

Annex

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MINUTES OF THE MEETING

THE 1ST JOINT COORDINATING COMMITTEE MEETING OF THE CAPACITY DEVELOPMENT PROJECT FORESTABLISHING NATIONAL FOREST INFORMATION SYSTEM FOR SUSTAINABLE FOREST MANAGEMENT AND REDD+ IN LAO PDR

Pursuant to the Record of Discussions signed between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Department of Forestry, Ministry of Agriculture and Forestry of Lao PDR (hereinafter referred to as "DOF, MAF"), dated 20 May 2013, the first meeting of the Joint Coordinating Committee (hereinafter referred to as "JCC") of the Capacity Development Project For Establishing National Forest Information System for Sustainable Forest Management and REDD+ in Lao PDR (hereinafter referred to as "NFIS") was convened on 23 October 2013 at the Meeting Room, Department of Forestry, Vientiane.

The JCC in principle approved the drafts of Inception Report and Work Plan for the 1st Phase from Sep 2013 to Mar 2014, and the outline of Kick-Off Workshop on NFIS as attached herewith. Other main matters related to the JCC meeting are also in Annexes attached.

Vientiane, 23 October 2013



Mr. Koichi TAKEI
Chief Representative
JICA Laos Office
Japan International Cooperation Agency
Japan



Boualy PHAMEUANG

Dr. Silavanh SAWATHVONG
Director General
Department of Forestry
Ministry of Agriculture and Forestry
Lao People's Democratic Republic

Annex 1: Agenda of the JCC Meeting

Annex 2: Summary of the Meeting

Annex 3: List of Participants

Annex 4: Draft Inception Report

Annex 5: Draft Work Plan for the 1st Phase from Sep 2013 to Mar 2014

Annex 6: Draft outline of the Kick-Off Workshop

**The 1st Joint Coordinating Committee Meeting of
Capacity Development Project for Establishment of National Forest Information System
for Sustainable Forest Management and REDD+ (NFIS Project)**

1. Date and venue

Date: Afternoon, 23rd (Wed) October 2013

Venue: Conference Room, DOF

2. Objectives of the meeting

- 1) To present and approve the Inception Report of the Project
- 2) To present and approve the Work Plan from October 2013 to March 2014
- 3) To present and approve an outline of the Kick-off Workshop on NFISP

3. Chairpersons

Chairperson: Dr. Silavanh SAWATHVONG, DG, DOF

Co-chairperson: Mr. Koichi TAKEI, Chief Representative, JICA Laos Office

4. Agenda

Time	Items
13:00-13:30	Registration
13:30-13:40	Introduction and welcome <i>(Mr. Linthong, Project Director, NFISP)</i>
13:40-13:50	Opening speech by Department of Forestry, MAF <i>(Dr. Silavanh SAWATHVONG, Director General of DOF)</i>
13:50-14:00	Speech by Japan International Cooperation Agency <i>(Mr. Takei, Chief Representative, JICA Laos Office)</i>
14:00-14:30	Presentation of draft Inception Report <i>(Mr. Soukanh, Project Manager, NFISP)</i>
14:30-14:50	Discussion on draft Inception Report
<i>14:50-15:00</i>	<i>Coffee break</i>
15:00-15:20	Presentation of Work Plan until March 2014 <i>(Mr. Soukanh, Project Manager, NFISP)</i>
15:20-15:35	Discussion on Work Plan until March 2014 <i>(Chairperson)</i>
15:35-15:50	Presentation of Outline of Kick-off Workshop on NFIS <i>(Mr. Soukanh, Project Manager, NFISP)</i>
15:50-16:00	Discussion <i>(Chairperson)</i>
16:00-16:30	Conclusion and closing <i>(Chairperson and Co-chairperson)</i>

Summary of Meeting

5.1 Opening

Chairperson welcomed all the participants who are invited to this meeting about the Forestry Information System Project.

He summarized the process of past forest resource information development in Lao PDR that the survey of forest resources such as the assessment of forest cover and changing of forest land use had been carried out since 1982 with 10 year interval i.e. 1982, 1992, 2002 and 2010 and the 1st national forest inventory called NFI had been conducted from 1991 to 1999 covering all Provinces. Further, he noted that in the past there had been only information/data of growths and volume of trees but no survey system for assessment of forest biomass and forest carbon. He also mentioned that the past NFI was supported by Sida and now JICA was here to work with us.

He referred to the pilot work on estimate of forest biomass and carbon stock by an Expert from Finland using previous NFI data during the period from 1991 to 99, but the results were not enough especially for REDD+. He raised the support provided by Japan's Forest Information Management Program (FIM), which provided necessary facilities, equipment and technical capacity development of Lao staff, and continued that the Lao Government and JICA had agreed to have a follow-up project to complete the FIM maps and inventory data and develop them into carbon estimate with database in scope. He expressed a gratitude that the national forest information project had been formulated and the project was to commence today by the Lao side with technical assistance from Kokusai Kogyo and Air Asia Survey companies.

He stated that the meeting today was for discussion to introduce this project and for better design of the project activities in the first phase until Mar 2014. He stressed the need to have more ideas and comments to be added to the planned activities because the products/output of this project would be the National data that Lao PDR have never used before and they would have details about the forest and carbon stock for sustainable forest management as well as for REDD+.

He further stressed that the emission from land use changes esp. forest loss and degradation was largest in Lao PDR occupying about 80% of all emissions and the necessity to address this issue together with the Ministry of Natural Resources and Environment for developing the forest data system to carry on the establishment of REDD+ through sharing same database around country, and there was a pressing need to have coordination between the land sector, forest resources management sector and other sectors involved in REDD+ development. He also stated that the implementation of this project was very timely when the Government was preparing an institutional arrangement for REDD+.

Finally, he stressed again the importance of ideas and comments from participants so that the project design and activities would be improved so as to be more in line with the current domestic and international situation concerning forest mapping and carbon estimate under REDD+.

Co-chairperson delivered his opening speech as follows;

“It is my great pleasure to say a few words today on behalf of the Japan International Cooperation Agency (JICA), at the first Joint Coordinating Committee Meeting of the Capacity Development Project for Establishment of National Forest Information System for Sustainable Forest Management and REDD+ today.

First of all, I would like to express my appreciation to all participants for your cooperation and assistance to Japan’s projects, thus far. Your continuing support will be very important for the outcome of our projects.

The Lao government has formulated a plan to restore its forestation rate to 70% by 2020. To achieve this target, it has been establishing and revising forest-related laws and rules. It has also been defining Reducing Emissions from Deforestation and Forest Degradation (REDD) as a measure against climate change; and as a useful means to raise the livelihood of farmers who rely on forest conservation and forests.

To achieve this purpose, the government of Japan has committed itself to providing various forms of Official Development Assistance in the Forestry sector of the Lao PDR. This support includes;

- (1) the FSCAP project – capacity development for implementation the Forestry Strategy 2020 and other forestry related issues including REDD+;
- (2) the PAREDD project – a field-level project that aims to reduce deforestation at the local level;
- (3) And the Forest Preservation Program.

I would also like to highlight that this project is important. The project will implement for only 2 years with the aim at Establishment of National Forest Information System by compiling information on forest carbon dynamics at national level, designing a prototype of national forest information database, designing of national forest inventory, and compiling relevant information required by REDD+. Since this project aims at capacity building, this is very good opportunity for the government officers to obtain the techniques and the basic practical knowledge and skills for data collection methodology, especially the sample surveys based on measurement from Japanese experts and other resources personnel.

Today, we will listen to the plan of operation of the project Therefore, I expect all JCC members attending today’s meeting will actively involve in providing the comment and suggestion for the improvement of project planning and operation to ensure the project has a good plan.

In order to ensure the effectiveness and sustainability of our cooperation, Ministry of Agriculture and Forestry will not only need to actively participate in, but also expected to assume the ownership in project implementation.

In this connection, I would like to ask the government of Lao to make continuous effort to allocate necessary qualified and appropriate number of staff to work in this project and bearing necessary cost for project implementation. I would also like to emphasise that Lao counterparts must also work hard in order to sustain the project activities.

Before closing my speech, I would like to express my heartfelt thanks to all of those who have been involved in the process of project formulation and organize the first Joint Coordinating Committee Meeting of the Project. I also do hope that our cooperation will continue to foster a close working relationship between Japan and the Lao PDR.”

5.2 Presentation and Discussion on the draft Inception Report

Mr. Soukanh BOUNTHABANDID, NFIS Project Manager, Presented an outline of NFIS.

Mr. Linthong Khamdy, Director, FIPD, requested clarification of the following:

1. Concept of National Forest Information System
2. Development of National Forest Type and Carbon Maps with respect to the 3 forest categories, village forest and plantation forest

Mr. Kitamura, Chief Adviser, NFIS, responded as follows;

1. Concept of National Forest Information System

The chart of Concept of National Forest Information System shows the main component and functions of the system with the national forest monitoring system playing the central functional roles and providing the necessary output for REDD+ and sustainable forest management such as REL/RL, forest carbon change, forest maps for management planning. But, this is only a concept and it is not clear at this stage yet how these components and functions are defined and linked as a system.

2. Maps and forest categories, village forest and forest plantation

The forest maps show location and distribution of various forest types, which meet the physical definition of forest and each forest type. The 3 forest categories and village forest are administratively defined forest for forest management, therefore their boundaries will be overlaid on forest maps after map finalization, then we will see how much forest remain in each Conservation Forest and so on.

Dr. Kinnalone Phommasack, REDD+ Office, DOF, asked two questions as follows;

- 1) We knew that the REDD+ components included the establishment of REDD's strategy, REL/RL, MRV and Safeguards. How and which component would this project contribute to?
- 2) UNFCCC required REDD+ countries to report the results of REDD+ implementation every 4 year in their National Communications. But, the project seemed proposing a national forest inventory every 5 year. How did this duration meet the REDD+ reporting requirement? Moreover, this project would last only 2

years and how the system and data/information established or collected would be maintained and used after the project completion in two years?

Mr. Kitamura answered that as for the 1st question this project would provide carbon stock estimate for the 3 time points i.e. 2000, 05 and 2010 and the carbon changes between these points i.e. 2 periods and they would be used for construction of REL/RL as historical data. Concerning the inventory cycle he replied that the 5 year cycle of forest inventory would match the development planning of Government but doesn't meet the UNFCCC's requirement of every 4 years and this was an issue which the Government had to decide.

5.3 Presentation of Work Plan and Discussion

Mr. Soukanh presented an outline of the 1st Phase Work Plan until March 2014.

Dr. Silavanh SAWATHNVONG, Director General of DOF, after summarizing the contents of the work plan, stated that DOF needed to report the project budget to the Government, no figure was provided in either the Inception Report or 1st Phase Work Plan.

Mr. Koichi Takei, Chief Representative, JICA Laos Office replied that the JICA Office would provide DOF with the information regarding the budget.

Mr. Hideaki Takai, Chief Adviser, FSCAP, provided information for the 2nd question made by Dr. Kinnalone that the project had some components only for designing such as national forest information database and next national forest inventory and this was because of its short implementation period, but last year and this year, too, the Lao Government submitted to Japanese Government a proposal for an integrated forestry project which also incorporated this forestry information system as one of its components. He continued that if Japanese Government accepted the proposal by Government of Laos this year, the integrated project would follow activities of NFIS project after its completion in 2015 maybe for another 4 year period.

He stated regarding Output 2 Database Design that this database component was closely related to the existing database of SUFORD and also preparation is now underway for the establishment of databases for Protection forest and Conservation forest under FPP TA2. He then questioned how the overall database design under NFIS project was consistent with the progress of the FPP TA2, which will finish soon.

Mr. Haraguchi, database expert, NFIS, explained the slide of the presentation "Design of Prototype of NFIDB" as follows; FPP was developing the protection forest and conservation forest management databases. The design of these databases was almost completed and prototype databases were currently developed. So, this NFIS project itself would not work on these databases themselves. But even though FPP protection forest and conservation forest management database frame was going to be developed, the information and contents to be used in the databases were not sufficient enough. The contents should be developed from the information developed by FIM and this NFIP Project namely national level geo-spatial information including forest base map and forest inventory survey data. Those data were stored in other databases but need to be

further processed and linked with the databases for Protection Forest and Conservation Forest for better management planning and reporting of these forest categories. So under NFIS project, the system component of the FPP would be one part of the big structure of NFIDB design.

5.3 Presentation of Proposal on Kick-Off Workshop and Discussion

Mr. Kitamura proposed an outline of the Kick-Off Workshop planned on 30th (wed) Oct 2013 by stressing importance of coordination and cooperation with other projects and agencies engaged in forest mapping and carbon estimate. He also requested confirmation of the date of workshop because of limited time for preparation and needs for commencement of actual map accuracy assessment and carbon stratification works as soon as possible.

Dr. Silavanh confirmed the time and venue of the workshop as proposed.

5.4 Closing

Co-chairperson thanked all participants and for the presentations for NFIS project and stated that this project was highly technical and the Japanese experts and the Lao side Officials needed to closely work together and also that this was a development project, so at the end of 2 years the knowledge and techniques for map improvement, designing the database, and carbon stock estimate, etc. should be fully transferred to the Lao side, so that the Lao side would be able to manage the database etc.

He also noted that this project was very focusing on data itself but the significance of data was that the data was used effectively. He stressed that in addition to the expected use of the forest data and information including reporting to national and international organizations, the data and information showing the forest situation and past changes in Laos should be used for formulation of policy and measures for improvement of forest management and urged the relevant departments of Government to explore the possibility of making best use of the data and information for the coming 2 years.

Chairperson stated that today's meeting was successful and hopefully all participants understood the contents of the project activities and the work plan and hoped the implementation of the Phase 1 would led to successful planning and implementation of the Phase 2 for the development of data and information, and the database of forest resources. He also stated that further comments and requests for clarification on the drafts of Inception Report and 1st Phase Work Plan would be accepted until 30th Oct 2013 and after the deadline, if no comment for revision, they would be considered approved.

He also thanked all participants for attending this meeting, which was very interesting, and hoped that the technical issues would be discussed in detail and become clearer at the kick off workshop next week and DOF would cooperate and coordinate all the works together to make the data and information produced by this project the national ones. At the end he wished all the participants healthy and the project to be carried out efficiently.

Participants

Chairperson

Dr. Silavanh SAWATHVONG, Director General, DOF, MAF (Project Director)

Co- chairperson

Mr. Koichi TAKEI, Chief Representative, JICA Laos Office

Members

Lao Side

Mr. Somchay SANONTRY, Deputy DG, Mr. Bounsouane, Planning Division, Mr. Sawanh CHATHAKHUMMANH, REDD+ Office

Mr. Linthong KHAMDY, Director, FIPD

Mr. Oukham Phiathep, Deputy DG, Department of Planning, MAF

Mr. Saysamone Phothisat, Deputy DG, DFRM

Mr. Soukanh BOUNTHABANDID, Head of FRIC, FIPD

Mr. Sombath PANYASAK, Deputy Head, FRIC

Mr Souvanna CHANTHALUESY, FRIC

Mr Siamphone SIBOUN, FRIC

Japan Side

Mr. Akira MIZUNO, JICA Laos Office

Mr. Hideaki TAKAI, Chief Adviser, Forestry Sector Capacity Development Project (FSCAP)

Mr. Takayuki NAMURA, REDD+, FSCAP

Mr. Kenji NAKAJIMA, Coordinator/Forest Management, FSCAP

Mr. Makoto DAIMON, Chief Adviser, Participatory Land and Forest Management Project for Reducing Deforestation (PAREDD)

Mr. Noriyoshi KITAMURA, Chief Adviser, NFIS

Mr. Masamichi HARAGUCHI, Deputy Chief Adviser/Database, NFIS

Dr. Ryota KAJIWARA, R/S, NFIS

Mr. Toru FURUYA, Database, NFIS

Observers

Lao Side

Ms. Thongsouk XAYAPHANTHONG, Planning Division, DOF

Dr. Kinnalone PHOMMASACK, REDD+ Office, DOF

Japan Side

Mr. Seiichi YOKOI, Agriculture Policy Adviser, JICA/MAF

Annex 4: Draft Inception Report

Annex 5: Draft Work Plan for the 1st Phase from Sep 2013 to Mar 2014

**The Kick-Off/Technical Workshop on the Capacity Development Project for
Establishment of National Forest Information System
for Sustainable Forest Management and REDD+ (NFISP)
(Draft)**

1. Date and venue

Date: Afternoon, 30th (Wed) October 2013 (TBD)

Venue: Conference Room, Department of Forestry, VTE

2. Objectives of the workshop

1) To present an outline of NFISP and get feed-back from other related projects/donors for coordination and cooperation

2) To present options for methods and processes for map accuracy assessment/correction, carbon stratification and designing of national forest information database and get feed-back from concerned projects/donors for coordination and cooperation

3. Chairperson

Chairperson: Dr. Silavanh SAWATHVONG, DG, DOF

4. Participants

Lao Side

MAF: NAFRI(Forest Research Center), any other department or divisions?

DOF: Mr. Somchay SANONTRY, Deputy DG, Mr. Sawanh CHANTHAKHUMMANH, Director, REDD+ Office

DFRM: Climate Change Office, Land Information Center (?), Remote Sensing Center, REDD+ Office?

National University of Laos; Faculty of Forestry (Dr. Sithong)

Other Donors/Projects

World Bank (FCPF), CliPAD, LEAF, FSCAP, PAREDD, SUFORD III, WWF, WCS, i-REDD, New Chip Xeng, etc.

