Projet de Cartographie Topographique Numérique
Au
Burkina Faso

Rapport final

Annexes

Index

Annexe-1. Procès-verbal des discussions

Annexe-1.1 Procès-verbal des discussions pour le Rapport de commencement

PROCÉS-VERBAUX DES DISCUSSIONS SUR LE RAPPORT DE COMMENCEMENT

POUR

LE PROJET DE LA CARTOGRAPHIE TOPOGRAPHIQUE NUMERIQUE AU BURKINA FASO

CONVENUS ENTRE

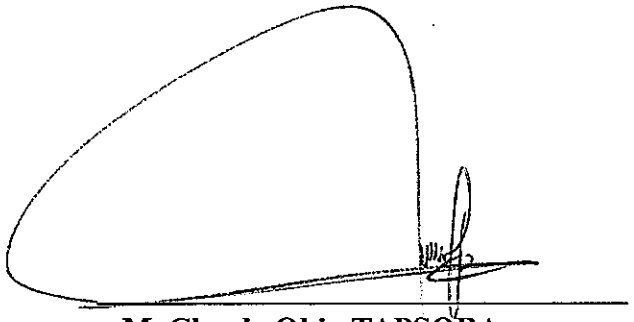
L'INSTITUT GEOGRAPHIQUE DU BURKINA/MINISTERE DES INFRASTRUCTURES ET DESENCLAVEMENT

ET

AGENCE JAPONAISE DE LA COOPERATION INTERNATIONALE

Ouagadougou,

Avril 2012



M. Claude Obin TAPSOBA
Director General,
Institut Géographique du Burkina

M. Takashi HARADA
Chef de la mission
Equipe d'Etude de la JICA

Introduction

En réponse à la requête officielle du Gouvernement du Burkina Faso (ci-après dénommé « le GdB »), présentée au Gouvernement du Japon (ci-après dénommé « le GdJ », l'Agence Japonaise de la Coopération Internationale (ci-après désigné dénommé « la JICA ») a tenu une série de discussions avec l'Institut Géographique du Burkina (ci-après dénommé « l'IGB ») ainsi que des organisations concernées en vue d'élaborer un plan détaillé du Projet de la Cartographie Topographique Numérique du Burkina Faso (ci-après dénommé "le Projet").

Les deux parties ont convenu que l'IGB, l'homologue de la JICA, sera responsable de l'exécution du projet en collaboration avec la JICA. Il coordonnera avec les autres organisations concernées et s'assurera que la mise en œuvre autonome du Projet est soutenue pendant et après la période d'exécution du projet pour contribuer au développement social et économique du Burkina Faso.

L'Equipe d'Etude a entamé une série de discussions avec l'IGB concernant le Rapport du Commencement du Projet. Le présent document présente les principaux points de discussions et les commentaires exprimés par les deux parties. Il est destiné à compléter le Rapport de commencement.

La liste des participants aux discussions est jointe en ANNEXE 1.

****Contenu des discussions****

Avant de commencer la consultation et les discussions du Rapport de commencement, l'équipe d'étude a expliqué le profil du projet. Les contenus et les résultats des discussions sont mentionnés ci-dessous.

*Ajout

3. Méthodes opératoires

3.2 Transfert de technologies(page 29)

B. Aérotriangulation

Ajouter au paragraphe 6.

6. Logiciel ORIMA d'Aérotriangulation

L'équipe d'étude de la JICA donnera une formation au personnel de l'IGB sur l'Aérotriangulation à partir des photographies aériennes en utilisant le logiciel ORIMA.

D. Restitution numérique et compilation numérique

- Compilation numérique (page 30)

Ajouter au paragraphe 5.

5. **Toponymie**

L'Equipe d'étude de la JICA examinera les possibilités de réaliser un transfert de technologie sur les procédures de collecte des toponymes, leur traitement et leur gestion.

ANNEXE 1

Liste des participants

<Partie burkinabé>

M. Claude Obin TAPSOBA	Directeur General/IGB
M. Désiré COMPAORE	Chef de projet carto
Mr Ferdinand Bako	Chef de service Cartographie
Sylvain Kaboré	Service des travaux de terrain
Mme Sougué Maïmouna	Service de Prise de Vues Aériennes
Mme Coulibaly Safiatou	Service de Photogrammétrie

<Partie japonaise>

Equipe d'étude

M. Takashi HARADA	Chef de la mission
M. Takao IKEDA	Chef adjoint de la mission
M. Noboru OKADA	Interprète

INSTITUT GEOGRAPHICQUE DU BURKINA FASO (IGB)
AGENCE JAPONAISE DE COOPERATION INTERNATIONALE (JICA)

Projet de Cartographie Topographique Numérique

Au

Burkina Faso

RAPPORT DE COMMENCEMENT

Avril 2012

Aero Asahi Corporation
Kokusai Kogyo Co., Ltd.

MINUTES OF MEETING

FOR

THE DIGITAL TOPOGRAPHIC MAPPING PROJECT
IN
BURKINA FASO

AGREED UPON BETWEEN

IGB/MINISTRY OF INFRASTRUCTURES AND OPENING UP

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

April 2012

Mr. Claude Obin TAPSOBA
Director General,
Burkina Geographic Institute

Mr. Takashi HARADA
Leader
JICA Study Team

Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as « the GoB») the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as «JICA») held a series of discussion with Burkina Geographic Institute (hereinafter called «IGB») and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as« the Project »).

Both parties agreed that IGB, as the counterpart of JICA, will be responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

Study team had a series of discussion with the Burkina Geographic Institute regarding the Inception report of the project. This document summaries major discussed points and remarks expressed by both sides and intend to supplement the Inception report. Attendances of discussion are listed in APPENDIX 1.

******Contents of Discussion******

Before starting of the consultation and discussion of Inception report, Study team explained the outline of the project. Contents of discussion and results are below.

- **Addition** (page 26)

3. Operation methods

3.2 Technology Transfer

B Aerial triangulation

Added following expression as paragraph 6.

6. Aerial Triangulation Software ORIMA

JICA Study Team will make a training of Aerial Triangulation using of ORIMA.

D. Digital Plotting and Compilation

5. Geographical Names (Page30)

- Know-how of determination of geographical names will be transferred through OJT.

APPENDIX 1

List of Attendants

<Burkina Faso side>

Mr. Claude Obin TAPSOBA	Director General/IGB
Mr. Désiré COMPAORE	Chief of the Project
Mr. Ferdinand BAKO	Chief of Cartographic Service
Mr. Sylvain KABORE	Service of Topographic Works
Mrs. Sougue MAIMOUNA	Service of Aerial Photography
Mrs. Coulibaly SAFIATOU	Service of Photogrammetry

<Japan side>

Study team

Mr. Takashi HARADA	Team Leader
Mr. Takao IKEDA	Deputy Team Leader
Mr. Noboru OKADA	Interpreter

INSTITUT GEOGRAPHICQUE DU BURKINA FASO (IGB)
JAPAN INTERNATIONAL CORPORATION AGENCY (JICA)

The Digital Topographic Mapping Project

in

Burkina Faso

INCEPTION REPORT

April 2012

AeroAsahi Corporation
Kokusai Kogyo Co.,ltd

The Digital Topographic Mapping Project in Burkina Faso

INCEPTION REPORT

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APPENDIX

- Record of Discussion

1. Exordium

1.1 Back ground of study

Burkina Faso is located in West Africa. Burkina Faso was liberated from France in 1960 and has been independent for 50 years as of 2010. Financial growth has been steady with a national GDP growth from 1995 to 2008 at 5.5%. The GPD per capita is 536 dollars reported in 2010 which is very low and poverty is especially problematic in rural farming areas. Burkina Faso is in the process of developing economical growth and poverty reduction with the use of SCADD (Stratégie de Croissance Accélerée de Développement Durable: 2011-2015) with a general emphasis on education, agriculture and natural resources. Within this general mapping is necessary to recognize and develop borders, mine development, environmental issues, agriculture and stock breeding. Because of mineral resources development such as manganese and gold, stock breeding and environment conservation in the northern regions it is important to strategically update a national map which is very important in the planning and development of these issues. IGB and JICA have cooperated from 1998 to 2000 in creating a national basic map for the southwest territories. Although progress of 1:50,000 topographic mapping hasn't been made due to lack of finances only 36% of southwest territories has been completed. Delay in the northern areas is influencing a delay in the development of facilities for mineral and water resources. IGB is capable of creating digital maps and has been creating topographic maps. There are still several technical issues such has urban mapping, compilation and the fact that aerial photography is time consuming and expensive as well as a lack in the production system are reason for the delay in creating a general national map. By introducing the technology of satellite imagery for a medium scale map the process and cost of mapping will be reduced for digitalization mapping and by obtaining this technology mapping and national land development will be expedited and we recognize this support is necessary for further development of Burkina Faso. As to the mentioned above we have sent a survey team to Burkina Faso on October, 2011 to determine the necessities in creating a digital map and the transfer of technology and negotiated with the government of Burkina Faso to sign the record of discussions related to start this project.

1.2 Purpose of study

The following points are our purposes of this study.

1) **To create a 1/50,000 scale digital map of Northern Burkina (approx. 23,000km2) and the Ouagadougou area of (approx. 3,000km2).**

2) **To transfer the technological know-how and support by OJT method to develop better map making skills.**

1.3 Locations of study

23,000km2 of northern Burkina and 3,000km2 of the capital Ouagadougou will be the perimeters of the OJT technology transfer totaling 26,000km2 for this project. Because there will be several different land utilization mapping technology to be transferred. 2 sections from Ouagadougou will be used for urban landscape confirmation and 2 sections from northern Burkina will be used for natural landscape confirmation out of the 36 sections for OJT as stated in figure1-1.

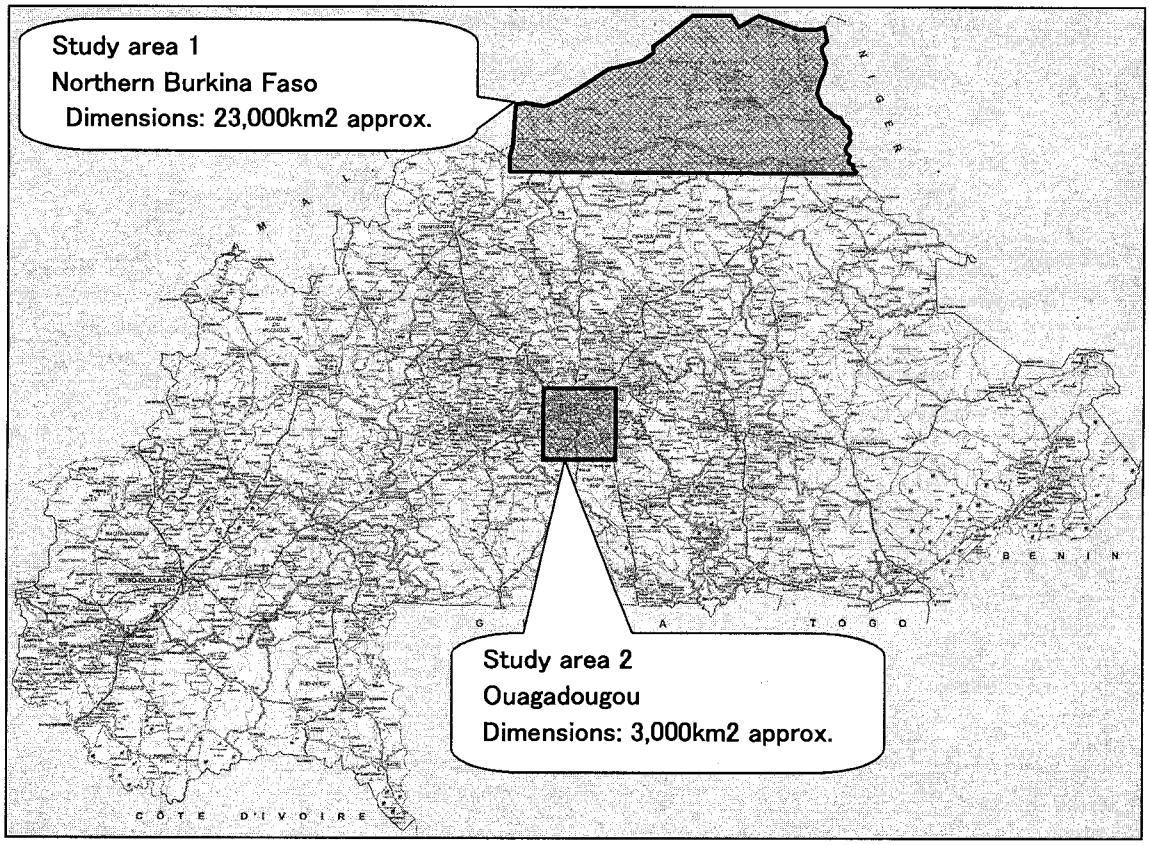


Figure 1-1 location of study areas and coverage of satellite imagery

2. Basic policies of operation

2.1 Technical basic policies

With the background and study results taken in consideration the technical aspects and policies are stated in the following.

Technical policies 1: Emphasis on quality control during Technical Transfer

Although the counterpart IGB has the necessary skill and experience on small scale maps, Ground control point, field identification obtained with the updating of 1/200,000 and 1/50,000 maps with the MCA and EU. There are still some inadequate skills in map editing, although the basic skills have been transferred these skills alone are not sufficient and need to be improved. The matter of this topic is mentioned in the prior study report. The results of verification from our company are the following.

* Mapping expression
  - The contours were not properly edited and were difficult to see
  - Lack of connection of power lines
  - Lack of connection of roads and small roads

* As GIS data
  - Lack of power line visualization as mentioned above
  - Lack of road connections

Although the IGB that surveys and creates maps has utilized aerial photographs in map making with past JICA projects, IGB does not have experience in using satellite imagery to create middle scale maps Study Team is going to transfer this know-how as well.

This technology transfer will also include process inspections as well as editing, accuracy control and other necessities to creating a more futuristic map using OJT on 2 sheets from northern Burkina and 2 sheets from Ouagadougou totaling in 4 sheets.

These next factors of the IGB will be taken in consideration while the technology transfer is taking place.

(1) Agendas for the IGB

Agendas for the IGB are as followed

- It is understood that the IGB is capable of making a1/50,000 map on its own but the quality of the map is not standard.
- Method of quality control of topographical mapping is in admit of improvement
- Lack in technicians and equipment
- Older technicians but recruit of young technician is on going

(2) Strong points of IGB

The strong points of the IGB are stated below

- The IGB has proven capable in creating 1/50,000 maps after the transfer of technology and has sufficient basic skills in mapping.
- The IGB has received equipment from government and EU through the project of updating of 200,000.
- Because of the experience in GIS software adaptation to newer software should not be a problem
- The IGB possesses aircraft for Arial survey and has the necessary experience in using it.

(3) Technology transfer of to IGB

With the above taken into consideration and due to the lack of time permitted the basics of technology transfer are below.

- Because of the small number of technicians, technical transition will be man to man to insure transferred skills.
- Because the technicians are at a mature age and because of experience in past projects it is understood that the IGB possesses such technicians. To prepare such technicians as leaders to train new technicians will also be implemented.

Technical policies 2 : Survey Standard

The survey standard for the project is assumed as followed although further negotiating will take place with the government after the project begins.

- Projection system : UTM (universal transverse Mercator).
- Geographical coordinate system : ITRF2008/Adidan
- Ellipsoid reference : GRS80/Clarke1880
- Height datum : MSL of Dakar bay/existing benchmarks
- Annotation : Following notes will be annotated in marginal information

This digital map was prepared jointly by Japan International Cooperation Agency (JICA) under the Japanese Government Technical Cooperation Program and the Government of Burkina Faso.

Technical policies 3: Foreign survey and (Basic mapping) regulations

The study and making of digital maps shall comply with the Overseas Survey Standard for National Base Mapping. Burkina Faso has regulation policies that comply with the Africa universal map standards. Burkina Faso has created a 1/50,000 map in 2001 that complies with such policies but do to the fact that at this time the map was created in analog negotiation with the IGB shall take place on

how to edit mapping specification and methods to create a digital map within a efficient work-flow.

Technical policies 4 : Alliance with the EU project

EU is carrying out a renewal project of scale 1/200,000 topographical maps by using IGB as a partner organization. At the time of our study, digital plotting due for the field GNSS survey has been completed, aerial triangulation using German satellite imagery data from January, next year, maintaining the EU project with a close relation and sharing of information, including the results will be carried out.

Technical policies 5: Organization of maintainable personnel training

Currently the IGB engineer's aging is progressing like other developing countries. Therefore, it is necessary to be capable of transferring technological know-how to younger technicians. In order to do this, preparation of work manual, operations manuals, process charts etc. should be created in order to hand down expertise.

Technical policies 6: Publicity and promotion of utilization

Planning of the utilization and promotion of the product should include workshops and seminars held and designed by the counterpart for business and government branches which can consider using GIS data.

Technical policies 7: Promotion of cooperation concerning topographical mapping

Since Burkina Faso is a leading country in the middle scale mapping in west Africa, technological seminars and information seminars should be held with neighboring countries and should be introduced to and cooperated with the Union Economique Ouest Africaine.

2.2 Managing basic policies

Matters that should be taken into consideration about the background and management of the study are as followed.

Managing policies 1: General matters

This study in general will be carried out in compliance with the rules and regulations of the work order JICA has provided. For thorough understanding, all members of this study will be understand the

cooperation of the Japanese government and will have frequent meeting to make sure communication and understandings are clear.

Managing policies 2: Safety

This study will take place in compliance of the safety procedures JICA has provided. Frequent updates of civil order and safety will be made to determine the timing of the study and assignment of Japanese experts. In general members of the study will not go on site of northern Burkina Faso.

Managing policies 3: Study implementation structure

With civil order taken into consideration all-necessary knowledge of field surveying, such as control point surveying, field identification and field verification will be transferred to IGB in Ouagadougou. IGB will use this transferred know-how to survey in the northern territories. The Study Team will only manage the field survey. Specifications of the survey are mentioned in **3. Operation Methods**.

Managing policies 4: Assigning of Study Team members

The purpose of this survey is 1. To create a GIS data base. 2. To transfer the technological information of digital data, digital topographic map and GIS usage and surveying. A team member will be chosen who has specific knowledge of the above with experience in working overseas.

Managing policies 5: Seminar for of Technological transfer

At the beginning of this project a seminar will be held to explain the project as well as to promote usage of the data. At the end of the project a seminar will be held to explain the technological transfers and the results of the GIS data base, its usage, release of digital data as a method of technological transfer. The Study Team will support IGB so IGB may manage this. Manner of the seminar will be stated in **3. Operation Methods, 3.2 (22) Technological Transfer**.

Managing policies 6: Safety management

The study area is in a yellow fever prone area. Although vaccination shots are recommended all Study Team members will receive such vaccinations recommended by the local embassy as well as to carry specific medication to take for prevention when a member feels such symptoms. In the event that the Study Team must enter the northern regions, the team will keep frequent contact with JICA and the northern military police. If necessary the Study Team will request military escort.

