modified forest trees
  - Forest carbon stocks estimation (in order to estimate GHG emissions from the forests)
  - Developing RELs
  - Developing MRV
  - Training and Applying remote sensing and GIS in forest management
  - Environment analysis
  - Biodiversity
  - Sustainable forest management
- Social data availability issues:
  - Participation of local people
  - Social impacts
  - Benefit sharing mechanism

- Community-based forest management and REDD+

- Economic and financial data issues:
  - Payment for forest environment services (PFES)
  - Finance mechanism for REDD+
  - Benefit Cost Analysis
  - "Green account" system
- Institution and policy issues (data coherence and availability):
  - REDD+ readiness
  - Land ownership
  - Forest Governance
  - Analyze the drivers of deforestation and forest degradation

1.5 Recommendations

In order to improve data quality and consistency in the forestry sector in Vietnam, the following recommendations need to be taken into account:

- Coordination among various ministries and agencies needs to be established and strengthened;
- Data users and providers should develop a system and agree upon standards for data collection, measurements, and data compilations;
- Clear roles and responsibilities in terms of data collection, data compilation, and publication between ministries and agencies should be established;
- Consistency and continuity of data collection should be ensured; and
- Capacity should be strengthened among ministries and agencies to enable generation of high quality, reliable, and consistent data.

2. Development needs of universities and other research/educational institutions related to forestry data

In order to enable high-quality research and education, there are several development needs related to forestry data and data processing in research and educational organizations. Data should be more freely available and more partnership programs should be established between data providers and research and educational organizations.

Some of the development needs are as follows:

- Presenting the actual needs, gaps, facts and figures on shortages in forestry data
- Development of general ICT infrastructure;
- Building a database system for research results;
- Building a database system for metadata used in research work;
- Enhancing data partnerships between research and educational organizations and FORMIS (VNFOREST);
- Publishing Vietnamese research results in international papers;
- Developing curriculum, training courses and programs on advanced Remote Sensing and GIS; and
- Increasing publishing and public availability of research results (e.g. via Internet and data platforms).

3. Assessment on how FORMIS platform, tools and data would improve the situation

FORMIS platform, tools and data could be widely used in research and education. FORMIS could improve data availability and make tracing of various data sets easier. Availability of spatial data would be highly important to research and education. In general, usability is high, if data is updated regularly and it is validated and verified.

The following table shows the potentials:

FORMIS application and/or data	Potential usage in education and in research
FORMIS platform	- Enables integration of multiple data sources for education/research - Enables integration of multiple applications for education/research
Forest Resource Database System (NFI 4-cycle data & NFIS data)	- Provides multiple sources of data, also historical data and comparable data sets for education/research
Forestry Data Sharing System	- Provides transparent data delivery, quick data & maps, records and reports in the forestry sector in Vietnam, highly usable in education/research
Forest Resource Monitoring System (FRMS)	- Provides useful data and information down to forest plot and forest stand both in the past and also currently, highly usable in education/research - The system could provide spatial data for education/research
FPD Quick Reporting System	- No direct use for education and research
Poverty data	- Would be highly usable for education/research, if such compatible data exists
Seed management/ Seed project	- Highly usable for education/research
Vietnam Forestry Information Portal	- Useful way to share data and information, convenient and easy to use - No real use for education and research
VNFOREST e-Office	- No direct use for education and research

4. Development needs of universities and other research/educational institutions to enable efficient usage of FORMIS platform, tools and data as well as possibilities for cooperation with FORMIS

The following actions are proposed:

Issue	Actions needed by FORMIS (if any)
User interface including instructions/guidance	- There is a great need to design user-friendly interface - Interface should be designed as simple as possible to enable staff and local people to access and exploit the information they need - Should provide all necessary metadata, warning messages of some possible inconsistencies, figures and facts of accuracy assessment (if available).
Dissemination (to ensure	- Requires wide dissemination and communication for people to know

