BỘ NGOẠI GIAO	**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM** **Độc lập - Tự do - Hạnh phúc**
Số: 37/2016/TB-LPQT	*Hà Nội, ngày 13 tháng 6 năm 2016*

THÔNG BÁO
Về việc điều ước quốc tế có hiệu lực

Thực hiện quy định của Luật Ký kết, gia nhập và thực hiện điều ước quốc tế năm 2005, Bộ Ngoại giao trân trọng thông báo:

Thỏa thuận giữa Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và Chính phủ Liên bang Thụy Sỹ về Dự án "Thông tin viễn thám và bảo hiểm cây trồng tại các nền kinh tế mới nổi, giai đoạn 2 tại Việt Nam" (RIICE-VN), ký tại Hà Nội ngày 24 tháng 5 năm 2016, có hiệu lực kể từ ngày 24 tháng 5 năm 2016.

Bộ Ngoại giao trân trọng gửi bản sao Thỏa thuận theo quy định tại Điều 68 của Luật nêu trên./.

TL. BỘ TRƯỞNG
KT. VỤ TRƯỞNG
VỤ LUẬT PHÁP VÀ ĐIỀU ƯỚC QUỐC TẾ
PHÓ VỤ TRƯỞNG

Nguyễn Văn Ngự

PROJECT AGREEMENT

BETWEEN

THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIET NAM

AND

THE GOVERNMENT OF SWITZERLAND

ON

PROJECT

"Remote sensing-based Information and Insurance for Crops in Emerging Economies in Viet Nam" (RIICE-VN)

(01/05/2015 – 30/4/2017)

THE GOVERNMENT OF SWITZERLAND (hereinafter referred to as the Swiss Party) represented by the Federal Department of Foreign Affairs (FDFA) acting through the Swiss Agency for Development and Cooperation (SDC) **AND THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIET NAM (hereinafter referred to as the Vietnamese Party)** represented by the Ministry of Agriculture and Rural Development (MARD)

HAVE AGREED as follows:

Within the Framework and in respect of the Agreement concerning Development Cooperation signed by both Parties on 7th June 2002 in Bern, the Swiss Party and the Vietnamese Party bearing regard to the ties of friendship existing between the two Parties and with the objective of enhancing their development cooperation, have agreed to the following:

ARTICLE 1

FIELD OF COOPERATION

The Swiss Party shall support the Vietnamese Party in its effort to improve food security and reduce vulnerability of smallholder rice farmers by helping in setting up better and affordable information systems of rice production.

This cooperation shall be undertaken through a project to support the development of a remote sensing-based information system of rice production. The title of the project is "Remote sensing-based Information and Insurance for Crops in Emerging Economies" (hereinafter referred to as "the Project").

ARTICLE 2

SPECIFIC OBJECTIVES

2.1 The goals and objectives of the Project are set as follows:

The overall goal of the Project is to reduce vulnerability of smallholders in rice production caused by natural catastrophes. More specific objectives are as follows:

Objective 1: Provision of reliable rice production information for use by the Vietnamese Party (MARD), provincial Departments of Agriculture and Rural Development (DARDs), and other potential users.

Objective 2: Transfer to national partners the appropriate know-how in terms of SAR technology, and crop growth modelling.

Objective 3: Improved efficiency and service quality of crop insurance business by providing better, satellite-based information on yield forecast and crop losses.

2.2 The details of the project outputs and the activities to be undertaken are given in the Project Document (Annex 1) which forms an integral part of this Agreement.

ARTICLE 3

ORGANIZATIONAL AND MANAGEMENT STRUCTURES

3.1 The Swiss Party shall participate in the Project Steering Committee through the SDC.

3.2 The Vietnamese Party shall participate in the Project through MARD which shall entrust the National Institute of Agriculture Planning and Projection (NIAPP) to execute the project.

3.3 The Project organization has the following bodies:

- Project Steering Committee (PSC);
- Project Management Unit (PMU);

3.4 The Project shall be under the supervision of the PSC. The PSC meets twice a year and takes decisions by consensus. The members of the PSC with voting rights are:

- A leader of MARD to represent the Vietnamese Party and act as Chairman of the Committee;
- A representative of SDC to represent the funding agency;
- A representative of Insurance Supervisory Authority (Ministry of Finance); and
- A representative of an insurance company participating in the government-sponsored crop insurance program – Bao Viet.

3.5 Based on the actual needs and specific context, the Chairman of the PSC might decide to invite other participants to the PSC meetings, if and when deemed necessary.

3.6 The main functions of the PSC are as follows:

- Provide strategic guidance for the project implementation and supervise accordingly;
- Approve any amendments to the Project Document made during the implementation;
- Review and approve the project progress, assess the effectiveness and efficiency of the project activities and costs with regard to the expected outputs, and financial statements;

- Approve the Annual Plan of Operation and the associated budget for the upcoming period.

3.7 The Project Management Unit (PMU) is the executing body responsible for the project implementation and is headed by the National Project Director (NPD) cum Head of PMU, being the Director of NIAPP;

The responsibilities of the PMU are to:

- Manage the implementation of project activities according to the Project Document, the operational plans and the decisions taken by the PSC;
- Mobilize active participation of the various agencies in the project and ensure a close and effective co-ordination within the Project as well as with other related projects and processes.
- Provide close monitoring of the implementation of project activities, the progress of achieving planned results and the financial flows of the project fund.
- Prepare suggestions and recommendations of the necessary adjustments and changes related to the project contents, activities, budget, organization and management, which are required for a smooth implementation of the project.
- Prepare and submit to the PSC in two weeks before the PSC meeting the regular project reports, including progress and financial reports as well as other required and related documents for information and approval.

ARTICLE 4

CONTRIBUTIONS

4.1. The Swiss Party shall commit funds in form of a non-reimbursable grant up to a maximum of CHF 214,937 (two hundred and fourteen thousand nine hundred thirty seven Swiss francs) for the period from the date of signing of this agreement to 30 April 2017. Another maximum CHF 110,000 (one hundred and ten thousand Swiss francs) might be provided for another 1 year subject to satisfactory Project results and availability of additional donor's fund. A written exchange of letter between the Parties would be required for such an eventual additional contribution.

The Swiss Party provides another grant of CHF 375,000 to international RIICE partners during the same period until April 2017 to carry out services outside Vietnam that are directly related to the support of Project activities in Vietnam.

4.2. The Vietnamese Party shall contribute to the budget of the Project the following:

In cash: VND 720,000,000 (equivalent to CHF 32,287)

In kind: VND 172,000,000 (equivalent to CHF 7,713) namely in form of weather data, commune level maps, facilities, vehicles and others.

ARTICLE 5

RELEASE OF SWISS FUNDS

5.1. A separate Project account will be maintained for the Project expenses financed by the Swiss Party. SDC shall proceed to transfer funds to the Project account which shall be opened in the Project name to allow a smooth running of the Project.

5.2. Contributions from the Swiss Party up to CHF 214,937 will be transferred to the Project account in 4 installments according to the following schedule:

- The first payment of CHF 60,000 will be made after the present Agreement is signed;
- The second payment of CHF 60,000 will be made subject to the submission and acceptance of the activity report and financial report of the preceding period;
- The third payment of CHF 60,000 will be made subject to the submission and acceptance of the activity report of the first year, audit report of the first year and the plans of the second year;
- The last payment of CHF 34,937 will be made subject to the submission and acceptance of the final report and final audit report.

5.3 The project "Remote sensing-based Information and Insurance for Crops in Emerging Economies in Viet Nam" shall be implemented jointly by Sarmap, IRRI, GIZ, Allianz Re and SDC. The procurement of goods and services financed out of the Project fund shall comply with relevant regulations of the Vietnamese Party.

5.4 Possible interest income must be clearly shown in the financial statements and may be used as an additional contribution, but solely within the framework of the Project.

ARTICLE 6

BUDGET AND PROCUREMENT

6.1 All decisions on Project budget adjustments shall be jointly approved by MARD and SDC representatives in the Steering Committee based on the adequate justification and proposal from the PMU.

6.2 Cost norms as attached in Annex 2 shall be applicable for the implementation of the Project. Cost items that may incur and not specifically mentioned in Annex 2 shall be notified to and endorsed by SDC prior to implementation.

6.3 Any changes such as adjustment, removal or replacement of regulations regarding procurement must be approved by PSC members of both Parties and recorded in writing.

ARTICLE 7

ACCOUNTING AND AUDITING

7.1 Financial responsibilities for the contributions of both Parties remain with MARD at all times. The Vietnamese Party shall take all necessary measures to ensure the efficient use and effective management of the fund.

7.2 All financial transactions using the Project fund shall be fully noted and recorded in the Project accounting system and shall fully comply with the financial management conditions.

7.3 An independent international auditing company based in Viet Nam which is accepted by SDC will conduct yearly consolidated audits comprising of the balance sheet, income and expenditure statement as well as a budget comparison of the Swiss funds and provide, together with the SDC Ha Noi financial adviser, management support on a need basis. The TOR for the Project audit is provided in Annex 3.

ARTICLE 8

MONITORING AND EVALUATION

8.1 The PMU shall be responsible for the timely and adequate preparation and submission to the PSC of the semi-annual and annual progress and financial reports, the yearly budgets and plans of operation, yearly audit reports, and the Project Completion Report together with the final audit report. The above mentioned reports shall be sent to the Steering Committee members two weeks before the PSC meeting.

8.2 Project progress reporting, including the semi-annual and annual report as well as mid-term review, etc. shall be made with reference to the Logical Framework and shall follow the reporting standards and formats established by the Vietnamese Party and SDC.

ARTICLE 9

OWNERSHIP

9.1 For the duration of the Project, investments and equipment (hereafter referred to as "items") provided by the Swiss Party shall remain at the unrestricted disposal of the Project and shall not be diverted to other purposes without prior approval of the PSC.

9.2 If, for any reason whatsoever, items or parts thereof become useless for the Project, they may be sold if the PSC so agrees. The utilization of the proceeds of such sales shall be shown in the financial reports and agreed upon by the PSC. In such a case, SDC shall assume no liability whatsoever in connection with the said goods.

9.3 At the end of the Project, both Parties shall agree in written form on the property and use of the goods procured during the Project.

9.4 Items financed under contribution of the Swiss Party shall become the property of MARD upon entry into a respective inventory at the end of the project.

ARTICLE 10

PUBLICATION AND INTELLECTUAL PROPERTY

10.1 Results of collaborative research will be published as mutually agreed upon in writing. The results of the co-operative work will be published jointly by the scientists working for the participating organizations/agencies.

10.2 Intellectual property rights, in particular copyrights, of material such as information, software and designs, made available during project operation and the participating organizations/agencies to be used to carry out activities under this agreement shall remain with the originating party.

10.3 Copyrights of the information as well as the rights to any other intellectual property that are developed jointly by MARD/NIAPP and participating organizations/agencies under this agreement shall be jointly owned by the parties with SDC as the main donor having the last word on further uses or publications. Approval for publications or further uses shall be in writing.

10.4 MARD/NIAPP will provide SDC with copies of any report or paper published as the results of the grant and will acknowledge the role of SDC in support of the project in any report or paper published.