3. Operation methods

3.1 Topographic Mapping

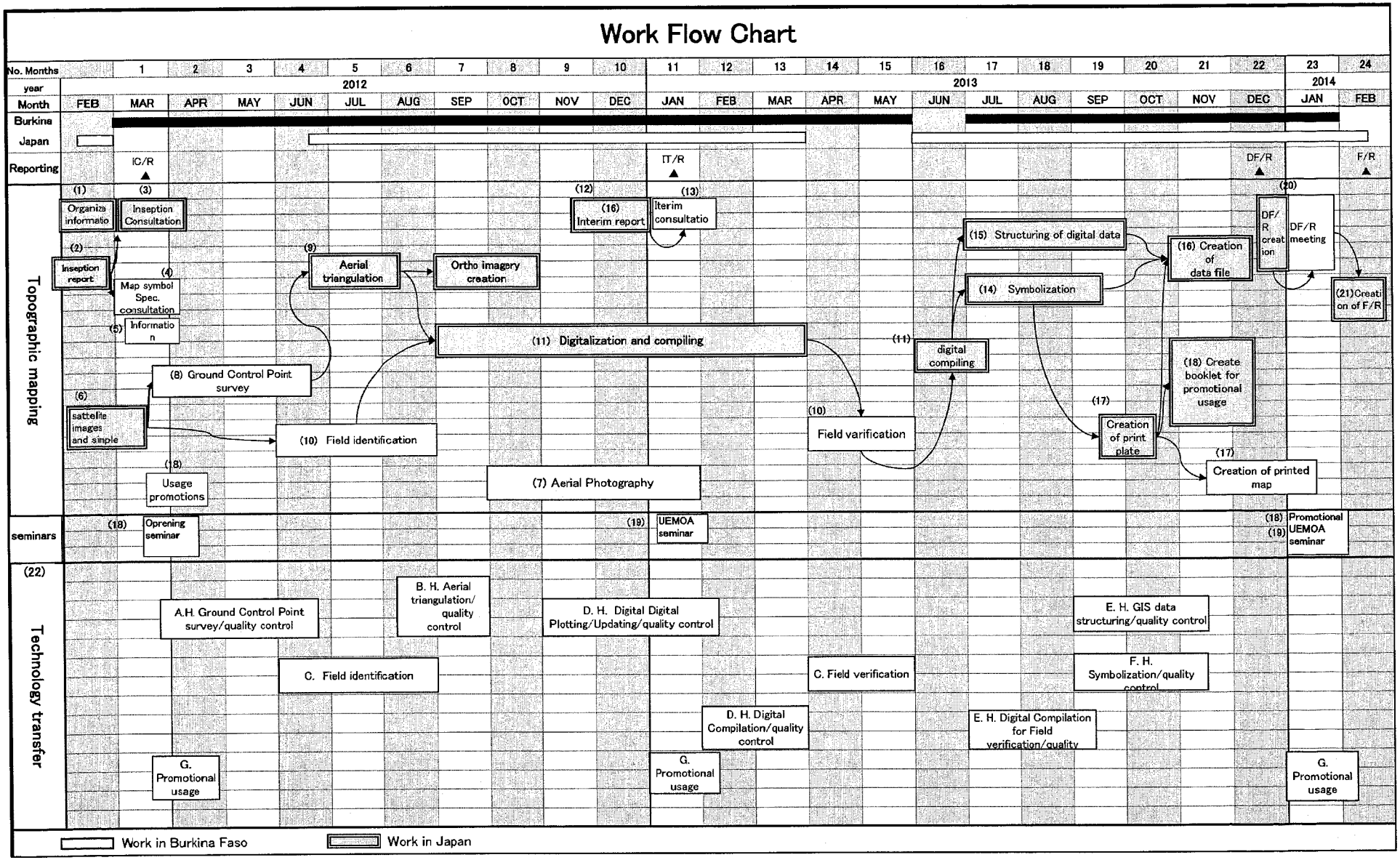
The outlines of this study are as described in the chart below and the flow-chart on the next page.

Table 3-1 Overview of study

Study div	Work Item	Work descriptions	quantity
Japan	(1) collection of relevant materiel and information, organizing, analysis	-Collection of existing documents and information, analysis, organizing. -Methods and document creating for selection or tender, document transmittal. -Creation of documents for symbol spec(draft) and consultation, basic policies, work method, work-flow	1 set
Japan	(2) creation of inception Report		1 set
Burkina Faso	(3) Briefing of Inception Report	Instructing counterparts, consultation	1 set
Burkina Faso	(4) Symbol Spec. consultation	Consultation of Map symbol and standard for mapping	1 set
Burkina Faso	(5) collecting and organizing existing information	Collecting and organizing information within Burkina Faso	1 set
Japan	(6) Purchase of satellite images	ALOS(PRISM Triplet image scenes) ALOS(AVNIR-2)	183 scenes (61 x 3) 22scenes
Burkina Faso	(7) Aerial photography	1/20,000 scale	1,000km2
Burkina Faso	(8) GCP surveying	GNSS observation, pricking, Point Description	59 points (44+15)
Japan	(9) Aerial triangulation	Digital plotting, For Ortho imagery production	122 (61x2model) scene(model)
Burkina Faso	(10) Field Identification/Field verification	Creation of Feature data, Verification with edited topographic map manuscript	Approx 26,000km^2
Japan	(11) Digital Plotting/Compilation	stereo plotting with Satellite imagery, digital compilation	1 set
Japan	(12) Creation of Interim Report		1 set
Burkina Faso	(13) Consultation of Interim R	Consultation with counterpart	1 set
Japan	(14) Symbolization	Data Conversion for Topographic Map printing	Approx 26,000km2
Japan	(15) Digital data structuring	Structuring for GIS data	Approx 26,000km2
Japan	(16) Creation data file	Storing Digital data, structured data	1 set
JPN Third Co/BK	(17) Production of output map	Production of each map sheets	36sheets x 200pcs
Burkina Faso	(18) Promotion of usage policy	Mapping/GIS data usage policy/seminar/Booklet creation	1 set
Burkina Faso	(19) Technical Seminar for circumstance countries	Conduct during in study period	1 set
Burkina Faso	(20) Consultation of Draft final report	Consult with counterpart	1 set
Japan	(21)Final Report		1 set
Burkina Faso	(22) Work for Technical transfer	Showing another page	1 set
Japan	(23) Ortho imagery production	Use of pan-sharpen images	Approx 26,000km2

Work in Japan | Work in Burkina Faso &

Work Flow Chart



(1) Collecting, organizing and analyzing information and relevant material. (Work in Japan)

These following work items will be conducted in Japan.

- Pre-Study Team coordination, information collection, organizing and analysis.
- Preparation and charted planning recommendations for work specifications
- Creating basic policies and work methods. Managing work schedule.

Analysis, collection and organizing of possible supplemental information domestically obtained.

(2) Creation of Inception report (Work in Japan)

With existing information and collection of information an Inception report will be created that includes General policies, Work methods, Scheduling, and Staffing formation to be approved by JICA.

(3) Consultation and explanation of Inception report (Work in Burkina Faso)

Explanation of the Inception report will be held for the Government of Burkina Faso explaining the project and policies with Minutes of the Meeting kept to seek authorization.

(4) Consultation of Map symbol specifications (Work in Burkina Faso)

Consultation shall be held with minutes taken for the mapping specifications and surveying methods. To create the 1/50,000 maps, general specifications (survey standard, Acquisition standard, map symbols, annotations and etc.) shall be discussed and approved. With regard to JICA "Overseas Work Standard for National Base Mapping" will be conducted on IGB existing specifications. Details will be decided with consultation with IGB.

(5) Collection and Organizing of Existing Information (Work in Burkina Faso)

All prior maps and survey results described below will be collected and organized.

- 1/50,000 (from JICA made in 1998-2001)
- 1/200,000 (from IGN France)
- Map symbol Specifications of topographic map 1/50,000 scale made in 2001
- African Map Symbol Standard (held by IGB)
- Operation manual with software instructions (2009 version, by GSI Japan)

The required maps are as followed

Table. 3-2 Existing map list

Map scale	Maintenance	Date	Remark column
1/50,000	36%	1955～1991	137 sheets. 32 sheets among them were made by JICA in 1998-2001
1/200,000	100%	1960～	34 sheets, Geographic Institute of France
1/500,000	100%	1966	9sheets
1/1,000,000	100%	2010	1 sheet Geographic Institute of Burkina

(6) Purchasing of Satellite Imagery (Work in Burkina Faso)

The satellite images, ALOS/PRISM that will cover approx. 26,000 square km with a capability of 2.5m resolutions and stereoscopic imagery. The following will be taken into consideration in choosing images.

- The whole required area is covered in image
- Date of image (will select the newest)
- Less cloud amount

To insure the quality of the final product of Triplet Image will be used. Images that will be used thru the work-flow are as listed.

- The forward and rearward of the stereoscopic imagery where the height accuracy is better shall be used for digitalizing.
- To avoid blockage do to buildings nadir image will be used for ortho images
- All Triplet images shall be used in aerial triangulation

Since ALOS/PRISM images are panchromatic to better image interpretation into digital and to create ortho photos ALOS/AVNIR-2 shall also be obtained. The format of the ALOS imagery should be as following

- PRISM (Triplet) with RPC model (refer to Fig. 3-1)
- AVNIR-2 (Nadir) (refer to Fig. 3-2)

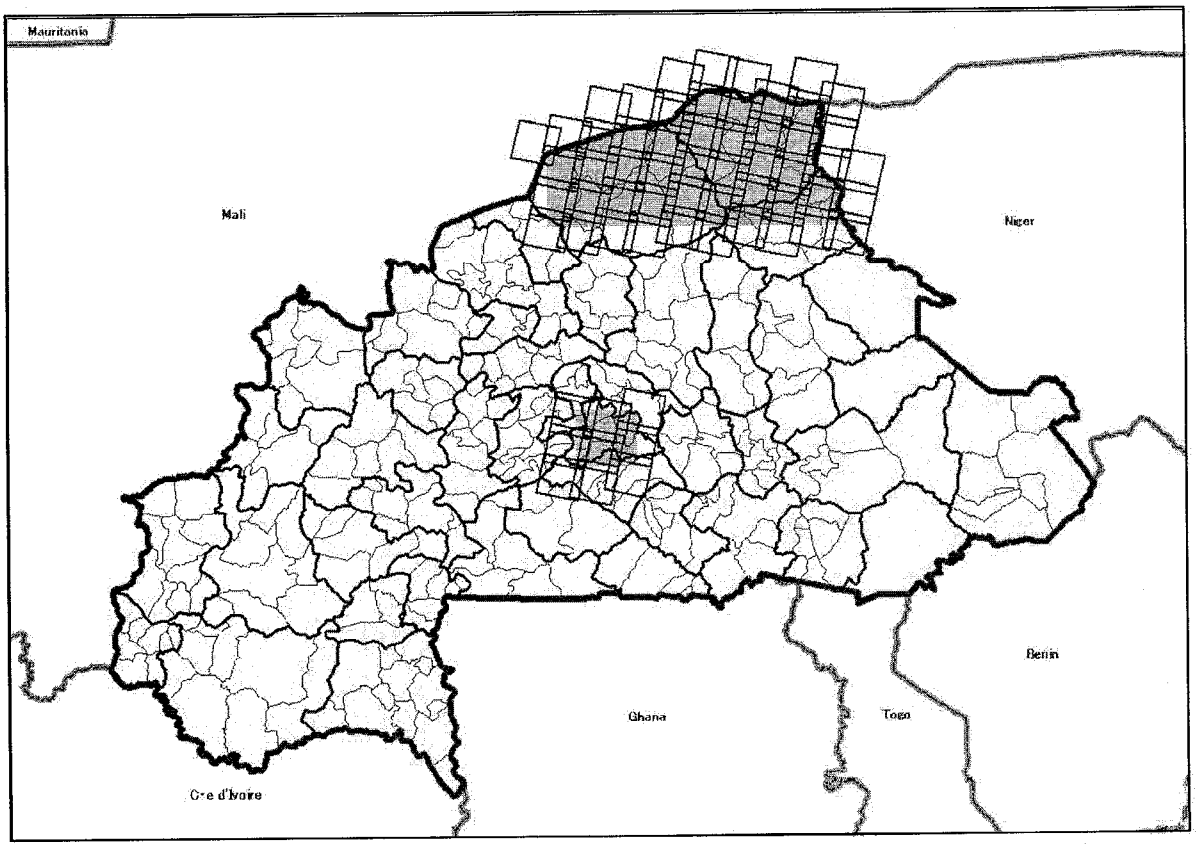


Figure 3-1 ALSO PRISM

Figure 3-2 ALOS/ AVNIR-2

(7) **Aerial Photography** (Work in Burkina Faso)

The Ouagadougou area, Ouaga 2000 urban planning, developmental district and residential areas of 1,000km2 shall be taken by 1/20,000 scale aerial photographs with the following requirements.

* Photo scale	:1/20,000
* Focal length	:150mm Approx.
* Flying Altitude	:3,000 meters
* Overlap	:cover 55%
* Side lap	:30%+-5%
* Flight Lines	:8 lines
* Number of photos	:176 photos

Refer to figure 3-3 Aerial photography flight plan.

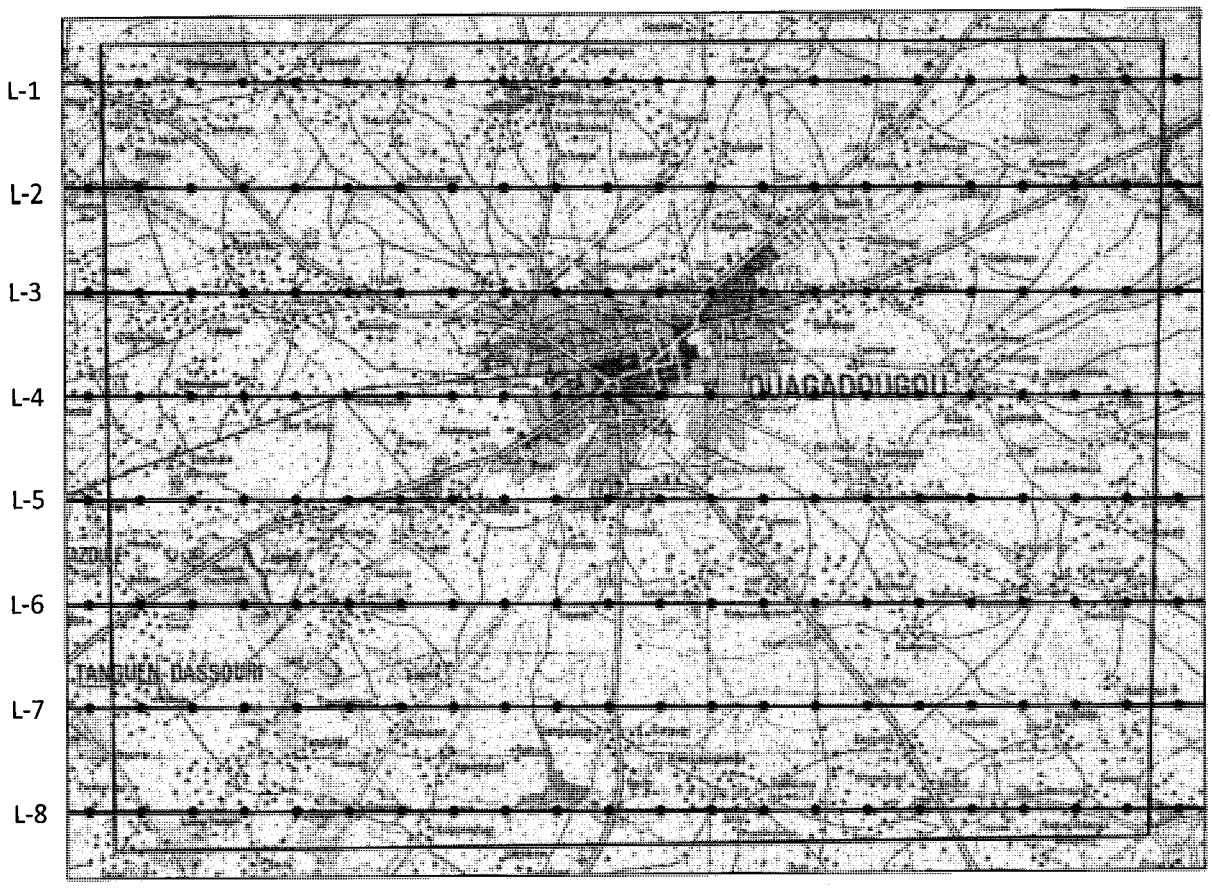


Fig. 3-3 Flight plan for Aerial Photography of 1/20,000 scale

(8) GCP (Ground Control Point) survey (Work in Burkina Faso)

IGB will conduct the GCP survey necessary for the aerial triangulation of satellite imagery. The GCP survey requires planimetric positioning and ground height for aerial triangulation. Planimetric positioning survey shall be conducted by GNSS. To determine altitude, simple leveling will be conducted and a geoid map will be used. Altitude will be interpolated and acquired by the data of geoid map and the GNSS ellipsoidal height.

GCP survey will be held by IGB under the Study Team's management. As mentioned before in general the Study Team will not enter northern territories and the management shall be as followed for that.

- For projects near Ouagadougou IGB will perform GNSS survey, pricking, GCP survey listing with Study Team supervision. The OJT for GCP survey in Ouagadougou is as followed.
  - ➢ Observation team
    - IGB is to prepare 3 teams and vehicles, measuring equipment, and survey schedule
    - Simple leveling will be performed by one team
  - ➢ Work period
    - GCP survey is to be conducted within a 3 week period. However this period includes GNSS survey, Data analysis-calculations, preparation of description of GCPs, and simple leveling for a height determination.

- Simple leveling and GNSS survey will start at the same time but with consideration for the northern area schedule management will increase number of survey teams in Ouagadougou within the survey schedule if necessary.

- After the survey mentioned above is completed, the northern area survey will start. Survey in the northern areas will be managed as follows.
  - ➢ Survey team
    - IGB is to prepare 3 teams and vehicles, measuring equipment taking into consideration of survey schedule.
    - 2 teams will be scheduled for simple leveling and will relieve one team depending on schedule.
  - ➢ Survey Period
    - GCP survey is to be conducted within a 2 month period. However this period includes GNSS survey, Data analysis-calculations, preparation of description of ground points, and simple leveling.
    - Simple leveling and GNSS survey will start at the same time but with consideration for the northern area schedule management will increase survey teams in Ouagadougou within the survey schedule if necessary.
  - ➢ Management from remote location
    - Do to civil situations the Study Team as rule will not enter the project area.
    - The Study Team will remain in the southern area in safer areas such Dori or Djibo and manage and confirm scheduling from these locations.
    - GNSS supervision team will confirm that the training received in Ouagadougou is being used accurately up to Overseas Surveying Standard for National Base Mapping as well as scheduling and quality control.
    - The IGB survey team will submit survey results to the supervising Study Team member for review on scheduling and data quality.
    - As mentioned above the survey team will also submit minor leveling results.

The overview of GCP survey is as mentioned below.

- ➢ GCP distribution planning

  Use of the control points established by the EU1/200,000 project shall be done to establish for the additional setting of GCP with the usage of the satellite imagery before GNSS surveys are conducted. A total of 59 point will be established. This may change depending on field conditions.