NFIS Project

Mr. Linthong KHAMDY, Project Director, Mr. Soukanh BOUNTHABANDID, Project Manager, Mr. Sombath PANYASAK, Deputy Head, FRIC, Mr. Mr. Khamkhong INTHAVONG, Mr Souvanna CHANTHALUESY, Mr Siamphone SIBOUN

NFIS Project experts

4. Agenda

Time	Items
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13:00-13:30	Registration
13:30-13:40	Introduction and welcome <i>(Mr. Linthong, Project Director, NFISP)</i>
13:40-13:50	Opening speech by Department of Forestry, MAF <i>(Dr. Silavanh SAWATHVONG, Director General of DOF)</i>
13:50-14:20	Presentation of NFISP Outline <i>(Mr. Soukanh, Project Manager, NFISP)</i>
14:20-14:40	Q&A for NFISP Outline
14:40-15:00	Coffee break
15:00-15:15	Presentation on Options for Map Accuracy Assessment and Correction <i>(Dr. Kajiwara, R/S expert, NFISP)</i>
15:15-15:30	Discussion on Options for Map Accuracy Assessment and Correction
15:30-15:45	Presentation on Options for Carbon Stratification <i>(Dr. Kajiwara, R/S expert, NFISP)</i>
15:45-16:00	Discussion on Options for Carbon Stratification
16:00-16:10	Presentation on initial idea for designing of National Forest Information Database <i>(Mr. Haraguchi, Database expert, NFISP)</i>
16:10-16:20	Discussion on designing of National Forest Information Database
16:20-16:30	Conclusion and closing <i>(Chairperson)</i>

**Technical Workshop on the Capacity Development Project for
Establishment of National Forest Information System
for Sustainable Forest Management and REDD+ (NFISP)**

1. Date and venue

Date: Afternoon, 30th (Wed) October 2013

Venue: Conference Room, Department of Forestry, VTE

2. Objectives of the workshop

- 1) To present an outline of NFISP and get feed-back from other related projects/donors for coordination and cooperation
- 2) To present options for methods and processes for map accuracy assessment/correction and carbon stratification and get feed-back from concerned projects/donors for coordination and cooperation

3. Chair

Chairperson: Mr. Somchay SANONTRY, DDG, DOF

4. Participants

30 people from various organizations/projects

5. Agenda

Time	Items
13:00-13:30	Registration
13:30-13:40	Introduction and welcome <i>(Mr. Linthong, Project Director, NFISP)</i>
13:40-13:50	Opening speech by Department of Forestry, MAF <i>(Mr. Somchay Deputy Director General of DOF)</i>
13:50-14:10	Presentation of NFISP Outline <i>(Mr. Soukanh, Project Manager, NFISP)</i>
14:10-14:25	Q&A for NFISP Outline
14:25-14:45	Coffee break
14:45-14:55	Presentation on Background and Requirements <i>(Mr. Kitamura, CTA, NFISP)</i>
14:55-15:20	Presentation on Proposal for Map Accuracy Assessment and Correction <i>(Dr. Kajiwara, RS, NFISP)</i>
15:20-15:45	Discussion on Map Accuracy Assessment and Correction
15:45-16:05	Presentation on Proposal for Carbon Stratification <i>(Mr. Harguchi, Deputy CTA/DB, NFISP)</i>
16:05-16:25	Discussion on Proposal for Carbon Stratification
16:25-16:30	Conclusion and closing <i>(Mr. Somchay Deputy Director General of DOF)</i>

6. Summary

1) Outline of NFISP

Period: Two Years from Sep 2013 to Sep 2015

1st Phase: from Sep 2013 to Mar 2014, 2nd Phase: from Apr 2014 to Sep 2015

Implementing Agency: FIPD/DOF

Project Director: Mr. Linthong Khamdy, Director, FIPD

Project Manager: Mr. Soukanh BOUNTHANBABBID, Chief, Forest Resource Information Center

Technical Assistance: Joint Venture

Kokusai Kogyo Co., Ltd (KKC) and Asia Air Survey Co., Ltd (AAS)

Objectives & Outputs

Overall Goal

National Forest Information System (NFIS) in Lao PDR is established.

Project Purpose

Essential components for the establishment of NFIS are in place.

Outputs

- (1) Information on forest carbon dynamics at national level is compiled.
- (2) Prototype of National Forest Information Database (NFIDB) is designed.
- (3) The next round of National Forest Inventory (NFI) is designed.
- (4) Other relevant information required for REDD+ is compiled.

2) Technical Proposal

A) Map Accuracy Assessment

- Assessment Points Selection:
 - ✓ GRID Distance: 4 x 4 km: consistence with FIM and Quick Assessment 2009
 - systematic sampling (whole country) and random selection (based on strata), time series (2010,2005,2000)
 - image interpretation (whole country, 14,400 points) and field verification (selected sample, 2,400 points)
 - ✓ Assessment Unit: 1ha (100m x 100m)
 - 25 assessment points in 1ha for forest/non-forest decision support with canopy cover rate
- Reference Data:
 - ✓ Image Interpretation
 - Mostly ALOS pan-sharpen (2.5m resolution) and RapidEye (5.0m resolution) for clouded areas
 - ✓ Field Verification
 - Field inventory survey results in 2011 by FIM (Forest Information Management Program)
- Target Accuracy: 80% for Forest/Non-Forest, 70% for Forest-Type

B) Carbon Stratification

- Information/Method to Apply
 - ✓ Developing desk-based allometric equations from NFI data (1991-1999)
 - Extracting/summarizing information from ForestCalc(SUFORD)
 - Developing by Forest-Type/Province, by Tree-Species/Province
 - ✓ Applying existing allometric equations in neighboring country
 - Vietnam (Eco-Region/Forest-Type), Cambodia (Generic model)
 - Thailand needs to be reviewed to fill a few more Eco-Region in Lao
- Calculate Carbon-stock
 - ✓ Extracting/summarizing ForestCalc Inventory DB, improving tree species code/data of FoCAS (by FIM)
 - ✓ Applying allometric equations to inventory survey data in 2011 by FIM to calculate carbon stock/ha by plot
- Correlation Analysis
 - ✓ FIM forest classes, GIS data (Elevation/Slope, Eco-Region, Others (Watershed etc)), crown density

7. Points of Discussion

Sharing and maintaining data with other organizations/projects

- The sharing and maintenance of map or database is not included in the project scheme (SNV/LEAF, MAF)
 - The main objective of the project is capacity building on creating carbon map and designing database for REDD+ and SFM. The method of sharing/maintaining map and database will be decided by the government in consultation with stakeholders

Cooperation and coordination with other projects on mapping

- Many projects have already carried out. How do you collect the information from other project (SNV/LEAF)
 - It is true that so many projects are on-going and not everyone in DOF knows the contents of them. It is a good opportunity to review the available information/data in DOF (FIPD/FRIC)

Addressing satellite image interpretation of fallow land

- In current definition, old fallow is categorized as potential forest (non-forest). On the other hand, old fallow could be counted as forest for REDD+ esp. plus purposes. Moreover, it is difficult to distinguish transition of fallow land (SUFORD)
 - In NFIS project, in order to distinguish fallow into forest and non-forest time series satellite image analysis (ALOS/PALSAR from 2006 to 2010) will be conducted to identify location of slash and burn area and to analyze transition of shifting cultivation (NFIS)

Addressing on gap between forest definition and forest on image

- It is difficult to distinguish fallow or young forest. It is required to use external data/knowledge. There is an idea to exclude land cover categories such as fallow lands demarcated in land use plans from carbon stock estimation (CliPAD)
 - IPCC allows using either land use or landing cover based classification, the inclusion of land cover categories such as fallow lands to carbon stock estimation should be determined taking into account cost and REDD+ benefits. (NFIS)
 - In SFM and REDD+, the threshold between forest and non-forest does not match completely so it is possible to have another definition with different threshold of forest and non-forest from carbon point of view(FSCAP)

8. Closing

NFIS project has just started. It is necessary to set forest definitions for forest mapping in REDD+ as well as forest management in SFM, or it could be one definition. There is a definition of forest from last NFI. But the application of this forest definition for forest classification using satellite imagery would be difficult. More consultation and discussion will be made in the course of NFIS project implementation. (Chair).

Annex1: Pictures of Workshop



Chair (Mr. Somchay, DDG/DOF)



Venue and Participants



Project Manager (Mr. Soukanh, Chief/FRIC)



Question from LEAF (Mr. Sengkham)



Explanation from NFISP (Mr. Kitamura, CTA)



Question from MAF (Dr. Thatheva)



Technical Proposal from NFISP (Dr. Kajiwara, RS)



Comment form SN-REDD (Mr. Peter)

Annex2: Participants List

No	Name and Surname	Position	Organization
1	Mr. Linthong Khamdy	Project Director	FIPD
2	Mr. Siamphone Siboun		FIPD
3	Mr. Khampheuy Sosengphet	Director of DIC	MONRE
4	Mr. Soukan Bounthabandid	Director FRIC	FIPD
5	Mr. Khamkhong Inthavong	Staff	FRIC
6	Mr. Sombath Pangnasack	Deputy	FIPD
7	Mr. Savanh Chanthakoummane	Director of REED+	DOF
8	Dr. Chansamone P.	Director	NAFRI/FRC
9	Mr. Souvanna Chanthaluesy	Staff	FIPD
10	Mr. Hideaki Takai	CTA	FSCAP
11	Mr. Kenji Nakajime	Adviser	FSCAP
12	Mr. Steffen Lackmann	Adviser	CLIPAD
13	Mr. Peter Schwah	CTA	Prime/NCX
14	Mr. Somchay Sanontry	Deputy Director of DOF	DOF
15	Mr. Thongsoune	NTC_TL	CLIPAD
16	Mr. Bounkong Phothisane		Science Assembly
17	Mr. Phoukhong Phongsa	Consultant	CLIPAD
18	Ms. Syphavanh Inthapatha	D. Head REED Division	DFRM
19	Mr. Itthiphonh Chanthalin	Division	DFRM
20	Mr. Viengsavanh	P.O	JICA
21	Mr. Denis Smirnov	Coordinator	WWF
22	Mr. Namura Takayuki	TA	FSCAP
23	Mr. Bounnadeth Phouanmala	Coordinator	World Bank
24	Mr. Thattheva Saphangthong	Deputy of Assembly	Science Assembly
25	Mr. Sengkham	Adviser	SNV-LEAF
26	Mr. Esa	CTA	SUFORD
27	Dr. Ryota Kajiwara	Consultant	NFIS
28	Mr. Masamichi Haraguchi	Consultant	NFIS
29	Mr. Toru Furuya	Consultant	NFIS
30	Mr. Noriyoshi Kitamura	CTA/NFIS	KKC/FIPD

Lao People's Democratic Republic
Department of Forestry, Ministry of Agriculture and Forestry

**The Capacity Development Project for
Establishing National Forest Information System for
Sustainable Forest Management and REDD+**

Technology Transfer Plan

For first phase

October 2013

Japan International Cooperation Agency

Joint Venture
KOKUSAI KOGYO CO., LTD.
ASIA AIR SURVEY CO., LTD.

1. Concept for the technology transfer in the first phase

In the first phase of this project, technology transfer is only for Output 1. Output 1 intends to complete three main components as below figure. In the first phase of this project, (1) accuracy assessment, part of (2) carbon stratification and part of (3) correction forest type maps will be conducted. To complete these components, necessary techniques and knowledge are transferred to FRIC officers through various activities.

For (1) Accuracy assessment, the technical transfer is conducted through lectures, discussion, exercise and OJT. To design the methodology of accuracy assessment at first, discussion with C/P is most important. Otherwise, that methodology will be impracticable one. After that, FRIC officers have to be familiar with the accuracy assessment work through the exercise.

(2) Carbon stratification has many research factors. It is better Japanese consultants to examine it at first before training FRIC officers. Therefore, in the first phase of this project, some part of technique and knowledge of carbon stratification can be transferred through lecture.

The part of (3) correction forest type maps in the first phase is additional ground truth survey. FRIC officers have conducted ground truth survey in FIM project though, there are still unsure land-cover/use types, and skills and experiences are still not enough. Therefore, ground truth survey planning/conducting trainings are planned.

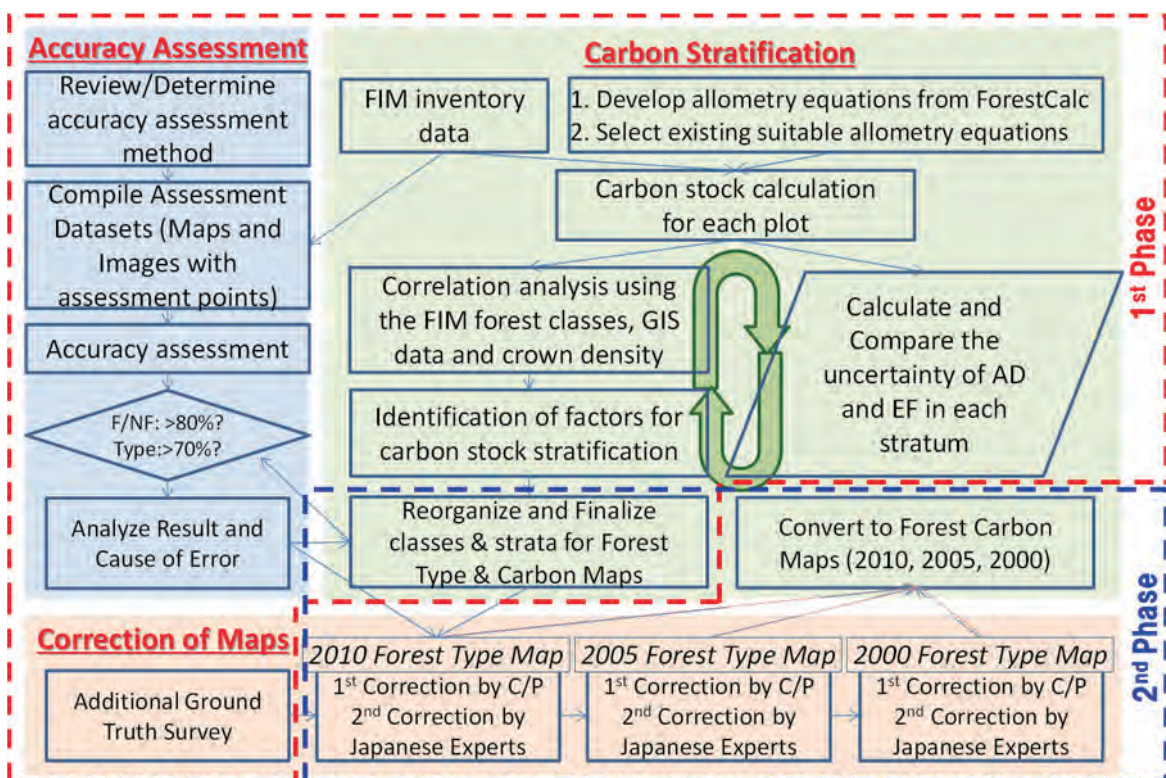


Figure: Overall Work Flow of Output 1

2. Detailed programme in first phase (from September 2013 to March 2014)

Title	Participants	Contents	Time/ Duration	Method	Venue	Trainer	Achievement goal
Introduction of NFIS Project	FRIC Officers	③ Introducing and Discussing about 4 Outputs	November (2 days)	Lecture and Discussion	Vientiane Capital	○N. Kitamura R. Kajiwara	FRIC officers understand the outline of NFIS project and activities of 4 outputs.
Remote Sensing and GIS Training	Remote Sensing/GIS Leaders (FRIC)	③ Introducing and Discussing about methodology of Accuracy Assessment and Carbon Stratification ③ Practicing Accuracy Assessment Work	December (3 weeks)	Lecture and Exercise	Tokyo	R. Kajiwara	Remote Sensing/GIS Leaders (FRIC) understand how to conduct accuracy assessment and can teach the other officers.
Introduction of Accuracy Assessment	Remote Sensing/GIS Officers (FRIC)	③ Discussing about methodology of Accuracy Assessment	January (1 day)	Lecture and Discussion	Vientiane Capital	R. Kajiwara	Remote Sensing/GIS Officers (FRIC) understand methodology of accuracy assessment
Accuracy Assessment Training	Remote Sensing/GIS Officers (FRIC)	③ Practicing Accuracy Assessment Work	January (8 days)	Lecture, Exercise and OJT	Vientiane Capital	R. Kajiwara	Remote Sensing/GIS Officers (FRIC)

Annex2__ Technology Transfer Plan

Ground Truth Survey Planning Training	Remote Sensing/GIS Officers (FRIC)	③ Introducing Outline of Ground Truth Survey ③ Introducing Ground Truth Planning ③ Practicing Ground Truth Planning ③ Discussing Schedule and Organization of Ground Truth Survey	January (4 days)	Lecture, Exercise and Discussion	Vientiane Capital	R. Kajiwara	Remote Sensing/GIS Officers (FRIC) understand Outline of Ground Truth Survey and how to plan it. Schedule and organization of Ground Truth Survey are determined.
Ground Truth Survey Conducting Training	Remote Sensing/GIS Officers (FRIC)	③ Practicing Ground Truth Survey	February and March (3 weeks)	OJT in Field Practice	Vientiane Capital (1 day) Whole Country (3 weeks)	M. Nasu ○R. Kajiwara T. Furuya	Remote Sensing/GIS Officers (FRIC) understand how to interpret satellite imagery and develop correspondences between satellite

Annex2__Technology Transfer Plan

							imagery and actual land-cover/use types.
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*1 Circles (O) indicate the person who is in charge for the relevant technical transfer activitie(s).