ARTICLE 11

MODIFICATIONS AND SETTLEMENT OF DISPUTES

11.1 Any modifications or amendments to the present Agreement shall be made in writing by means of exchange of letters between the two Parties and form integral parts of this Agreement.

11.2 Disputes as to the interpretation or application of the provisions of the present Agreement shall be settled by diplomatic negotiations between the Parties.

ARTICLE 12

TERMINATION OF THE AGREEMENT

12.1 Either Party shall have the right to terminate the present Agreement by giving six month written notice of termination.

12.2 If either Party considers that the aims of the present Agreement can no longer be achieved or that the second Party is not meeting its obligations, the other Party shall have the right to suspend or terminate the present Agreement by giving three months' written notice. Notwithstanding the preceding, either Party can terminate the present Agreement with immediate effect in case of substantial breach of the Agreement. Substantial breach means serious breach of one of the essential objectives of the present Agreement.

12.3 If events resulting from force majeure (natural disaster, etc.) prevent the execution of the Agreement, either Party may terminate the Agreement with effect from the moment when it becomes impossible to carry it out.

12.4 In case of premature termination of the present Agreement or at the end of the Project, any unspent funds provided within the frame of the Project shall be returned to SDC.

ARTICLE 13

GENERAL PROVISIONS

13.1 Within the framework of this Agreement, the Parties shall neither directly nor indirectly propose benefits of any nature whatsoever. They shall not accept any such proposals. Any corrupt or illegal behavior signifies a substantial breach of the present Agreement and justifies its termination as well as/or the recourse to supplementary corrective measures in accordance with applicable legislation.

13.2 Based on the performance of the Project and on the outcome of a joint external evaluation, the two Contracting Parties shall decide on whether and in which form to continue the co-operation beyond 30 April 2017.

ARTICLE 14

FINAL PROVISIONS

14.1 The present Agreement shall come into force upon signature and cover the period from ___/___/___ until 30 April 2017. An extension for another one year shall be considered and agreed upon by both Parties subject to satisfactory results achieved and sufficient fund shall become available.

14.2 The following annexes form integral part of this Agreement:

Annex 1: The Project Document (only in English).

Annex 2: Project Cost Norms (only in English).

Annex 3: Term of Reference for Project audit (only in English).

This Agreement is done in Ha Noi on 24/5/2016 in two original copies in the English language.

FOR THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIET NAM

Cao Duc Phat

Minister of Agriculture and Rural Development

FOR THE GOVERNMENT OF SWITZERLAND

Beatrice Maser Mallor

Ambassador Extraordinary and Plenipotentiary of Switzerland in Vietnam

MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

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PROJECT DOCUMENT

(Based on the approval of the MARD's Decision No4053/QD-BNN-HTQT on 13rd October 2015)

Project Title:

REMOTE SENSING BASED INFORMATION AND INSURANCE FOR CROPS IN EMERGING ECONOMIES

SCALE-UP PHASE IN VIET NAM

HA NOI, NOVEMBER 2015

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ABBREVIATIONS

CC	Climate Change
CTU	Can Tho University
GIS	Geographic Information System
GSO	General Statistics Office
IMHEN	Institute of Meteorology, Hydrology and Environment
IRRI	International Rice Research Institute
LAI	Leaf Area Index
MARD	Ministry of Agriculture and Rural Development
MDG	Millennium Development Goals
MONRE	Ministry of Natural Resources and Environment
MRD	Mekong River Delta
NGO	Non-governmental Organization
NIAPP	National Institute of Agricultural Planning and Projection
ODA	Official Development Assistance
PMU	Project Management Unit
RIICE	Remote Sensing based Information and Insurance for Crops in Emerging Economies
RRD	Red River Delta
SAR	Synthetic Aperture Radar
SARMAP	Swiss company providing remote-sensing products
SDC	Swiss Agency for Development and Cooperation
VnSAT	Viet Nam Sustainable Agriculture Transformation

I. BASIC INFORMATION OF THE PROJECT

1.1. Project Title

Remote Sensing-based Information and Insurance for Crops in Emerging Economies, Scaling-up phase in Viet Nam

1.2. Name of Donor

Swiss Agency for Development and Cooperation (SDC)

(International partners of this Project include IRRI, Sarmap, Allianz and GIZ)

1.3. Name of Line agency, Project Owner

1.3.1. Line Agency

Line agency: Ministry of Agriculture and Rural Development (MARD)

a) Address: Department of International Cooperation

b) Tel/Fax: 84-4-38459671/84-4-37330752

1.3.2. Project Owner

Proposed agency: National Institute of Agricultural Planning and Projection (NIAPP) under MARD.

a) Address: 61 Hang Chuoi, Ha Noi, Viet Nam

b) Tel/Fax: 84-4-38213317/ 84-4-38214163

1.4. Tentative duration and location of the Project implementation

1.4.1. Tentative duration of the Project

The project is expected to last 2 years, from April 2015 to April 2017 and may be extended, depending on the funding to be provided by SDC and other donors.

1.4.2. Project location

In Viet Nam, the project area in Vietnam will cover eight provinces in the Red River Delta (RRD) including Ha Noi, Bac Ninh, Hai Duong, Hai Phong, Hung Yen, Thai Binh, Ha Nam, and Nam Dinh, and two provinces in the Mekong River Delta (MRD) An Giang and Dong Thap.

II. BACKGROUND AND NEED FOR THE PROJECT

2.1. The necessity of the project, issues that need to be addressed in the scopes of the project

2.1.1. Necessity of the project

The project "Remote Sensing-based Information and Insurance for Crops in Emerging Economies Scaling-up phase in Viet Nam" is designed to help address the following issues:

- To overcome the limitations of traditional methods, replacing parts of or entire old methods.
- To support faster, more accurate and more objective management.
- To enhance communication, making accurate forecasts on a large scale.
- To support the coordination of production and planning activities.

Currently agricultural land is shrinking due to rapid urbanization and industrialization. The construction of hydropower facilities has directly and indirectly affected the amount of agricultural cultivated area and thus national food security.

Climate change has also seriously affected agricultural production – degrading agricultural land use, reducing productivity and yield, and changing irrigation conditions - all of which affect national food security.

Therefore, to formulate a sustainable agricultural system, we must come to an understanding of the current status of land cover and agricultural production, particularly as related to developments in rice production through the construction of a basic GIS archive. This work will enhance our ability to control of natural resources based on remote sensing technology.

On the basis of nationwide data on rice production, policy makers have a scientific basis for making policies that increase or decrease areas of rice production and adjust rice export products, ensuring national food security and the highest economic efficiency for rice growers.

Currently, the General Statistics Office (GSO) has built a system of national statistical indicators and a network of statistical officials across the country, ranging from central to local units (wards, communes). Annually, statistical units publish data on socio-

economic indicators in agriculture (and in forestry in particular), including full data on rice yield in all localities. However, because statistics are often delayed or are published just once annually, this situation makes it difficult not only to understanding the instantaneous production situation of each locality but also to know where development is taking place and whether it had been properly planned.

With such requirements, the use of more modern methods to collect information and data becomes essential. Remote sensing systems that can be used for information gathering and interpretation are a fast, effective, low-cost method that has been successfully applied in many countries.

In Vietnam, this method produced reliable results for the Swiss Agency for Development and Cooperation (SDC) in a project entitled "Remote Sensing based Information and Insurance for Crops in Emerging Economies phase 1" (RIICE). Based on the results of Phase 1, the SDC continues to support Vietnam in implementing this project on a large scale.

This project "***Remote Sensing based Information and Insurance for Crops in Emerging Economies Scaling up phase in Viet Nam***" (hereinafter referred to as RIICE Project) was formed to assist the Vietnamese Government and other relevant agencies such as the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Natural Resources and Environment (MONRE) to obtain accurate data in a timely manner, thereby making rice development policies that ensure national food security, manage and protect the environment (land resources), and respond to the impacts of climate change.

2.1.2. Appropriateness and contribution of the project to the national socio-economic development plan and strategy, restructuring of the agricultural sector in context of climate change

On 11th May, 2012, Viet Nam's Prime Minister issued Decree No. 42/2012/ND-CP on the management and use of land for rice cultivation. The Decree states the responsibility of MARD, including: 1) presiding over the organization of rice production and crops restructuring on rice land 2) guiding the development of plans to protect and improve the quality of rice cultivated land and iii) developing rice land resources.

The Prime Minister's Decision No. 899/QD-TTG dated 10 June, 2013 approving Scheme Restructuring the agricultural sector towards improving the added value and sustainable development, emphasized the maintenance and flexible use of 3.8 million

hectares of rice land to ensure food security and improve the efficiency of land use, rice production reached 45 million tons in 2020.

MARD has adopted the Action Plan for implementation of the Scheme Restructuring the agricultural sector towards greater added value and sustainable development (Decision No1384 / QD-BNN-KH, 18 June, 2013). Accordingly, MARD has adopted Plan to promote research and application of science and technology in the above Scheme, specifically in sections: *Application of technology, research and apply GIS and remote sensing in agricultural crops management, forecasting and disease monitoring, served for the management works of the MARD. Cooperation with the International Rice Research Institute (IRRI), building science and technology missions with advanced scientific and technology organizations in the world. Development of portfolio of database systems with repute international science and technology organizations.*

MARD has approved the project "Orientation to attract, manage and use ODA funds and other preferential loans from donors and foreign non-governmental aids under state management authority of the Ministry of Agriculture and Rural Development in period 2016 - 2020" (Decision 5776/QD-BNN-ICD, 31/12/2014), in order to *"improve the quality and sustainability of agricultural growth,... technology transfer,... adaptation to climate change,... strengthening capacity of research institutions, personnel training facilities, market information systems and forecasts."*

The RIICE Project monitors the growth of rice by using Sentinel-1 satellite data from the European Space Agency, runs the crop model and field data. This information will be made available to the Government and related agencies which can use it for responding to the impacts of climate change and natural catastrophes.

The RIICE Project will use SAR data (*Synthetic Aperture Radar*) and MAPscape-RICE software (developed by Sarmap) to identify areas subject to transplanting/ emergence moment and rice growth. The rice acreage statistics are stored in a map format showing the rice extent and, in form of numerical tables at the district, provincial, regional and national levels.

Rice yield prediction is performed by combining remote sensing, in situ, climatic data and an Agro Meteorological Model called Oryza2000 developed by IRRI. Finally, production of rice is simply calculated by combining yield estimation and the acreage derived from the SAR data. Simultaneously, the impact of floods or drought can be estimated from the SAR data which can clearly detect the area affected.

2.2. Other relevant programs and projects are being implemented by the various funding sources to support solving problems

2.2.1. Functions, tasks and related programs and projects that project owner has been implemented

NIAPP with the functions and tasks assigned by MARD has been involved in many programs and projects related to the theme of food security, remote sensing and GIS applications and respond to CC as follows:

- Application of remote sensing for collecting, monitoring and supervising rice production in RRD.
- Application of remote sensing technology for area inventory and mapping of major crops in the Central Highlands.
- Use of satellite images ENVISAT (MERIS, ASAR) and SPOT for detecting changes of agricultural land use and rice land in RRD (2008 - 2010).
- Development of agricultural and rural master planning for seven economic zones in the context of CC.
- Development of National Rice Land Use Planning by 2020, Vision 2030.
- Development of National Rice Land Conversion Planning by 2020, Vision 2030.
- Additional surveys, assessment and development of soil maps for 64 cities (scale 1/50,000 and 1/100,000).