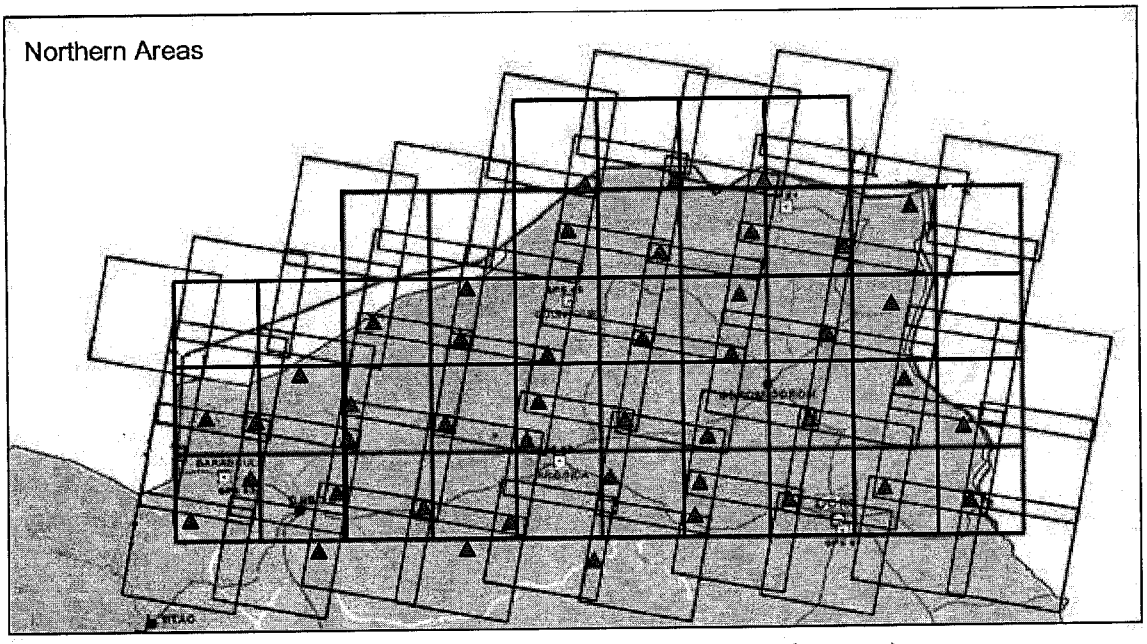
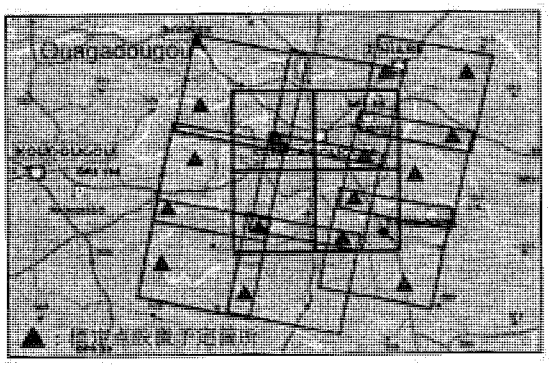


Fig.3-4 Planning of ground point distribution (northern area)



▲ : Ground point locations

Fig.3-5 planning of ground point distribution (Ouagadougou)

Pricking for the GCP must be done carefully to ensure the accuracy of aerial triangulation.

- Existing control points (including BM)

Conspicuous planimetric features that can be confirmed such as roads and buildings on the satellite imagery will be eccentrically (if necessary) determined for pricking.

- New control points

As the same of existing points, new points will be determined by conspicuous structural objects and location will be determined by pricking.

➢ **GNSS Survey**

Existing control points and new points will be measured by a dual frequency GNSS receiver. Survey methods and accuracy shall be based on the Overseas Surveying Standard for National Base Mapping that JICA has created.

➢ **Simple leveling**

Altitude of the GCP will be determined by simple leveling. In the event that there is no existing GCP, the altitude will be determined by the geoid map.

➢ **Description of pricking point**

GCP, its coordinates, altitude, sketch, ground photos and number of satellite imagery necessary for aerial triangulation will be created by designated documentary format known as description of pricking point. These description sheets must be prepared with care to insure the accuracy of the aerial triangulation.

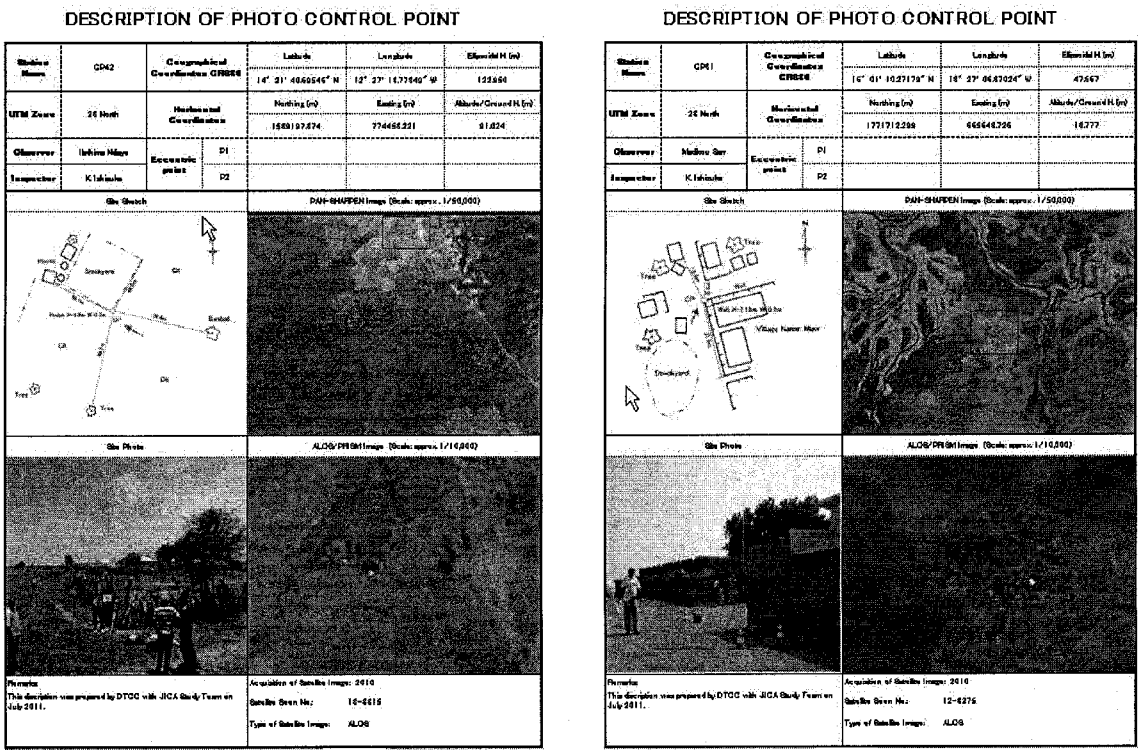


Fig. 3-6 Example of the description of GCPs

(9) Aerial triangulation (Work in Japan)

When mapping is carried out with satellite imagery, in the same as using of aerial photographs, inclination, and position of satellite imagery have to be restituted. In the aerial triangulation, firstly, relative position of satellite imagery will be determined by measuring the objects exist on each neighbor imagery or duplicated imagery. Acquisition of the absolute positional relation between ground and imagery will be determined by measuring the GCP with known coordinates. And the usable orientation elements for the following works of digital plotting and digital ortho production will be determined by analysis processing.

Actually, as mentioned in article **(6) purchasing of satellite imagery**, aerial triangulation software installed digital plotting system will be used to perform the aerial triangulation of each satellite imagery for mapping area (the 23,000km2 of northern Burkina along National border and 3,000km2 of Ouagadougou). As shown in the figure below the mapping area mentioned above will be covered by Satellite Triplet imagery and the accompanying RPC model to confirm GCP results. However in the event that Triplet imagery can not be obtained or if confirmation of errors occurs the selection of images that qualify for stereo view will be selected and used.

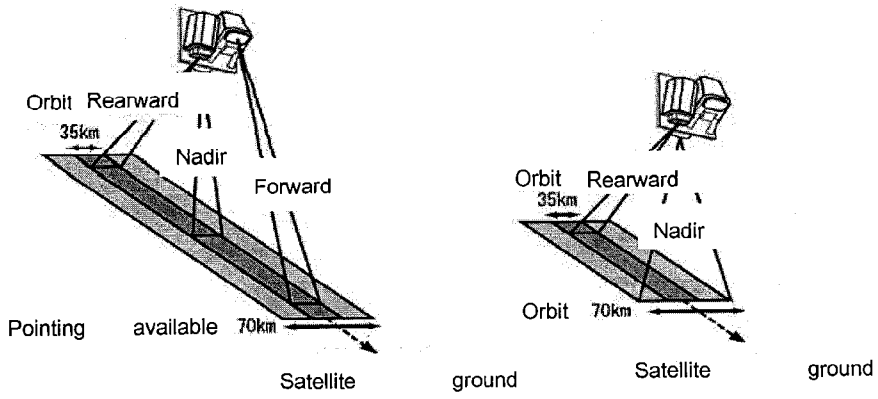


Fig. 3-7 ALOS imagery method

(Source) Japan Aero Space Exploration Agency: JAXA

(10) Field identification and Field verification (work in Burkina Faso)

Field information that is needed to verify digital information such as buildings, important structural objects will be confirmed as well as labeled with administrative annotation during the field identification. Interpretation keys will be primary and created with IGB with the instruction of Study Team. Field verification will be carried out with plotted map manuscript with simple symbolization for assistance.

- For the project area in the Ouagadougou, the Study Team will perform and manage the field identification with IGB. The OJT of the field identification of Ouagadougou area will be performed as mentioned below.

➢ **Field Identification Party**

IGB is to prepare 3 teams and vehicles taking into consideration the survey schedule.

➢ **Working period**

- The period of field identification work in Ouagadougou will be within 3 weeks. This will include field identification, data collection and organizing the information.
- Consideration will be taken for the northern area schedule; management will increase survey teams in Ouagadougou within the survey schedule if necessary.

- After the above training has finished the teams will start field identification in the northern areas. Operations and management in the northern areas are as followed.

➢ **Field identification party**

- The IGB will prepare 3 teams. Do to the fact that landscapes and access is different from Ouagadougou the main transportation will be automobile.
- Number of Teams will be increased or decreased depending on progress.

➢ **Working period**

- Field identification for the north will be within 2months. This will include field identification, collection of data, and organizing of information.
- With the results of Ouagadougou and the foreseen difficulties of the operation in the north management will report progress and increase teams if necessary.

➢ **Management from remote location**

- Do to civil situations the Study Team as rule will not enter the project area of northern part.
- The Study Team will remain in the southern area in safer areas such Dori or Djibo and manage and confirm scheduling from these locations.
- The field identification supervisor will confirm that the training received in Ouagadougou is being used accurately up to Overseas Surveying Standard for National Base Mapping as well as scheduling and quality control.
- The IGB survey team will submit survey results to the supervising Study Team member for review on scheduling and data quality.

➢ **Field identification**

Local field identification will provide and confirm information such as annotation and other necessary information to create digital maps. This information will be tagged to aerial images and are necessary in creating documents that are used in digitalization. But because on this operation vegetation will be confirmed by ortho imagery indoors and the results will be expressed visually on the ortho images. Then, the team will go to the field of vegetation and others that could not be recognized by imagery identification and report items with handy GPS coordinates and/or photographs. This is necessary for promote the accuracy of digital mapping.

➢ **Field verification**

To ensure the process of digitalization field verification will be made after the digitalization is finished. This will take place to confirm items that could not be identified or items that are determined problematic. The IGB survey team will confirm such items with GPS coordinates and record them to correct such items.

➢ **Creation of photo-interpretation keys**

To improve image interpretation quality, digital compilation and digitalization as well as to reduce the time for mapping, photo-interpretation keys will be made with ground photographs. However this is not aimed to reduce the original key form, necessary field photographs with a GPS camera will be taken. These images will be coded with hand held coding and will be worked in to the mapping code with tags or coordinates taken from the GPS camera.

Fig. 3-8 Identification key sample for digital plotting/compilation

(11) Digitalization and compilation (Work in Japan)

- **Digital plotting**

Digital plotting means compiled stereo vision satellite imagery that is digitalized in 3D. Plotting is done by the image orientations using of the result of aerial triangulation and the stereo imagery to digitize landscape and other items. Material used to compile are the following.

Interpretation key	: Created by field survey with detailed interpretation key
Pan-sharpen ortho images	: 1/50,000 scale
Collected documents	: Existing 1/50,000 map, and collected documents

Because the satellite images are archived data precautions will be made to match the seasonal information of vegetation.

- **Digital Compilation**

Digital plotting and labeling of landscape, structural objects and administrative boundaries will be created upon mutual agreement. Digital plotting and compilation will be performed in order of articles in the work specifications that were agreed upon. Digital compilation will be recorded on unit sheet layout as in below. Map sheets will have labeled numbers that have reached mutual agreement with the IGB, government of Burkina Faso.

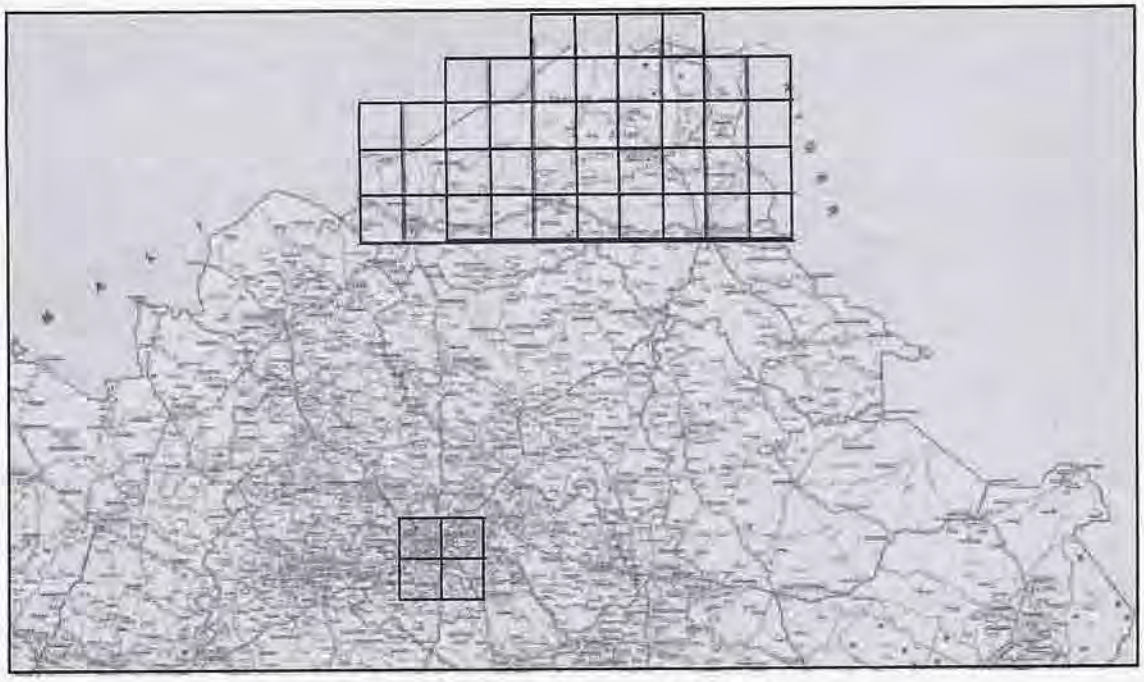


Fig. 3-9 Topographic map sheet layout

➢ **Map up-dating**

Technological transfer of Map up-dating will be commenced the technical transfer stage of digital plotting and compilation.

(12) Interim report creation (Work in Japan)

An Interim report will be created after the Inception report for the updating on survey, mapping and technical know-how transfers.

(13) Consultation of Interim reports (Work in Burkina Faso)

Interim reports will be created, explained and negotiated with the IGB. Any agreements met in meetings will be entered in minutes of meeting. Any areas that are on the OJT operations will be checked for problems and agendas as well as technical know-how transfer level compared to when the inception report was filed. The alterations may be made if necessary.

(14) Map symbolization (Work in Japan)

Topographic map data created in **(11) Digital plotting and compilation** with the agreed schematics will be symbolized so printable versions maybe used. Symbolization will be carried out with software that JICA provides. While making output maps surrounding nations out of Burkina Faso that will not create mapping data will be compensated by the use of pan-sharpened ortho imagery.

- Codes and symbols will match specifications and library will be created.
- Adjustment of out put layer regulations suitable for output manuscript expression
- Inspection of the created out put and methods will be implemented.
- After understanding of regulations a manual collection will be done
- Creation of marginal information

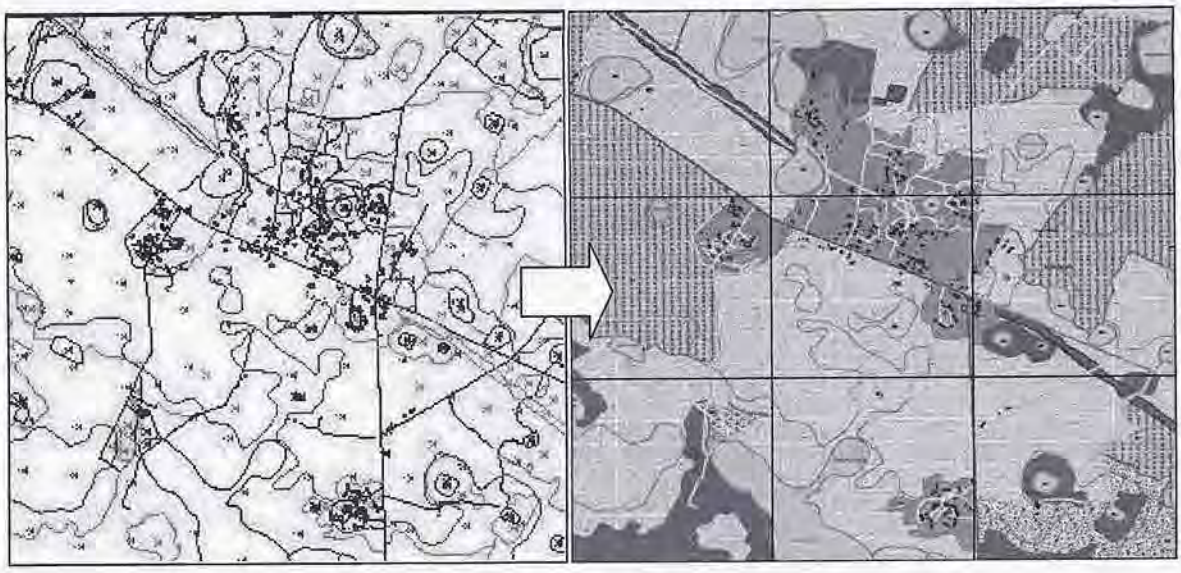


Fig. 3-10 Before symbolization and after symbolization

(15) Structuring of digital data (Work in Japan)

Digital map data created in **(11) Digital plotting and compilation** will be formatted to be compatible with the software JICA provides. Structuring process is as followed.

- **Seamless mapping data**

  The map data that will be used will be seamless in all areas as a requirement for GIS. To expedite **(11) Digital plotting and compilation**, will create seamless in the framework during this process.

- **Network of mapping data**

  The GIS data as being seamless must also be aligned in all areas. Railways, rivers, roads and lifeline items that possess linear features are a necessity to creating network structure alignment inspections will be held with the software provided by JICA during creation.