that the systems are known)	FORMIS database system - Should do more propaganda, introduction of the systems, especially by organizing seminars/workshops at university and institute levels - Link FORMIS with partners, the forestry agency, other projects, forestry universities - Enhance communication in national and international conferences and meetings.
Training on the usage	- The training on system usage and updating data from local level to national level are very important - There should be more training cooperation with the University of Forestry to promote fast training process - Each university could be linked with one FORMIS regional office in coordinating and promoting training.
Having more deep cooperation between parties (internships, etc.)	- More cooperation is needed with data partners in the provision and sharing of data (GSO, MONRE, MOLISA, WB, UNDP, SNV, GIZ, JICA, etc.)
Integration of research data on FORMIS platform	- Database on running and completed research projects and their results need to be integrated for reference purposes - Should be required by MARD/VNFOREST - It would be more useful, if FORMIS has a complete data set for one province to demonstrate all the utilities and functions of all applications and systems.
Other (specify what)	- The FPD Quick Reporting could be developed to integrate multiple quick component reports to make a quick synthesized report and send a warning message with flashing coordinates to the authorized people by mobile phone and E-mails - Application could be more meaningful, if it is based on spatial extents rather than just on statistical report by authorized forest rangers - In addition, FORMIS project could be more meaningful, if trainings are conducted on remote sensing and GPS usage, because these knowledge and skills are important to get data and validate the reported data. Therefore, this contributes to the data shortages and gaps and to make data provided more transparently.

Annex G: Terms of Reference for the Evaluation

28 April 2015

Terms of Reference for Mid-Term Evaluation
Development of Management Information Systems for Forestry Sector project, phase II (FORMIS II)

1. BACKGROUND TO THE MID-TERM EVALUATION

Vietnam reached the status of a lower middle-income country in 2010 and it is ambitiously determined to become a modern industrial country by 2020. As a result of its lower middle-income country status, Vietnam's ODA profile is changing. In the Finnish Development Policy Programme, Vietnam is identified as a long-term partner country, with which Finland is gradually shifting to new cooperation modalities by 2018. This means that bilateral grant-based development cooperation will continue but it is in a state of transition towards a more comprehensive partnership for mutual benefit. Finland concentrates its efforts on sectors where Vietnam anticipates challenges in the future and where Finland can produce added value and complementarity based on Finnish know-how and the over 30-year-long experience of development cooperation with Vietnam.

Finland supports Vietnam to foster sustainable use and management of natural resources and enhance climate sustainability, and improve the basis for a knowledge-based society. To contribute to the achievement of these country development results, Finland has the following objectives:

1. Increased openness and access to information, knowledge, and innovation for all;
2. Enhanced green economy that creates entrepreneurial activity and decent jobs;
3. Improved sustainability, inclusiveness, equality and climate sustainability
of the use and management of forest resources; and
4. Sustainable and equal access to improved water supply and sanitation services.

The main goal of the ongoing bilateral development cooperation projects in innovation, forest, and water and sanitation sectors is to ensure ownership and sustainability of the results while implementing Implementation of the human rights based approach and the crosscutting objectives of Finland's Development Policy Programme.

Vietnam has undergone a rapid change as regard the availability and attainability of information in recent years. The number of internet and mobile internet users has multiplied and sharing and obtaining information is easier and faster than ever. Despite this trend, the information sharing among and between the public and private sector still lags behind partly due to centrally controlled information structures and inefficient and overlapping information systems. Therefore, Finland promotes horizontal and vertical sharing of information between and within public and private sector institutions and individuals. In order to advance the development objectives related to increased openness and access to information as well as sustainability, inclusiveness, equality and climate sustainability of the use and management of forest resources, Finland supports the development of efficient information systems and accountability mechanisms through a project entitled Development of Management Information Systems for Forestry Sector project, phase II (FORMIS II).

The first phase of the FORMIS project was implemented from October 2009 to March 2013 in three pilot provinces in Vietnam. The second phase, which commenced in April 2013, was formulated to ensure a nationwide scaling up of the results which were achieved during the first phase. The FORMIS II is designed to be implemented over a period of five years, of which the first four years form the actual implementation period, and the 5th year is dedicated for monitoring and handing over of the project outcomes.

The budget allocated by the Government of Finland to the project is 9.7 million EUR. The contribution from the Government of Vietnam is 437,530 EUR. The overall objective of the FORMIS II is that forest resources are managed in a sustainable way based on up-to-date information and that they contribute to the alleviation of poverty in the socio-economic development framework of Vietnam. The purpose of the project is to establish a fully integrated Management Information System (MIS) for decision making supporting forest management. The FORMIS II phase has been designed to be more operational and functional, to better serve the Vietnamese forestry sector information, communications and impact monitoring needs.