2.2.2. Ongoing related projects

Ongoing related projects include the following:

- Remote Sensing based Information and Insurance for Crops in Emerging Economies, phase 1.
- "Vietnam Sustainable Agricultural Transformation" - VnSAT Project.

2.2.3. Brief introduction of experimental research phase (Phase 1 of Project).

During Phase 1 of the project the following activities were conducted and obtained these results:

Collection of accurate and full information on rice crop growth used to address several particular problems: (i) Help Government and other stakeholders to adapt their

economic policies, such as making decision on importing more rice if a food crisis could be imminent or exporting more if it is felt that rice yields will be sufficient; (ii) It can enable relief organizations to better anticipate and coordinate relief efforts in the wake of a natural catastrophe; and (iii) It can provide the technical backbone of an insurance solution where risks of yield losses from the rice smallholders are transferred to the insurance market.

Rice yield information will be based on a crop growth simulation model that estimates rice yields using (a) SAR imagery for planting dates and crop growth rate information; (b) current and historical information on daily weather conditions and soil, and crop management and other information. These yield maps will be used by RIICE partners to model a yield index which can later be made the triggering basis for an insurance product.

The RIICE Project will use satellite-supported technology to forecast rice production and monitor rice growth. This is a tool for food security policies and helps to make crop insurance programs more efficient. RIICE works with MARD and MARD's partners, enabling them to understand and use satellite-based rice production forecasts.

RIICE Phase 1 has delivered satisfactory results, including (a) a national scale rice extent map with accuracy ranging from 83% to 93% across the two sites, and (b) rice area and seasonality maps in 2012 (87% accurate in Nam Dinh and 86% accurate in Soc Trang), in 2013 (89% accurate in Nam Dinh and 90% accurate in Soc Trang). Accuracy refers to average yields at the district level compared to crop cut experiments from RIICE or yield statistics from the Government of Viet Nam.

As part of a wider agricultural and farmer support program, the Government has been piloting an agricultural insurance program, covering twenty provinces countrywide, of which the crop component covers seven provinces. The program was piloted during the two years period from 2013 to 2014. The program target group was smallhold farmers whose rice production largely depends on natural conditions - climate, weather and vulnerability to catastrophes.

The government has comprehensively reviewed the pilot program and has instructed relevant agencies such as the Ministry of Finance, MARD, insurers, and local governments to make necessary modifications to scale up the program.

The pilot program and the upcoming scale-up phase rely on yield data provided by the General Statistical Office (GSO) and its local branches, which collect and process yield data manually. RIICE output, yield data, would be a perfect alternative to GSO source. Furthermore, as RIICE data is produced based on objective parameters such as rice maps, LAI, weather data, etc. it offers data with high level of credibility and tolerates

zero bias. These features are very important for insuring crops. Both insurers and insureds want to do business based on reliable data.

Box 1: Yield index insurance

A unique feature of the crop insurance program is that it is a yield index.

In traditional insurance, usually referred to as indemnity-based insurance, the insurance claim is paid when each individual insured farm is damaged. Since farmers tend to know their farms better than the insurer, there is potential for adverse selection and morale hazard. Adverse selection is when only farmers who possess higher than average risks purchase insurance cover. To avoid this, insurers need to underwrite and adjust losses carefully. This leads to another problem-high transaction costs. Since the program insures hundreds of thousands of farmers, if not millions of farmers, who own very little land, the insurance premium amount does not justify the high cost of sending expensive loss adjustors to the field. This explains why micro insurance to small farmers is not common.

In yield index programs, insurance claims are paid out when the average yield of, for example, the whole district or sub-district, is below a pre-agreed upon level. In this way, yield index insurance is a solution to adverse selection and the transaction cost problem associated with traditional insurance.

2.3. Need for technical assistance by ODA source

Studies in Victnam have limitations relating to equipment and software and also regarding experience in implementation of monitoring, assessment and forecasting rice production progress and yield using remote sensing technology. To address these issues the agricultural sector, namely MARD, needs to partner with international organizations such as the SDC that have the necessary financial resources and modern technology.

III. BASIS FOR PROPOSING THE DONOR

The RIICE project is built on ideas exchanged in the meetings of the SDC with the relevant authorities of the Ministry of Agriculture and Rural Development (Department of International Cooperation and National Institute of Agricultural Planning and Projection). The project is based on high level cooperation documents and technical work that has already been concluded, including

- RIICE Project contributes to solving important problems (rice production) repeating to food security - this is a topic of high interests in the global strategy of the SDC and the Government of Vietnam.
- Letter by MARD's Minister, H.E. Cao Duc Phat, on 14 February 2014 sent to Mr. Martin Dahiden, the SDC's Director General;
- Letter by Mr. Samuel Waelty, the SDC's Country Director, on 5 August 2014, sent to MARD's Minister;
- The completed experimental phase (Phase 1) of RIICE that delivered satisfactory results as mentioned above (Item 2.2.3);
- Letter of Mr. Samuel Waelty, the SDC's Country Director, on March 18, 2015 sent to Minister Cao Duc Phat, informing him about project funding of 215,000 CHF through April, 2017 and an expected 110,000 CHF to cover costs over the next 12 months;
- Letter of Mr. Samuel Waelty, SDC's Country Director on June 2, 2015 sent to Mr. Tran Kim Long, MARD's ICD Director on issues related to RIICE project.

IV. OBJECTIVES OF THE PROJECT

4.1. Overall Objectives

The project will provide timely information on rice production for the Ministry of Agriculture and Rural Development. On the basis of this information, the Ministry will make policies to enhance food security and reduce the vulnerability of smallholder rice farmers by helping to set up better and affordable information systems which will open the way to new rural advisory services/micro-insurance schemes.

4.2. Specific Objectives

Specific objectives of RIICE include

- Provision of reliable rice production information to the Government / MARD;
- Transfer to national partners of the appropriate expertise in terms of SAR technology and crop growth modelling, and the development and maintenance of a website for the dissemination of data.
- Improved efficiency and service quality of crop insurance by providing accurate, satellite-based information to support sales, underwriting, risk

management, computation of risk concentration, loss assessment, and customer service.

V. BENEFICIARIES OF THE PROJECT

The beneficiaries of the RIICE project will include direct and indirect beneficiaries:

5.1. Direct beneficiaries

The direct beneficiaries are as follows:

- MARD: Department of Plan, Department of Plantation, NIAPP, National Agricultural Extension Center, etc.,
- Provincial Departments of Agriculture and Rural Development (DARD) and Natural Resources and Environment (DONRE) of some provinces in RRD and MRD.
- Scientific research agencies (IMHEN and CTU)
- Smallholder rice farmers in RRD and MRD provinces
- Crop insurers

5.2. Indirect beneficiaries

The indirect beneficiaries are as follows:

- General Statistics Office
- Rice, pesticides & fertilizer trading companies
- Relief organizations, NGOs
- Donors (the World Bank via its implementation of the VnSAT)
- National and international research institutions

VI. DESCRIPTION OF PROJECT OUTPUTS

The crop area, planting dates, and crop status will be mapped from satellite imagery and validated for selected rice-producing areas through field survey work. Imagery is provided at resolutions which range from 3 to 20 metre pixels, resulting in detailed maps that can map rice at field level with an accuracy of more than 90%. Planting dates, crop status and agro-meteorological information are used as inputs to the crop growth model in order to estimate actual yield with an accuracy of more than 90% at district level.

In Phase 1 results have been achieved and assessed in the Soc Trang and Nam Dinh provinces. A study has been conducted in areas that were representative of major rice systems in the RRD. The majority of the study's fields are located in Nam Dinh province. Full-coverage areas in Nam Dinh include the districts of Binh Luc, Ly Nhan, Phu Ly, Thanh Liem, My Loc, Nam Dinh and Vu Ban. The study area also covers parts of Nam Truc, Kim Bang, Duy Tien, Tien Lu, Hoa Lu, Hung Ha, Gia Vien, Vu Thu, Phu Cu, Truc Ninh, Nghia Hung, Ung Hoa, Yen Khanh, My Duc, Dong Hung, Nho Quan, Phu Xuyen, Hung Yen and Ninh Binh.

Field data collection has been conducted in the RRD for two cropping seasons. Data collected include leaf area index (LAI) and rice yield estimates from crop cutting experiments (CCE). Training on SAR satellite image processing using Mapscape – RICE and rice crop modelling using ORYZA2000 had also been conducted for RIICE project partners in IMHEN.

Rice area and start of season maps were produced for the RRD using MAPscape-RICE, a satellite image processing software designed specifically for mapping rice crops using both SAR (radar) and optical data. A yield map was generated using the ORYZA2000 crop simulation model with inputs from SAR data. ORYZA2000 is a weather-driven and season-based crop model that is capable of capturing complex and dynamic interactions among climate, agronomic management, crop characteristics, and soil properties that influence crop growth and resources-use efficiency.

Building on the partnerships and investments made in Phase 1 and the encouraging results that were achived thus far, the scale-up phase will expand geographical coverage to more provinces and also improve data accuracy and investigate further applications of SAR data for natural resource management.

The project will provide NIAPP and other institutes with the necessary capacity and technology to implement this rice information system. Technology and capacity-building will be provided by IRRI and SARMAP. IRRI will work with NIAPP and related institutes to develop crop simulation models that represent the major rice growing environments in Vietnam. IRRI will develop and test smartphone-based field data collection methods for efficient, rapid and standardised results across provinces to validate and calibrate RIICE data.

Expertise in mapping methods will be exchanged and transferred to national partners. This outreach effort will make RIICE a true international tool for rice monitoring and decision support rather than simply being a scientific research project.