- **Creating attribute information**

  The data created in **(11) Digital plotting and compilation** will only contain geographic information. With the use of the provided software information such as naming, separate information and social information will be added.

(16) Creation of data files (Work in Japan)

All GIS and digital data shall be stored as agreed with by IGB in the form of CD-ROM or equivalent media. This will include the following process.

- Creation of metadata files
- Creation of map data symbols
- Structural data files
-

(17) Creation of output topographic printed map (Work in Japan/Burkina Faso/other country)

For every one sheet that has been symbolized 200 prints will be made by local companies as

subcontracting. The printing plates will be created in Japan and printed out in other country. Inspections of the output and corrections will be made with the Study Team and IGB to ensure output quality.

(18) Facilitating promotional usage (Work in Burkina Faso)

To ensure that the full potential of this project are utilized, it is necessary to introduce the created map, promotional usage, methods of usage (GIS data base). The main emphasis should be about the accomplishments of the project. It is important for the provider of this data to make it available to other agencies how wish to use such information. When restrictions of usage are placed it is important to make sure that these rules and regulations are easily understood. To facilitate promotion of the data usage strong advertising methods and updating of the provider is necessary. For this information on the background and future bench marks must be understood as following.

1) Planning of the usage for mapping data

Planning for the usage of mapping data preparations of the following will be required of IGB.

- At the starting of the project
  1. Preparations of an opening seminar or technical seminar (the first one)
  2. Investigation of the needs and usage for a 1/50,000 geographical map, especially for the non-assumed users such as nature conservation, mining, stock farming and other development departments.
  3. Information sessions held in Burkina Faso for JICA experts and JOCV staff as well as individual meetings on the promotional usage.

- At the middle stage of the project
  4. Understanding of the copyrights for Burkina Faso and other issues involving end users.
  5. Creating a five to six members team to determine copyrights, payments plans and cost, preparation of selling maps. The team should be made up from the general affairs bureau, financial bureau and engineering department.

- At the end of the project
  6. Planning of the usage and actual needs communicated at the starting of the project.
  7. Closing technical seminar (the second one)
  8. Requesting of the promotion of map data from the participating agencies of the seminar.

2) Utilization and promotion of map data

It should be expressed in the utilization promotion that the purpose of this is to assist in the planning of mining, environmental issues, stock farming and agriculture. Tasks that the IGB hold now are as followed.

- The aging of mapping information

- The lack of re-structure from immediate update
- Expenses (high cost)
- Lack of man power
- Lack of communications with end users.

Preparing for the measures of such issues should be the following.

- Development of users and usage by seminar. (Two seminars)
  - Introductions of the existence of the map and methods on how to use. Publicity of the map and applications for the usage in educational facilities. Usage by JICA experts and JOCV agents can be used for reference.
  - Structuring for easy purchasing, purchase route setting and pricing
  - Planning for the understanding of copyright issues when processing and altering data as well as easy processing methods.
- Administrating new technology and human resource development (second seminar)
  - Teaching of correcting and updating of mapping
  - Requesting participation in seminars and studies for skill development
  - Strengthening organization: creating self sufficiency through stabling budget.
- Strengthening of IGB structure.
- Maintaining a wide range of GIS information exchange with UEMOA unions.

(19) Wide range technical seminars (Work in Burkina Faso)

Since Burkina Faso is a leader in medium scale mapping in West Africa, two technical seminars will be held by inviting other members of the UEMOA to share information and technology.

➢ **The first seminar**

Burkina Faso and other nations will communicate general and especially technical problems and necessities thru discussion to solve such issues.

- Date of seminar : January 2013
- Location : Capitol city Ouagadougou
- Participating nations: : Union Economique et Monetaire Ouest Africaine eight nations with one representative from, République du Niger, République du Sénégal, République du Bénin, République de Côte d'Ivoire, République du Mali, République Togolaise, República da Guiné-Bissau, Burkina Faso..

➢ **The second seminar**

Burkina Faso will announce the results of this project and explain the technology that has been obtained. Each nation thru discussion will address the issues that were mentioned in the first seminar thru discussions. These discussions will be used to determine the future usage and updating as well as possible future coopcration from the within the nations of West Africa.

This seminar should be held after the finishing seminar. Members who attend the b broad based technical seminars should also be the same who attend the ending of project seminar. The planned agendas are mentioned below.

* Date of seminar: January, 2014 after the project completes.
* Location: location and participants will be the same as the first seminar.
* Contents: The contents are as followed
  - The results of the project
  - Skills gained through this project
  - Method to resolve in National mapping

(20) Draft final report (Work in Burkina Faso)

A draft of the final report explaining the work that has been accomplished will be handed in to Burkina Faso for consultation. The report will contain by index the technical know-how transfer degree of attainment, possibility or necessitation of continuance as well as agendas at the completion of the project. An individual work manual will be created for the creation of data, continuance, managerial approach, GIS database structure and handed in with the report. A report for quality control including the work-flow results will also be handed in.

(21) Creating the final report (Work in Japan)

With comment taken into consideration from Burkina Faso the report will be edited and submitted as a final report.

(22) Technological transfer of know-how operations (Work in Burkina Faso)

Technological transfer of know-how operations will take place as mentioned in **3.2 (22) Technological transfer operations.**

(23) Creation of Ortho imagery (Work in Japan)

DEM shall be created by information obtained form aerial triangulation, reference points and compiled with stereo matching. Ortho imagery shall be created by DEM and ALOS/PRISM nadir imagery. Ortho imagery will be colorized by usage of ALOS/AVNIR-2 color pan-sharpen imagery. The standards or the ortho imagery such as (resolution, cut out, file formatting) will be determined on conference with IGB.

NOTE: DEM is to by use for ortho imagery only and not for automated contour line production

3.2 (22) Technology transfer

The purpose of technology transfer is as mentioned below.

(1) The created digital map as a product will be utilized as Geospatial information as well as assisting in efficiency of national development policies.

(2) Thru the transfer of know-how The Directorate of Geographic and Mapping Works (IGB) knowledge will strengthen to independently update and create geographical maps.

At the starting of the study, negotiation and revision will be made with IGB regarding the technology level of IGB. During this study negotiation and revision will be made for Overseas Surveying Standard for National Base Mapping with IGB. A map symbol specification will be created for map production and the transfer of know-how. General outlines of the transfer of know-how are as followed.

Table 3-3 Outline of technology transfer

No	Technology transfer	Work descriptions	Methods
a	Ground control point survey	· GCP location determination · GPS survey · Pricking, Description of Pricking point · quality control management	Acquiring thru OJT
b	Aerial triangulation	· Aerial triangulation of satellite imagery · Aerial triangulation for Ortho imagery/Digital plotting · Quality control management · Creation of work specifications manual	Acquiring thru OJT
c	Field identification/Field verification	· Creation of simple interpretation key · Separation and survey of questionable areas	Acquiring thru OJT
d	Digital plotting/digital compilation	· Confirmation from small scale map · Classification of usable and unusable data · Classification of error and questionable data · Data compilation (place-name, administrative, road) · Quality control management · Create work specifications manual	Acquiring thru OJT
e	GIS data structuring	· Structuring of geographic data · Creation of basic data · Quality control management · Creation of work specifications manual	Acquiring thru OJT
f	Map symbolization	· Instruction of symbolization software usage · Data creation complying to map symbol specification · Layer control · Quality control management · Creation of work specifications manual	Acquiring thru OJT
g	Promotions of usage & user rules and specification	· Seminars & workshops for promotion of usage · Investigation of structuring of user guidelines and existing organizations	Acquiring thru OJT
h	Quality control management	· Submission of (English version) · Quality control under Overseas Survey Standard for National Base Mapping · Holding Technology transfer seminar	Acquiring thru OJT
i	Map updating	· Confirmation of aging changes · Confirmation of secular change	Acquiring thru OJT

Details of the transfer of technology know-how are as followed

A. Ground Control Point (GCP) survey

The Study Team will provide the basic concepts of ground control point to IGB while marinating compliance with rules and specifications of the work order. With safety at first the technology transfer will take place in Ouagadougou. The results of Study Team shows that as of now IGB has completed ground control point survey in the EU 1/200,000 mapping project. IGB possess eight GNSS devices and it is assumed that these devises will be provided for this project and the items of this survey are explained below. Pricking work will be instructed by imagery that is clear and easy to determine. Methods on avoiding marginal errors will also be provided in the technology transfer. Following are the technology transfers that are scheduled.

1. Planning of using GNSS as ground control point survey.
   - Explanation of the differences of satellite imagery compared to aerial photography to IGB technicians.
   - With this in consideration planning of point distribution will be explained to IGB.
2. Creating the result tables of Ground control points including Ground control point distribution map
   - Explanation of the importance of the following aerial triangulation for the description of Ground control point.
   - It is thought that the results of the ground control point survey will be useful for the IGB in the results of the ground point control survey and organizing. This OJT will be performed man to man.
3. Training for prinking of ground control points. (Including Point description sheet)
   - Explain the importance of point description and pricking precision for aerial triangulation.
   - Although IGB has necessary experience and knowledge in pricking for aerial triangulation, training of the image interpretation and technology of preparation of point description will be provided to better definite skills.
4. Instruction of work process and quality control based on the Overseas Surveying Standard for National Base Mapping. ex; Inspection of the measuring accuracy.
   - Explanation and instruction of the difference between control point and ground control point, topographic map scales determines measuring accuracy based on the Overseas Surveying Standard for National Base Mapping.
   - Training in the tolerated accuracy and applications, usage and how to create of quality control table for quality control based on the Overseas Surveying Standard for National Base Mapping.

B. Aerial triangulation

A major emphasis will be placed on the understanding of the preprocessing of satellite imagery. One type of satellite imagery will be used to understand the work-flow of aerial triangulation. IGB will be trained to follow this process independently. The Study Team will select and use software that is easy to operate. Technology transfer will be conducted as mentioned below.

1. Training of the basics about ALOS imagery.
   - Training of ALOS and other high resolution imagery will be provided to better understand the entire work-flow.
   - Training of the difference of ALOS compared to other satellite imagery such as weak points and strong point of the images.
2. Differences in aerial triangulation by aerial photographs.
   - Although the ground control points have been taught and understood, this portion will be used to test the passed down knowledge (for instance mini-test commencing).
   - Depending on the results, if necessary, training on the difference in aerial triangulation using aerial photographs and satellite imagery will be reviewed and commence training.
3. Creation of operation manual
   - The skills of IGB photogrammetric technicians have been demonstrated in the past technology transfer and mapping results from JICA. The understanding of the usage of software will greatly contribute to these skills.
   - The software planed in the technology transfer is LPS by ERDAS. The training of practical usage will be commenced since IGB does not have experience in using this software.
4. Training of aerial triangulation process (preparation, work commencing and accuracy control) by OJT.
   - Explaining of the work-flow in aerial triangulation.
   - Explaining and training of necessary data/technology for each work-flow. (stereoscopic vision)
5. Accuracy and work processing control
   - Training of accuracy and quality control tables that are in compliance with the Overseas Surveying Standard for National Base Mapping.
   - Using comparison of work schedule and actual work-flow to determine future work methods and necessity or not of modification.
6. JICA Study Team will make a training of Aerial Triangulation using of ORIMA.

C. Field identification and verification

➢ Field identification

Field identification will provide and confirm information such as annotation and other necessary information to create digital maps. This information will be tagged to simple ortho-imagery and

are necessary in creating documents that are used in digitalization. But because on this operation will be confirmed by mosaic imagery indoors and the results will be expressed on the mosaic images. The working team will go to the field for the checking of vegetation and others that could not be identified by imagery identification and report items with GNSS coordinate and/or terrestrial photographs by a GNSS camera. The technology transfers are as followed.

1. Method of obtaining imagery interpretation assistance and coordinates
   - Usage of GNSS camera, how to take a shot, photography with tagging, these will be difficult at the beginning and so OJT will be performed in Ouagadougou until this is mastered.
   - Training of the uploading of coordinates from the camera memory to a pc and data processing.
   - The coordinates will be collected by the camera.
2. Understanding of map symbols and acquisition standard
   - Thoroughness in diagrams and objects
   - Acquisition standard will be performed as agreed in the work specification and will be reconfirmed before the field identification with all members including Study Team members.
   - IGB staff will have this at all time
3. Collection of data
   - For items that cannot be verified in the field, documentation will be collected for determination of digitization and compilation.
   - The Study Team member will according to specifications supervise the gathering of information with IGB technicians and transfer the know-how of information gathering.

➢ **Field verification**

IGB should have a good understanding of acquisition standard of 1/50,000 scale planimetric features written in the work instructions to determine necessary obtainment. Organizing field identification in urban areas such as villages, farming areas and mountainous area will be easier in the technology transfer if done on the field verification. The work of field verification is not only the confirmation of the questionable in the digital out put but also the confirmation of the information and the (especially) annotation of government facilities and if they can be printed out as. The OJT on this is as followed.

1. Processing of questionable points in the field
   - When dealing with how to express questionable points, such as re-measurement of coordinates, re-annotation or necessary field verifications. Methods to process such items will be taught by OJT. The training will commence in Ouagadougou and the methods will be mastered before the IGB surveys the northern territories.

2. Confirmation of coordinates by handy GPS.
   - Handy GPS will be used when the GPS camera cannot be used for such reasons as non existing buildings and/or roads do not exist on the imagery. Such items can be corrected with the usage of handy GPS.
   - Training for the usage of GPS will be held for the IGB.
3. Creation of annotation data files
   - Training in the creation of planimetric annotation data files, in compliance with the administrative annotation specifications will be performed.
   - Training will also be held in the understanding of the GIS data structuring usage, surveying and the created data.

D. Digital plotting and digital compilation

The IGB will be taught the basic fundamentals of digitalization and on how to follow work-flow charts and specifications with this project so they may do so in the future without assistance. These will be considered in the transfer of know-how. During Study Team investigative planning we have determined that technology transfer is required in plotting and compiling. We have also confirmed that quality control and processing for logical error have not yet been obtained. These mentioned basic mapping skills will be transferred in compliance of Overseas Surveying Standard for National Base Mapping by OJT.

➢ **Digital plotting**

Technology transfer will take place with the attention of the following.

1. Collection items, understanding of collection standards
   - A training seminar will be held to confirm the knowledge of the specifications of the acquisition items and the basics of acquisition standard.
   - Testing of knowledge of specifications will be conducted after the seminar to check understanding.
2. Logical testing of the layers and methods.(Layer duplication, irregulars alignment in contours, irregular shape of field objects.)
   - This should not be conducted with experience or hunches but creation of a work manual made and followed to assure a consistency in quality.
   - Logical testing for the data is usually software reliant. An operation manual will be created on how to perform logical analysis via software.

Planning for these other technology transfers will also be taken place.

3. Basic usage of software such as, data input, compilation, coding, symbology registration and operation manual creating.

- Creation of symbology tables which are necessary for digitalization before data input. Transfer of other tools necessary for digital plotting.
- As mentioned specification schemes are necessary for data input. Image interpretation is important for digital plotting because IGB possesses fundamental knowledge in photogrammetry we do not feel that this will be a problem for the IGB technician.
- An operation manual for the digital plotting module of Pro 600 will be created to average skills and for the transfer of knowledge to the next generation of technicians.

4. Precision and work-flow management
   - The topographic map in the end should be in compliance of the map symbol specification in field identification compared to the gathered field information to confirm the legitimacy of the propriety of the objects and the expressions. These will be inspected visually and results will be recorded in the Accuracy control tables. Modification will be taken place if necessary. These inspections will be taken place with IGB technicians to share principals of precision and the necessity of such management.

➢ **Digital compilation**

Training will be performed so that the IGB can understand the basic concepts working with the work order specifications and diagram specifications so IGB may recreate this process without assistance. Information gathered by such as maps will be scanned for digitalization and entered into compilation software set. Technology transfer is as mentioned below.

1. Cautionary of digital compilation of topographic map
   - Training the matching of coordinates between adjacent maps while compiling to prepare for next steps while maintaining integrity of data.
   - Training of the consideration of the lay out of point information (map symbols, annotation and so-on) that will have great influence and the readability of the maps.
   - Training of the Characteristics of symbolization for a 1/50,000 scale using map specifications.
   - Training of the correct usage of field verification data and methods for the aggressive usage of digitized data for mapping.

2. Classification of acquired data such as layer, code, label and coloring.
   - Training in the determining of differentials and methods of separation and significance.
   - Training of the importance that this procedure affects to the flow of structuring GIS data thru actual work operation.

3. Accuracy and work-flow management
   - The topographic map in the end should be in compliance of the mapping specification

in field identification compared to the gathered field information to confirm the legitimacy of the field object and the expressions. These will be inspected visually and records will be kept of the results. Modification will take place if necessary. Since IGB lacks some skills training of the quality control and methods of inspection will be commenced.

- Comparisons of the planned mapping schedule to an actual operation will be made and evaluated. If there is a negative evaluation, the reason of this, will be corrected and the IGB team will be trained to avoid future mishaps.

4. Creation of operation manual
   - For this field of technology transfer, an operation manual of the planned software for MicroStation will be created to average technology skills and for the pass down of skills to newer generations.

5. Geographical Names
   - Know-how of determination of geographical names will be transferred through OJT.

E. Structuring of GIS data

The basic concept about digital data structuring and practical use will be understood with reference to the work specification created in this project, so that IGB can perform digital structuring by itself. Burkina Faso seems to lack the sharing of geographic information. As mentioned in Study Team preliminary survey report the reason found was that final topographic map data was admit of improvement also as a GIS base data. Because of this digital data practical use by relevant ministries and agencies will be assumed in the future this is why technology transfer of digitalization is necessary. This refers to the steps of digital plotting and compilation that will result as GIS structural data. The structuring of such digital data will be done by software provided by JICA. The technology transfer will be limited to the structural capabilities of this software. An operation manual of this software and any other foreseeable work manuals mentioned below will be created.

1. Fundamental usage of digital data structuring software
   - The software ArcGIS prepared by JICA is the most flexible application up to date and it holds sufficient capability not only for structure of map data but other data analyses, processing, etc. The fundamental of this operation is aimed at transferring the capability of processing of the digital data to GIS data.
2. Knowledge of system configuration
   - System configuration is transferring the methods of creating a topographic map data base into a specialized system.
3. Data compilation technology for digital data structure
   - This is the process that changes the compiled digital data into GIS data. OJT will be provided when necessary.

4. Understanding of the specifications of the data compilation for digital structure
   - Explaining the diagrammatic specifications serve as a basis, and actually structuring of data structure with usage of specifications through OJT.
5. Creation of the operating manual
   - The Operations manuals in which the operation method of the software for the above-mentioned work was described will be created in order to use it at the time of technology transfer, and so that the technology which the engineer of IGB studied can be transferred within IGB.

F. Map Symbolization

Map symbolization is a process of operation which has great influence on the map data, digital structuring and promotional usage. Therefore the IGB must understand the basic concepts and create a process manual for this project. The following will be transferred so the IGB will posses enough know-how to perform map symbolization independently.