3. C/P Assignment for first phase (from September 2013 to March 2014)

Category	Output		Code	Job Title	Name
REDD+	Output 4	Other relevant information required for REDD+ is compiled.	PD	Project Director (Director of FIPD)	Mr. Linthong KHAMDY
			PM	Project Manager (FRIC Manager)	Mr. Soukanh BOUNTHABANDID
			RD	REDD+ Officer	Mr. Phetdavong
Remote Sensing	Output 1	Information on Forest Carbon Dynamics at national level is compiled.	RS-M	Remote Sensing Unit Manager	Mr. Sombath PANYASAK
			RS-L1	Remote Sensing/GIS Leader 1/FRIC	Mr. Khamkhong INTHAVONG
			RS-L2	Remote Sensing/GIS Leader 2/FRIC	Mr. Khamsook KODMONTY
			RS-L3	Remote Sensing/GIS Leader 3/FRIC	Mr. Onekeo LATVIENG
			RS-F1	Remote Sensing/GIS Fellow 1/FRIC	Ms. Bountanome LOUANGPASEUTH
			RS-F2	Remote Sensing/GIS Fellow 2/FRIC	Ms. Chansamou VONGSANITH
GIS/ Database	Output 2	Prototype of National Forest Information Database (NFIDB) is designed.	RS-F3	Remote Sensing/GIS Fellow 3/FRIC	Ms. Konsy SYLIPHONG
			DB-M	DB Management/Arrangement/FRIC	Mr. Souvanna CHANTHALUESY
			DB-D	DB Development/Operation/FRIC	Mr. Somphavy KEOKA
Inventory	Output 3	Next round of National Forest Inventory (NFI) is designed.	BO	Botanical Officer	Mr. Bouanbuan
			IV-FR	Inventory Officer/FRIC	Mr. Siamphone SIBOUN
			IV-DC	Inventory Officer/Data Collection	Mr. Phouangphet
			IV-DA	Inventory Officer/Data Analysis	Mr. Bounpheng VICHIT

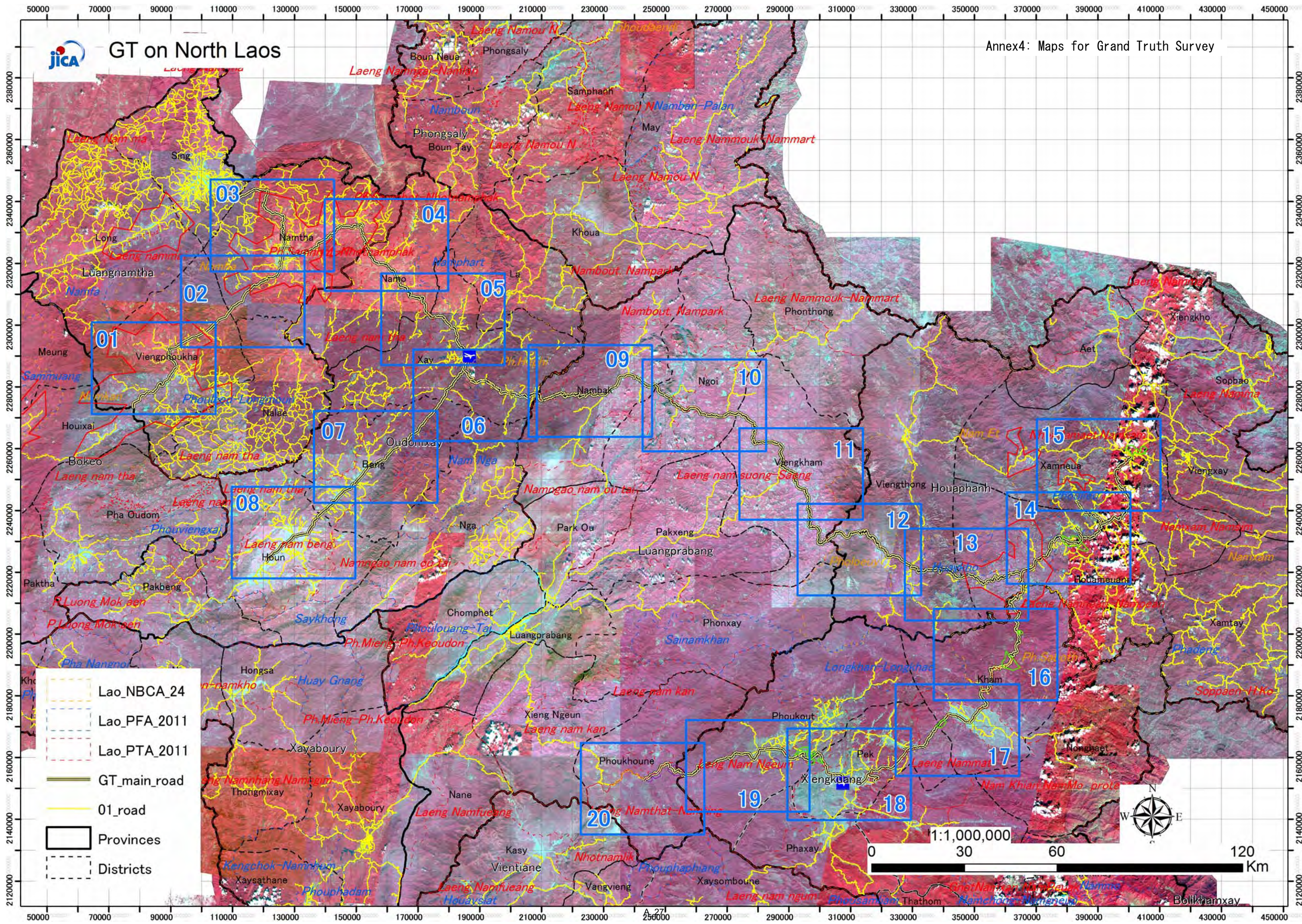
Annex3: List of Participants of First year Activity Report

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ Position	ບໍລິສັດ Organization	ໂທລະສັບ Telephone
1	Mr. Linthong Khamdy	Project Director	FIPD	55-655-133
2	Mr. Khamphay Manivong	Acting Director General	DOF	55-513-138
3	Mr. Soukan Bounthabandit	Project Manager	FIPD	22-081-008
4	Mr. Khamkhong Inthavong	Staff	FRIC/FIPD	55-915-918
5	Mr. Sombath Pangnasack	Director FRIC	FRIC/FIPD	55-333-274
6	Mrs. Chansamouth Vongsanith	Staff	FRIC/FIPD	55-397-208
7	Mr. Souvanna Chanthaluey	Staff	FRIC/FIPD	55-446-644
8	Dr. Ryota Kajiwara	Consultant	NFIS	58-822-085
9	Mr. Yuta Morikawa	Consultant	NFIS	
10	Ms. Chika Takanuschi	Consultant	NFIS	
11	Mr. Noriyoshi Kitamura	CTA/NFIS	KKC/FIPD	55-283-713
12	Mr. Piya Thamavongsa	Staff	FRIC/FIPD	56-888-343
13	Mrs. Bounthanome Louangpaseuth	Staff	FRIC/FIPD	77-609-029
14	Ms. Kongsy Syliphong	Staff	FRIC/FIPD	22-473-301
15	Mr. Kamsouk Kodmonty	Staff	FRIC/FIPD	58-347-996
16			FRIC/FIPD	
17				
18				



GT on North Laos

Annex4: Maps for Grand Truth Survey



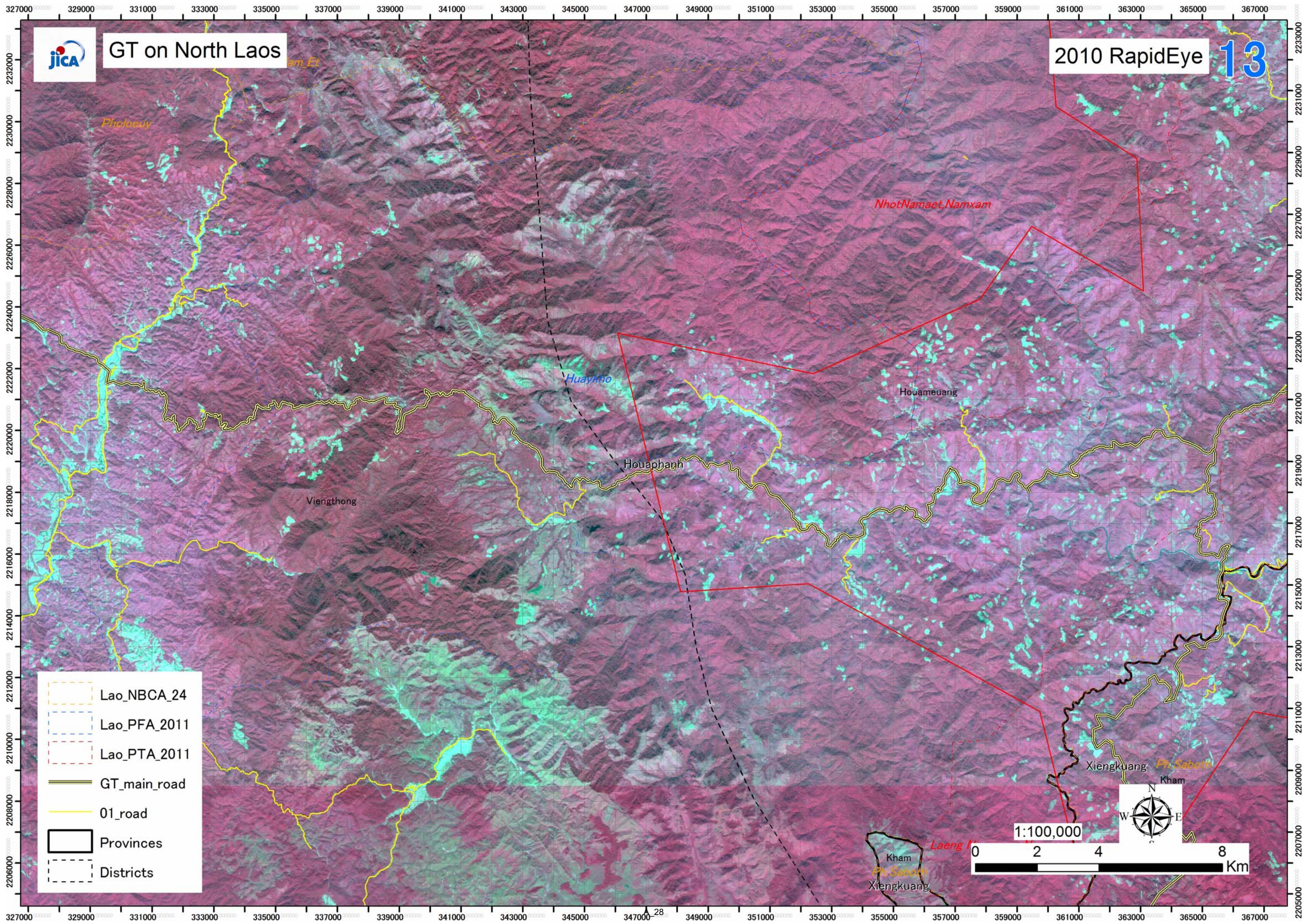
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- Lao_PTA_2011
- GT_main_road
- 01_road
- Provinces
- Districts



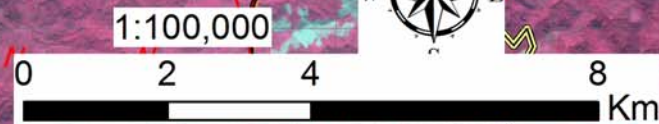


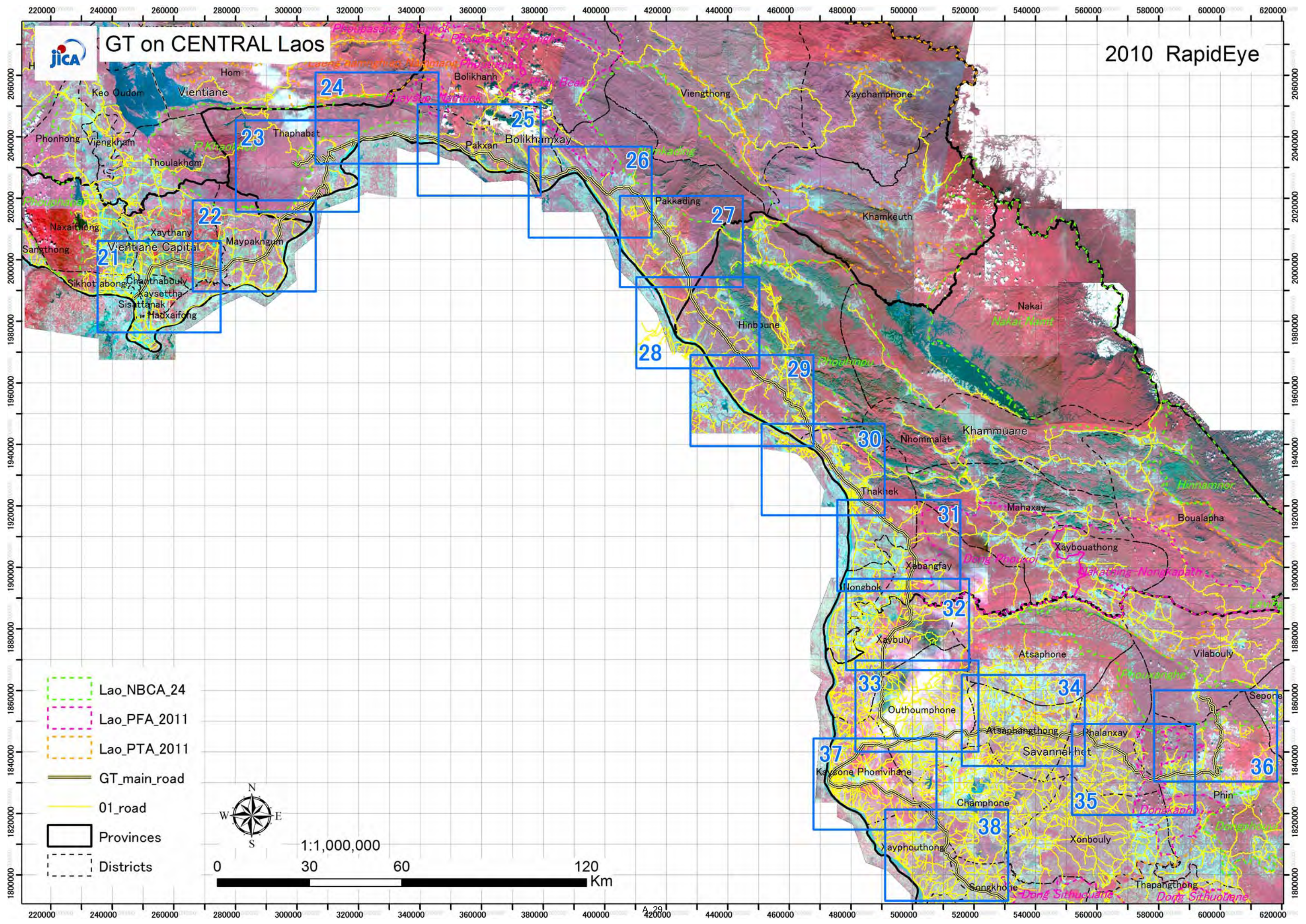
GT on North Laos

2010 RapidEye 13



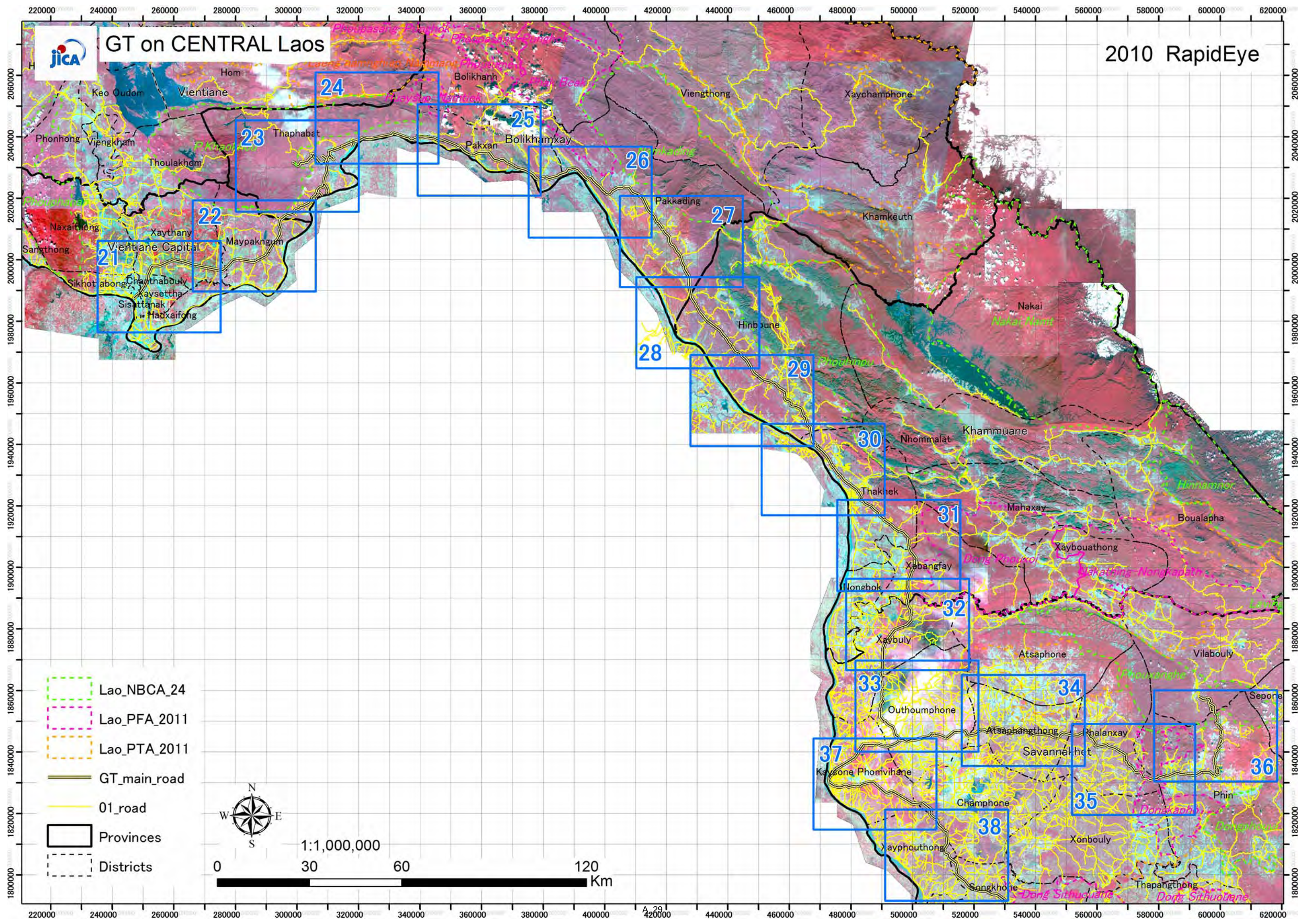
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- Provinces
- Districts