Key Components of RIICE Phase 2, 2015-2017 and expected the next years

Component	Objectives	Time	Activity	Responsible	Deliverables
1. Rice mapping	To produce timely, accurate spatial information for the purpose of monitoring of rice production in selected provinces of Vietnam	2015-2017	- SAR data acquisition - Production of spatial information on rice maps	**RIICE lead**: Sarmap, **Vietnam lead:** NIAPP. Support: IMHEN and CTU	Maps on rice systems at high resolutions of up to three seasons per year in main rice production regions of Vietnam, including: - Rice area maps - Start of season maps - Crop growth stage maps - Flood damage maps (in case of flood)
2. Oryza modeling	To produce rice yield estimation and mid-season forecast in selected provinces of Vietnam	2015-2017	- Oryza modeling	**RIICE lead: IRRI** **Vietnam lead:** NIAPP. Support: IMHEN and CTU	Yield estimation at 85%+ accuracy at sub-district level and mid-season forecast at 85%+ accuracy at district level in main rice production regions of Vietnam
3. Field validation & local crop information collection	To provide data for the validation of rice mappings and field estimation/forecasts produced under 1 and 2	2015-2018	- Field validation - Crop information data collection - Improvement of protocol - Provision of soil, weather, practices data	**(Lead) NIAPP.** Support: IMHEN and CTU	Consolidated and consistent field data on rice crops, including crop data collection, crop status, planting dates, farmer management and inputs, varieties.
4. Training	Technical capacity building and training on rice mapping with SAR, crop modeling with Oryza2000, field data collection with Smartphones and guidance on WebGIS or other appropriate data management system.	2015-2018	- 2 times per year in Hanoi/Los Banos	**Trainers:** SARMAP & IRRI, (trainees) NIAPP and IMHEN, CTU	National partners capable of carrying out rice mapping and monitoring, yield estimation, field validation and maintaining/developing webGIS
5. Cloud computing & webGIS development	To develop an in-house data management system that can support the operational	2015-2018	Consultations and in house development & investments	**Lead:** NIAPP Support: IRRI and SARMAP.	Sustainability plan for NIAPP/MARD Cost Benefit Analysis of the rice monitoring system for

Component	Objectives	Time	Activity	Responsible	Deliverables
	delivery of rice crop information to MARD and other stakeholders				MARD Prototype in house data management system based on RIICE team advice and existing NIAPP facilities
6. Acquisition of yield data for validation of modeling results	Provide data to meet the requirements of crop insurers	2015-2018	- Official documents of cooperation; - Customizable data and data formats to suit the needs of insurance companies	**Lead**: SDC, Support: NIAPP	(i) The MoU was signed (ii) The data are presented in the desired format

VII. TOTAL PROJECT BUDGET

The total budget to implement the Project is CHF **254,937** (VND **5,685,095,100** or US$ **270,719** equivalent).

Exchange rates estimated at the time of project development are: 1 CHF = 22,300 VND; and 1 USD = 21,000 VND.

7.1. ODA fund (donor's currency and coversion to USD)

The expected ODA fund granted from SDC is CHF **214,937** (equivalent to VND 4,793,095,100 or US$ 228,242).

(Apart from the above amount, SDC will also provide an additional grant of CHF 375,000 to the international RIICE partners during the same period (until April 2017) to perform services outside Viet Nam that are directly related to the support of project activities in Viet Nam.)

7.2. Counterpart funds

The Vietnamese will provide a counterpart fund of CHF **40,000** (equivalent to VND 892,000,000 or US$ 42,476), equal to 18.6% of ODA fund granted by SDC.

This support is of two kinds:

(i) Cash (15%): CHF 32,287 (equivalent to VND 720,000,000 or US$ 34,286) and

(ii) In-kind (facilities, vehicles) (3.6%): CHF 7,713 (equivalent to VND 172,000,000 VND or US$ 8,190).

VIII. DOMESTIC FINANCIAL MECHANISM FOR THE PROJECT

8.1. ODA fund

After the signature of the cooperative agreement between SDC and MARD, SDC will deliver its funding every six months to the bank account of NIAPP, according to the schedule in the figure below.

NIAPP will be responsible for budget administration, following the planned project estimates while observing the existing financial regulations of Viet Nam.

8.2. Counterpart fund

The counterpart fund of VND 892,000,000 will be dispersed in the following ways:

Counterpart funding in cash from the MARD reserve (VND 720,000,000) will be directly delivered to NIAPP to perform the project activities as agreed.

In-kind contribution from NIAPP (172,000,000 VND) will include 2 laptops, 2 GPS devices, and vehicle gasoline for PMU).

TABLE 1. THE PROJECT IMPLEMENTATION PLAN DURING 2 YEARS

Unit: 1,000 VND

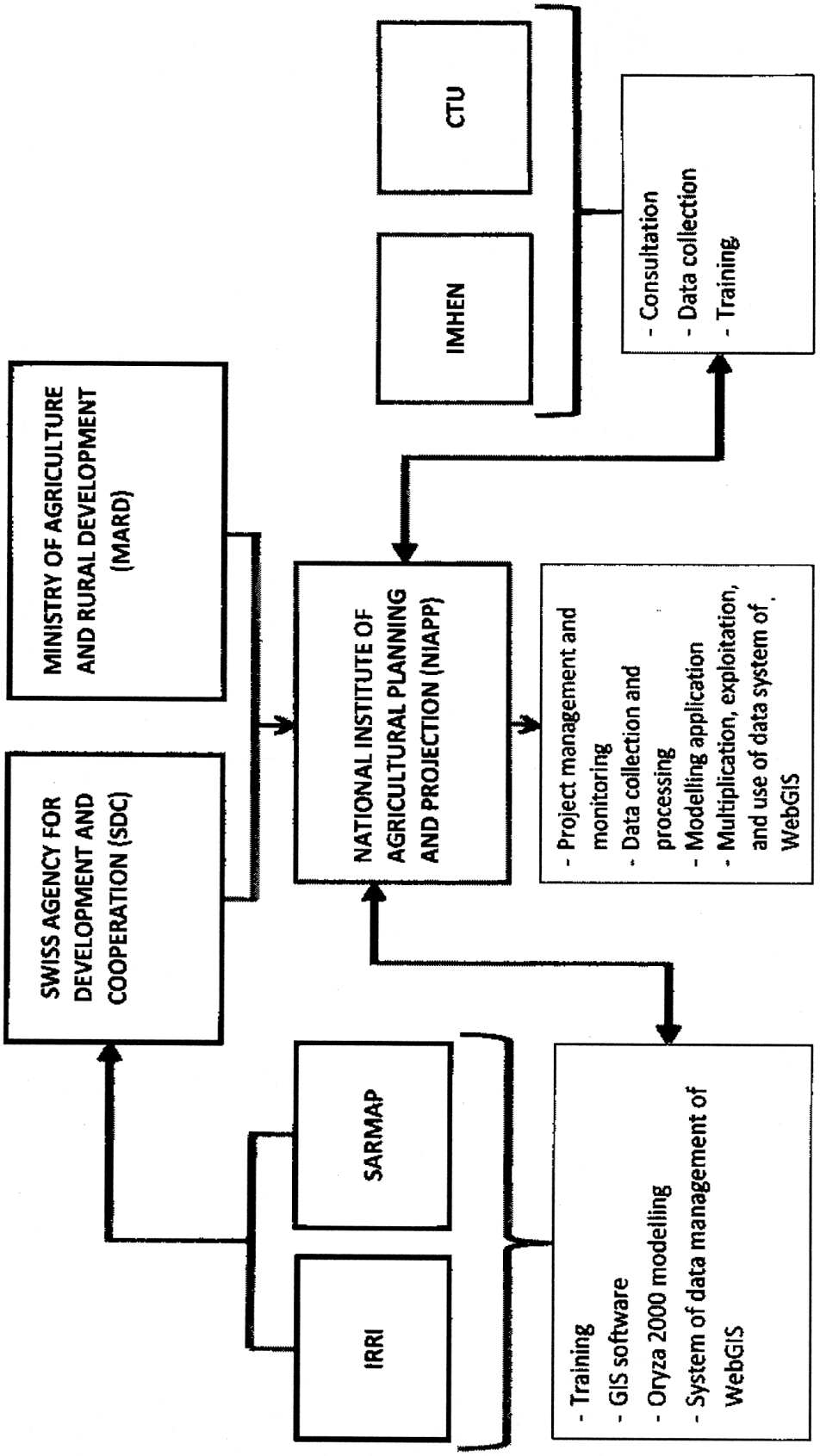
No.	Activities	Total budget	Of which			Year 1				Year 2			
			By RIICE	By MARD	By NIAPP	Total	Of which			Total	Of which		
							RIICE	MARD	NIAPP		RIICE	MARD	NIAPP
I	**Direct cost**	**4,875,539**	**4,209,139**	**614,400**	**52,000**	**2,359,803**	**1,910,603**	**397,200**	**52,000**	**2,515,736**	**2,298,536**	**217,200**	
1	Rice mapping of rice cultivating area	283,500	283,500	-	-	141,750	141,750	-	-	141,750	141,750	-	-
2	Oryza modeling	283,500	283,500	-	-	141,750	141,750	-	-	141,750	141,750	-	-
3	Field validation and rice information collection	1,901,379	1,841,379	60,000	-	643,793	613,793	30,000	-	1,257,586	1,227,586	30,000	-
4	Training and workshop	209,160	209,160	-	-	137,510	137,510	-	-	71,650	71,650	-	-
5	Cloud computing and WebGIS development	831,600	831,600	-	-	415,800	415,800	-	-	415,800	415,800	-	-
6	Acquisition of yield data for validation of modeling results	1,154,400	600,000	554,400	-	667,200	300,000	367,200	-	487,200	300,000	187,200	-
7	Purchasing special-used equipments	212,000	160,000	-	52,000	212,000	160,000	-	52,000			-	-
II	**Indirect cost**	**809,556**	**583,956**	**105,600**	**120,000**	**383,778**	**270,978**	**52,800**	**60,000**	**425,778**	**312,978**	**52,800**	**60,000**
1	NIAPP's PMU	367,920	367,920	-	-	183,960	183,960	-	-	183,960	183,960	-	-
	Project manager	*60,480*	*60,480*	-	-	*30,240*	*30,240*	-	-	*30,240*	*30,240*	-	-
	Project coordinator	*126,000*	*126,000*	-	-	*63,000*	*63,000*	-	-	*63,000*	*63,000*	-	-
	Project technician, accountant	*181,440*	*181,440*	-	-	*90,720*	*90,720*	-	-	*90,720*	*90,720*	-	-
2	Stationaries	42,120	15,120	27,000	-	21,060	7,560	13,500	-	21,060	7,560	13,500	-
3	Communication	21,120	15,120	6,000	-	10,560	7,560	3,000	-	10,560	7,560	3,000	-
4	Perdiem for field visit for NIAPP staff	18,900	18,900	-	-	9,450	9,450	-	-	9,450	9,450	-	-
5	Monitoring and evaluation	88,800	63,000	25,800		44,400	31,500	12,900	-	44,400	31,500	12,900	-
6	Car rental for PMU	228,696	61,896	46,800	120,000	114,348	30,948	23,400	60,000	114,348	30,948	23,400	60,000
7	Audit	42,000	42,000	-	-			-	-	42,000	42,000	-	-
	Total	**5,685,095**	**4,793,095**	**720,000**	**172,000**	**2,743,581**	**2,181,581**	**450,000**	**112,000**	**2,941,514**	**2,611,514**	**270,000**	**60,000**
	Equivalent CHF	**254,937**	**214,937**	**32,287**	**7,713**	**123,030**	**97,829**	**20,179**	**5,022**	**131,906**	**117,108**	**12,170**	**2,690**

Used exchange rate: 22,300 VND = 1 CHF; 21,000 VND = 1 USD

IX. ORGANIZATION FOR MANAGEMENT AND IMPLEMENTATION OF THE PROJECT

Relevant agencies and partners of the project include SDC, MARD, NIAPP, SARMAP, IRRI, IMHEN and CTU

PROJECT ORGANIZATION STRUCTURE



More information about the agencies above can be found in this document's appendix.

9.1. Organization for the management and implementation of Project

NIAPP is the agency responsible for implementing and managing this project. NIAPP will work in closely with the other related agencies to ensure the project's effective operation .