1. Creation of operation manual
   - Creation of the operations manuals in which the operating procedure of the software for symbolization was described will be transferred to IGB.
2. Holding a lecture about symbolization including understandings of map symbol specifications.
   - By experience of other projects with map symbol specifications and specifications, a lecture will be very useful for understanding. This lecture will be held for all IGB members on map symbol specification at the end of specifications meeting.
3. Instruction of the symbolization, marginal information creation work by OJT including information creation technology.
   - The manual of symbolization work performance will be created aside from Operations manuals. This manual will be made by an IGB staff that has received training and will be finished with the technical transfer leader of the Study Team.

G. Utilization planning and promotion

➢ Seminars for promotions of usage

This project was performed and planed with the IGB to transfer the technology know-how.

The work content is as followed.

An opening seminar will be held widely for Government agencies of Burkina Faso and foreign donor organizations to make this project known. IGB will establish and run this seminar. Also to ensure the results are well used another seminar will be held at the end of the project around February 2013. IGB will conduct this seminar with not only the consideration to the Burkina Faso government but also other industries that would have interest or usage of such technical information.

H. Quality control

IGB will obtain understanding to the error correction and official checking in accordance with the work specification in each process, this purpose it aim for the ability to perform accuracy management in each process. Also understanding about the inspection method in each process of operation is deepened. IGB does have experience in small and medium scaled mapping but the inspection process is lacking so OJT will be performed in compliance with Overseas Surveying Standard for National Base Mapping on inspections of mapping data.

◆ Evaluation of technology transfer

Evaluation of technology transfer will be carried out by testing of actual individual works transferred by JICA Study Team and/or the following methods; indications of the results will be reported in a draft final report, the purpose of this is for aiming at the independent development by the continuous improvement in technical know-how.

- Questionnaires and minor testing for technicians
- Evaluation by a questionnaire results
- Results from the OJT technical records
- Comprehensive evaluation by the Study Team

3.3 Structure of the Study Team and personal planning

The Study Team personnel planning and work structure is as followed

Fig. 3-4 Staffing and brief work descriptions

Name	Administer	No.	Work contents
Mr. Takashi HARADA	Project Leader	(1)	Collection, analysis and organizing information
		(2)	Creation of Inception report
		(3)	Consultation, explanation of Inception report
		(4)	Consultation of Work and symbol specifications
		(5)	Collection and organizing of existing information
		(6)	Purchase of Satellite imagery
		(7)	Aerial photography
		(8)	Ground control point survey
		(9)	Aerial triangulation
		(10)	Field identification and verification
		(11)	Digital plotting and compilation
		(12)	Creation of Interim report
		(13)	Consultation and explanation of interim report
		(14)	Symbolizing of topographic map
		(15)	Structuring of digital data
		(16)	Creation of data files
		(17)	Creation of out put
		(18)	Promotion of usage
		(19)	UEMOA seminar
		(20)	Creation of draft for final report, consultation
		(21)	Creation of Final repot
		(22)	Technology transfer
			Creation of ortho images

Mr. Takao IKEDA	Specification meeting	(1)	Collection, analysis and organizing information
		(2)	Creation of Inception report
		(3)	Consultation, explanation of inception report
			Creation of draft of work and map specification
			Creation of draft for marginal information
		(4)	Consultation of Work and map symbol specification
Mr. Masaji KOYAMA	Ground control point survey1	(2)	Creation of Inception report
		(5)	Collection and organizing of existing information
		(8)	Ground control point survey
		(12)	Creation of Interim report
		(20)	Creation of Draft final report
		(22)	Transfer of technology (GCP survey, quality control)
Mr. Masaaki ECHIZEN	Ground control point survey2	(8)	Ground control point survey
		(12)	Creation of Interim report
		(20)	Creation of Draft final report
		(22)	Technology Transfer (GCP survey, quality control)
Mr. Takao IKEDA	Aerial triangulation	(2)	Create Inception report
		(9)	Aerial triangulation
		(11)	Creation of Interim report
		(19)	Creation of draft final report
		(21)	Technology transfer （Aerial triangulation）
Mr. Yoshihide OMURA	Field identification and verification	(2)	Create Inception report
		(10)	Field identification and verification (Handy GPS operation)
		(12)	Creation of interim report
		(20)	Draft final report
		(22)	Technology transfer （Field identification and verification）
Mr. Takao IKEDA	Digital plotting	(2)	Create Inception report
		(11)	Digital plotting
		(12)	Creation of Interim report
		(20)	Creation of Draft final report
		(22)	Technology transfer (Digital plotting and Updating work)
Mr. Jun HOSHINO	Digital compilation	(2)	Create Inception report
		(11)	Digital compilation
		(12)	Creation of Interim report
		(16)	Creation data files

		(20)	Draft final report
		(22)	Technology transfer (digital compilation, quality control, Updating work
Mr. Takeshi MIYATA	Map symbolization	(2)	Create Inception report
		(14)	Symbolization of topographic map
		(16)	Creation of data files
		(20)	Creation of draft final report
		(22)	Technology Transfer of symbolization
Ms. Junko YAMASHITA	Structuring data	(2)	Create inception report
		(15)	Data Structuring
		(16)	Creation of data files
		(20)	Creation of draft final report
		(22)	Technology transfer (GIS data structuring)
Mr. Mitsuo IWASE	Promotions	(1)	Collection, analysis and organizing information
		(2)	Create Inception report
		(18)	Promotion of usage
		(19)	UEMOA seminar
		(20)	Creation of draft final report
		(21)	Report consultation
		(22)	Technology transfer (Data promotions and seminars)
Mr. Yuji OUCHI	Coordinator/Plotting assistant	(1)	Collection, analysis and organizing information
Ms. Naomi TAMURA		(3)	Create Inception report
		(5)	Collection and organizing of existing information
		(6)	Purchase of satellite imagery
		(12)	Creation of draft final report
		(19)	UEMOA seminar
		(20)	Draft final report consultation
		(22)	Technology transfer (GIS data structuring ,quality control)

3.4 Equipment

The equipment necessary for this project are as mentioned below

(1) Equipment Obtained by JICA

The equipment that will be needed for this study will be obtained locally or thru a 3rd country. Due to the scheduling of the work, equipment will be obtained with the negotiation of JICA Burkina Faso office and local dealers to ensure no delays occur in project flow process.

Table 3-5 JICA obtaining Equipment

No.	Equipment	Specification	Quantity	Remarks
1	Basic software for Aerial Triangulation, Digital Plotting, Compilation	LPS Core	3	
2	Basic software for Aerial Triangulation, Digital Plotting, Compilation	LPS Stereo	3	
3	Software for aerial triangulation (adjustment computation part)	ORIMA DP-TE/GPS	1	
4	Software for aerial triangulation(DEM creation part)	LPS ATE	1	
5	Basic software for digital plotting and compilation	PRO600 for LPS/DPW	3	
6	Basic software for digital plotting and compilation (DEM editing)	LPS TE	1	
7	Software for digital plotting and compilation	Bentley Map V8XM and/or Bentley Map V8i	6	Each 3 licenses necessary for Digital Plotting and compilation
8	Software for digital plotting and compilation	Bentley Map V8XM もしくは Bentley Map V8i	3	
9	Software for GIS structuring	ESRI ArcGIS/Arcinfo	1	
10	GIS usage and promotion software	ESRI 3D Analyst	1	
11	GIS usage and promotion software	ESRI Spatial Analyst	1	
12	GIS usage and promotion software	ESRI Network Analyst	1	
13	Map symbolization software	Adobe Illustrator	2	
14	Image processing siftware	Adobe Photoshop	2	
15	Work station	For digital plotter	3	
16	Personal computer	For compilation and GIS structuring	3	
17	3D monitor		3	
18	Topo-mouse		3	
19	Vehicles for study	4WD	4	

(2) Equipment obtained by Study Team

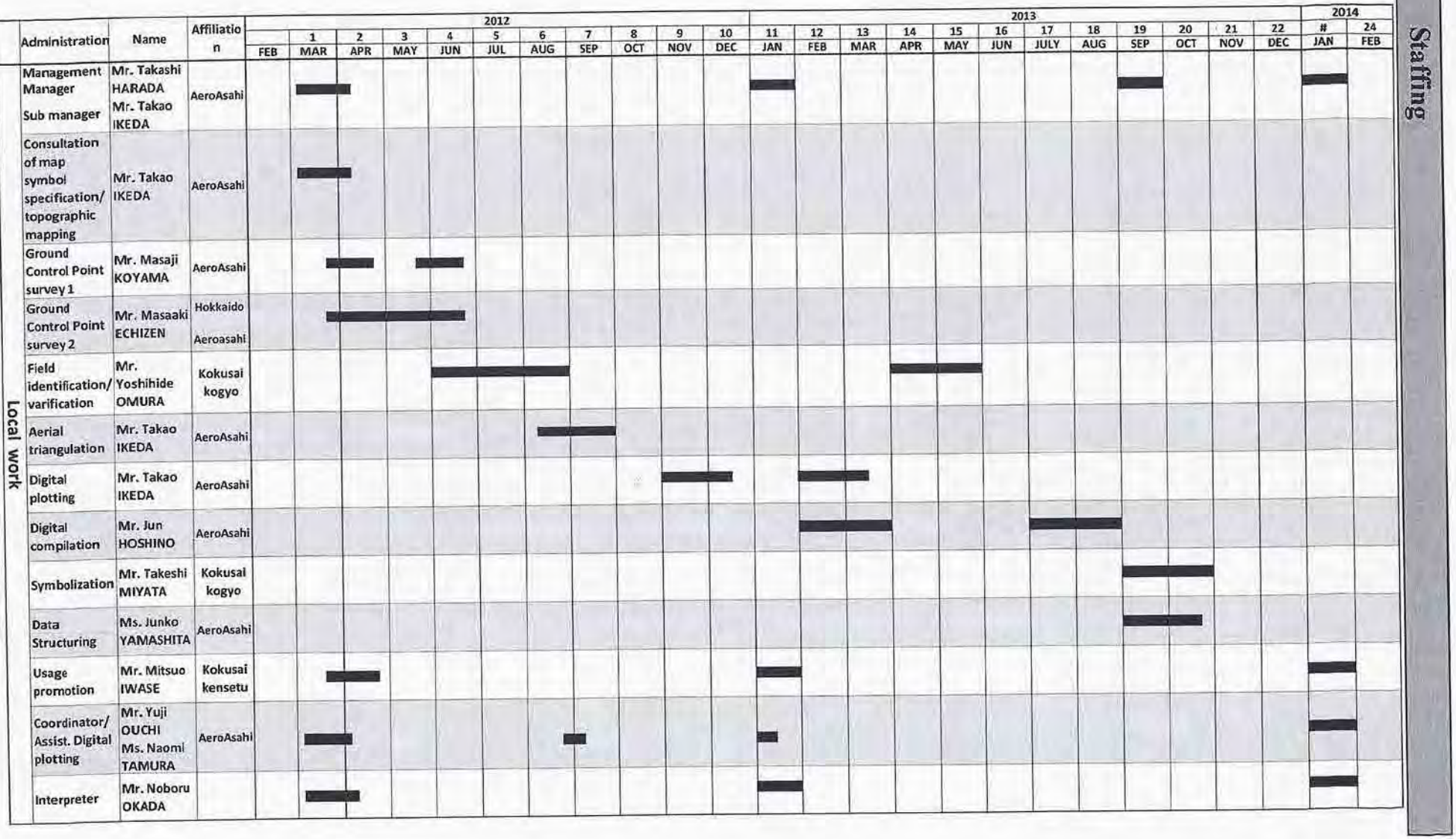
Regarding the GNSS equipment necessary for filed work is to be acquired using for GCP surveying implementing after starting of the project immediately. Availability of Equipment dealer should be checked in Japan before work start.

Table 3-6 Study Team obtaining equipment list

No.	Classification	Equipment	Quantity	Remarks
1	Japan	Handy GPS	4 sets	GARMIN GPSMAP62S
2	Japan	Digital camera	4 sets	GPS functioned
3	Burkina Faso	Plotter	1set	A0 size
4	Burkina Faso	Note PC	2 sets	For GCP survey
5	Burkina Faso	GNSS Analysis software	2 sets	LGO
6	Burkina Faso	Digital level	2 sets	For Simple leveling
7	Burkina Faso	Printer	2 sets	A 3size
8	Burkina Faso	UPS	6 sets	

Work Scheduling

Staffing


Local work
Administration
Name
Affiliation
2012
2013
2014
FEB 1 MAR 2 APR 3 MAY 4 JUN 5 JUL 6 AUG 7 SEP 8 OCT 9 NOV 10 DEC
11 JAN 12 FEB 13 MAR 14 APR 15 MAY 16 JUN 17 JULY 18 AUG 19 SEP 20 OCT 21 NOV 22 DEC
JAN 24 FEB
Management Manager
Sub manager
Mr. Takashi HARADA
Mr. Takao IKEDA
AeroAsahi
Consultation of map symbol specification/ topographic mapping
Mr. Takao IKEDA
AeroAsahi
Ground Control Point survey 1
Mr. Masaji KOYAMA
AeroAsahi
Ground Control Point survey 2
Mr. Masaaki ECHIZEN
Hokkaido Aeroasahi
Field identification/ varification
Mr. Yoshihide OMURA
Kokusai kogyo
Aerial triangulation
Mr. Takao IKEDA
AeroAsahi
Digital plotting
Mr. Takao IKEDA
AeroAsahi
Digital compilation
Mr. Jun HOSHINO
AeroAsahi
Symbolization
Mr. Takeshi MIYATA
Kokusai kogyo
Data Structuring
Ms. Junko YAMASHITA
AeroAsahi
Usage promotion
Mr. Mitsuo IWASE
Kokusai kensetu
Coordinator/ Assist. Digital plotting
Mr. Yuji OUCHI
Ms. Naomi TAMURA
AeroAsahi
Interpreter
Mr. Noboru OKADA

6. Study Result

Report to submit will be following. Final results of this contract are item 4. Final Report with item 3 and 4 of (2) Result only.

(1) Study Report

Table 6-1 Study report

No.	Report	Quantity Japanese	Quantity English	Quantity French	Government of Burkina Faso	
					English	French
1	Inception Report	10	15	15	10	10
	Contents	Basic policy, methodology, work-flow, staffing, implementation structure, technology transfer plan of the study				
	Term of submit	Starting of project				
2	Interim Report	10	15	15	10	10
	Contents	Study result at the end of field identification, report of progress of technology transfer and future plan				
	Term of submit	11 months after starting of the project				
3	Draft Final Report/Main	-	15	15	10	10
	Summary(English)	-	15	15	10	10
	Summary(Japanese)	10	-	-	-	-
	Contents	Entire study result, result of technology transfer, Work manual, report of quality control, work specification and others				
	Term of submit	22 months after starting of the project				
4	Final Report/Main	-	15	15	10	10
	Summary(English)	-	15	15	10	10
	Summary(Japanese)	10	-	-	-	-
	Contents	Entire study result, result of technology transfer, Work manual, report of quality control, work specification (final version) and others				
	Term of submit	Within 1 month after receiving the comment from Burkina Faso government				

(2) Final Result

Following result will be submitted to JICA. Final result and quantity are in following table.

Table 6-2 Final Result

No.	Result	Unit	Quantity	Remarks
1	Ortho-photo	set	1	For Burkina Faso government
2	Contact print of aerial	set	2	1 set for Burkina Faso government

b.	1/50,000 GIS basic data	set	2	1 set for Burkina Faso government
6	Final report	set	1	For Burkina Faso government
7	Output	set	200	For Burkina Faso government
8	Booklet	set	100	A3 size, for Burkina Faso government
		set	5	Original size, for Burkina Faso government
9	Report of Quality control	set	1	Prepare the quality control report for mapping process on instead of official inspection
10	Work specification	set	1	For Burkina Faso government

APPENDIX

Record of Discussion

Annexe-1.2 Procès-verbal des discussions pour les Spécifications de symboles de carte

PROCÉS-VERBAUX DES DISCUSSIONS SUR LES SYMBOLES

POUR

LE PROJET DE LA CARTOGRAPHIE TOPOGRAPHIQUE NUMERIQUE AU BURKINA FASO

CONVENUS ENTRE

L'IINSTITUT GEOGRAPHIQUE DU BURKINA/MINISTERE DES INFRASTRUCTURES ET DESENCLAVEMENT

ET

AGENCE JAPONAISE DE LA COOPERATION INTERNATIONALE

Ouagadougou,

Avril 2012

M. Claude Obin TAPSOBA
Directeur Général,
Institut Géographique du Burkina

M. Takashi HARADA
Chef de la mission
Equipe d'Etude de la JICA

Introduction

En réponse à la requête officielle du Gouvernement du Burkina Faso (ci-après dénommé « le GdB »), présentée au Gouvernement du Japon (ci-après dénommé « le GdJ », l'Agence Japonaise de la Coopération Internationale (ci-après désigné dénommé « la JICA ») a tenu une série de discussions avec l'Institut Géographique du Burkina (ci-après dénommé « l'IGB ») ainsi que des organisations concernées en vue d'élaborer un plan détaillé du Projet de la Cartographie Topographique Numérique du Burkina Faso (ci-après dénommé "le Projet").

Les deux parties ont convenu que l'IGB, l'homologue de la JICA, sera responsable de l'exécution du projet en collaboration avec la JICA. Il coordonnera avec les autres organisations concernées et s'assurera que la mise en œuvre autonome du Projet est soutenue pendant et après la période d'exécution du projet pour contribuer au développement social et économique du Burkina Faso.

L'Equipe d'Etude a entamé une série de discussions avec l'IGB concernant le Rapport du Commencement du Projet. Le présent document présente les principaux points de discussions et les commentaires exprimés par les deux parties. Il est destiné à compléter le Rapport de commencement.

La liste des participants aux discussions est jointe en ANNEXE 1.

****Contenu des discussions****

Les deux parties se sont accordées sur les points suivants :

1. Specifications sur les symboles cartographiques
   - Définir les attributs des objets géographiques sous forme de texte (IGB).
   - Proposer les symboles correspondants aux objets géographiques (JICA)
   - Utiliser les coordonnées des bornes frontalières et géodésiques fournies par l'IGB (elles ne devront pas être modifiées)

2. Système de référence

   Les spécifications du système de référence les suivantes :

   Référence : ITRF2008
   Ellipsoïde de référence : GRS80
   Projection : BFTM (Burkina Faso Transverse de Mercator)

3. Zone à cartographier
   - Chaque feuille cartographique est définie par 15 minutes de latitude et de longitude ;
   - Au cas où la zone à cartographier est très petite pour être représentée dans une feuille, la feuille adjacente sera étendue .Sa superficie et son extension seront déterminées plus tard ;
   - Les feuilles cartographiques situées aux limites des frontières internationales seront prolongées sur une distance de 2kms (4cm sur la carte) ;
   - La partie de la feuille cartographique au delà la frontière sera couverte par l'ortho-image ;
   - L'IGB fournira les noms et les numéros des feuilles cartographiques à l'équipe d'étude de la JICA ultérieurement.

4. L'Ortho-image

   Résolution spatiale est de 2,5 m.

   Les ortho-images seront découpées conformément aux feuilles cartographiques. Au cas où le volume constituera une contrainte pour la gestion du fichier, les ortho-images seront subdivisé en dalle de plus petite taille.