GT on CENTRAL Laos

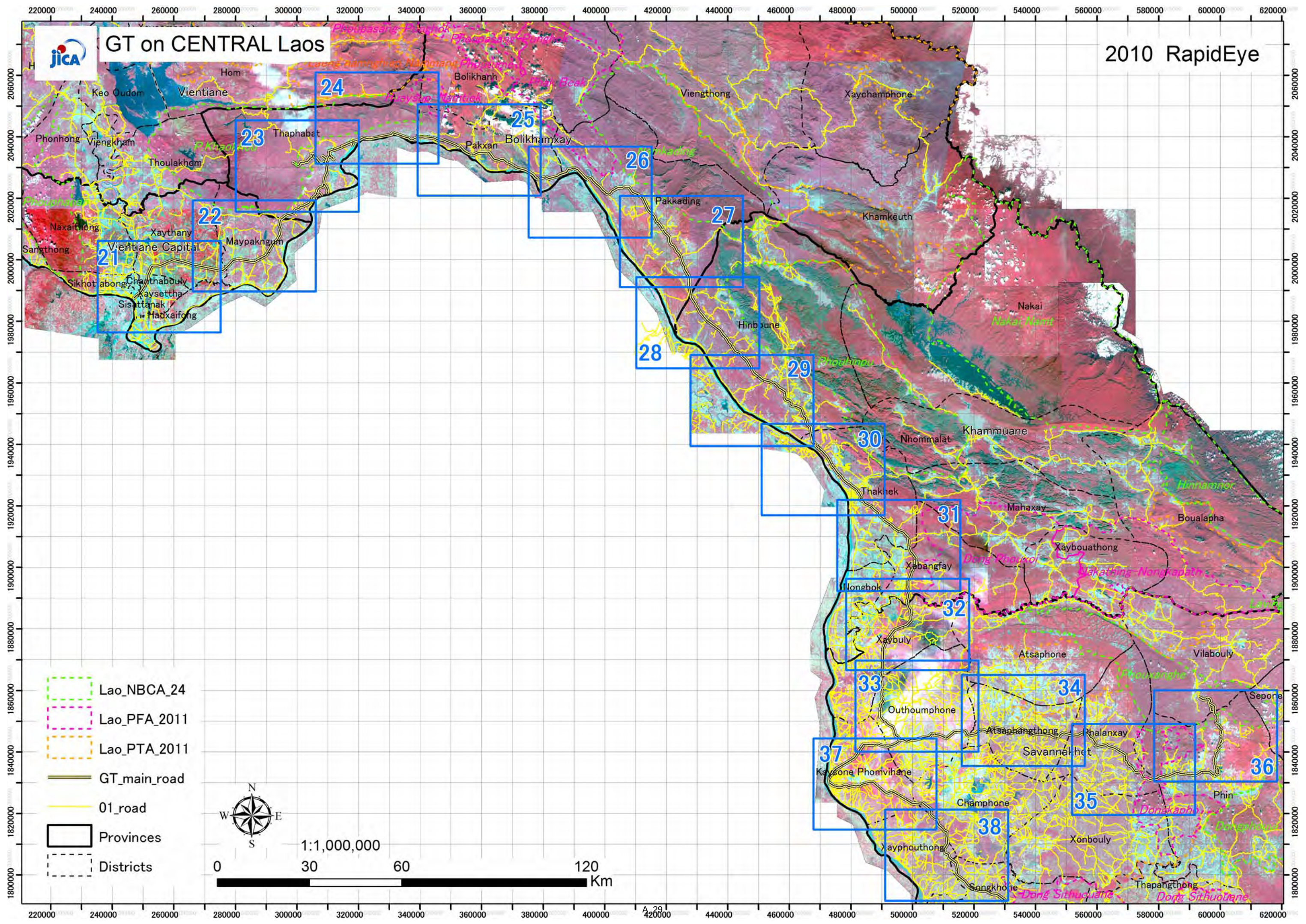
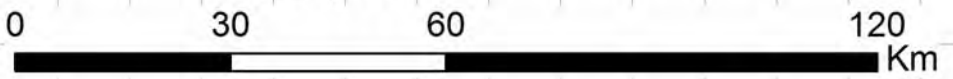
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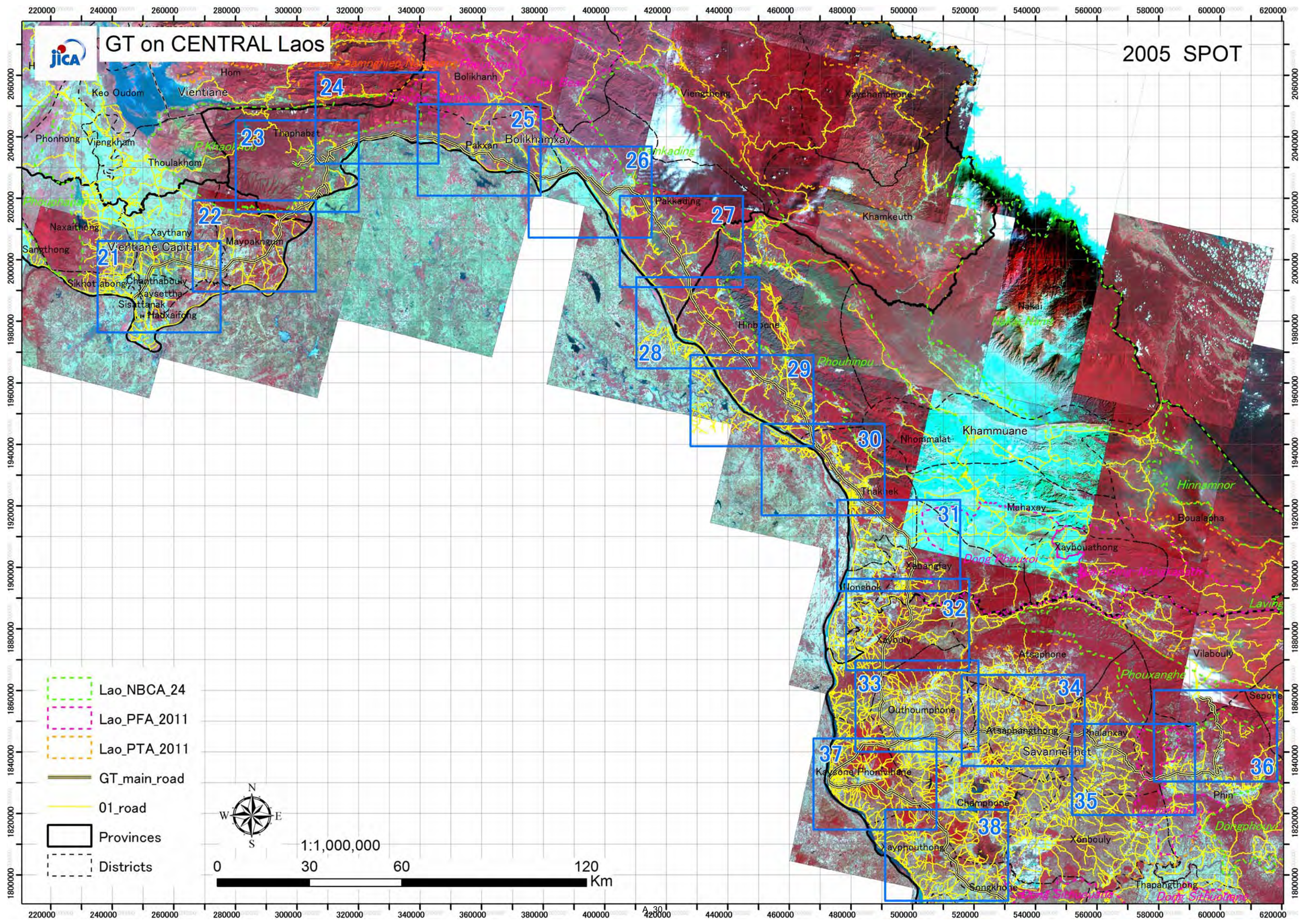


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- Districts



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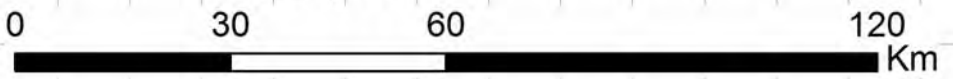
GT on CENTRAL Laos

2005 SPOT

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- Districts



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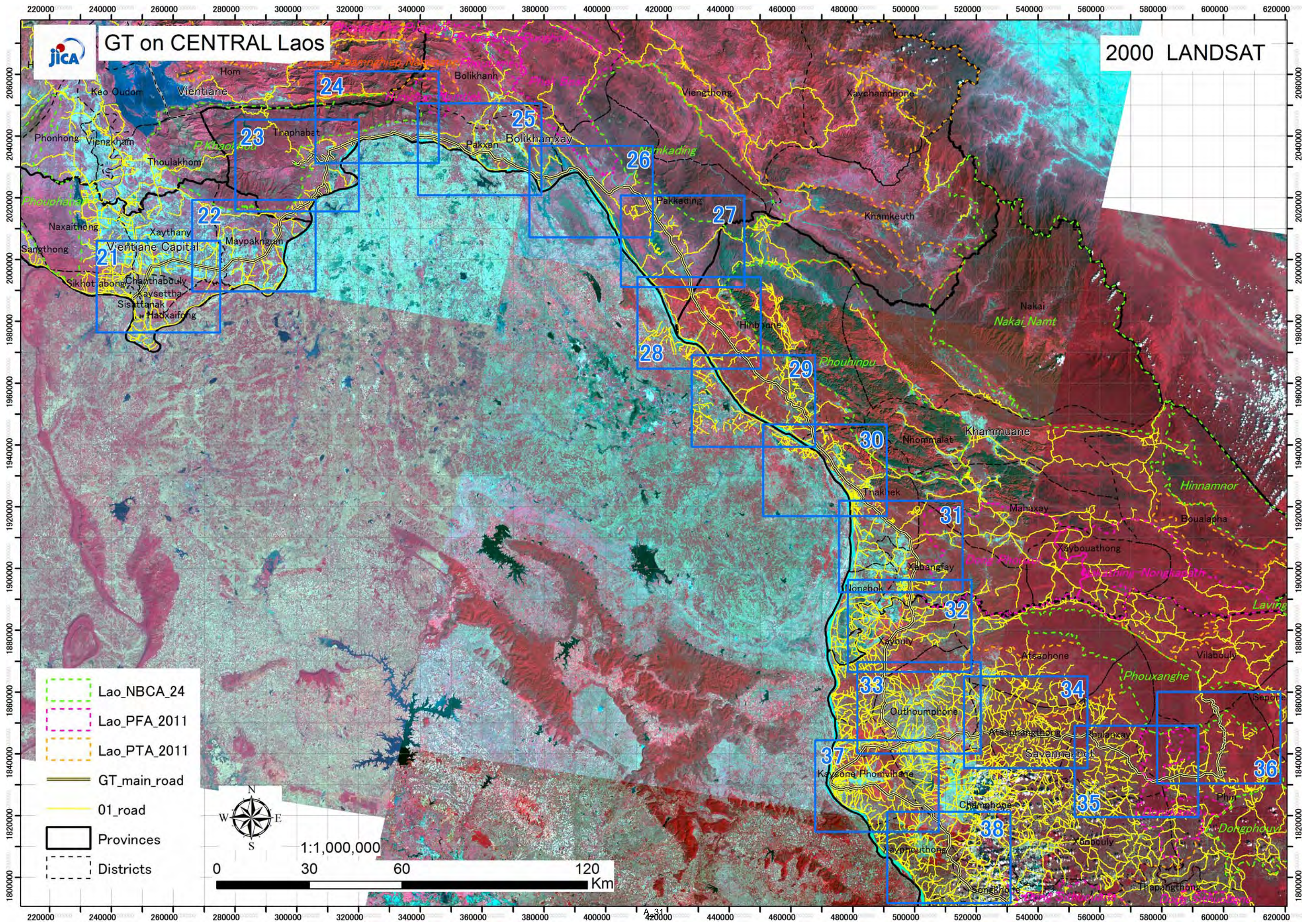


Provinces and Districts: Keo Oudom, Phonhong, Vientiane, Thoulakhom, Naxathong, Sangthong, Xaythany, Vientiane Capital, Sikhotabong, Chanthabouly, Xaysettha, Sisattanak, Hadxaifong, Thaphabath, Pakxan, Bolikhamxay, Bolikhanh, Viengkong, Pakkading, Hinboun, Khamkeuth, Nhommalat, Thakhek, Mahaxay, Xabangfay, Wonehok, Xaybuly, Outhoumphone, Atsaphone, Atsaphonthong, Savannakhet, Phin, Xonbuly, Songkhone, Thapangthong, Khammuane, Nakhai, Boualapha, Xaybouathong, Xayboun, Vialabouly, Sepone, Phouanghe, Phouhingu, Hinnamnor, Lavieng, Dong Phoukrai, Nam Phouathong, Phoungphou, Dong Phouay, Dong Sikhuan, Dong Sikhuan.

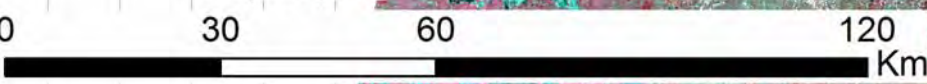


GT on CENTRAL Laos

2000 LANDSAT



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GT on CENTRAL Laos

2010 RapidEye

21

Naxaithong

Xaythany

Chanthabouly







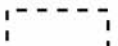
Vientiane Capital

Sikhottabong

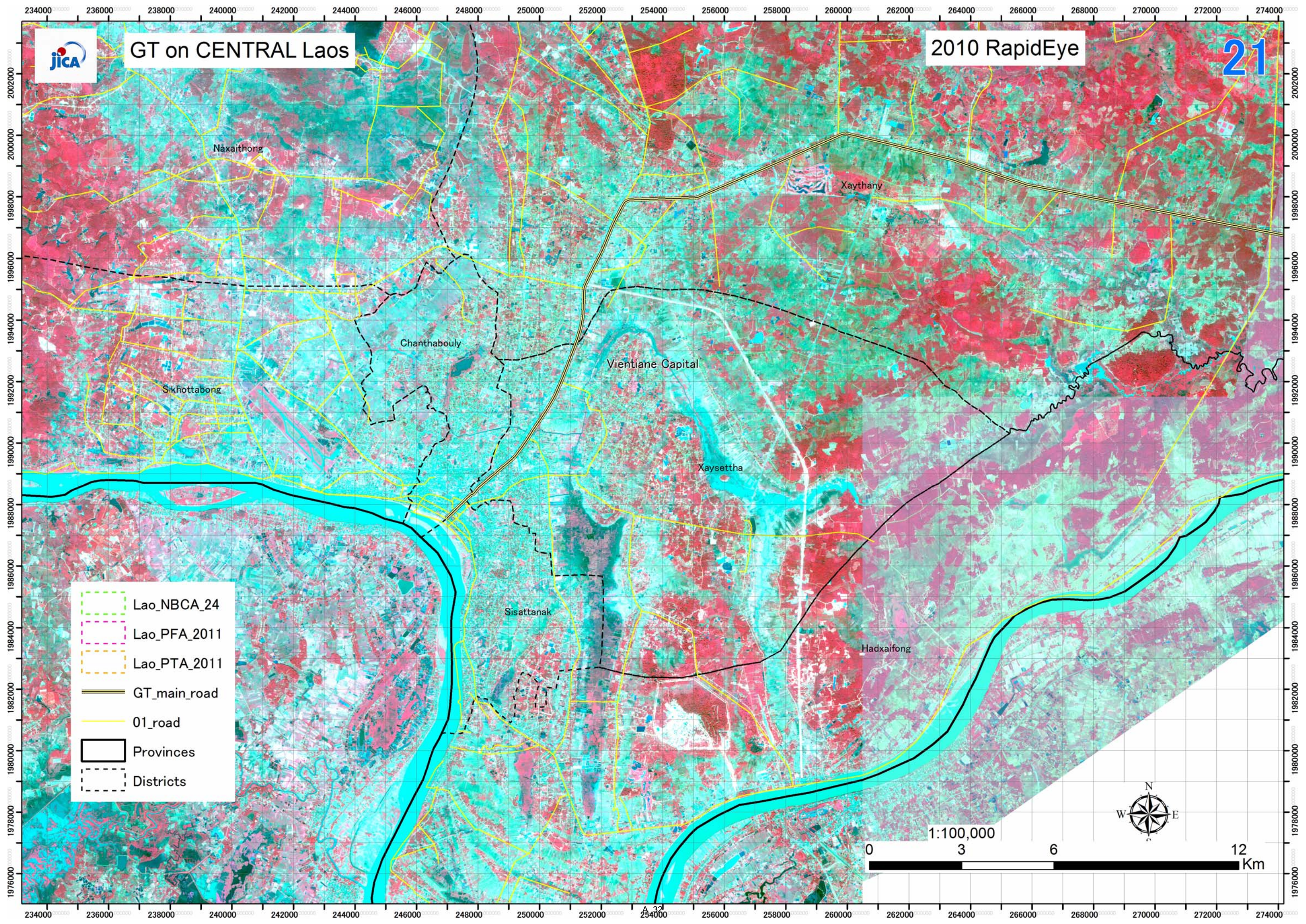
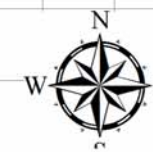
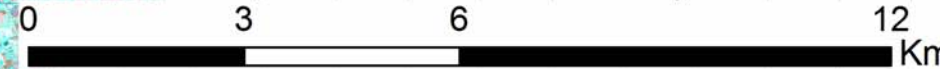
Xaysettha