9.2. Modality of working mechanism and relationship among the concerned parties

9.2.1. Line Agency

MARD is the organization responsible for implementation at the state level. MARD prepares national policies on agricultural and rural development, manages pilot project sites, and plans for future replication; MARD will provide counterpart funds to NIAPP to implement project activities.

9.2.2. Project owner

NIAPP is responsible for working with international and national partners (IRRI, Sarmap, IMHEN and CTU) on the project implementation and management. NIAPP also brings to the project its expertise in specialized fields (agriculture, remote sensing, and GIS). NIAPP is responsible for working and coordinating with the SDC donor on related issues of the project, including dispatch counterpart staff and office staff (secretaries and interpreters).

NIAPP will communication regularly with MARD (Department for International Cooperation, Planning, Science, Technology and Environment, etc.) to assess and report on the progress of the project.

NIAPP will work with local agencies to disburse information about the project and organize outdoor activities and workshops concerning the project. NIAPP will also coordinate project-related activities on a national scale.

9.3. Capacity of Project owner in project organization and management

NIAPP's expertise covers a wide range of disciplines, such as remote sensing, GIS, geodesy, economics, agronomy, rural and agricultural development, soil science, plantation management, animal husbandry, land use planning, environmental sciences, irrigation, and civil engineering. NIAPP has two Soil and Environment Analysis Laboratories (at NIAPP Headquarter and Sub-NIAPP No. 1) which are equipped with modern facilities, and two Remote Sensing & GIS Centers (at NIAPP Headquarter in

Ha Noi and Sub-NIAPP 1 in Ho Chi Minh City) which are equipped with modern facilities.

NIAPP has extensive experience in:

- Application of GIS and remote sensing technology in agricultural production, land use management, and natural resources management.
- Application of remote sensing technology in monitoring rice production and other crops countrywide.
- Development of socio-economic development master plan, agricultural development planning, agricultural resource management, and land environmental assessment.
- Testing of participatory rural development models in several localities that has contributed to poverty reduction, improved living conditions, and enhancement of the local population's capacity for production.

NIAPP's staff are trained in many disciplines (agriculture, economics, remote sensing, land use planning, irrigation, and infrastructure construction), and have participated in many national scientific and technological research programs (agricultural planning, sector planning, rural industries and development planning). NIAPP staff have worked cooperatively with many international entities and governments, inclucing, the World Bank, the European Community, Japan, the Netherlands, Spain, South Korea., Switzerland, and the IRRI). The Institute's products have been widely used inside and outside the agricultural sector.

9.4. Project Steering Committee (PSC)

The Project Steering Committee is expected to consist of representatives of MARD, SDC, the Ministry of Finance (Insurance Supervisory Authority) and Bao Viet. Representatives from NIAAP will naturally take part in the committee meetings. The PSC shall meet once or twice a year to discuss results, to act as forum for developing ideas, and to make recommendations to the Government and donors for increasing the project's impacts, especially the insurance aspect, in order to help crop insurers to rationalize their business.

9.5. Project Management Unit (PMU)

9.5.1. Function of PMU

The PMU will be responsible for performing the following tasks:

- Develop an overall plan for two years and detailed annual plans;
- Manage project activities and implement decisions of MARD and SDC;
- Mobilize participation of relevant project agencies, ensuring close and effective coordination of the project framework itself as well as other relevant project details;
- Ensure monitoring implementation of the project activities following planned progress and budget;
- Recommend any necessary changes related to the project's content, activities, organization, management and budget, ensuring fluent and effective project implementation;
- Submit necessary reports to MARD and SDC and organize an annual conference and a final workshop.

9.5.2. PMU membership

The PMU will consist of four members:

- Project manager (NIAPP's director) (01 person).
- Project coordinator (01 person).
- Project technician (01 person).
- Accountant (01 person).

X. ANALYSIS OF THE METHOD FOR PROJECT IMPLEMENTATION

10.1. General strategy for project implementation

a) The RIICE project will use satellite-based technology (provided by SARMAP) to observe and forecast rice growth in developing countries, including Viet Nam

SAR technology has an advantage at humid and semi-humid tropical area where rice is the main crop. SARMAP will be in charge of buying and processing SAR images, developing basic and real-time maps, and providing biomass data in the observed rice-cultivating area. This information will be a basic input for the rice model formulated by IRRI. SARMAP will dispatch a long-term specialist from its main headquarter in Purasca, Switzerland and also provide short-term specialists who will support the local project staff. SARMAP will also participate in designing a monitoring system of rice

productivity and will provide capacity development - training, workshops, and thematic seminars - for relevant partners.

b) The RIICE project will use an improved method for rice growth formulated by IRRI to estimate rice yield.

IRRI will be responsible for formulating an improved measure for rice growth based on ORYZA 2000. This measure can estimate practical or estimated rice productivity based mainly on biomass data provided by SARMAP. Additionally, IRRI will also work to enhance capability for local partners and will assign long-term and short-term specialists and takes part in training, workshops or thematic seminars for relevant agencies. IRRI is now developing and hosting the geographic information system based on WebGIS to synthesize satellite data.

c) The RIICE project will develop an insurance solution for rice for relevant agencies of rice value chain.

One main component of RIICE is to provide insurance of financial risks for households who grow rice on a small-scale. (Rice insurance is now being provided in four provinces: Nam Dinh, Thai Binh, An Giang and Dong Thap). The project will contribute to enhance measures on existing agricultural insurance through the introduction of methods on agricultural insurance supported by remote sensing, provision of reinsurance capability and improvement of distributing channel of insured products, as well as support for insurance industry at locality and relevant agencies of public fields in order to develop new insurance methods.

10.2. Proposed activities to be implemented in Viet Nam

Provinces in the RRD and the MRD are selected as RIICE project sites based on the following reasons:

1. Habit of agricultural cultivation (especially rice cultivation) in RRD is mainly based on natural conditions. The weather factors, e.g. beginning of spring greatly influences the time of growing and productivity of rice. These factors change time to time (annually, and not fix), leading to the rice-cultivating area and seasonal calendar are also changed. In other way, there is annual change of rice cultivating area in RRD. Hence, the research on rice production of RRD is necessary for purpose of food security and current climate change adaptation.

2. Due to weather change, the rice productivity in RRD is characterized by not so high stability compared with the Mekong Delta. Besides, impact of natural disaster (disease, storm or flood) on the summer-autumn rice crop makes the productivity unstable. The statistic method applied to the Mekong Delta is more accurately than in RRD because it is based on the fix regulations. If the remote sensing method is applied to RRD, this issue could be overcome the disadvantage of the statistic method.

3. Radar remote sensing is capable through haze, appropriate with region where is regularly affected by storms like RRD, hence, it is reasonable to focus resources on this area. Applications related to insurance will promote their high effectiveness thanks to radar remote sensing.

4. NIAPP has established network of collaborators in RRD many years ago, in addition the Center of Remote Sensing and GIS under NIAPP has several studies on the RRD for long-time, it has accumulated various practical experiences and basic data of this region. Hence, the project implementation will be more convenient and effective.

Proposed activities of the RIICE Project are follows:

- Monitoring of rice planting in the RRD (8 provinces: Ha Noi, Bac Ninh, Hai Duong, Hai Phong, Hung Yen, Thai Binh, Ha Nam and Nam Dinh) and MRD (2 provinces: An Giang and Dong Thap).
- Cooperation with other local departments and branches within the project areas for implementation of fieldwork. Cooperation with CTU for carrying out the field work in the MRD.
- Collecting field data and parameters needed for Oryza modeling in forecasting yield and output.
- Training of staff in terms of remote sensing in rice monitoring and forecasting rice yield and output.
- Research and learn about the partners providing Web-GIS services to serve for results statement (eKGIS company, ESRI, etc.).
- Conduct scoping workshop and work assignments.
- Procurement of specialized equipment for project implementation.

- Monitoring the progress of planting,. growing stage, disaster-affected areas (monsoon crop), harvest progress by using radar remote sensing technology combined with optical remote sensing.
- Forecasting yield and output estimates across entire regions.
- Calculating the damage caused by natural disasters (floods, drought, pests and diseases) on rice cultivation areas.
- Developing an aggregate database to monitor rice, combine the results of the project "Rice Monitoring" (from 2012-2014), the result of RIICE projects (2012-2014) into a joint database to serve for the management work of MARD and sharing agricultural information.
- Preparing reports and sharing analytical results on the Internet via cloud computing and Web-GIS interface.
- Writing articles, presenting results at nation/international conferences and seminars (it is expected that at least one article will be presented in an international magazine and two papers will be presented in national magazines).

XI. PRELIMINARY ANALYSIS OF EFFECTIVENESS, IMPACT, AND SUSTAINABILITY OF THE PROJECT

11.1. Socio-economic effectiveness

The RIICE project will support MARD in the implementation of Decree No. 42/2012/NĐ-CP on management and use of rice cultivating land, as well as Decision No. 899/QĐ-TTg on the restructuring of the agricultural sector, including maintaining flexibility in the use of 3.8 million ha of rice for ensuring food security.

Furthermore, the RIICE project will contribute to the Scheme on agricultural restructure (Decision No. 1384/QĐ-BNN-KH), specifically: (i) Technological application: Application of remote sensing and GIS technology in management of agricultural crops, (ii) Enhancement of international cooperation: cooperation with IRRI and other international advanced scientific and technological organizations in the world.

11.2. Socio-economic and environmental impact to sectors and localities

The RIICE project helps the Ministry of Agriculture and Rural Development to solve three important issues of sustainable agricultural development and socio-economic development in the MRD and RRD, namely: (1) food security through rice production; (2) application of GIS remote sensing technology to crop management in order to forecast and monitor rice yield and output; and (3) responce to the impacts of climate change in agricultural production.

For gender equality, financial education in insurance will specially emphasize on women as previous experience of Allianz, GIZ and some other projects in Vietnam have shown that women often have a decisive role in family finance. SDC will ensure that the created micro-insurance products will focus on gender sensitivity. In training, at least one-third (1/3) of the participants are women is secured.

11.3. Sustainability of project after project termination

The RIICE project is consistent with international and national efforts to reduce poverty through the Millennium Development Goals (MDG). MDG 1 (Poverty Eradication and Poverty Reduction) will be addressed by creating tools to help monitor crop yields and develop adaptative measures regarding financial risks. MDG3 (Promotion of Gender Equality and the Empowerment for Women) will be addressed by ensuring that at least one-third of the local recipients of project training are women.

XII. IMPLEMENTATION PLAN AND ADVANCED ACTIVITIES

12.1. Organizational activities

The intitial steps for organing the project include:

- Establishing a Project Steering Committee and a Project Management Unit.
- Opening a Project Bank Account.
- Procuring special-use equipment, including (i) Smartphone (ii) ; computers with at least 8Gb RAM and Intel Core I5 CPUs.
- Organizing workshops to introduce the project to stakeholders.