ANNEXE 1

Liste des participants

<Partie burkinabé>

M. Claude Obin TAPSOBA	Directeur General/IGB
M. Désiré COMPAORE	Chef de projet carto
Mr Ferdinand Bako	Chef de service Cartographie
Sylvain Kaboré	Service des travaux de terrain
Mme Sougué Maïmouna	Service de Prise de Vues Aériennes
Mme Coulibaly Safiatou	Service de Photogrammétrie

<Partie japonaise>

Equipe d'étude

M. Takashi HARADA	Chef de la mission
M. Takao IKEDA	Chef adjoint de la mission
M. Noboru OKADA	Interprète

Projet de
Cartographic Topographique Numérique
Au
Burkina Faso

1/50,000

Digital Topographic Mapping Project
in Burkina Faso

MAP SYMBOL SPECIFICATION AND ACQUISITION STANDARD

(DRAFT)

April 2012

MINUTES OF MEETING

FOR

THE DIGITAL TOPOGRAPHIC MAPPING PROJECT IN BURKINA FASO

AGREED UPON BETWEEN

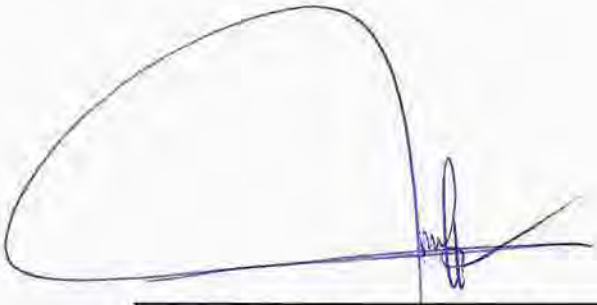
IGB/MINISTRY OF INFRASTRUCTURES AND OPENING UP

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

April 2012



Mr. Claude Obin TAPSOBA
Director General,
Burkina Geographic Institute

Mr. Takashi HARADA
Leader
JICA Study Team

I. Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as "the GoB"), the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussion with Burkina Geographic Institute (hereinafter called "IGB") and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as "the Project").

Both parties agreed that IGB, as the counterpart of JICA, will be responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

Study team had a series of discussion with the Burkina Faso Geographic Institute regarding map specification of the project. Attendances of discussion are listed in APPENDIX 1.

II. Contents of Discussion

Both Party discussed and agreed as following.

1. Map Symbol Specification
   - Acquisition Items of the object are as the attached documents.
   - JICA study team proposes the plan of symbol size and shape later.
   - Boundary data and control point coordinates supplied by IGB will not be basically modified.

2. Survey Standard
   - Survey Standards in this project are as follows.

Datum	:	ITRF2008
Reference ellipsoid	:	GRS80
Projection	:	BFTM (Burkina Faso Transverse Mercator)

3. Mapping area
   - Each map sheets are basically defined by 15 minutes in latitude and longitude.
   - In case that mapping area is very small in a map sheet, the adjacent sheet will be extended. The extended sheet and area will be determined later.
   - Mapping area will extend around 2 km (4 cm on map) from international border.
   - The outside of the international border will be only plotted with satellite image interpretation.
   - Ortho-imagery will be used for filling up of vacant area of map sheet.

- IGB will give "sheet No" and "sheet name" to JICA study team later.

4. Ortho-imagery
   - Ground sample distance will be 2.5 m.
   - File unit of ortho-imagery is basically the same as map sheet. If the file volume of an image is too big, file unit will be split, for example 1/4.

APPENDIX 1

List of Attendants

<Burkina Faso side>

Mr. Claude Obin TAPSOBA	Director General/IGB
Mr. Désiré COMPAORE	IGB
M. Désiré COMPAORE	Chef de projet carto
Mr Ferdinand Bako	Chef de service Cartographie
Sylvain Kaboré	Service des travaux de terrain
Mme Sougué Maimouna	PVA
Mme Coulibaly Safiatou	Photogrammétrie

<Japan side>

Study team

Mr. Takashi HARADA	Leader
Mr. Takao IKEDA	Deputy Leader
Mr. Noboru OKADA	Interpreter

Projet de
Cartographic Topographique Numérique
Au
Burkina Faso

1/50,000

Digital Topographic Mapping Project
in Burkina Faso

MAP SYMBOL SPECIFICATION AND ACQUISITION STANDARD

(DRAFT)

April 2012

REPRESENTATION DES SYMBOLES

5 MAR 2012
Ver1.1

No	Code de couches	Description	Fichier des symboles	Type de données	Procédure de saisie	取得要領	名称	協議結果4/2 Résultat de discussion 2/4	協議結果3/27 Résultat de discussion 27/3	再確認・コメント
1		ROUTE A CHAUSSEES SEPAREES		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	中央分離帯のある舗装道路		・不採用 ・A supprimer	
2		LARGE(ROUTE REVETUE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	舗装道路(大)		・不採用 ・A supprimer	
3		ETROITE(ROUTE REVETUE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	舗装道路(小)		・不採用 ・A supprimer	
4		ROUTE A PRATICABILITE PERMANENTE		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	常時使用できる未舗装道路		・不採用 ・A supprimer	
5		ROUTE NATIONALE (BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	国道(舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
6		ROUTE NATIONALE (NON BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	国道(未舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
7		ROUTE REGIONALE (BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	地方道路(Regional・舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
8		ROUTE REGIONALE (NON BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	地方道路(Regional・未舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
9		ROUTE DEPARTEMENTALE (BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	地方道路(Departmental・舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
10		ROUTE DEPARTEMENTALE (NON BITUMEE)		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	地方道路(Departmental・未舗装)		・追加 ・資料あり ・A ajouter ・Documents disponibles	
11		ROUTE A CHAUSSEES SEPAREES					分離帯のある道路	・追加 ・都市部のみと思われる A ajouter Nécessaire seulement pour la zone urbaine		
12		AUTRES ROUTES DE ZONE URBAINE					都市部のその他の道路	・追加 A ajouter		
13		ROUTE DE PRATICABILITE SAISONIERE OU ALEATOIRE		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	季節変動のある舗装道路	・不採用 A supprimer	・PISTEの分類についてはDGBが最終的に確認 ・L'DGB se renseignera sur la classification de pistes à la Direction Générale des routes.	
14		PISTE PRATICABLE PAR LES VEHICULES TOUT TERRAIN		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	季節変動のある未舗装道路	・採用 ・車が通行可能なPISTE A utiliser Piste praticable par 4 x 4		
15		PISTE POUR PIETON		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	徒歩道	・不採用 A supprimer		
16		SENTIER		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	小道	・採用 ・車が通行不可能なPISTE A utiliser Piste non praticable par 4 x 4		
17		ROUTE EN CONSTRUCTION		Ligne	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	建設中の道路			
18		ROUTE BORDEE D'ARBRES		Symbole	Poser chaque symbole des arbres pa r intervalle de 1.6mm	並木のシンボルは1.6mm間隔にで置く	道路並木			

REPRESENTATION DES SYMBOLES

5 MAR 2012
Ver1.1

No	Code de couches	Description	Fichier des symboles	Type de données	Procédure de saisie	取得要領	名称	協議結果4/2 Résultat de discussion 2/4	協議結果3/21 Résultat de discussion 21/3	再確認・コメント
19		POINT		Ligne,Symbole	Saisir le centre de la route et joindre les lignes	橋の中心を取得(結線)	橋			・道路幅毎に必要 ・ラインとシンボル ・凡例には1つのみ表示 ・Nécessaire pour chaque largeur de route ・Ligne et symbole ・Un seul symbole sera indiqué à la légende
20		RADIER ou CHAUSSEE SUBMERSIBLE		Ligne,Symbole	Saisir le centre de la route et joindre les lignes	道路の中心を取得(結線)	インバードまたは潜水道路			・道路幅毎に必要 ・ラインとシンボル ・凡例には2つのみ表示 ・Nécessaire pour chaque largeur de route ・Ligne et symbole ・Un seul symbole sera indiqué à la légende
21		BAC		Symbole		結線	渡船場			表現方法確認 Confirmation de symbole de représentation
22							インターチェンジ	不採用 A supprimer	・削除 ・en attente	
23		CHEMIN DE FER A 2 OU PLUSIEURS VOIES		Ligne	Saisir le centre de la voie ferée et joindre les lignes	鉄道の中心を取得(結線)	複線鉄道線路			
24		CHEMIN DE FER A 1 VOIE		Ligne	Saisir le centre de la voie ferée et joindre les lignes	鉄道の中心を取得(結線)	単線鉄道線路			
25		GARE STATION		Symbole	Boucler le rectangle et joindre les lignes	結線	駅, 停車場	・鉄道局に確認(IGB) Se renseigner au chemin de fer	・資料あり(IGB) ・Documents disponibles(IGB)	
26		HALTE, ARRET		Symbole	Boucler le rectangle et joindre les lignes	結線	停車場		・資料あり(IGB) ・Documents disponibles(IGB)	
27		VOIES DE GARAGE		Ligne	Saisir le centre de la voie ferée et joindre les lignes	鉄道の中心を取得(結線)	特避線		・本線と一番外側の待避線を取得し中間は適宜配置 ・A Saisir le voie principal et le voie généralement d'extérieur et rajouter les voies de sillins si possible	
28		TUNNEL		Symbole	Utiliser le symbole de sens pour saisir	方向記号で取得	トンネル(坑口)			
29		CHEMIN DE FER DANS LE TUNNEL		Ligne	Saisir le centre du tunnel de voie ferée et joindre les lignes	結線	トンネル内鉄道			
30		LIGNE D'ENERGIE ELECTRIQUE HAUTE TENSION		Ligne	Saisir le centre de la ligne d'énergie électrique haute tension et joindre les lignes	送電線の中心を取得(結線)	高圧電線		・資料あり(IGB) ・中圧電線は不採用 ・Documents disponibles(IGB) ・A ne par représenter la ligne de tension moyenne	
31		PYLONE DE STATION HERTZIENNE		Symbole	Le saisir à la position exacte	真位置で取得	ラジオ・テレビ局アンテナ	・テレビ局アンテナも含む A inclure le pylone de la télévision	・ラジオ局アンテナとする ・Pylone de station	
32		ANTENNE DE PORTABLE		Symbole			携帯電話アンテナ		・追加 ・A ajouter	
33		ZONE URBANISEE NOYAU URBAIN		Polygon	Boucler le polygone	始終点座標一致	都市区域 都心		・名称変更 ・A changer le nom de description	
34		ZONE D'HABITAT SPONTANNEE ZONE URBANISEE		Polygon	Boucler le polygone	始終点座標一致	都市郊外の自然発生的住居 都市区域		・名称変更 ・A changer le nom de description	
35		ANCIEN VILLAGE		Ligne	Boucler le polygon	始終点座標一致	古い村跡		・不採用 ・A supprimer	
36		LES VILLAGES		Ligne	Boucler le polygon	始終点座標一致	村落		・不採用 ・A supprimer	

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37		~~ZONE D'HABITAT SPONTANNEE~~		~~Symbole~~	~~La saisir à la position exacte~~	~~真位置で取得~~	~~自然発生的住居~~		・不採用 ・A supprimer	
38		HABITATIONS ISOLEES	●	Symbole	Les saisir à la position exacte	真位置で取得	離れてある住居		・ZONE URBANISEE, ZONE D'HABITAT SPONTANNEE以外の住居を対象とする ・密度に応じて重畳関係にて取得する ・Ce symbole représente les habitats en dehors de ZONE URBANISEE ; ZONE D'HABITAT SPONTANNEE. ・A espacer la disposition des habitats convertibles/mis en fonction de la densité	
39		HABITATION NON PERMANENTE	○	Symbole	La saisir à la position exacte	真位置で取得	常住されていない住居			
40		CAMPEMENT DE NOMADES	∧	Symbole	La saisir à la position exacte	真位置で取得	放牧民地		・北部にあり ・現地調査にて確認 ・Les campements existent au nord ・A confirmer sur le terrain	
41		BATIMENTS REMARQUABLES	▬	Symbole	Les saisir à la position exacte	真位置で取得	離れてある目立つ建物			
42		MOSQUEE	☪	Symbole	La saisir à la position exacte	真位置で取得	モスク			
43		EGLISE	✝	Symbole	La saisir à la position exacte	真位置で取得	教会			
44		CHAPELLE OU TEMPLE ~~CHAPELLE~~	✝	Symbole	La saisir à la position exacte	真位置で取得	礼拝堂		・Chapelに統合 ・Templeの記号を使用 ・A adopter uniquement la chapel et la représenter par la symbole du temple.	
45		~~TEMPLE~~	~~⛩~~	~~Symbole~~	~~La saisir à la position exacte~~	~~真位置で取得~~	~~寺院~~			
46		AUTRES EDIFICES RELIGEUX ~~CATHOLIQUE(MISSIONS CHRETIENNES)~~	✝	Symbole	La saisir à la position exacte	真位置で取得	その他の宗教的建物 カトリック		・変更 ・A changer le nom de description	
47		~~PROTESTANTE~~	~~✝~~	~~Symbole~~	~~La saisir à la position exacte~~	~~真位置で取得~~	~~プロテスタント~~			
48		HOPITAL	⊞	Symbole	La saisir à la position exacte	真位置で取得	病院			
49		CSPS DISPENSAIRE	✚	Symbole	La saisir à la position exacte	真位置で取得	診療所		・薬品保管庫や分娩所などに使用される建物 ・Batiment pour le dépôt de médicament, et la centre d'accouchement.	日本語訳確認 A traduire en japonais
50		ENSEIGNEMENT ~~ECOLE, COLLEGE, LYCEE~~	▭	Symbole	Saisir à la position exacte	真位置で取得	教育施設 小学校、中学校、高等学校	・大学も含む A inclure les universités	・名称変更 ・A changer le nom de description	大学を含むか再確認 A confirmer si inclure ou non les universités
51		~~BUREAU DE POSTE DE TELECOMMUNICATION~~	✉	Symbole	La saisir à la position exacte	真位置で取得	通信設備のある郵便局		・名称変更 ・A changer le nom de description	
52		BUREAU DE POSTE	✉	Symbole	La saisir à la position exacte	真位置で取得	郵便局			
53		GENDARMERIE, POLICE	▮	Symbole	La saisir à la position exacte	真位置で取得	憲兵隊警察			
54		DOUANE	♀	Symbole	La saisir à la position exacte	真位置で取得	税関			
55		STATION RADIODIFFUSION(STATION RADIO)	⊥	Symbole	La saisir à la position exacte	真位置で取得	ラジオ局			

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56		USINE	○	Symbole	La saisir à la position exacte	真位置で取得	工場			
57		MINES		Symbole	La saisir à la position exacte	真位置で取得	鉱山			
58		SITE HISTORIQUE OU ARCHEOLOGIQUE		Symbole	La saisir à la position exacte	真位置で取得	考古学的史跡			
59		STATUT OU MONUMENT ISOLE	□	Symbole	La saisir à la position exacte	真位置で取得	離れてある像(モニュメント)		・□記号を採用 ・A utiliser le symbole □	
60		CIMETIERE MUSULMAN		Symbole	La saisir à la position exacte	真位置で取得	イスラム教徒墓地			記号確認 A confirmer le symbole à utiliser
61		CIMETIERE CHRETIEN		Symbole	La saisir à la position exacte	真位置で取得	キリスト教徒墓地		・CIMETIEREに統合 ・A les intégrer par la description CIMETIERE	
62		AUTRE CIMETIERE		Symbole	La saisir à la position exacte	真位置で取得	その他の墓地			
63		RESERVOIR D'HYDROCARBURES	●	Symbole	La saisir à la position exacte	真位置で取得	燃料タンク			
64		STADE, HYPPODROME		Ligne	Boucler le polygone	始終点座標一致	スタジアム、競技場			・Symbolサイズより大きい場合ラインで形状を取得する ・Symbolは回転記号とする ・Si la taille de l'ouvrage est plus grande que la taille de symbole, il est à saisir la forme par ligne. ・Le symbole est celui de cercle
65		STADE, HYPPODROME(SYMBOL)		Symbole	La saisir à la position exacte	真位置で取得	スタジアム、競技場			
66		AEROPORT		Ligne	Boucler le polygon	始終点座標一致	空港(滑走路)			
67		AEROPORT (SYMBOLE)		Symbole	Poser le symbole au centre de la zone(polygon)	エリアの中心に置く	空港(記号)			
68		AERODROME IMPORTANT		Ligne	Boucler le polygone	始終点座標一致	飛行場(滑走路)		・地図上の見た目は空港滑走路と同じでよい ・Cette infrastructure peut être représentée par le même symbole que Aéroport (piste) sur la carte.	
69		AERODROME IMPORTANT(SYMBOLE)		Symbole	Poser le symbole au centre de la zone(polygon)	エリアの中心に置く	飛行場(記号)			
70		AERODROME SECONDAIRE (SYMBOLE)		Symbole	Poser le symbole au centre de la zone(polygon)	エリアの中心に置く	二次的空港(飛行場)		・不採用 ・A supprimer	
71		HOTELLERIE		Symbole	La saisir à la position exacte	真位置で取得	宿泊できる場所			
72		MARCHE		Symbole	La saisir à la position exacte	真位置で取得	市場			
73		COURS D'EAU PERMANENT(REPRESENTE AVEC 2 BORDS)		Polygon	Boucler le polygon	始終点座標一致	流れない河川(真幅)		・河川幅15m以上の場合両側を取得 ・A saisir les deux bords pour le cours d'eau à plus de 15 mètres de largeur.	
74		COURS D'EAU PERMANENT(REPRESENTE AVEC UNE SEULE LIGNE)		Ligne	Saisir le centre du cours d'eau et joindre les lignes	結線	流れない河川(一条)		・河川幅15m以下の場合1条線で取得 ・A saisir le cours d'eau à moins de 15 mètres de largeur par une seule ligne.	
75		COURS D'EAU PERMANENT(DEBUT DE COURS)		Ligne	Saisir le centre du cours d'eau et joindre les lignes	結線	流れない河川(終了点)		・不採用 ・A supprimer	
76		PLAN D'EAU		Polygon	Boucler le polygone	始終点座標一致	流れない河川の広がり			