Sisattanak

Hadxaifong

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-  01_road
-  Provinces
-  Districts

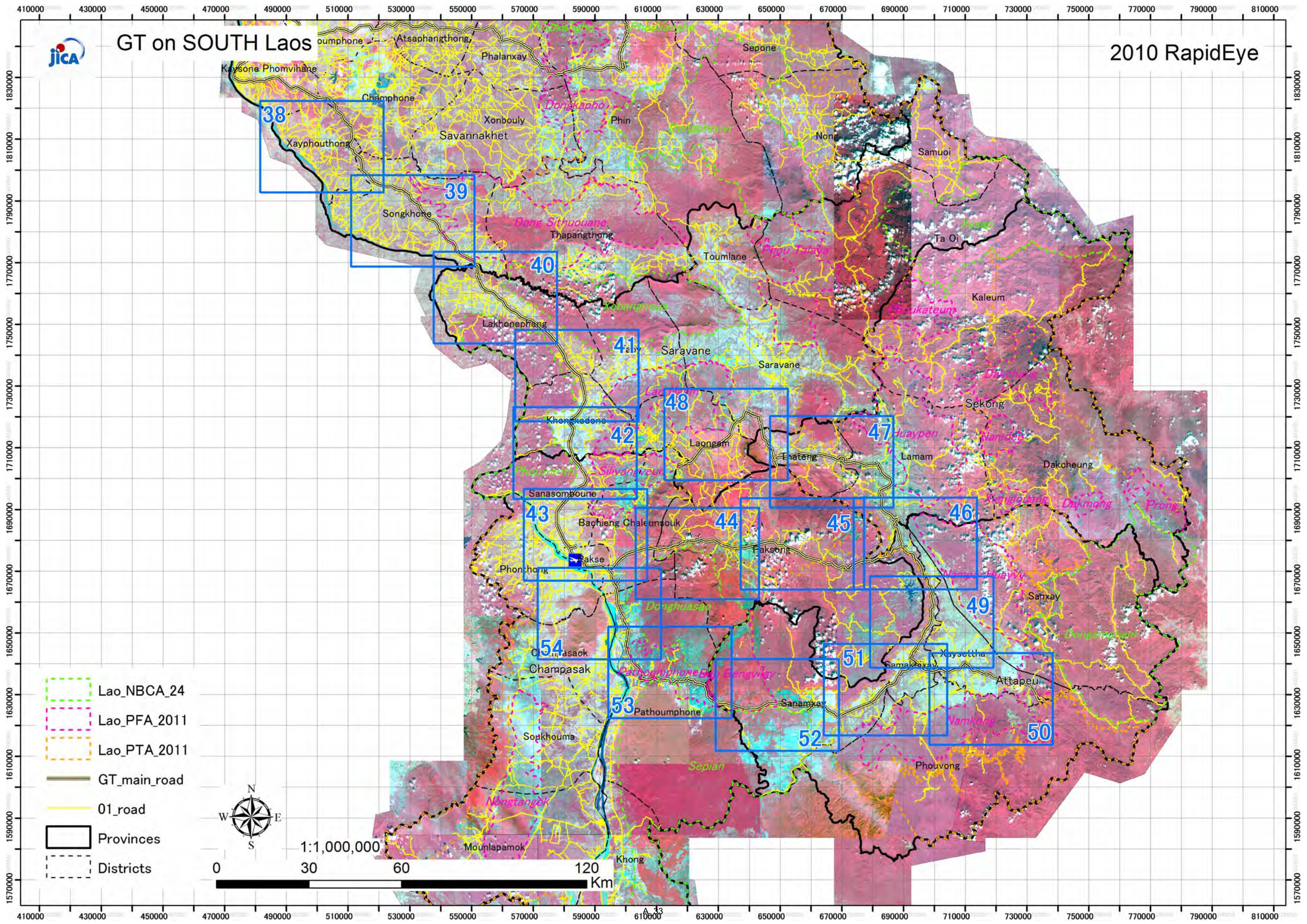
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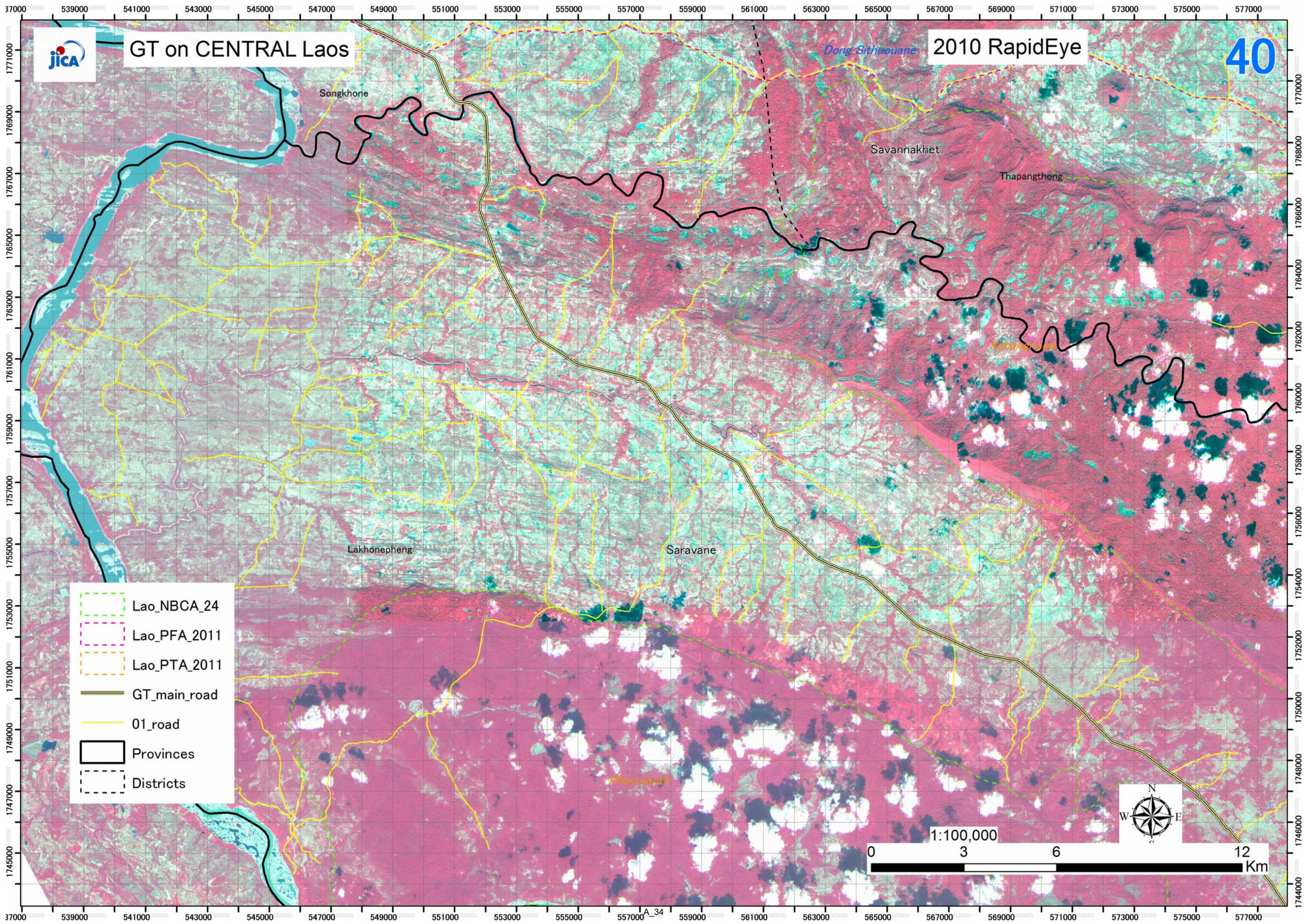




GT on SOUTH Laos

2010 RapidEye





GT on CENTRAL Laos

2010 RapidEye

40

Songkhone

Savannakhet

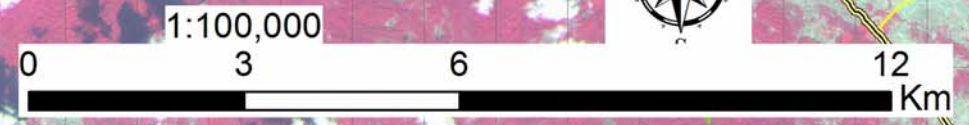
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Lakhonepheng

Saravane

Phouventh

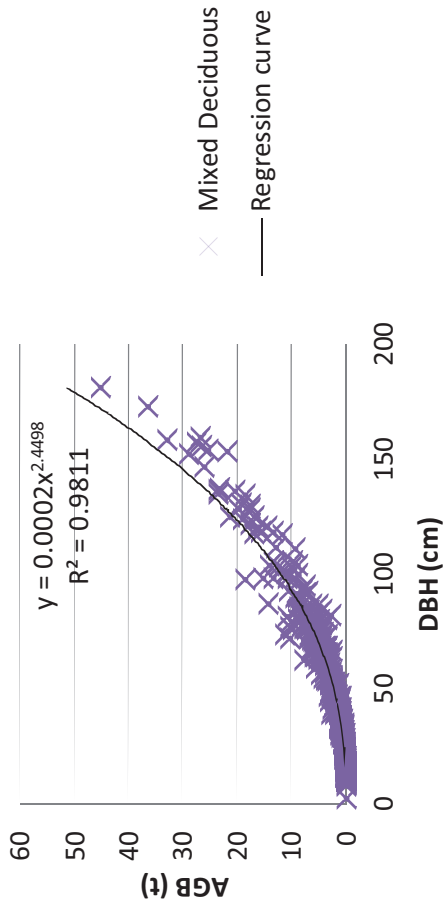
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- Districts



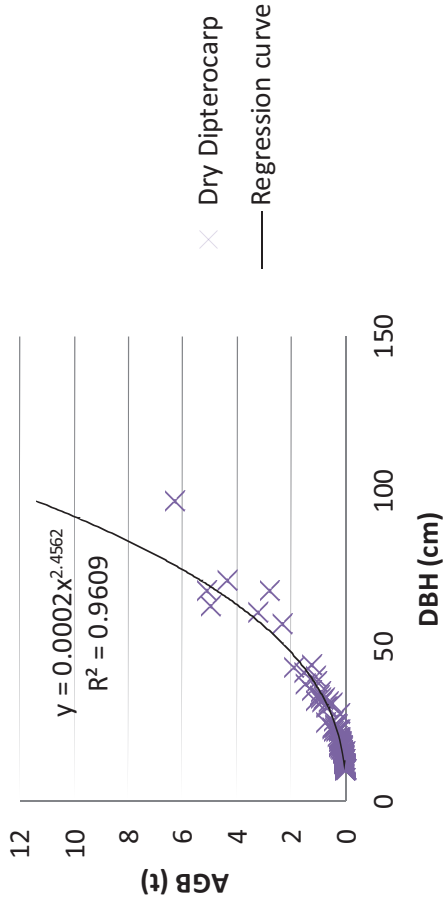
Annex5 : Single Regression Analysis between Diameter at Breast Height and Ground Biomass
for Each Province /Vegetation Type

The following figures show that single regression analysis which was carried out with respect to the diameter at breast height and the ground biomass for each vegetation type and province.

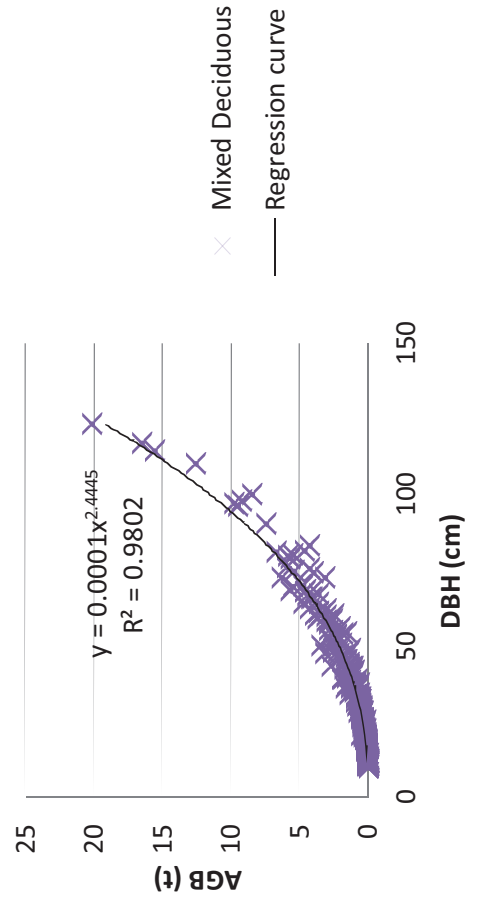
Vientiane Municipality Mixed Deciduous Forest



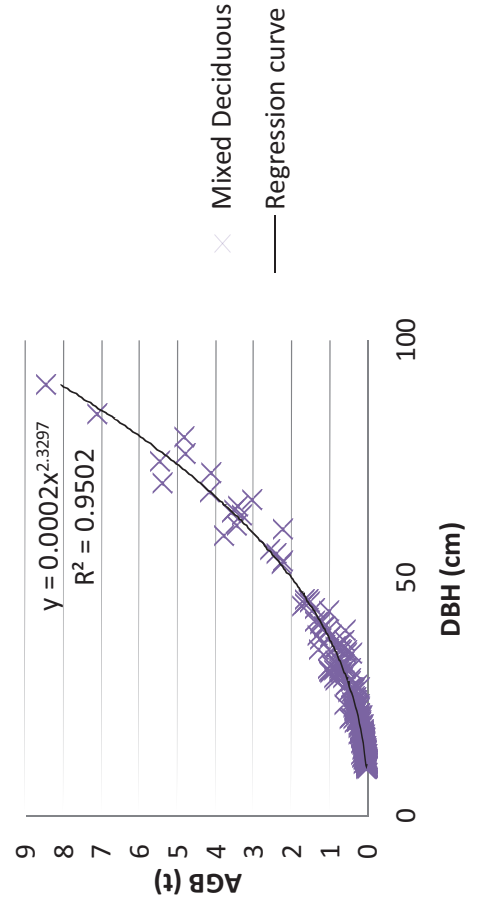
Vientiane Municipality Dry Dipterocarp Forest



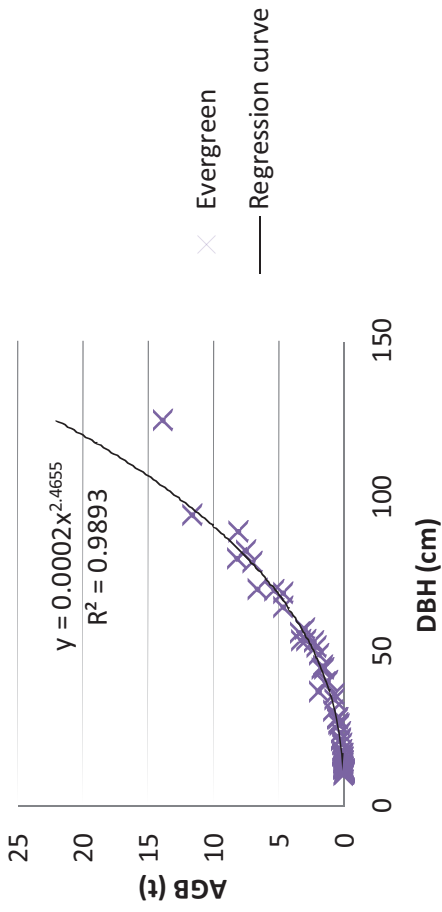
Phonsaly Province Mixed Deciduous Forest