12.2. Technical works

The implementation plan for the RIICE project is as follows:

2015–2016: Information on rice growing area and cropping seasons of the selected provinces in the RRD and MRD and the transfer of capacity for Vietnamese partners

- Joint assessment of NIAPP & RIICE team capabilities and knowledge gaps in relation to MARD and project goals;
- Consultation with designated field staff and field offices on the best approaches for development of Smartphone-based field data collection protocols;
- Updating of the existing 2014 land use maps to monitor rice production;
- Assessment of available SAR data;
- Site selection for monitoring and identification of partners for ground data collection;
- Intensive training of key staff in NIAPP and related agencies for SAR-based monitoring of rice crops, crop simulation modeling for yield estimation, data collection and analysis using Smartphones. (Training activities to be led by IRRI and Sarmap, assisted by IMHEN and CTU).

2016–2017: Forecast of rice growing area, seasons and outputs of selected provinces of RRD and MRD

- Gathering and processing large scale GIS data sets of RRD and MRD, which will facilitate Oryza and SARScape models for monitoring rice plantation;
- Development of WebGIS or another appropriate spatial data management system to support MARD;
- Consultation with MARD and advanced institutes in Vietnam on how to use RIICE technology to address other MARD priorities 'beyond rice';
- Development of collaborative case studies on 'beyond rice' applications-for year 2 and 3 with IMHEN and CTU;
- Regular stakeholder consultations on product quality, relevance. and timeliness.

15.4. Expected outputs

In addition to the products of IRRI and SARMAP, two years after implementation of the RIICE project, NIAPP will offer the following products:

- A specific implementation plan in selected provinces.
- Purchase of equipment and facilities for project implementation.
- Collection and processing of data in a prepared format provided in a timely manner for forecasts.

- Provision of detailed statistics in a designated format three weeks after the cropping season.
- Training of IRRI and SARMAP
- Training of local people to implement field work.
- Measuring LAI and providing timely technical reports.
- Providing thematic maps, data on yield are aggregated and calibrated.
- Arranging annual meetings and final workshop.

APPENDIX 1: INTRODUCTION OF STAKEHOLDERS INVOLVED IN PROJECT IMPLEMENTATION

1. National Institute of Agricultural Planning and Projection (NIAPP)

The main tasks of NIAPP are to (a) investigate and assess agriculture-related resources (water and land resources, climate, etc.) in order to set up land use options at various levels (national, provincial, district and commune); (b) formulate strategic plans for agricultural and rural development, rural poverty reduction, and re-settlement; (c) formulate sector projects such as reviews on agriculture and strategies on sector commodities, crops, and livestocks. (d) plan target commodity production areas, fixed cultivation and development of new economic zones; (e) use Geographical Information Systems (GIS) to establish thematic agricultural maps at various scales; (f) study policies pertaining to agricultural and rural development; and (h) conduct scientific collaboration and cooperation activities with international organizations and our counterparts in other countries.

Presently, the total staff of NIAPP is about 480, of which about 350 have obtained university degrees and advanced degrees and scientific titles including M.S., Ph.D, Associate Professor, and Professor. NIAPP's organization includes (1) NIAPP Headquarters, Ha Noi; (2) Sub-NIAPP No.1, Ho Chi Minh City; (3) Sub-NIAPP No. 2, Nha Trang; (4) Agricultural Mapping Enterprise No. 1, Luong Son, Hoa Binh province; and (5) Agricultural Mapping Enterprise No. 2, Nha Trang.

1.1. NIAPP's Remote Sensing and GIS Center (http://www.rsc-niapp.com)

NIAPP has employed remote sensing and GIS (RS&GIS) to research and manage projects beginning in the 1990s. Most of NIAPP's mapping and planning activities (including assessments of land use/land cover, human resettlement, crop reallocation, soil and land suitability, and rural development) require and utilize techniques of RS&GIS. The Center of Remote Sensing and GIS (RM&GIS Center) was founded in 1988; this facility mainly supports the board of directors in decision making and implementing research and project works. The RS&GIS Center is also a member of the Consultative Committee for Remote Sensing Applications in Agriculture which directly supports the Minister of MARD. NIAPP provides full support and assistance

for the research and application of RS&GIS's work by providing infrastructure and utilities.

1.2. GIS Center under Sub-NIAPP No 1 (Ho Chi Minh city)

Human resources: 13 people

- Remote sensing, GIS, database and environment: 6 people, using RS software (ENVI, ERDAS, Econition, MAD CAT, LCCS) and GIS software (ARCGIS, Arcinfo, ArcView, Avenue, MapInfo, Mapbasic, Microstation, Google earth).
- Agricultural planning and land use planning: 7 people.

2. International Rice Research Institute (IRRI)

IRRI will provide the Oryza2000 crop growth simulation model, customised to link to mapscape-rice for mid-season forecasts and end of season yield estimates. The model can also be used to estimate 'obtainable' yields, giving guidance on yield gaps (i.e. areas where farmers' yield is substantially below that which could be achieved under appropriate management)

IRRI will provide training and capacity building in Oryza2000 for NIAPP and associated agencies and will provide baseline data (soil, weather etc.) for running the crop model, with the expectation that NIAPP will provide better Vietnamese data as the project progresses.

IRRI will support NIAPP in operating the model, modifying it and adapting it to meet their needs, protocols and ToR for field data collection using Smartphones. IRRI will instruct NIAPP how to set up an aggregator to collect this data automatically.

IRRI will advise NIAPP on an appropriate data management system (which could be a webGIS) for RIICE data generated by the remote sensing and crop modelling components.

3. Sarmap

Sarmap is a Swiss company founded in 1998 and is an international leader in GIS and remote sensing technology. Sarmap's mission is to build and provide an innovative, sophisticated yet easy-to-use remote sensing software products, dedicated to the generation of digital information for better management and risk assessment of Earth's natural/environmental resources. Sarmap provides its clients innovative customized

Earth Observation-based services in the field of land applications, ensuring technical advantages and economical benefits.

Sarmap's team is highly motivated with top-level knowledge and experience in methodology, technology, and natural science. Sarmap has been involved in about 80 projects: approximately two thirds of these on algorithm/product/service developments at the European Space Agency. The remaining one third have been focused on the developments of innovative remote sensing-based products/services for the Japan Aerospace Exploration Agency, the World Bank, the EU Joint Research Centre and Framework Programme, Swiss Innovation Promotion, Swiss Development Cooperation, UN-IFAD, and the private sector (re-insurance/insurance and financial investment sectors in particular).

In Vietnam, Sarmap joined the WB's projects on weather index insurance and the SDC's project on Remote Sensing-based Information and Insurance for Crops in Emerging Economies, including Viet Nam (RIICE project, Phase 1)

The main products of RIICE are maps on rice areas, phonological maps (crop growth stages in a particular season), seasonal maps (images obtained from satellite radar data showing the starting day of rice), and yield maps. All this information is provided to partners through WebGIS.

4. Can Tho University (CTU)

The main mission of Can Tho University (CTU), founded in 1966, includes training, conducting scientific research, and transferring technology to serve regional and national socio-economic development, CTU has 93 undergraduate courses, 34 master's courses, 13 doctoral courses and 2 post-graduate courses.

Notably, CTU has actively taken part in scientific research projects, applying advances in scientific and technological knowledge to solve regional problems related to science, technology, economics, culture and society. CTU has developed a variety of products and technological production processes that benefit people's lives and promote export, thus helping the university gain prestige in national and international markets.

CTU haas chaired, participated in many national and international projects in the field, GIS, remote sensing, agriculture, land use planning, land resource management, environment, and climate change. These include VLIR project-Belgium, JIRCAS Japan, ACIAR-Australia, Swedish SAREC, RADAR-Philippines, POND-Dutch, SEARCA, and RIICE- IRRI.

CTU staff are members in many national and international professional associations such as the Vietnam Soil Science Society, the Asia Pacific GIS Association, the International Society for Environment and Rural Development (ISERD), and the GIS Remote Sensing Society Asia.

APPENDIX 2: DETAILED EXPLANATION OF IMPLEMENTATION COST

Table 1: Explanation of total costs for two- year project implementation

No	Activities	Explaination	Total (10^3 VND)	Of which (10^3VND)			MARD's budget explanation
				RIICE	MARD contribution	NIAPP contribution	
I	**Direct cost**		**4,875,539**	**4,209,139**	**614,400**	**52,000**	
1	Rice mapping	100 days x 150USD/man-day x 21,000VND/USD	283.500	283,500	-	-	
2	Oryza modelling	100 days x 150USD/man-day x 21.000VND/USD	283.500	283,500	-	-	
3	Field validation and data collection of rice production by crop	10 provinces, 200 sites , 3 seasons	1,901,379	1,841.379	60.000	-	*Expenses:* 3 people x 10 days x 150.000 VND x 4 times = 18.000.000 VND. *Accommodation:* 3 people x 8 nights x 250.000 VND x 4 times = 24.000.000 VND. *Indoor work:* 100 days x 180.000 VND/day = 18.000.000 VND
4	Workshop, training	Trraining and workshops, 03 Steering Committee Meetings	209,160	209.160	-	-	
5	Cloud computing and WebGIS development	440 days x 150USD/ x 21.000VND/USD.	831.600	831.600	-	-	
6	Acquisition of yield data for validation of modeling results	10 provinces x VND 20,000.000/province x 3 seasons	1,154,400	600.000	554.400	-	*Expenses:* 3 people x 10 days x 150.000 VND x 6 times = 27.000.000 VND. *Accommodation:* 3 people x 8 nights x 250,000 VNd x 6 times = 36.000.000 VND. *Inddor work:* 2.730 days 180.000 VND = 491,400.000 VND (MARD's Decision N°3869, 28 Sept. 2015)
7	Procurement of specialized equipment & facilities	12 smartphones, 4 Laptops, 2 GPSs	212.000	160,000		52,000	
II	**Indirect cost**		**809,556**	**583,956**	**105,600**	**120,000**	
1	Allowance for NIAPP PMU		367,920	367,920	-	-	
	Project director	1 person x 1200USD/month x 21,000VND/USD x 10% working time: 1 month	*60,480*	*60,480*	-	-	
	Project coordinator	1 person x 1000USD/month x 21,000VND/USD x 25% working time: 1 month	*126,000*	*126,000*		-	

	Project technician, accountant	2 persons x 600USD/month x 21,000VND/USD x 30% working time: 1 month	*181,440*	*181,440*	-	-	
2	Stationery, printing material.	24 months x 60USD/month x 21,000VND/USD	42,120	15,120	27,000	-	*Stationery:* 24 months x 1,000,000 VND = 24,000,000 VND. *Printing:* 3,000,000 VND
3	Communication	24 months x 60USD/month x 21,000VND/USD, counter-budget: 50%	21,120	15,120	6,000	-	Postal expenses and Internet
4	Fieldtrip expenses for NIAPP staff	2 persons x 3 days/trip x 4 trips x 2 years x 25USD/person/day x 21,000VND/USD, counter-budget: 25%	18,900	18,900	-	-	
5	Monitoring and evaluation	2 persons x 4 times x 5 days/time x 100USD/person/day x 21,000VND/USD, counter-budget: 25%	88,800	63,000	25,800	-	*Expenses:* 2 people x 6 days x 150,000 VND x 6 times = 10,800,000 VND. *Accommodation:* 2 people x 5 nights x 250,000 VND x 6 times = 15,500,000 VND
6	Travelling		228,696	61,896	46,800	120,000	*Car rental*: 10 times x 520 km x 9,000 VND/km = 46,800,000 VND
7	Audit	At the end of project, it is planned 2,000USD x 21,000VND/USD	42,000	42,000		-	
	Total		**5,685,095**	**4,793,095**	**720,000**	**172,000**	
		In equivalent CHF	**254,937**	**214,937**	**32,287**		