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77		COURS D'EAU TEMPORAIRE		Ligne	Saisir le centre du cours d'eau et joindre les lignes	結線	一時的河川			
78		CANAL		Ligne	Saisir le centre du canal et joindre les lignes	始終点座標一致	運河			
79		BARRAGE ET RETENUE D'EAU		Ligne			ダムおよび貯水池(真砂)	・水涯線部分はPLAN D'EAUで取得する ・注記(Barrage)は取得する A saisir la ligne de bord par le plan d'eau A saisir les barrages (annotation)	・注記(Barrage)は不要 ・L'annotation (Barrage) n'est pas nécessaire	
80		MARE		Polygon	Boucler le polygon	始終点座標一致	沼・池	・MARE TEMPORAIRE ET TERRAIN HUMIDEを「MARE」「ZONE HUMIDE」に分離 A séparer 'la mare' et 'la zone humide' et supprimer 'MARE TEMPOLAIRE ET ZONE HUMIDE'	・資料及び現況を参照する ・A confirmer par les documents et l'étude sur terrain.	
81		MARE TEMPORAIRE ET TERRAIN ZONE HUMIDE		Polygon	Boucler le polygone	始終点座標一致	湿地	・MARE TEMPORAIRE ET TERRAIN HUMIDEを「MARE」「ZONE HUMIDE」に分離 A séparer 'la mare' et 'la zone humide' et supprimer 'MARE TEMPOLAIRE ET ZONE HUMIDE'	・資料及び現況を参照する ・A confirmer par les documents et l'étude sur terrain.	
82		ZONE INONDABLE, TERRAIN INONDABLE		Polygon	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。始終点座標一致(面)及び記号併用	氾濫を起こしやすい土地			
83		DEPRESSION FERMEE		Polygon	Boucler le polygon	結線	周囲を囲まれた凹地(くぼ地)			
84		CASCADE CHUTE D'EAU		Symbole	La saisir à la position exacte	真位置で取得	滝			
85		CASCADE, CHUTE D'EAU (RAPIDE)		Ligne	La saisir à la position exacte	真位置で取得	急流		・不採用 ・A supprimer	
86		PUITS, CITERNES, ABREUVOIRS, LAVOIR(2), ET FORAGES		Symbole	La saisir à la position exacte	真位置で取得	手掘り井戸およびボーリング井戸		・資料(座標含む)あり ・Documents (avec les coordonnés ou) disponibles	
87		CHATEAU D'EAU		Symbole	La saisir à la position exacte	真位置で取得	給水塔			
88		RESERVOIR		Symbole	La saisir à la position exacte	真位置で取得	貯水槽			
89		POINTS D'EAU : SOURCES		Symbole	Les saisir à la position exacte	真位置で取得	いずみ			
90		AUTRES POINTS D'EAU (FONTAINE, ABREUVOIR, ETC.)		Symbole	Les saisir à la position exacte	真位置で取得	その他の給水点			
91		COURBE MAITRESSE		Ligne	joindre les lignes des lignes	結線	等高線(計曲)			
92		COURBE DE NIVEAU NORMALE		Ligne	joindre les lignes des lignes	結線	等高線(主曲)			
93		COURBES INTERCALAIRES		Ligne	joindre les lignes des lignes	結線	間曲線			
94		POINTS BORNE GEOSIDIQUES		Symbole	Les saisir à la position exacte	真位置で取得	基準点		・資料(座標)あり ・Documents (avec les coordonnés ou) disponibles	
95		POINTS ASTRONOMIQUES		Symbole	Les saisir à la position exacte	真位置で取得	天測点		・不採用 ・A supprimer	

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96		POINTS COTES		Symbole	Les saisir à la position exacte	真位置で取得	図化標高点			
97		REPERES OU BORNES DE NIVELLEMENT		Symbole	Les saisir à la position exacte	真位置で取得	水準基経点または標石		・資料(座標)あり ・Documents (avec les coordonnés où disponibles	水準点 RN
~~98~~	~~X~~	~~BORNES~~		~~Symbole~~	~~Les saisir à la position exacte~~	~~真位置で取得~~	~~標石~~		・不採用 ・A supprimer	
99		BORNES FRONTALIERES		Symbole	Les saisir à la position exacte	真位置で取得	国境の標石	・シンボル変更不要 Pas nécessaire de changer le symbole	・資料あり ・シンボル変更 ・Documents disponibles ・A changer le symbole	Bne
100		STATION PERMANENT		Symbole	Les saisir à la position exacte	真位置で取得	電子基準点		・追加 ・資料あり ・A ajouter ・Documents disponibles	
101		SOMMET		Polygon	Saisir en regardant à sa droite le niveau inférieure	低いほうを右に見て取得	頂上(真形)			
102		PIC ~~SOMMET(Symbole)~~		Symbole	Utiliser le symbole de sens pour saisir le sommet	真位置で取得	尖峰		・名称変更 ・A changer le nom de description	
103		TALUS LATERITIQUES		Ligne	Saisir en regardant à sa droite le niveau inférieure	低いほうを右に見て取得	ラテライトの崖斜			
104		~~LEVEE DE TERRES~~ ~~LIGNE DE CRETES~~ LEVEE DE TERRES		Ligne	Saisir le sommet de la terre soulevée	盛り上がりの中心を取得	地面の盛り上がり			
105		SOMMET ET PITONS ROCHEUX		Polygon	Saisir en regardant à sa droite le niveau inférieure	低いほうを右に見て取得	頂上および頂きが環になった岩の峰(真形)			
106		SOMMET ET PITONS ROCHEUX (Symbole)		Symbole	Utiliser le symbole de sens pour saisir le sommet	方向記号で取得	頂上および頂きが環になった岩の峰(記号)			
107		AFFLEUREMENT ROCHEUX		Ligne	Utiliser le symbole de sens pour saisir	方向記号で取得	露出岩			
108		~~LIGNE DE CRETES~~ ~~LEVEE DE TERRES~~ LIGNE DE CRETES		Ligne	Saisir le sommet à pic	頂上の中心を取得	岩の稜線			
109		~~LIGNE DE CRETES~~ ESCARPMENT		Ligne	Saisir en regardant à sa droite le niveau inférieure	低いほうを右に見て取得	傾斜面/断崖			
~~110~~	~~X~~	~~LEVE DE TERRES~~		~~Ligne~~	~~Saisir le sommet à pic~~	~~頂上の中心を取得~~	~~土盛り(土の堤防)~~	・不採用 ・LEVEE DE TERRESで取得 A supprimer et à saisir avec la description 'LEVEE DE TERRE'		
111		COURBES DE CUVETTE		Symbole	Les saisir à la position exacte	真位置で取得	凹地			
112		CORDON DUNAIRE		Polygon	Boucler le polygon	始終点座標一致	砂丘帯			
113		TERRAIN SABLEUX SEC		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。始終点座標一致(面)及び記号併用	乾燥した砂			
114		LIMITE DE ZONES		Ligne	Concordance du point de départ avec celui final (polygon)	始終点座標一致(面)	区域界		・図化のみで使用し記号化しない ・A utiliser pour la photogrammétrie sans le symbole sur la carte	
115		FORET CLAIRE OU SAVANE BOISEE		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。始終点座標一致(面)及び記号併用	疎林または木の多いサバンナ			
116		SAVANE ARBOREES OU ARBUSTIVES		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。始終点座標一致(面)及び記号併用	木または小潅木生えたサバンナ			
~~117~~	~~X~~	~~SAVANE ARBOREES OU ARBUSTIVES DEGRADEES~~		~~Ligne・Polygon・Point~~	~~Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.~~	~~周囲を区域界(5101)で取得。始終点座標一致(面)及び記号併用~~	~~荒廃した木又は小潅木生えたサバンナ~~		・不採用 ・A supprimer	

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118		STEPPE ET PRAIRIE		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	ステップおよび草原			
119		BROUSSE TIGREE		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	虎斑の深い藪			
120		FORMATIONS RIPICOLES ET FORET GALERIES		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	川岸の形成体および一連の森			
121		LIMITE DE FORET CLASSEE DE RESERVE DE FLORE OU FAUNE		Polygone	Boucler le polygon	始終点座標一致	保護林、動植物保護区の境界		・資料あり ・Documents disponibles	
122		HAIE (OU CLOTURE VEGETALE)		Ligne	Saisir le centre du fossé	境の中心を取得	塀(または植物の囲い)			
123		CULTURE (COTONIERES, SISAL, CANNE A SUCRE, BANANIERS)		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygone et joindre les lignes. Poser un(1) symbole dans le polygone.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	耕作地			きび、綿花など Millet, cotton etc.
124		CULTURE AVEC ARBRES PLANTATION		Polygon	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	木の生えた耕作地	・オレンジ"O"、バナナ"B"を追加 A ajouter les annotations O (orangier) et B (bananier)	・プランテーションに変更 ・マンゴー・かじょ樹・パルミラ椰子・ユーカリ・テークはそれぞれM・A・R・E・Tの注記を表示 ・A remplacer la description par Plantation ・Indiquer les manguiers, les raniers, les anacardiers, les eucalyptus, les teaks par les annotations M, A, R, E, T.	その他のプランテーションは必要か？ Est-ce que d'autres plantations sont nécessaires ?
125		RIZIERE (CULTURE DE RIZ) CULTURE IRRIGUEE		Polygone	Utiliser <5101> pour saisir la délimitation, boucler le polygone et joindre les lignes. Poser un(1) symbole dans le polygone.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	灌漑農地(稲、野菜など)		・名称変更 ・A changer le nom de description	
126		JACHERE		Polygon	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	休耕地		・追加 ・A ajouter	
127		TERRAIN NU		Polygon	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	荒地		・追加 ・A ajouter	
128		PLANTATION DES VERGERS		Ligne・Polygon・Point	Utiliser <5101> pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.	周囲を区域界(5101)で取得。 始終点座標一致(面)及び記号併用	木のプランテーション		・不採用 ・A supprimer	
129		EPINEUX(SYMBOLE)		Symbole			とげのある木		・目立つものを地図上に表示 ・現地で種別確認 ・A représenter sur la carte les plus visibles ・A confirmer sur le terrain	
130		BAOBAB(YMBOLE)		Symbole			バオバブ		・目立つものを地図上に表示 ・現地で種別確認 ・A représenter sur la carte les plus visibles ・A confirmer sur le terrain	
131		BAMBOU (SYMBOLE)		Symbole			竹		・目立つものを地図上に表示 ・現地で種別確認 ・A représenter sur la carte les plus visibles ・A confirmer sur le terrain	
132		FORMAGER(SYMBOLE)		Symbole			バンヤの木		・目立つものを地図上に表示 ・現地で種別確認 ・A représenter sur la carte les plus visibles ・A confirmer sur le terrain	
133		COMME ARABIQUE(SYMBOLE)		Symbole			アラビアゴムアカシア		・目立つものを地図上に表示 ・現地で種別確認 ・A représenter sur la carte les plus visibles ・A confirmer sur le terrain	
134		LIMITE D'ETAT (FRONTIERE D'ETAT)		Ligne	Saisir le centre de la limite d' l'Etat et joindre les lignes	結線	国の境界(国境)		・資料あり ・Documents disponibles	
135		LIMITE DE REGION		Ligne	Saisir le centre de la limite de 1er ordre	結線	一級境界(Region)			データ有無確認 A demander les données

REPRESENTATION DES SYMBOLES

5 MAR 2012
Ver1.1

No	Code de couches	Description	Fichier des symboles	Type de données	Procédure de saisie	取得要領	名称	協議結果4/2 Résultat de discussion 2/4	協議結果3/27 Résultat de discussion 27/3	再確認・コメント
136		LIMITE DE PROVINCES	— · · — · · — ·	Ligne	Saisir le centre de la limite de 2e ordre et joindre les lignes	結線	二級境界(Province)			データ有無確認 A demander les données
137		LIMITE DE COMMUNE		Ligne	Saisir le centre de la limite de 3e ordre et joindre les lignes	結線	三級境界(Commune)		・追加 ・A ajouter	データ有無確認 A demander les données
138		CAPITALE D'ETAT		Texte			国の首都			
139		CHEF-LIEU DE REGION		Texte				・追加 A ajouter		
140		CHEF-LIEU DE PROVINCE		Texte						行政区分を確認 A confirmer le zonage administratif
141		CHEF-LIEU DE DEPARTEMENT COMMUNE		Texte						
142		VILLAGE ADMINISTRATIF		Texte			村			
143		QUARTIER-VILLAGE HAMEAU DE CULTURE-HAMEAU		Texte			区・農村小部落			
144	~~X~~	~~POPULATION EN MILLE D'HABITANTS~~	~~X~~	~~Texte~~	~~X~~	~~X~~	~~1000人単位の人口~~	・不採用 A supprimer		確認 A confirmer
145		FLEUVES FRONTALIERES		Texte			国境付近の大規模河川			
146		COURS D'EAU PRIMAIRE		Texte			一級河川			
147		COURS D'EAU SECONDAIRE TEMPORAIRE		Texte			二級河川			
148		ROUTES NATIONALES, ROUTES REGIONALES, ROUTES DEPARTEMENTALES		Texte			国道、県道	・対象はDepartmentalまで A saisies les routes jusqu'au niveau départementales		
149		DISTINATIONS DES ROUTES NATIONALES		Texte			国道に関する到達名	・対象はDepartmentalまで A saisies les routes jusqu'au niveau départementales		
150		BARRAGE(Y COMPRIS SON ABREVIATION « Bge »)		Texte			貯水池（Bge省略されたものも含む	・短縮形「Bge」は使用しない A ne pas utiliser l'abbréviation BGE		
151		REPERES DE NIVELLEMENT	*RN*	Texte			水準点名			
152	~~X~~	~~BORNNES DE NIVELLEMENT~~	~~BN~~	~~Texte~~	~~X~~	~~X~~	~~境石~~		・不採用 ・A supprimer	
153		AUTRES BORNNES	*Bne*	Texte			国境の石			シンボル確認 A confirmer le symbole à utiliser
154		PLANTATION DE MANGUES (M)	M	Texte			マンゴプランテーション		・注記のみ ・現地で種別確認 ・A indiquer seulement l'annotation ・A confirmer l'espèce sur le terrain	
155		PLANTATION D'ANACARDIERS (A)	A	Texte			かじゅ樹(カシュー・アップル)プランテーション		・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	
156		PARC DE RONIERS (R)	R	Texte			パルミラ椰子プランテーション		・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	

REPRESENTATION DES SYMBOLES

5 MAR 2012
Ver1.1

No	Code de couches	Description	Fichier des symboles	Type de données	Procédure de saisie	取得要領	名称	協議結果4/2 Résultat de discussion 2/4	協議結果3/27 Résultat de discussion 27/3	再確認・コメント
157		PLANTATION D' EUCALYPTUS (E)	E	Texte			ユーカリプランテーション		・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	
158		PLANTATION DE TECK, (T)	T	Texte			チークプランテーション		・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	
159		PLANTATION DE ORANGE, (O)	O	Texte			オレンジプランテーション	・追加 A ajouter	・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	
160		PLANTATION DE BANANE, (B)	B	Texte			バナナプランテーション	・追加 A ajouter	・注記のみ ・現地で種別確認 ・A indiquer seulment l'annotation ・A confirmer l'espèce sur le terrain	
161		ZONES RESERVEES POUR LA FAUNE, FORETS CLOSSEES		Texte			動物、森林保護区地域名			
162		TEXTE DE DESCRIPTION		Texte			説明注記	・大学、鉱山等 ・現地調査で注記が必要なものがあれば追加 Université, mine etc et autres nécessités constaté s sur le terrain		確認 A confirmer
163		TEXTE DE L'ALTITUDE LUE PAR LE RESTITUTEUR	980	Texte	1.4mm	1.4mm	標高注記			
164		VALEUR DES COURBES DE NIVEAU(CARACTERES INCLINES)	*900*	Texte	1.4mm	1.4mm	等高線数値			
~~165~~	~~XXX~~	~~TESTE DE L'ALTITUDE DES BORNES(CARACTERES INCLINES)~~		~~Texte~~			~~BM 標高注記~~		・不採用 ・A supprimer	

Annexe-1.3 Procès-verbal des discussions pour le Rapport intérimaire

PROCÉS-VERBAUX DES DISCUSSIONS

POUR

LE PROJET DE LA CARTOGRAPHIE TOPOGRAPHIQUE NUMERIQUE AU BURKINA FASO

CONVENUS ENTRE

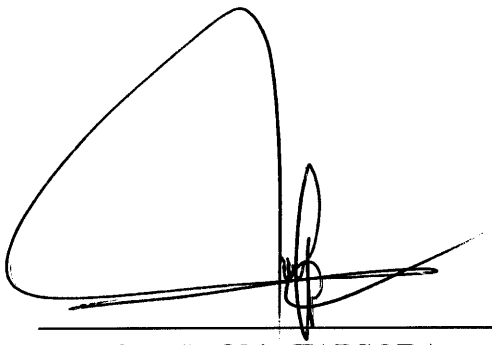
L'IGB/MINISTERE DES INFRASTRUCTURES, DU DESENCLAVEMENT ET DES TRANSPORTS

ET

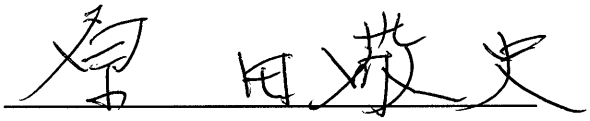
L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE

Ouagadougou,

Mai 2013



M. Claude Obin TAPSOBA
Directeur Général,
Institut Géographique du Burkina



M. Takashi HARADA
Chef d'Equipe
Equipe d'Etude de la JICA

Introduction

En réponse à la requête officielle du Gouvernement du Burkina Faso (ci-après désigné comme " le GdB") présentée au Gouvernement du Japon, l'Agence Japonaise de Coopération Internationale (ci-après désigné comme "la JICA") a tenu une série de discussions avec l'Institut Géographique du Burkina (ci-après désigné comme "l'IGB") et des organisations concernées pour développer le plan du Projet de Cartographie Topographique Numérique du Burkina Faso (ci-après désigné comme "le Projet").

Les deux parties se sont convenues que l'IGB, comme la contrepartie de la JICA, serait responsable de l'exécution du Projet avec la coopération de la JICA, ferait la coordination avec d'autres organisations concernées et s'assurerait que les opérations autonomes du Projet seraient maintenues pendant et après la période d'exécution du Projet afin de contribuer aux développements sociaux et économiques du Burkina Faso.

L'Equipe d'Etude a entamé une série de discussions avec l'IGB concernant le Rapport Intérimaire du Projet.

L'IGB a informé la partie japonaise du changement du nom de son Ministère de tutelle, qui devient le Ministère des Infrastructures, du Désenclavement et des Transports.

Les deux parties ont accepté le contenu du rapport intérimaire visé à l'annexe 2. La liste des participants aux discussions est jointe en ANNEXE 1.

ANNEXE 1

Liste des participants

<Partie burkinabé>

M. Claude Obin TAPSOBA	Directeur General/IGB
M.Abdoulaye BELEM	Directeur technique
M. Désiré COMPAORE	Chef de Projet/IGB
M Halidou NAGABILA	Service de Photogramétrie
M Aziz KONATE	Service de Photogramétrie

<Partie japonaise>

Equipe d'étude

M. Takashi HARADA	Chef d'équipe
M. Takao IKEDA	Chef d'équipe adjoint
M. Tomoyuki OTANI	Interprète

ANNEXE 2

AGENCE JAPONAISE DE COOPERATION INTERNATIONALE (JICA)
INSTITUT GEOGRAPHICQUE DU BURKINA FASO (IGB)

Projet de Cartographie Topographique Numérique

Au

Burkina Faso

(Projet d'assistance technique et etude de développement)

Rapport Intérimaire

Avril 2013

Aero Asahi Corporation
Kokusai Kogyo Co., Ltd.

MINUTES OF MEETING

FOR

THE PROJECT FOR DIGITAL TOPOGRAPHIC MAPPING IN BURKINA FASO

AGREED UPON BETWEEN

IGB/ MINISTRY OF INFRASTRUCTURES, OPENING UP AND TRANSPORTS

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

May 2013

Mr. Claude Obin TAPSOBA
Director General,
Burkina Geographic Institute

Mr. Takashi HARADA
Leader
JICA Study Team

Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as "the GoB") to the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussion with Burkina Geographic Institute (hereinafter called "IGB") and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as "the Project").

Both parties agreed that IGB, as the counterpart of JICA, will be responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

Study team had a series of discussion with the Burkina Geographic Institute regarding the Interim report of the Project.

L'IGB informed the Japanese party the change of its ward ship Ministry's name, which becomes Ministry of Infrastructures, Opening Up and Transports.