The FORMIS II is focused on achieving the following results and outputs:

1. **Procedures, standards and mechanisms to transfer information between Vietnamese agencies:**
   - 1.1. Standards endorsed by competent authorities
   - 1.2. Data sharing agreements between forestry agencies and between the Ministry of Agriculture and Rural Development (MARD), General Statistics Office (GSO) and Ministry of Natural Resources and Environment (MONRE)
   - 1.3. Data governance strategy for information management

2. **FORMIS platform and tools are operational in all provinces with a focus on forest covered provinces:**
   - 2.1. Applications inherited from Phase I are operational
   - 2.2. Two new applications have been developed
   - 2.3. Relevant information systems, developed by others, integrated into the FORMIS Platform
   - 2.4. Proposed regulations providing FORMIS system formal status in Vietnam Forest Administration (VNFOREST)

3. **Forest Sector data standardized and converted into FORMIS standard database and reporting forest performance indicators in place:**
   - 3.1. Forest sector data stored in databases and accessible through standard data services
   - 3.2. Data against forest performance indicators can be electronically generated and is accessible

4. **Strengthened capacity for information management and collection:**
   - 4.1. Deployment plan for the core systems
   - 4.2. Increased competence of forest authorities at national, provincial and local levels in using and maintaining FORMIS applications selected applications

4.3. Provinces have capacity to train district and commune level people to feed attribute and spatial data to FORMIS system

4.4. Centrally delivered training material can be used in tailored FORMIS training. Trainers are able to modify material according to local needs

4.5. ICT infrastructure

5. Information Centre of the Forestry sector/ Forest IT Unit is established and operational:

5.1. the Information Centre/IT Unit has a formal status

5.2. The Information Centre/IT Unit has sufficient capacity

The carrying out of a Mid-Term Evaluation (MTE) was discussed during the planning process of annual workplan for 2015. In the Steering Commitee meeting in October 2014 it was decided that an external MTE will be carried out in the middle of 2015 to assess the relevance, efficiency, effectiveness, impact, sustainability and Finnish value added.

2. GENERAL APPROACH TO THE MID-TERM EVALUATION

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The purpose of the MTE is to:

- Assess the relevance, efficiency, effectiveness, impact, sustainability, coordination, complementarity, coherence and Finnish value added of the objective, purpose and outcomes of the Project in relation to the overall development of the forest sector in Vietnam as developed in the Vietnam Forest Development Strategy 2006–2020 and the sector restructuring.
- Provide evidence of the performance of the project to date and likely performance in the future. Assess the extent of achievement of the objectives, including the cross-cutting objectives, against the expected results of the Project, and the successes and constraints experienced during the implementation.

- Suggest recommendations for reorientation and prioritising of activities and phase-out (within the existing budget for the project) and practical solutions in order to achieve the objectives, improve the effectiveness and efficiency, ensure sustainability and remove the possible problems or constraints during the remaining project period.

4. ISSUES TO BE STUDIED

The main issuesshould be studied against the evaluation criteria below. The evaluation team may also take up other issues.

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- To what extent the project is consistent with the needs and priorities of the final beneficiaries and other stakeholders? Are these groups satisfied (incl. private sector representatives and people at the grassroot level) with the objectives and results of the project?

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- How well have the activities transformed the available resources into intended results, in terms of quantity, quality and time? (Can the costs of the programme be justified by the results?)
- Quality of technical assistance, including performance of TA and staff against TORs? Quality and quantity of short-term TA against the scope of the project?
- Quality of the day-to-day management incl. coordination and communication? Are possible problems in implementation adequately addressed? Functioning of the institutional arrangements, including cooperation and communication between stakeholders?
- Quality of monitoring and reporting, including the adequacy and use of indicators?

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- To what extent has the project achieved its purpose and results or will it do so in the future?
- To what extent is the quality and quantity of the produced results and outputs in accordance with the plans, how the results/outputs are applied by the beneficiaries and other intended stakeholders?
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- What are the possible strengths/weaknesses/opportunities/threats that enhance or inhibit sustainability of project acievements including cross-cutting objectives? The analysis shall be broken down by economic/financial, institutional, technical, socio-cultural and environmental sustainability.
- To what extent are the implementing partners committed to achieving the results and maintain them after the termination of external support?

Coordination, complementarity, coherence/ aid effectiveness

- How have other programmes and cooperation been taken into account in implementation, including experiences of joint work with other actors?
- How well has the project promoted ownership, alignment, management for development results and mutual accountability?
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Finnish value added

- What is the added value provided by the Finnish support?

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The evaluation team should examine the success of the project in relation to all cross-cutting objectives of Finland's development policy including promotion of gender and social equality, human rights and equal participation opportunities of easily marginalised groups including ethnic minorities, environment, climate sustainability and disaster risks. The team should also examine the due attention of the project personnel paid to the cross-cutting objectives during the implementation of the project's activities. Define if there should be a particular emphasis on some of the cross-cutting objectives? Why? Why not?