Exchange rate at time of project formulation: 22,300 VND = 1 CHF; 21,000 VND = 1 USD

Table 2: Detail explanation for cost allocated for field validation

Number of provinces: 10 provinces; No of commune/province: 2 communes/province; Total commune: 20 communes;

No of sites/commune: 10 sites; Total sites: 200 sites; No of staff/province: 2 persons;

No of time for fieldtrip: 5 times; No of days for fieldtrip/time: 1 day/time;

No of crops for research: 3 crops (Spring crop in 2016, Summer crop in 2016, Spring crop in 2017)

Unit: VND

No		Unit	Quantity	Unit price	Total amount	Note
1	**Renting soil sample**	**site**	**600**	**500,000**	**300,000,000**	
2	**Cost for collecting data of rice production per crop**					
	Cost for the collec tion of one crop	crop	3	30,000,000	90,000,000	Estimate (it depends on specific province)
	Total cost for data collection	Province	**10**	**90,000,000**	**900,000,000**	
3	**Fieldtrip cost**					
3.1.	Man-day	man-day	300	400,000	120,000,000	2 persons x 1 days x 5 times x 10 provinces x 3 crops
3.2.	Accommodation	day	300	400,000	120,000,000	2 persons x 1 days x 5 times x 10 provinces x 3 crops
3.3.	Car rental	day	150	2,000,000	300,000,000	1 day x 5 times x 10 provinces x 3 crops
	Total fieldtrip cost				**540,000,000**	
4	**Material cost**					
	Material cost (one province)				***1,369,400***	
	Ruler	*piece*	*1*	*50,000*	*50,000*	
	Cover	*piece*	*10*	*3,500*	*35,000*	
	Nylon coverage	*kg*	*1*	*50,000*	*50,000*	
	Wire	*roller*	*1*	*5,000*	*5,000*	
	Umbrella for machine	*piece*	*2*	*95,000*	*190,000*	
	Showering coat	*piece*	*2*	*50,000*	*100,000*	
	Agricultural tools for cutting crops	*piece*	*2*	*50,000*	*100,000*	
	Pen brush	*piece*	*4*	*93,600*	*374,400*	
	Ball- pen	*piece*	*4*	*70,000*	*280,000*	
	A4 paper	*gram*	*1*	*85,000*	*85,000*	
	Printing		*1*	*100,000*	*100,000*	
	Material cost for 10 provinces		**10**	**1,369,400**	**13,694,000**	
	Total (1)+(2)+(3)+(4)				**1,753,694,000**	
6	**Management fee**		**5%**		**87,684,700**	
	Total costs				**1,841,378,700**	

Table 3: Detail explanation for cost allocated for equipment

Unit: VND

Items	Unit	Quantity	Unit price	Total amount	Note
Cost for procurement of smartphone + 3G	piece	12	10,000,000	120,000,000	Estimated 2 ones for contingency
Cost for procurement of 8Gb RAM, i5	piece	4	20,000,000	80,000,000	Estimated. Counter-budget 50%
Cost for procurement of GPS machine	piece	2	6,000,000	12,000,000	Estimated. Counter-budget 100%

Table 4: Detail explanation for workshop and training expenditure

Unit: VND

	Description	Unit	Quantity	Cost norm	Estimation	
	Expenditure allocated for one workshop				**52,750,000**	
1	Representative	person	50			
2	Day	day	1			Estimated (Calculated according to the actual situation)
3	Cost norm applied for person/day		50	525,000	26,250,000	Cost norm from Appendix IV (25USD/day/person)
4	Allowance for provincial representative		10	1,050,000	10,500,000	Cost norm from Appendix III (50USD/day), number of representatives from provinces are calculated by actual situation
5	Interpreter	person	1	4,200,000	4,200,000	Cost norm from Appendix II-B (200USD/day)
6	Supporter	person	2	400,000	800,000	
7	Air tickets (CTU and 2 provinces in MRD)	persons	3			Air ticket
8	Taxi Can Tho airport	trip	2	300,000	600,000	Ticket
9	Taxi Noi Bai airport	trip	2	250,000	500,000	Ticket
10	Hotel accommodation	night	6	400,000	2,400,000	Actual hotel receipt
	Total expenditures for 03 workshops		**3**	**52,750,000**	**158,250,000**	

Table 5: Detail explanation for Project Steering Committee Meetings

Project Steering Committee Meetings (03)

Unit: VND

		Unit	Quant.	Unit price	Amount (VND)	
	Cost per a meeting					
1	Representative	person	12	525,000	6,300,000	Appendix IV (25USD/day/person)
	Total cost (03 meetings)		**3**	**6,300,000**	**18,900,000**	

Table 6: Detail explanation for cost allocated for training

Unit: VND

No		Unit	Quantity	Unit price	Total amount	Note
	Training staff for fieldtrip					
1	Attendants (CTU, IMHEN and NIAPP)	person	16			8 provinces x 2 persons
2	No of days	day	3			
3	Cost norm/day/person		48	420,000	20,160,000	Cost norm from Appendix IV (20$/day/person)
4	Cost hiring lecturer			3,150,000	9,450,000	Cost norm from Appendix II (150USD/day)
5	Supporter	day	2	400,000	2,400,000	
	Total				**32,010,000**	

ANNEX 2

COST NORMS

REMOTE SENSING-BASED INFORMATION AND INSURANCE FOR CROPS IN EMERGING ECONOMIES

The following principles shall be applicable for the implementation of RIICE project.

1. Vietnamese Law

The Implementing Partner is responsible for applying the Vietnamese Law in terms of payment, retention, filing, etc. for taxes (VAT, PIT, etc.) and insurance (social, health etc.).

2. Rates

The rates in these Cost Norms are all-inclusive rates (e.g. inclusive of tax and insurance).

3. Per Diem

Hotel rates are based on mid-range quality, equivalent to a 3 star hotel. Breakfast, lunch and dinner are also based on mid-range quality, equivalent to that served in a 3 star hotel.

It will be paid to finance the costs of participation in trainings, workshops, seminars, conferences, monitoring missions or any other mission in Vietnam, for overnight stay away from the habitual place of residence as required by the National Project Director / or designated person based on the approved work plan.

The full per diem will be paid only in cases where the accommodation, meals and other expenses are not covered by any other means. Per Diem will be reduced if officially covered by project or project related entities under the following circumstances (a) If accommodation is provided; (b) If meals are provided, then the Meals and Incidentals amounts as per Annex II will be reduced by 40% each for Lunch and Dinner and 20% for Breakfast.

(i) Payment will be made on a lump sum basis.
(ii) For official travels/missions of duration of 10 hours and more including travel time and return the same day a lump sum Per Diem is applicable at 40%.

Lunch should be provided by the project/programme for full day events where it is more economical to do so. Where lunch cannot be arranged 40% of the applicable meals and incidental column of Annex II is to be paid to participants who are not eligible for Per Diem. For half day events neither lunch nor per diem is provided to participants.

4. Travel

Transportation costs are set as follows

(i) For air, land, waterway travel, most direct and economic route, in economy class using public transportation;
(ii) Where for (i) above the public transport is not available, use of private transportation means for project related purpose will be reimbursed at a standard cost per km on distance basis only upon prior approval of the Project Director/ or designated person based on the approved work plan. See Annex III

(iii) Rental of different transportation, which should be of a non luxurious nature, shall only be undertaken for specific tasks such as project monitoring, and with prior approval of the Project Director based on the approved work plan using prevailing market rate.

(iv) For travel by air, requiring additional and separate return travel to the airport, a lump sum reimbursement of the cost of a single person by taxi will apply. See Annex IV.

With the exception of (ii) and (iv) above, supporting documentation must be provided with the expense claims.

5. Project Personnel

The project personnel remuneration and categorisation will be referenced to local market surveys for equivalent work. The remuneration package for Project Personnel must be consistent with prevailing levels of pay for similar services and comparable work in the local labour market.

6. Mobilization of implemeting partner's own staff for project implementation

Implementing partner shall mobilize own staff for the project implementation to the extent possible. The mobilized staff shall possess needed qualification and skills and be entitled to remuneration.

7. Meetings / Conferences / Events

Generally, Meetings/Conferences/Events and the associated costs should not be higher in standard and cost than that of a 3 star Hotel or equivalent. In exceptional cases where a different (higher) standard is required, the implementing partner must obtain official acceptance by the donor.

8. Other expenses

Other expenses, if not specifically addressed here, shall be notified to and endorsed by the donor prior to implementation.

Annex I – Remuneration of own mobilized staff (VND)

Cat.	Scope of service	Education and experiences	Max. daily rate	Max. monthly rate
1	Working on a simple task requiring little training	Bachelor's degree, 3-5 years of experience	500,000	8,250,000
2	Performing highly technical jobs / formulating or managing complex assignments / supervising a team of technical or multi sector advisers	Master's degree, 5-10 years of relevant experience	2,730,000	45,045,000

Annex II – Per Diem (VND)

Location	Per diem		
	Room	Meals	Total
HCM City, Hanoi urban districts	945,000	420,000	1,365,000
Da Lat, Da Nang, Nha Trang, Vung Tau, Hue, Hoi An, Do Son, Ha Long	756,000	315,000	1,071,000
Hai Phong, Sapa, Kon Tum, Hoa Binh, Vinh, Can Tho, Quang Ngai, Qui Nhon, Hanoi rural districts	588,000	315,000	903,000
Elsewhere – Provincial level	420,000	315,000	735,000
Elsewhere – District and commune level	-	-	336,000

Annex III – Use of own vehicle

Cost for use of private vehicle VND 210 / km

Annex IV – Air port taxi

Hanoi VND 378,000

HCMC VND 210,000

Can Tho VND 210,000

Annex V – Interpretation Services Rate

Interpretation Rates (VND) Level Rate

Simultaneous (*)

Daily VND 9,450,000

Half Day VND 4,725,000

Non Simultaneous

Daily VND 3,150,000

Hourly VND 420,000

(*) Interpretation Services Rate is paid irrespective of the number of Persons providing the service.

Translation Rates (VND)*

English to Vietnamese VND 168,000 per page of 350 words

Vietnamese to English VND 189,000 per page of 350 words

(*) Rates may be increased by 20% for exceptional circumstances with justification of IP and approval of donor.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement für auswärtige Angelegenheiten EDA
Département fédéral des affaires étrangères DFAE
Dipartimento federale degli affari esteri DFAE
Departament federal d'affers exteriurs DFAE

ANNEX 3

TERMS OF REFERENCE

FINANCIAL REVIEW
(Agreed-upon procedures engagement)

Valid for review of financial statements of local NGOs; review of projects under mandate or contribution contracts.

1. Fundamental principles

1.1 The financial review of projects ("financial review") is to be carried out by an independent auditor ("the auditor"), having the required professional competence and experience, and in accordance with generally accepted international auditing standards.