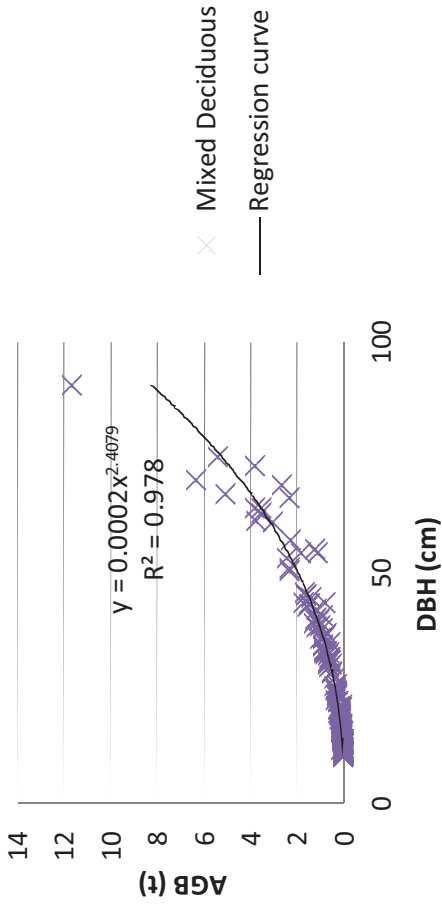
Luang Namtha Province Mixed Deciduous Forest



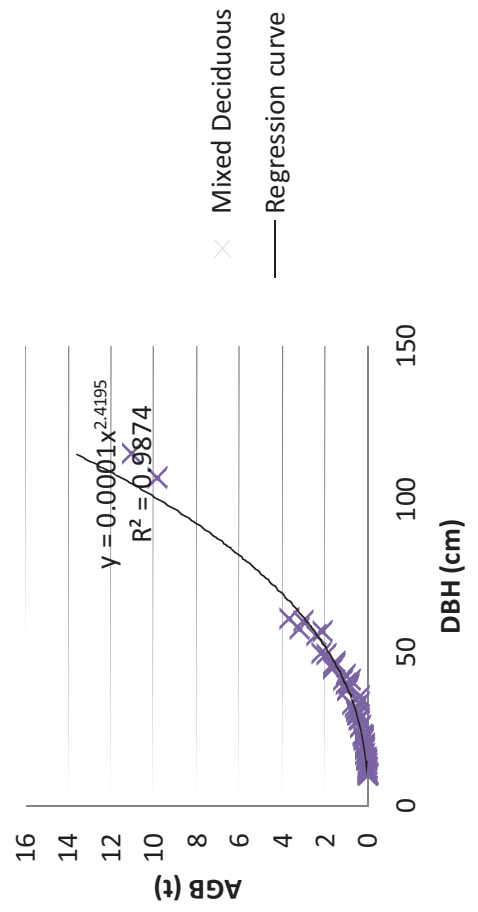
Oudomxay Province Evergreen Forest



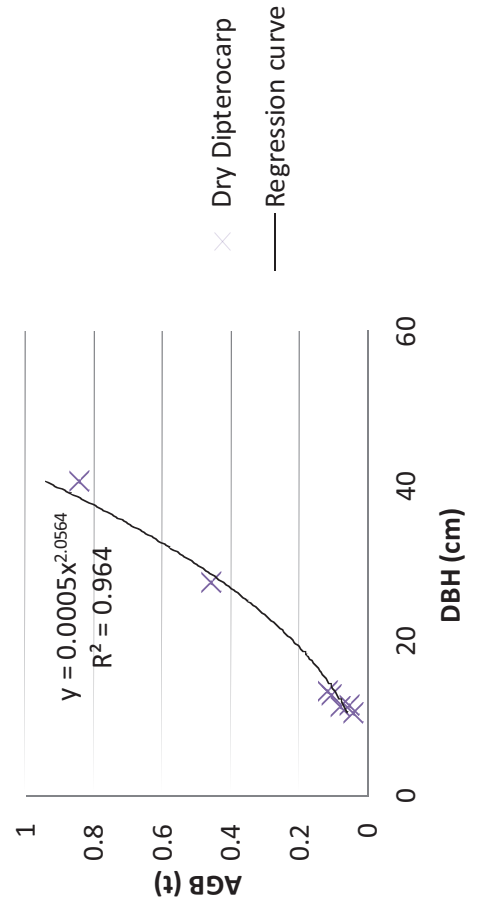
Oudomxay Province Mixed Deciduous Forest



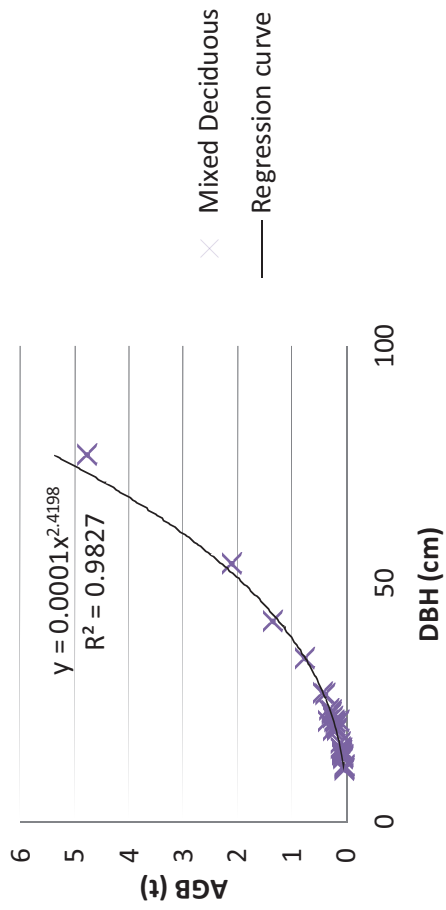
Bokeo Province Mixed Deciduous Forest



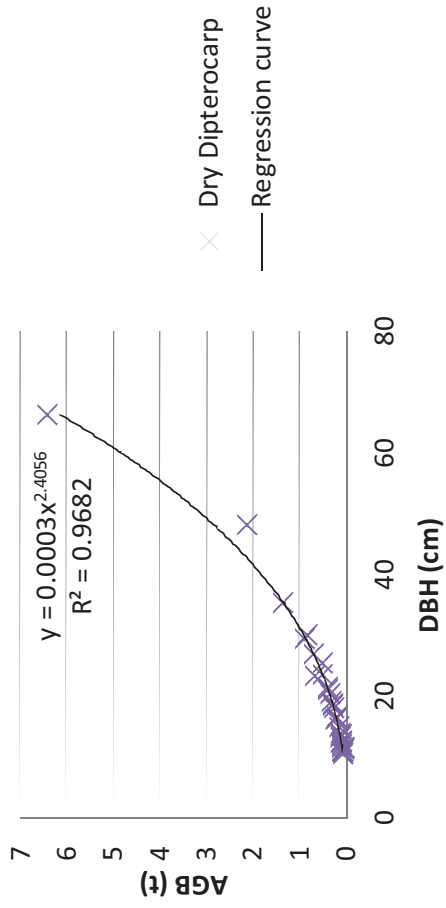
Bokeo Province Dry Dipterocarp Forest



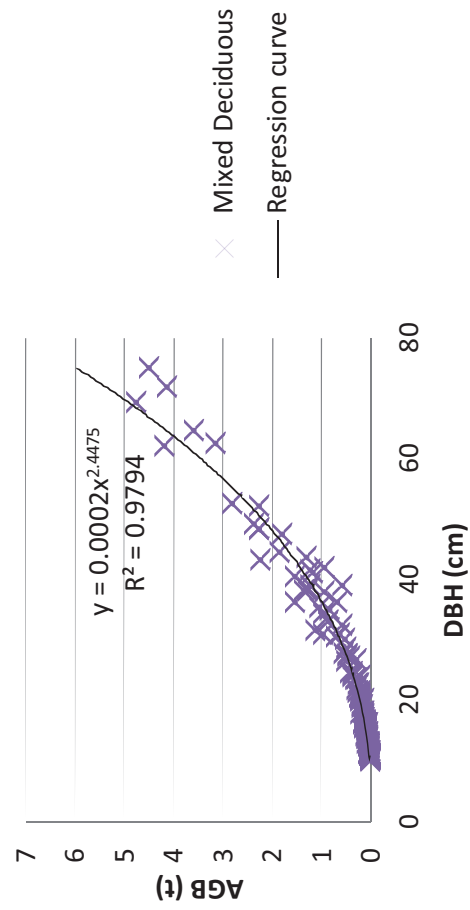
Luangprabang Province Mixed Deciduous Forest



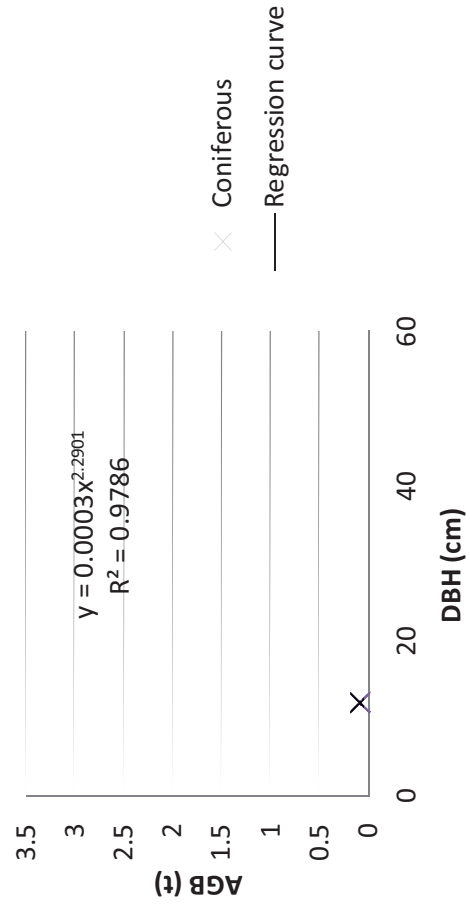
Luangprabang Province Dry Dipterocarp Forest



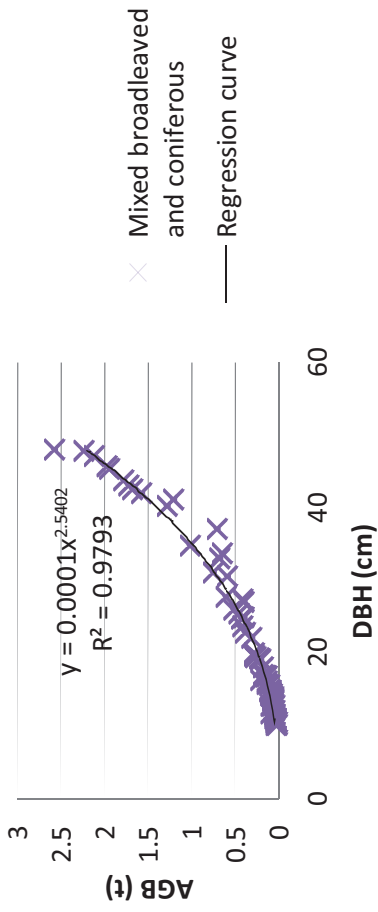
Huaphane Province Mixed Deciduous Forest



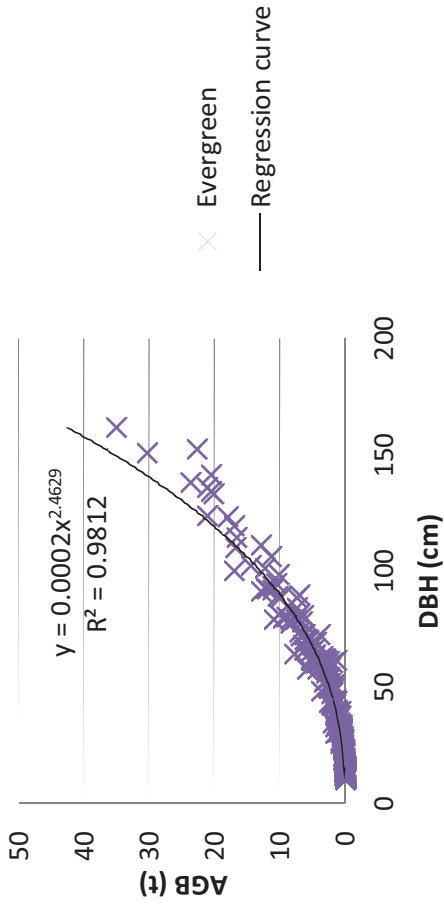
Huaphane Province Coniferous Forest



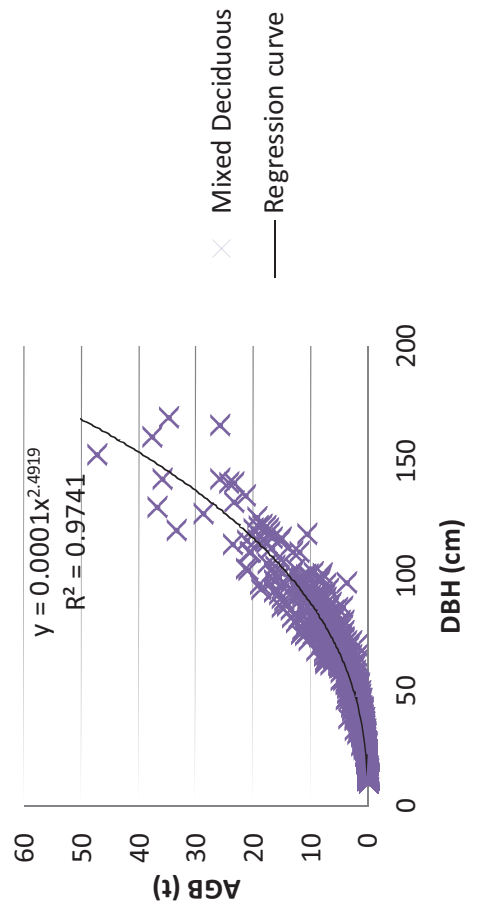
Huaphane Province Mixed Broadleaved and Coniferous Forest



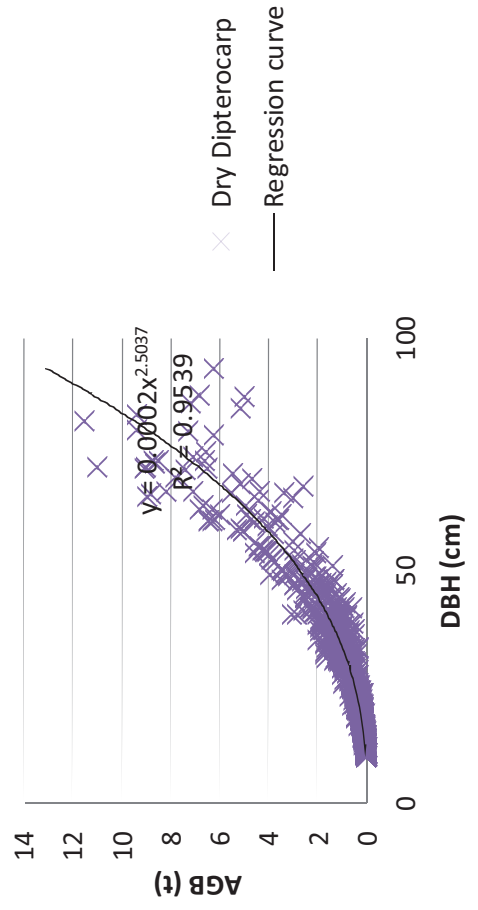
Xayabury Province Evergreen Forest



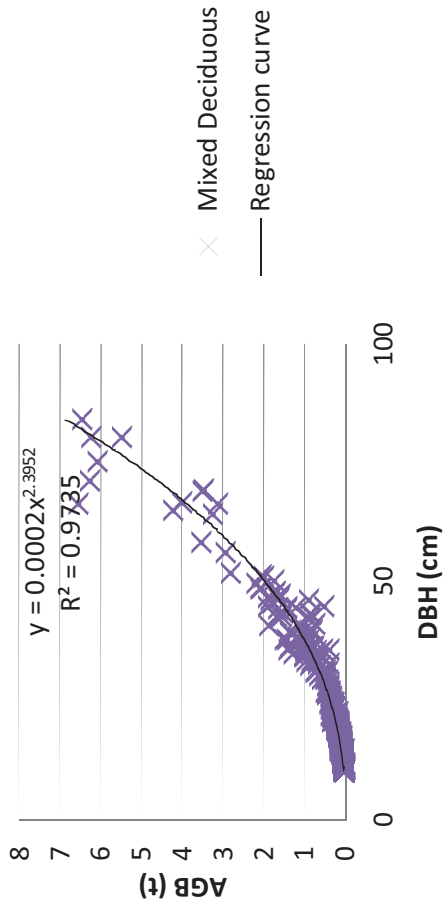
Xayabury Province Mixed Deciduous Forest



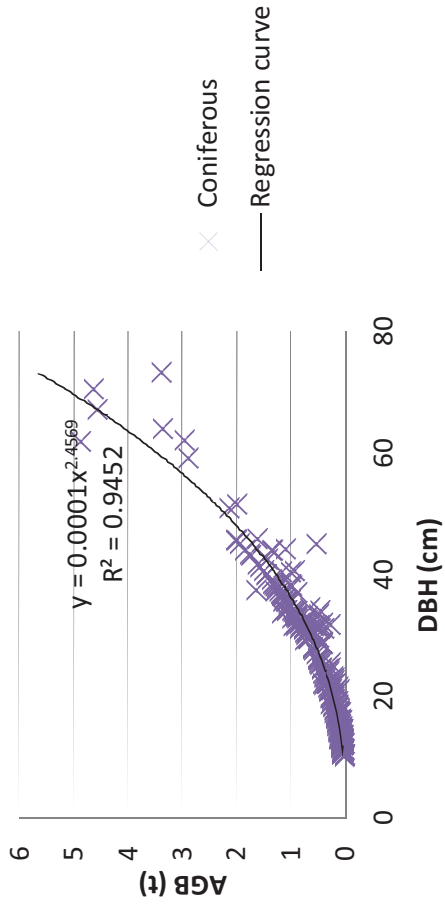
Xayabury Province Dry Dipterocarp Forest