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- Final analysis and reporting phase: The MTE team will prepare a draft report, which should incorporate comments received during the wrap-up meeting. Comments may be either accepted or rejected as an independent evaluation mission but the clear explanation by the team needs to be given in case of rejection. The draft report will be submitted after ten working days upon completion of the field work. On the basis of comments made on the

draft, the team will finalize the MTE report. The final report will be submitted after 5 working days after receiving the comments on the draft report.

The MTE team will familiarize themselves with all the relevant material on the area and on the Project before starting the field work. The team will present its function and members in advance to all people they plan to meet, and also to describe the purpose of meeting every time they meet local officers. The team will be responsible for organizing the meetings with relevant agencies in collaboration and supporting by the project team.

It is expected that multiple methods are used for data collection, and they should include both quantitative and qualitative methods. Participatory approach should be used. The data should be disaggregated by relevant categories.

The field work will be taken in Vietnam: Hanoi and regional working stations if needed i.e. Quang Ninh, Thanh Hoa and Binh Duong. The MTE is planned to take place in June – September 2015.

7. WORK PLAN

The duration of the assignment is maximum of 25 work days for each expert, tentatively expected to start in June 2015 and to carry out the field phase in mid-June 2015. The MTE will be completed within 12 weeks of the signing of the consultancy contract. The MTE will be divided into three phases as described above. The ouputs of the assignment are as follows:

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- A first draft of the Final Report will be produced within two weeks after the field mission. The MFA, and key stakeholders identified by the MFA, will have two weeks in which to comment this first draft.
- The Final Report will be submitted to the MFA within one week (five working days) after receiving comments on the first draft by the MFA and other stakeholders. The Final Report will be commented and the final clearance will be provided by the MFA.

The tenderer is also expected to propose and implement a quality assurance system for the evaluation. The proposal needs to specify the quality assurance process, methodology and tools.

There should be debriefings in the MFA in Helsinki both prior and after the field mission. Kick-off and wrap-up meetings are also expected to take place in Vietnam at the beginning and the end of the field mission.

8. EXPERTISE REQUIRED

It is expected that the MTE team will comprise of two international and two Vietnamese experts covering all aspects of the assignment. One person is nominated as a Team Leader.

The experts should have expertise in forestry development cooperation, forest sector monitoring and evaluation and forest management information systems preferably on a national level, as well as background on database development, service oriented architecture, GIS application development, and IT management. The evaluation team needs also to have solid experience in

development cooperation project evaluations, in integrating cross-cutting objectives in the project cycle, and in quality assurance of evaluation.

9. REPORTING

The team is expected to provide an inception report, presentation of field findings, draft final report, final report and presentation of evaluation findings. Each report is subjected to the approval by the MFA. The final report should not exceed 50 pages (plus annexes) with clear findings and conclusions, as well as recommendations and any lessons learned following logically the findings and conclusions. The draft report will be submitted to MFA. The draft report will then be delivered to MARD and the relevant authorities for the correction of factual data presented as well as possible comments.

The Final MTE report will be delivered in the English and Vietnamese language in electronic format to the Ministry for Foreign Affairs of Finland. The report will then be delivered to MARD and the project team.

After the finalization of the report, the conclusions and recommendations will be discussed and actions agreed in the Steering Committee meeting.

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The company shall be responsible for the hiring of the personnel and financial management. The company shall also take the responsibility of providing adequate backup services to the evaluation team.

The budget will include the fees of the experts and the reimbursables. The total available budget for this evaluation is 75,000 euros (excluding VAT), which cannot be exceeded.

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The evaluation team is expected and entitled to discuss with relevant parties, government authorities, local authorities, civil society organizations (CSOs) and individuals relevant to the assignment.

The consultant is not, however, authorised to make any commitments on behalf of the Governments of Vietnam and Finland or represent him or herself as representative of the Governments of Finland or Vietnam.

The team shall share this TOR and/or the letter of introduction of the assignment with the stakeholders they work with.

Annexes

- MFA evaluation manual, link: http://formin.finland.fi/public/default.aspx?contentid=288455&contentlan=2&culture=en-US
- Evaluation report quality checklist (OECD/DAC and EU standards), link: http://www.uneval.org/document/detail/607

28 April 2015

Terms of Reference for Mid-Term Evaluation
Development of Management Information Systems for Forestry Sector project, phase II (FORMIS II)

1. BACKGROUND TO THE MID-TERM EVALUATION

Vietnam reached the status of a lower middle-income country in 2010 and it is ambitiously determined to become a modern industrial country by 2020. As a result of its lower middle-income country status, Vietnam's ODA profile is changing. In the Finnish Development Policy Programme, Vietnam is identified as a long-term partner country, with which Finland is gradually shifting to new cooperation modalities by 2018. This means that bilateral grant-based development cooperation will continue but it is in a state of transition towards a more comprehensive partnership for mutual benefit. Finland concentrates its efforts on sectors where Vietnam anticipates challenges in the future and where Finland can produce added value and complementarity based on Finnish know-how and the over 30-year-long experience of development cooperation with Vietnam.