1.2 These Terms of Reference ("TOR") define the mandate of the auditor in connection with the financial review of projects/programs of cooperation/implementing partner ("the partner"), financed by the FDFA. The financial review is based on the professional requirements and guidelines governing the professional work to be undertaken by an auditor in relation to an agreed-upon procedures engagement.

1.3 In planning, conducting and reporting on the financial review, the auditor shall be given due considerations to the following auditing and other standards promulgated by international professional bodies:

ISA - *International Standards on Auditing*,

IFAC – *International Federation of Accountants*

In addition, the relevant standards of the local accounting profession as well as the local legislation on accounting and reporting in force in the country in which the financial review is carried out need to be taken into consideration by the auditor.

2. Overall principles of the financial review

The auditor is required to plan, execute and report on the financial review engagement in order to form a professional judgment on the following matters relating to the activities and the organisation of the partner:

- **2.1 Principles of orderliness (financial regularity)**
- **2.2 Existence, adequacy and effectiveness of the Internal Control System (ICS)**
- **2.3 Conformity with the project objectives and adherence to the contract conditions**
- **2.4 Economical conduct of business and effective use of financial resources**

3. Documents of reference

The following documents and matters are to be considered by the auditor as basic references for performing the financial review:

Legislation:	National legislation
Project/program:	Cooperation agreement relative to the project or to the partner organisation; Project Document / Terms of Reference (TOR), Budgets, financing plans, programs of project activities; Project management procedures; Any other documents concerning the project/program.
Accounting:	Accounting documents subject to the financial review; Financial and operational reports concerning the project/program.
auditor:	The present terms of reference and the related mandate for financial review; Prior internal and external audit reports of the partner; Any other information requested from the partner by the auditor.

4. Planning the financial review

The auditor shall adequately plan the financial review engagement well in advance of the work and ensure the execution of the financial review of highest professional quality in an economical and efficient manner and within the agreed timetable.

On the basis of the information received during the planning phase, including his review risk assessment, the auditor shall determine:

- the type of transactions to be reviewed and the review method (full or random sample);
- the type of physical verifications and the sites to be selected;
- the number of site visits to be planned.

The auditor undertakes to ensure continuity in the review approach of the financial review engagement and the review team, even if there is a change in the leader of the review team from the prior year.

5. Place of financial review

The financial review is to be carried out within the project environment (administrative offices and/or decentralised sites, if applicable).

6. Management representation of full disclosure

The auditor shall obtain a management representation letter signed by the management of the reviewed organization, certifying:

a) the acknowledgement of the organization's responsibility for the keeping of accounts and financial documents that are correct, complete, fair, representing the true facts, in conformity with the objectives of the project, the documents of reference (description of the project, contracts, budgets, etc.) and national legislation
b) that all accounting records, supporting and other documents, minutes and any other pertinent information necessary for the review be at the disposal of the auditor
c) the completeness of information concerning property and goods
d) the completeness of information concerning financing received or due and own financing concerning the reviewed period, for the project being examined
e) the availability of any information and explanations, either orally or by written confirmation, which might be required by the auditor in the execution of his mandate.
f) In the case of contributions to local NGOs, the declaration has to certify the completeness of information concerning financing received or due and own financing concerning the reviewed period, for the project being reviewed ***and*** for the examination of the consolidated financial

statements of the organization. The consolidated financial statements, including balance sheets and profit and loss statements of the project are to be annexed to the declaration and form an integral part thereof. This declaration shall be included in the financial review report.

7. Detailed financial review procedures

Appropriate review procedures are to be applied by the auditor in order to form a professional judgement on the matters outlined below. These procedures applied, either on a full scope or random basis, may include: controls, checking, evaluation, inspection, interview, analysis and other review techniques. When selecting the review procedures, the auditor shall give consideration to the results of his review risk assessment (during planning stage and during the course of the review work).

Accordingly, he must define and carry out suitable review tasks in order to obtain an overview of the aforementioned aspects before he assesses the individual findings and reaches a final independent decision on the review.

The auditor is expected to select and apply any other review procedures that he may consider necessary in the professional execution of the financial review engagement.

Upon receipt of the financial review report, the FDFA or any third persons designated by the FDFA reserve the right to request other review procedures to cope with the change in circumstances in the project or of the organisation of the partner.

Examples of possible review procedures are:

7.1 Principles of orderliness (financial regularity) – Principle 2.1

Project related matters:

a) Authorizations/approvals of expenditures and validity with supporting documents,
b) Details of funds received for the project and reconciliation with the information supplied by the donor(s),
c) Physical existence and movements of the goods representing the property of the project (fixed assets, inventory items, current assets);
d) Allocation of expenditures in conformity with the agreed budget(s),
e) Conformity of local contracts with local legislation currently in force,
f) Disposition and implementation of observations, adjustments and recommendations resulting from previous financial review reports.

Accounting related matters:

g) Arithmetic exactitude of the accounts, supporting documents and financial statements and reports,
h) Correctness of the accounting entries,
i) Timeliness of recording economic events and transactions in the general ledger accounts,
j) Financial statements and report information in agreement with the general ledger accounts,
k) Adequacy and completeness of revenues, revenues are booked correctly
l) Assessment of accounts receivable and advances; justification for overdue/unpaid amounts in excess of one month,
m) Reconciliation of balances of cash in hand and in banks with the general ledger accounts,
n) Disposition and implementation of observations and recommendations as well as adjustments and recommendations resulting from previous financial review and/or audit reports.

7.2 Existence, adequacy and effectiveness of the Internal Control System (ICS) - Principle 2.2

a) Adequacy of the internal organization (structures, functions, tasks, authority, responsibilities, methods, procedures, segregation of duties etc.),
b) Effectiveness of project and financial accounting and reporting processes,
c) Adherence to applicable laws, regulations and instructions,

d) Physical safeguard of assets,
e) Prevention of accounting errors and financial fraud,
f) Adequacy and completeness of information and financial reporting system.

7.3 Conformity with the project objectives and adherence to the contract conditions – Principle 2.3

a) Agreement of transactions, expenditures and receipts by comparison with the basic project documents (project description, programs of activities, contracts, terms of reference, budgets etc.);

b) Verification that goods purchased with allocated funds are utilized within the defined objectives and are still available or have been disposed/sold in conformity with the procedures defined in the project agreement/contract;

c) Verification whether the clauses of the project agreement/contract have been respected;

d) Verification that the expenditures correspond to the agreed budgets. Analysis of deviations between budgeted and actual expenses and substantiation of major budget variations (+/- 10 % of the budget).

7.4 Economical conduct of business and effective use of financial resources – Principle 2.4

a) Financial resources are utilized for the activities, as stipulated in the project agreement, contract with the consultant/implementer and terms of reference, always ensuring an appropriate level of cost and benefits;

b) Existence and application of adequate measures in the internal control system (ICS) in respect of the utilization of committed resources;

c) Application of management procedures relative to the various project transactions. In particular, adequate segregation of duties for vital functions and processes, like entering commitments, authorizing and accounting of expenditures, reconciliation of cash on hand and in banks, follow-up on long outstanding debtors and creditors, physical control over inventories, etc.);

d) Expenditures are in line with the agreed budget positions;

e) Any deviations of actual expenses from the agreed budget are reasonably explained and adequately documented by the project management

f) Existence of adequate bid and purchasing procedures. e.g. best cost/benefit ratio for materials and services, conformity of price offers with local practices and cost levels;

g) Confirmation that prices and rates are subject to regular verification and that the accounting system in use is adequate to the requirements of a management tool, particularly as it concerns cost analysis;

h) Review and substantiation of expenditures of local and foreign experts/consultants (rent, travel expenses, accommodations, allowances etc.);

i) Review and substantiation of expenditures related to national staff (gross salary, social and pension contributions, income taxes etc.);

j) Existence of the vehicle logbook and verification that private use of vehicles has been invoiced and paid;

k) Verification that private use of mobile and fix net phones by members of the staff has been invoiced and paid.

7.5. Findings and recommendations

In his financial review report, the auditor is expected to

- explain and quantify any adjusting and/or reclassification entries, and to

- formulate recommendations for the improvement of the internal control system (ICS) as well as of project and accounting procedures.

8. Closing meeting

After the completion of the financial review engagement, but before leaving the project or the premises of the partner, the auditor shall hold a closing meeting with the persons responsible for the project/program (directors) and the staff responsible for accounting and reporting. The meeting shall address the results of the project review, discuss major weaknesses in the project, administrative and financial management (including the deficiencies of individual staff members) and propose recommendations to improve the project management, the accounting procedures and the internal control system (ICS).

The content of the closing meeting is to be summarized in writing and signed both by the representative of the implementing partner and the leader of the review team. These minutes shall be annexed to the financial review report (see 9.1.13).

9. Financial review report

The review report of the auditor shall explicitly be responsive to the overall principles applicable to the review engagement, as stated under 2. above.

The principle of orderliness (financial regularity) and the existence of the ICS have to be positively confirmed by the auditor.

The aspects adequacy and effectiveness of ICS, the conformity with the project objectives and adherence to the contract conditions and the economical conduct of business and effective use of financial resources are to be expressed in a so called "negative confirmation" based on the executed audit actions.

We expect the following paragraph to be included in the report:

"Based on our review, nothing has come to our attention that causes us to believe that
- the Internal Control System (ICS) is not adequately or effectively organized
- the project execution is not in conformity with the project objectives and does not adhere to the contract conditions
- the business is not economically conducted and the financial resources are not effectively used."

In reporting on the results of the financial review, the auditor shall address the following matters and follow the following structure in the review report:

9.1 Content and structure of auditor's financial review report

9.1.1 Auditor's opinion (specifically addressing the four overall principles stated under 2. above)

9.1.2 Name of project and partner, incl. subcontractor(s)

9.1.3 Brief description of relevant information on the partner (history, management, accounting system, internal control system, activities unrelated to the project sponsored by the FDFA etc.)

9.1.4 Period covered by the financial review

9.1.5 Date and place of review, name of audit firm, deviations from original review programme

9.1.6 Description of review procedures applied and findings on financial information subject to the review

- Balance sheet
- Statement of income and expenses (statement of operations)
- List of proposed adjustments and reclassifications
- Other relevant matters

9.1.7 Analysis of the statement of funds received from the FDFA

9.1.8 Analysis of the statement of funds received from other donors, if applicable

9.1.9 Recommendations on project management, accounting procedures and internal control system (ICS)

9.1.10 Comments with regard to adherence to project agreement/contract and terms of reference

9.1.11 Budget comparison of the project, including comments on major variations

9.1.12 List of inventories and fixed assets acquired by the project during the accounting period under review

9.1.13 Minutes of the closing meeting, as discussed under 8. above.

9.1.14 Management's general representation letter in relation to the financial review, as discussed under 6. above.

9.2. Currency and language of the financial review report

The financial information contained in the financial review report of the auditor is to be expressed in the currency provided for in the contract. The financial review report of the auditor and all other documents resulting from the financial review engagement must be in English.

9.3. Signature

The financial review report is to be signed by a representative of the auditor as well as by the leader of the review team.

Place and date: _____

For the FDFA: _____

For the auditor: _____

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