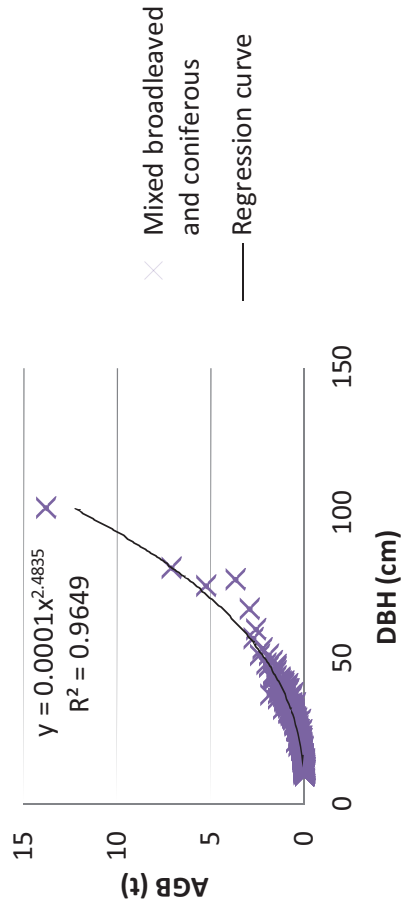
Xieng Khuang Province Mixed Deciduous Forest



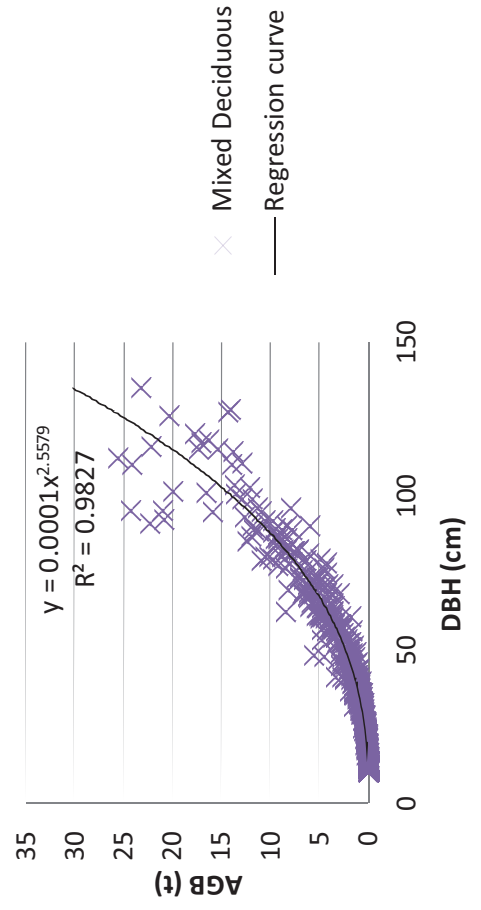
Xieng Khuang Province Coniferous Forest



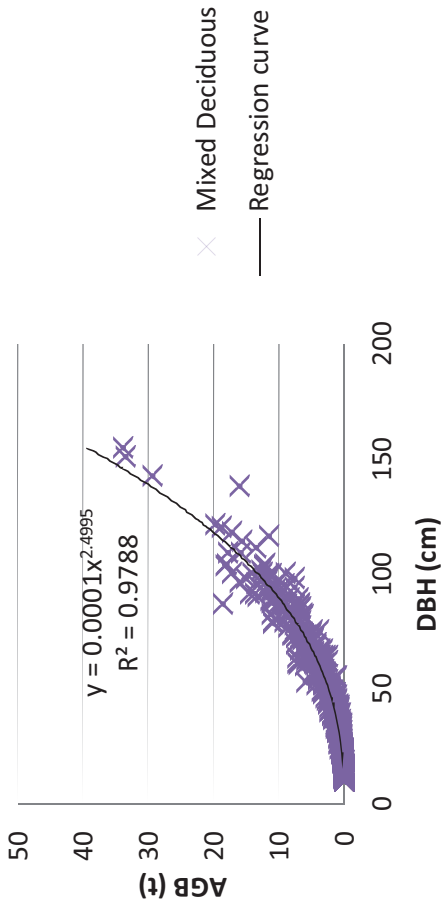
Xieng Khuang Province Mixed Broadleaved and Coniferous Forest



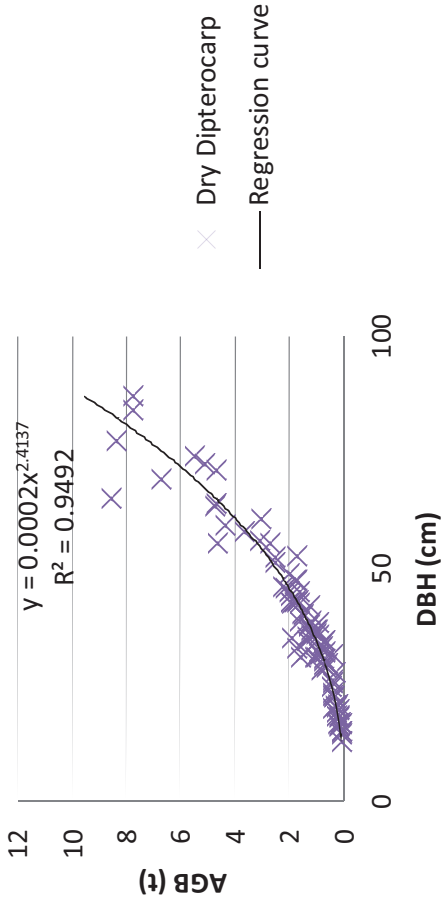
Vientiane Province Mixed Deciduous Forest



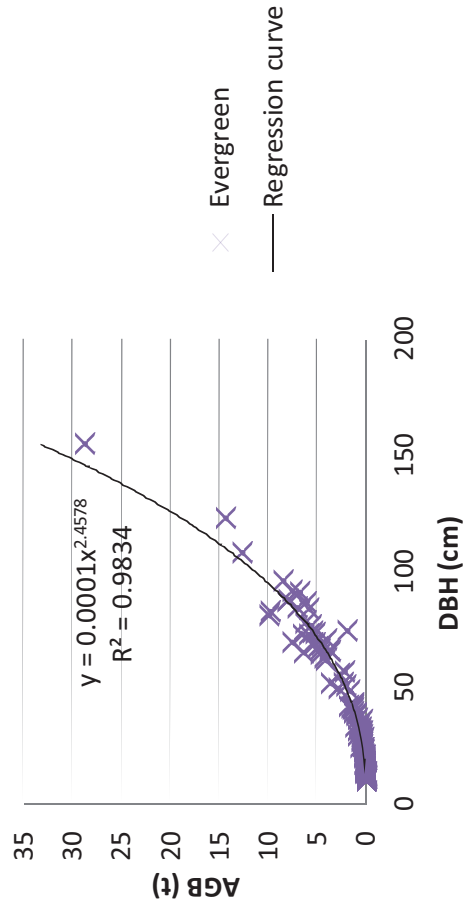
Bolikhambxai Province Mixed Deciduous Forest



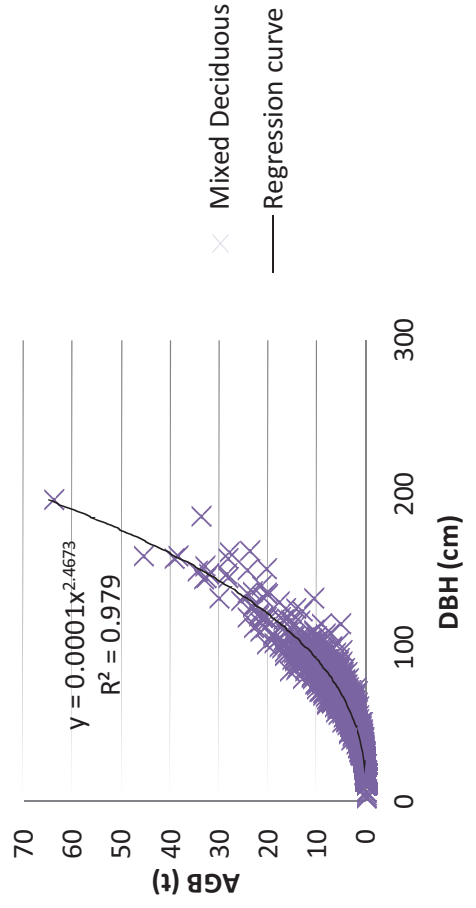
Bolikhambxai Province Dry Dipterocarp Forest



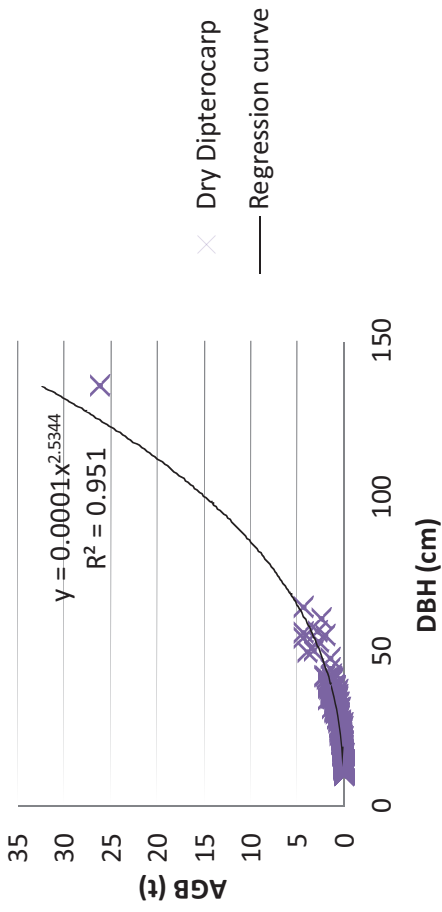
Khammuane Province Evergreen Forest



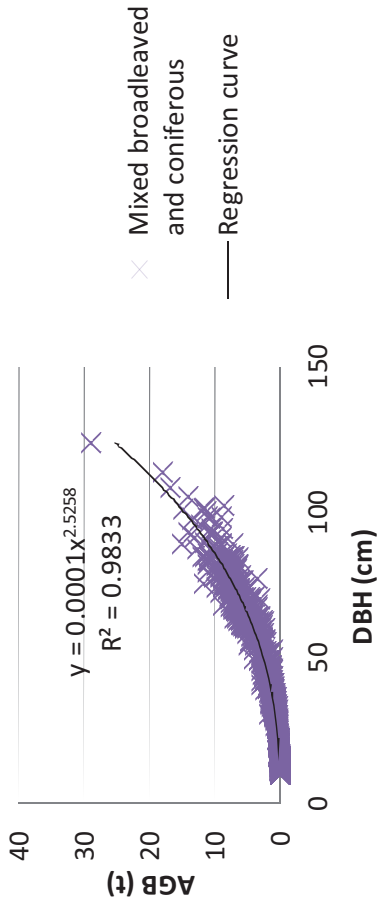
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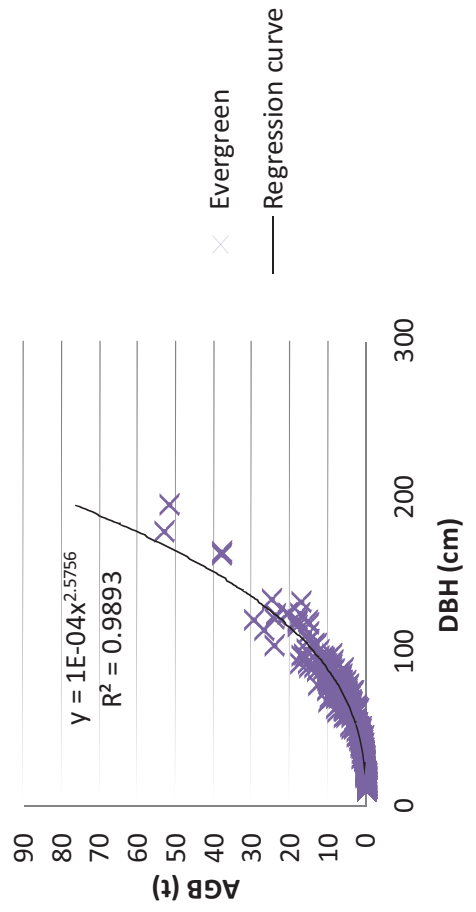
Khammuane Province Dry Dipterocarp Forest



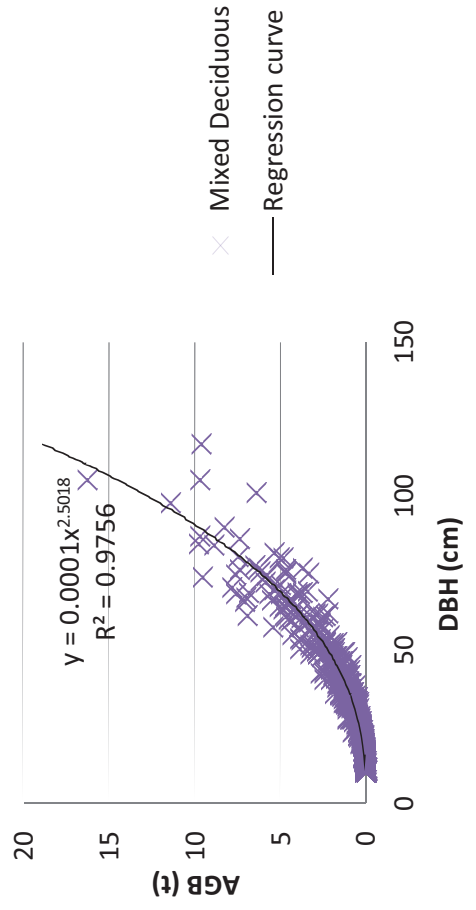
Khammuane Province Mixed Broadleaved and Coniferous Forest



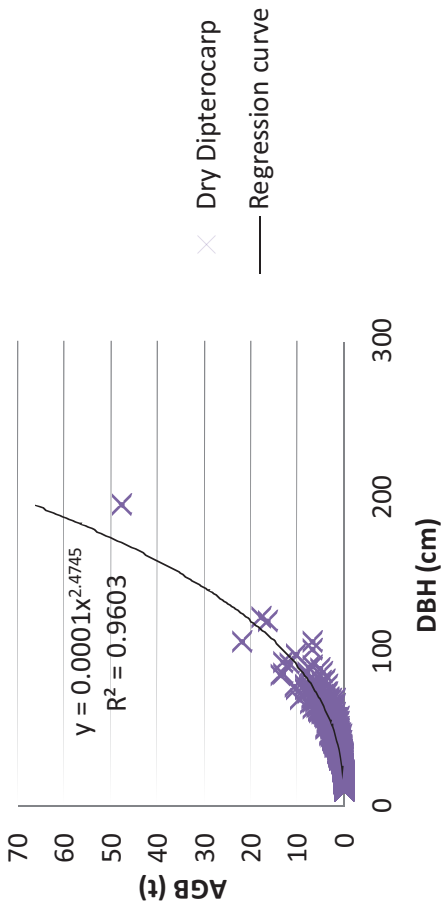
Savannakhet Province Evergreen Forest



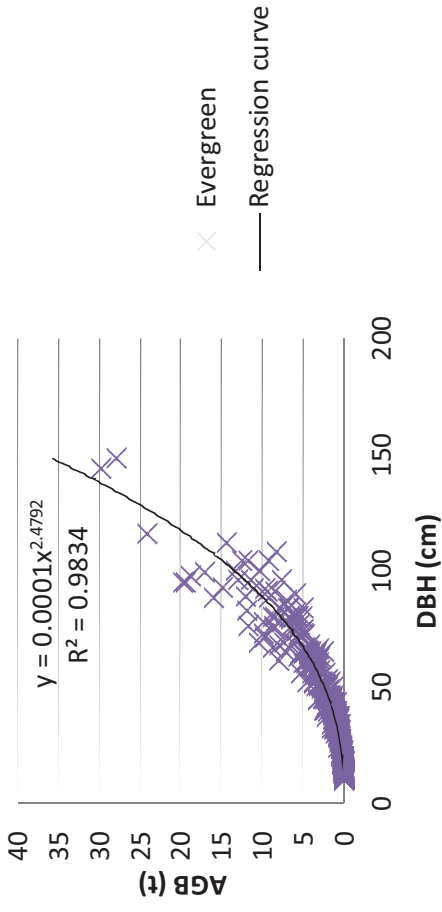
Savannakhet Province Mixed Deciduous Forest