Finland supports Vietnam to foster sustainable use and management of natural resources and enhance climate sustainability, and improve the basis for a knowledge-based society. To contribute to the achievement of these country development results, Finland has the following objectives:

1. Increased openness and access to information, knowledge, and innovation for all;
2. Enhanced green economy that creates entrepreneurial activity and decent jobs;
3. Improved sustainability, inclusiveness, equality and climate sustainability of the use and management of forest resources; and
4. Sustainable and equal access to improved water supply and sanitation services.

The main goal of the ongoing bilateral development cooperation projects in innovation, forest, and water and sanitation sectors is to ensure ownership and sustainability of the results while implementing Implementation of the human rights based approach and the crosscutting objectives of Finland's Development Policy Programme.

Vietnam has undergone a rapid change as regard the availability and attainability of information in recent years. The number of internet and mobile internet users has multiplied and sharing and obtaining information is easier and faster than ever. Despite this trend, the information sharing among and between the public and private sector still lags behind partly due to centrally controlled information structures and inefficient and overlapping information systems. Therefore, Finland promotes horizontal and vertical sharing of information between and within public and private sector institutions and individuals. In order to advance the development objectives related to increased openness and access to information as well as sustainability, inclusiveness, equality and climate sustainability of the use and management of forest resources, Finland supports the development of efficient information systems and accountability mechanisms through a project entitled Development of Management Information Systems for Forestry Sector project, phase II (FORMIS II).

The first phase of the FORMIS project was implemented from October 2009 to March 2013 in three pilot provinces in Vietnam. The second phase, which commenced in April 2013, was formulated to ensure a nationwide scaling up of the results which were achieved during the first phase. The FORMIS II is

designed to be implemented over a period of five years, of which the first four years form the actual implementation period, and the 5th year is dedicated for monitoring and handing over of the project outcomes.

The budget allocated by the Government of Finland to the project is 9.7 million EUR. The contribution from the Government of Vietnam is 437,530 EUR. The overall objective of the FORMIS II is that forest resources are managed in a sustainable way based on up-to-date information and that they contribute to the alleviation of poverty in the socio-economic development framework of Vietnam. The purpose of the project is to establish a fully integrated Management Information System (MIS) for decision making supporting forest management. The FORMIS II phase has been designed to be more operational and functional, to better serve the Vietnamese forestry sector information, communications and impact monitoring needs.

The FORMIS II is focused on achieving the following results and outputs:

1. Procedures, standards and mechanisms to transfer information between Vietnamese agencies:
    1.1. Standards endorsed by competent authorities
    1.2. Data sharing agreements between forestry agencies and between the Ministry of Agriculture and Rural Development (MARD), General Statistics Office (GSO) and Ministry of Natural Resources and Environment (MONRE)
    1.3. Data governance strategy for information management

2. FORMIS platform and tools are operational in all provinces with a focus on forest covered provinces:
    2.1. Applications inherited from Phase I are operational
    2.2. Two new applications have been developed
    2.3. Relevant information systems, developed by others, integrated into the FORMIS Platform
    2.4. Proposed regulations providing FORMIS system formal status in Vietnam Forest Administration (VNFOREST)

3. Forest Sector data standardized and converted into FORMIS standard database and reporting forest performance indicators in place:
    3.1. Forest sector data stored in databases and accessible through standard data services
    3.2. Data against forest performance indicators can be electronically generated and is accessible

4. Strengthened capacity for information management and collection:
    4.1. Deployment plan for the core systems
    4.2. Increased competence of forest authorities at national, provincial and local levels in using and maintaining FORMIS applications selected applications
    4.3. Provinces have capacity to train district and commune level people to feed attribute and spatial data to FORMIS system
    4.4. Centrally delivered training material can be used in tailored FORMIS training. Trainers are able to modify material according to local needs

4.5. ICT infrastructure

5. Information Centre of the Forestry sector/ Forest IT Unit is established and operational:
   5.1. the Information Centre/IT Unit has a formal status
   5.2. The Information Centre/IT Unit has sufficient capacity

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