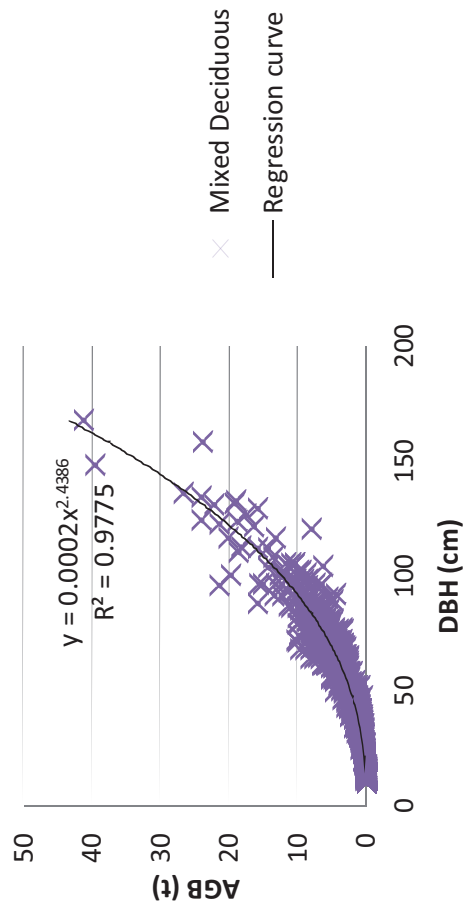
Savannakhet Province Dry Dipterocarp Forest



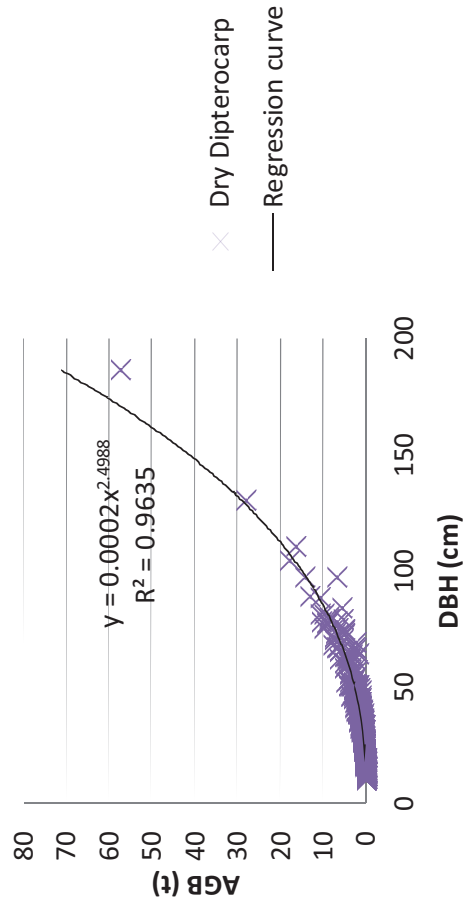
Saravane Province Evergreen Forest



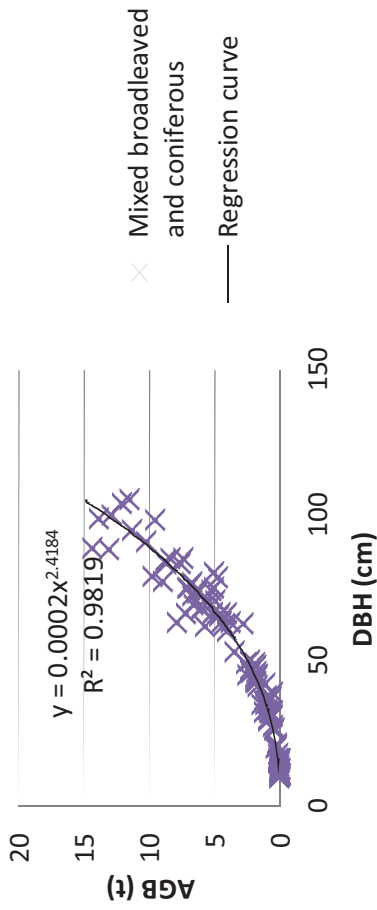
Saravane Province Mixed Deciduous Forest



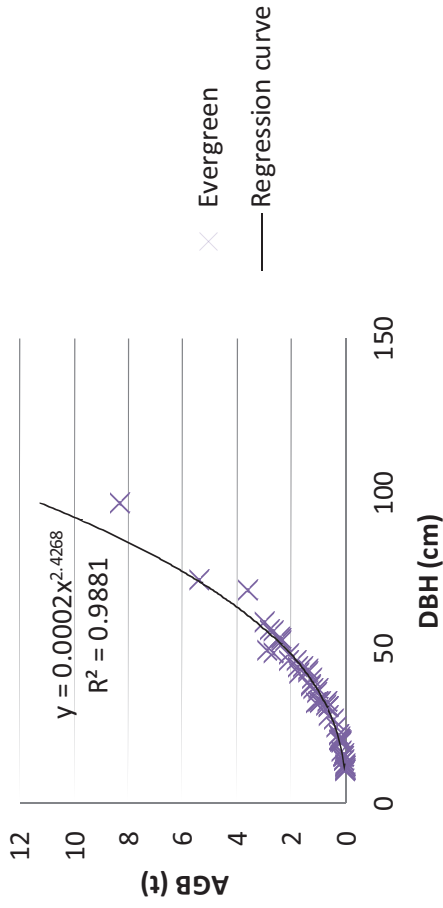
Saravane Province Dry Dipterocarp Forest



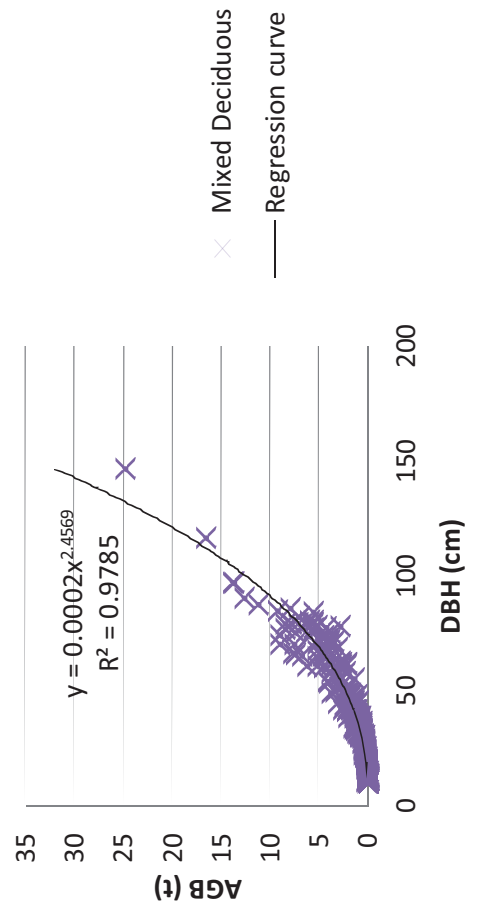
Saravane Province Mixed Broadleaved and Coniferous Forest



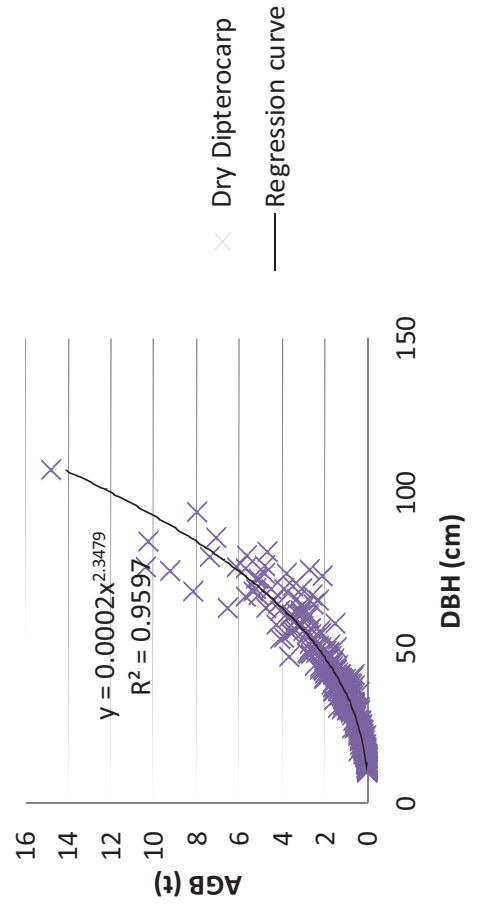
Sekong Province Evergreen Forest



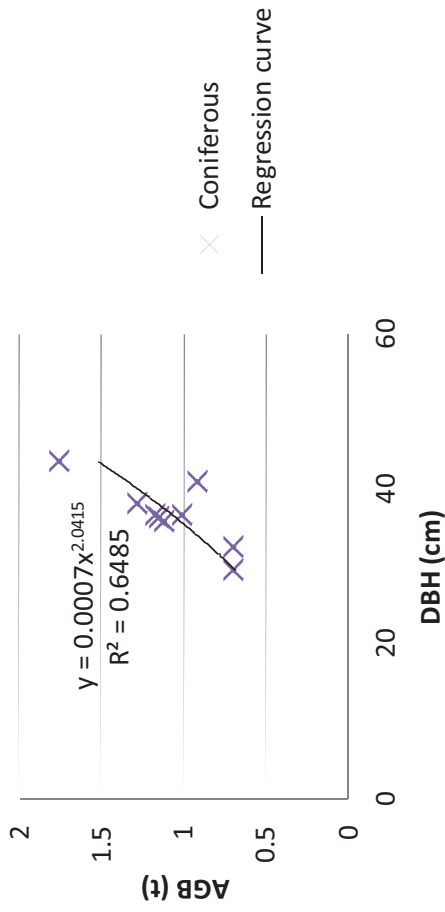
Sekong Province Mixed Deciduous Forest



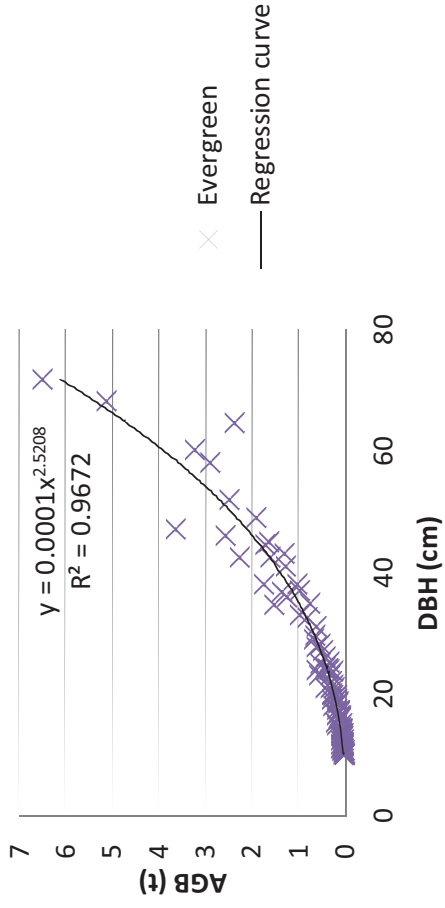
Sekong Province Dry Dipterocarp Forest



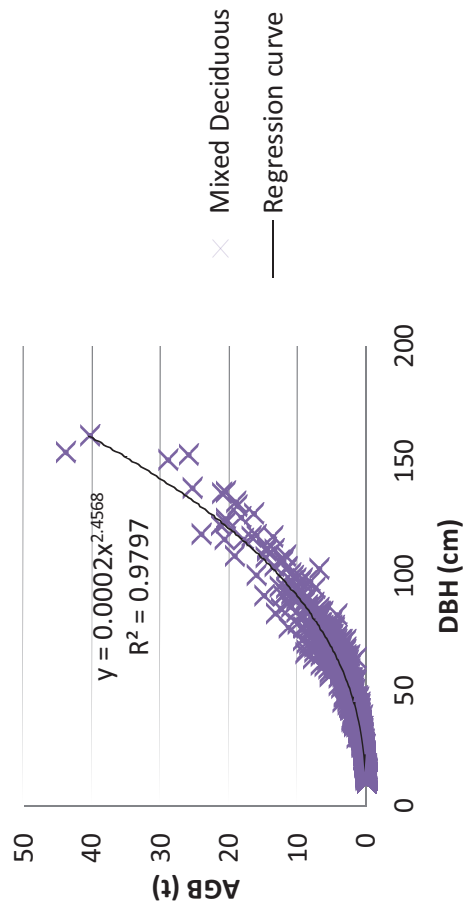
Sekong Province Coniferous Forest



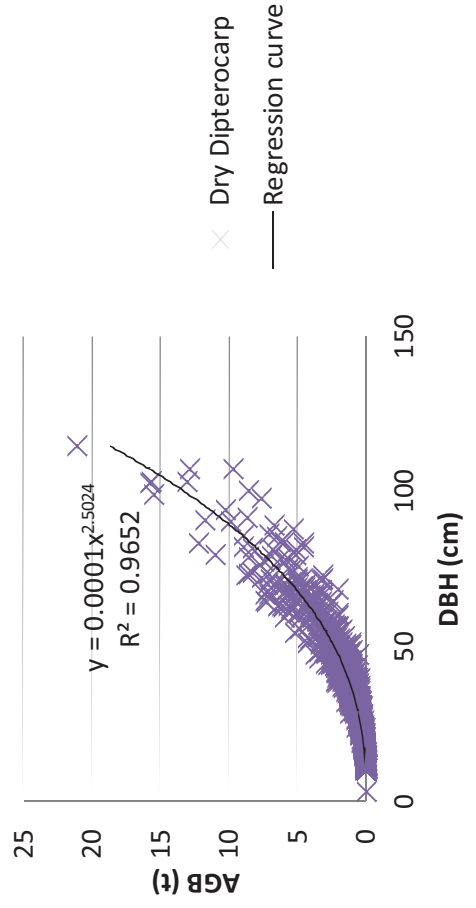
Champasak Province Evergreen Forest



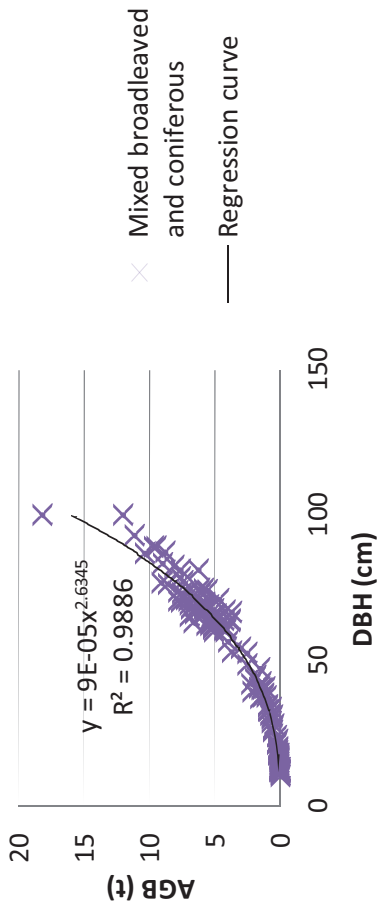
Champasak Province Mixed Deciduous Forest



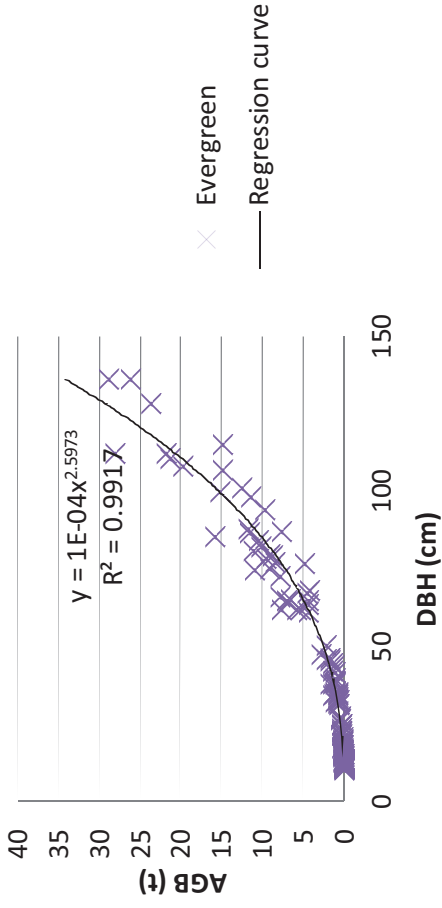
Champasak Province Dry Dipterocarp Forest



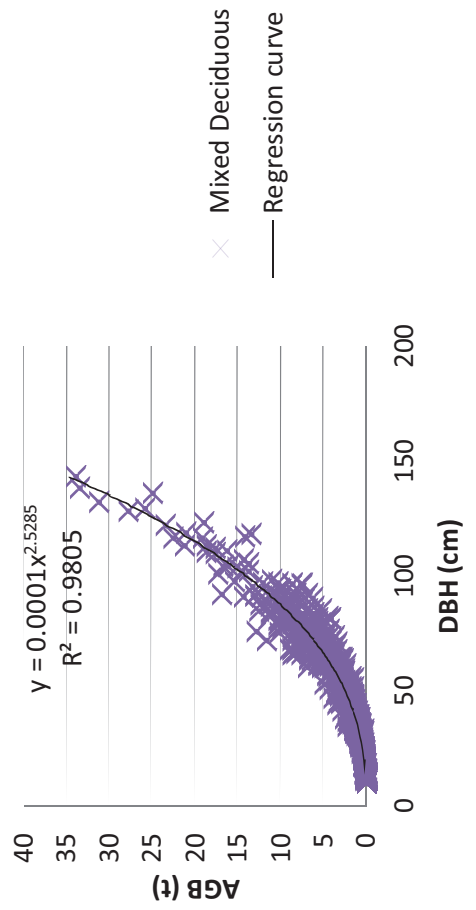
Champasak Province Mixed Broadleaved and Coniferous Forest



Attapeu Province Evergreen Forest



Attapeu Province Mixed Deciduous Forest



Attapeu Province Mixed Deciduous Forest