Both sides agreed on the Interim report referred in APPENDIX 2. Attendances of discussion are listed in APPENDIX 1.

APPENDIX 1

List of Attendants

<Burkina Faso side>

Mr. Claude Obin TAPSOBA	Director General/IGB
Mr Abdoulaye BELEM	Technical Director
Mr. Désiré COMPAORE	Chief of the Project
Mr. Halidou NAGABILA	Service of Photogrammetry
Mr. Aziz KONATE	Service of Photogrammetry

<Japan side>

Study team

Mr. Takashi HARADA	Team Leader
Mr. Takao IKEDA	Deputy Team Leader
Mr. Tomoyuki Otani	Interpreter

APPENDIX 2

Japan International Cooperation Agency (JICA)
Geographic Institute of Burkina Faso (Institut Géographique du Burkina Faso: IGB)

Digital Topographic Mapping Project in Burkina Faso
(Technical Cooperation for Development Planning)

Interim Report

April 2013

Aero Asahi Corporation
Kokusai Kogyo Co., Ltd.

Annexe-1.4 Procès-verbal des discussions pour la Prolongation de la période d'exécution du Projet/l'Annulation de la production de plaques d'impression/les Formations successives s'appuyant sur la technologie transférée

MINUTES OF MEETING

FOR

THE PROJECT FOR DIGITAL TOPOGRAPHIC MAPPING IN BURKINA FASO

AGREED UPON BETWEEN

IGB/MINISTRY OF INFRASTRUCTURES AND OPENING UP

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

March 2014

Mr. Claude Obin TAPSOBA
Director General,
Burkina Geographic Institute

Mr. Takashi HARADA
Leader,
JICA Study Team

1. Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as "the GoB"), the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussion with Burkina Geographic Institute (hereinafter called "IGB") and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as "the Project").

Both parties agreed that IGB, as the counterpart of JICA, will be responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

Study Team had a series of discussion with the Burkina Geographic Institute regarding the progress of the project. Both sides agreed on the extension of the project referred in APPENDIX 2. Attendances of discussion are listed in APPENDIX 1.

2. Extension of Project Implementation Period

Due to the continued discussion on associated place name and administrative boundaries, both parties agreed to extend the implementation period of the project. Extended work schedule is shown in APPENDIX 2

3. Cancelling of production of Printing Plate

Due to the usage of modern technology of map printing, the production of printing plate is not required. Both parties agreed to cancel the production of printing plate.

4. Successive training based on Technology Transfer

JICA Study Team requested IGB to make a training of the mapping works based on the transferred technology and work manuals submitted by JICA Study Team. IGB agreed to implement the training of mapping works.

APPENDIX 1

List of Attendants

<Burkina Faso side>

✧ IGB

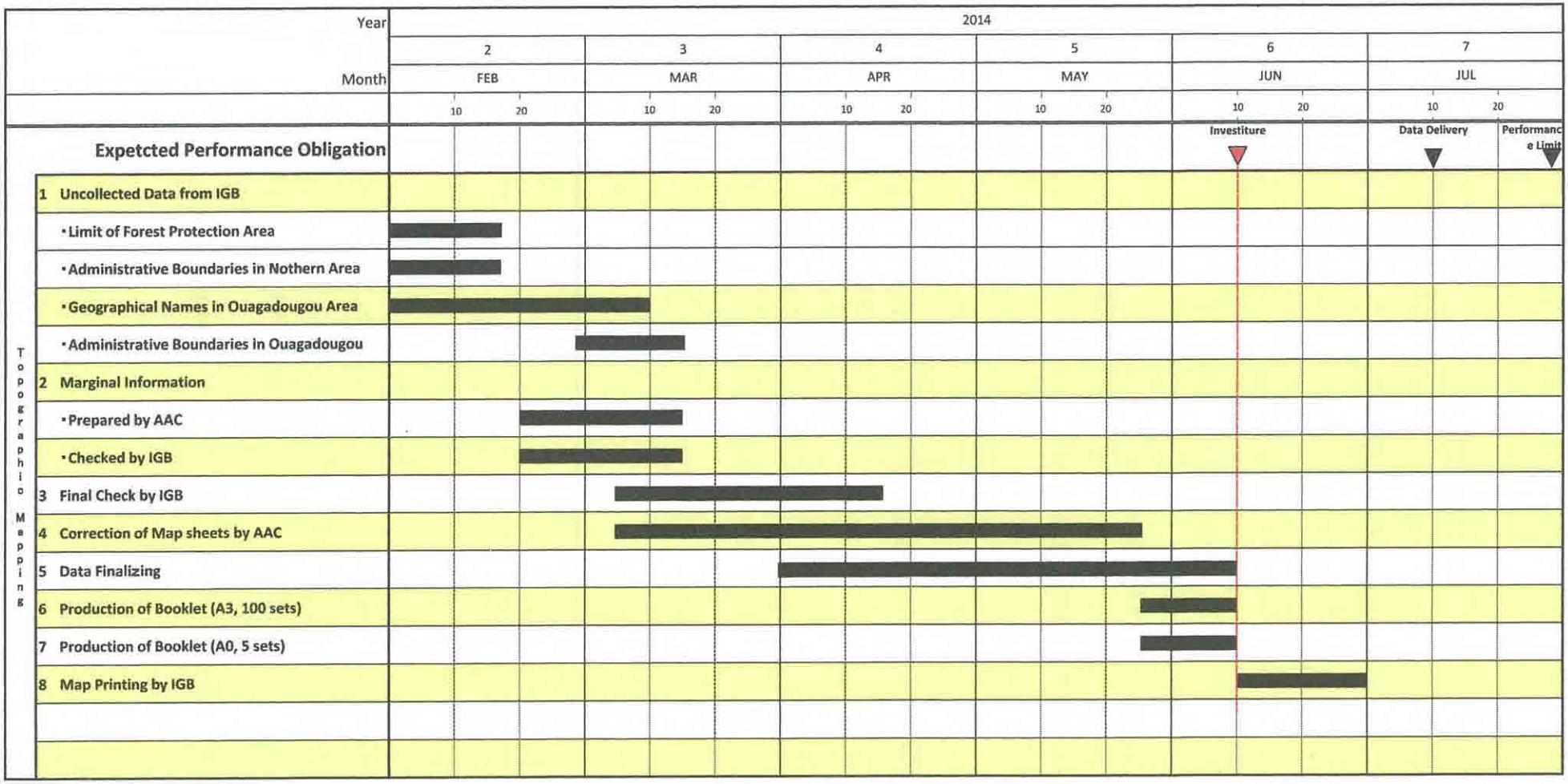
Mr. Claude Obin TAPSOBA	Director General/IGB
Mr. Abdoulaye BELEM	Director Technical/IGB
Mr. Désiré COMPAORE	Chief of the Project

<Japan side>

✧ Study team

Mr. Takashi HARADA	Team Leader
Mr. Takao IKEDA	Deputy Team Leader

Work Scheduling for Project Extention



APPENDIX 2

MINUTES OF MEETING

FOR

THE PROJECT FOR DIGITAL TOPOGRAPHIC MAPPING IN BURKINA FASO

AGREED UPON BETWEEN

IGB/MINISTRY OF INFRASTRUCTURES AND OPENING UP

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

March 2014

Mr. Claude Obin TAPSOBA
Director General,
Burkina Geographic Institute

Mr. Takashi HARADA
Leader,
JICA Study Team

1. Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as "the GoB"), the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussion with Burkina Geographic Institute (hereinafter called "IGB") and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as "the Project").

Both parties agreed that IGB, as the counterpart of JICA, will be responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

Study Team had a series of discussion with the Burkina Geographic Institute regarding the progress of the project. Both sides agreed on the extension of the project referred in APPENDIX 2. Attendances of discussion are listed in APPENDIX 1.

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APPENDIX 1

List of Attendants

<Burkina Faso side>

✧ IGB

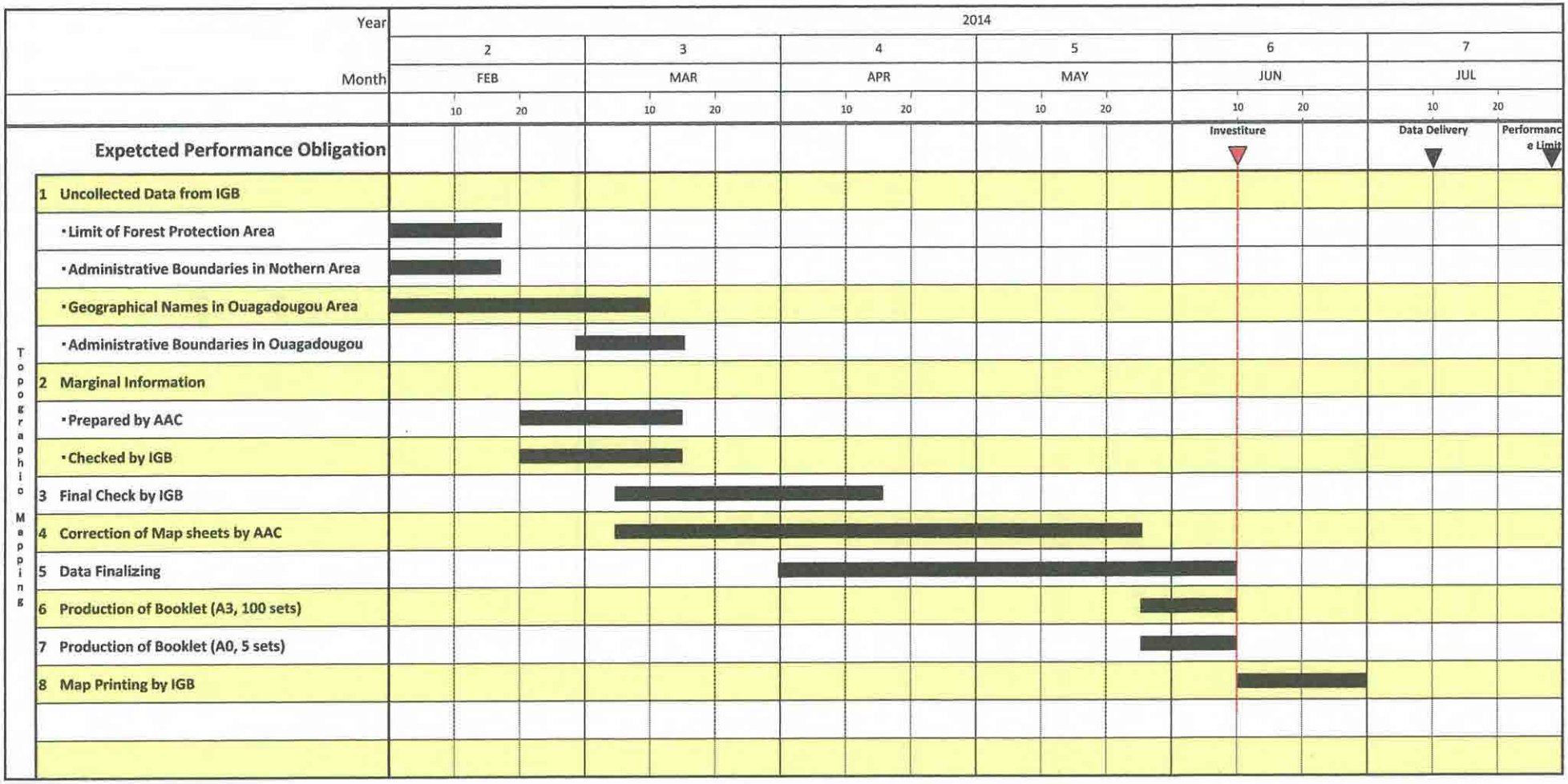
Mr. Claude Obin TAPSOBA	Director General/IGB
Mr. Abdoulaye BELEM	Director Technical/IGB
Mr. Désiré COMPAORE	Chief of the Project

<Japan side>

✧ Study team

Mr. Takashi HARADA	Team Leader
Mr. Takao IKEDA	Deputy Team Leader

Work Scheduling for Project Extention



APPENDIX 2

Annexe-1.5 Procès-verbal des discussions pour l’Avant-projet du Rapport final

PROCES -VERBAL DES DISCUSSIONS

POUR

LE PROJET DE LA CARTOGRAPHIE TOPOGRAPHIQUE NUMERIQUE AU BURKINA FASO

CONVENU ENTRE

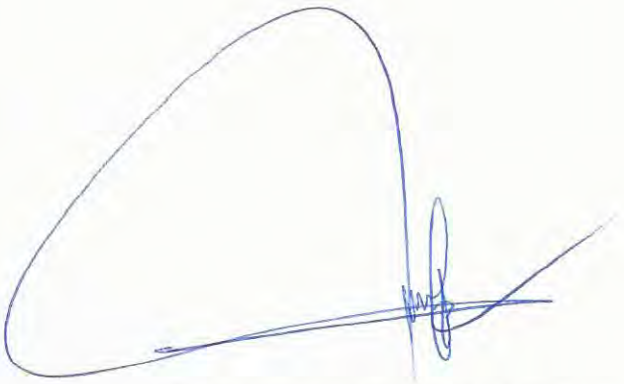
L'IGB/MINISTERE DES INFRASTRUCTURES ET DESENCLAVEMENT ET DES TRANSPORTS

ET

AGENCE JAPONAISE DE LA COOPERATION INTERNATIONALE

Ouagadougou,

Juillet 2014



M. Claude Obin TAPSOBA
Directeur Général,
Institut Géographique du Burkina

M. Takashi HARADA
Chef d'équipe
Equipe d'Etude de la JICA

Introduction

En réponse à la requête officielle du Gouvernement du Burkina Faso (ci-après désigné comme " le GdB") présentée au Gouvernement du Japon (ci-après désigné comme " le GdJ"), l'Agence Japonaise de la Coopération Internationale (ci-après désignée comme "la JICA") a tenu une série des discussions avec l'Institut Géographique du Burkina (ci-après désigné comme "l'IGB") et des organisations concernées pour développer le plan du Projet de la Cartographie Topographique Numérique du Burkina Faso (ci-après désigné comme "le Projet").

Les deux parties ont convenu que l'IGB, homologue de la JICA, serait responsable de l'exécution du projet avec la coopération de la JICA, assurerait la coordination avec d'autres organisations concernées et s'assurerait que les opérations autonomes du Projet seraient maintenues pendant et après la période d'exécution du Projet afin de contribuer au développement sociaux et économiques du Burkina Faso.

Au terme du Projet, l'Equipe d'Etude a eu une série de discussions avec l'IGB concernant le Rapport Intérimaire du Projet. Les deux parties se sont mises d'accord sur le projet de Rappport Final référé à l'ANNEXE 2. La liste des participants aux discussions est jointe en ANNEXE 1.

Liste des participants

<Partie burkinabé>

M. Claude Obin TAPSOBA	Directeur Général/IGB
M. Désiré COMPAORE	Chef du Projet /IGB

<Partie japonaise>

Equipe d'étude

M. Takashi HARADA	Chef d'équipe
M. Takao IKEDA	Chef d'équipe adjoint
Mme. Akemi NISHIYAMA	Interprète

ANNEXE 2

AGENCE JAPONAISE DE COOPERATION INTERNATIONALE (JICA)
INSTITUT GEOGRAPHICQUE DU BURKINA (IGB)

Projet de Cartographie Topographique Numérique
Au
Burkina Faso
(Projet d'assistance technique et étude de développement)

Avant-projet du Rapport final

Janvier 2014

Aero Asahi Corporation
Kokusai Kogyo Co., Ltd.

MINUTES OF MEETING

FOR

THE PROJECT FOR DIGITAL TOPOGRAPHIC MAPPING IN BURKINA FASO

AGREED UPON BETWEEN

IGB/MINISTRY OF INFRASTRUCTURES AND OPENING UP

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Ouagadougou,

July 2014

Mr. Claude Obin TAPSOBA	**Mr. Takashi HARADA**
Director General,	**Leader**
Burkina Geographic Institute	**JICA Study Team**

Introduction

In response to the official request of the Government of Burkina Faso (hereinafter referred to as "the GoB") submitted to the Government of Japan, the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussion with Burkina Geographic Institute (hereinafter called "IGB") and relevant organizations to develop a detailed plan of Digital Topographic Mapping Project in Burkina Faso (hereinafter referred to as "the Project").

Both parties agreed that IGB, as the counterpart of JICA, is responsible for the implementation of the project in cooperation with JICA, coordinates with other relevant organizations and ensure that the self-reliant operation of the Project was sustained during and after the implementation period in order to contribute toward social and economic development of Burkina Faso.

At the stage of completion of the Project, Study team had a series of discussion with the Burkina Geographic Institute regarding the Draft Final report of the project.

Both sides agreed on the Draft Final Report referred in APPENDIX 2. Attendances of discussion are listed in APPENDIX 1.

APPENDIX 1

List of Attendants

<Burkina Faso side>

Mr. Claude Obin TAPSOBA	Director General/IGB
Mr. Désiré COMPAORE	Chief of the Project

<Japan side>

Study team

Mr. Takashi HARADA	Team Leader
Mr. Takao IKEDA	Deputy Team Leader
Ms. Akemi NISHIYAMA	Interpreter

Japan International Cooperation Agency (JICA)
Geographic Institute of Burkina Faso (Institut Géographique du Burkina: IGB)

Digital Topographic Mapping Project in Burkina Faso

(Technical Cooperation for Development Planning)

Draft Final Report

January 2014

Aero Asahi Corporation
Kokusai Kogyo Co., Ltd.

Annexe-2　Spécifications de Symboles de Carte

INDEX

Annexe 2.1 Spécifications de restitution de carte

Projet de Cartographic Topographique Numérique

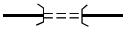
au Burkina Faso

1/50 000

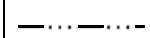
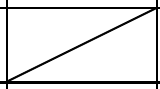
MAP SYMBOL SPECIFICATION

Août 2014

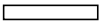
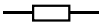
REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
10	01	00	Route nationale bitumée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	02	00	Route nationale non bitumée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	03	00	Route régionale bitummée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	04	00	Route régionale non bitumée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	05	00	Route départementale bitumée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	06	00	Route départementale non bitumée		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	07	00	Route à chausées séparées		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	08	00	Autre route en zone urbaine		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	09	00	Piste		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	10	00	Sentier		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	11	00	Route en construction		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	12	20	Route bordee d'arbres		**route_pt.shp**	Point	Poser chaque symbole des arbres pa r intervalle de 1.6mm
10	16	21	Pont		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	16	28	Pont (Symbol)		**route_pt.shp**	Point	Saisir le centre de la route et joindre les lignes
10	17	21	Radier ou chaussée submersible		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
10	17	28	Radier ou chaussée submersible (Symbol)		**route_pt.shp**	Point	Saisir le centre de la route et joindre les lignes
10	18	28	Bac		**route_pt.shp**	Point	Utiliser le symbole de sens pour saisir
10	19	00	Echangeur		**route_line.shp**	Ligne	Saisir le centre de la route et joindre les lignes
20	01	00	Chemin de fer à 2 ou plusieurs voies		**chemin_de_fer.shp**	Ligne	Saisir le centre de la voie ferée et joindre les lignes
20	02	00	Chemin de fer a 1 voie		**chemin_de_fer.shp**	Ligne	Saisir le centre de la voie ferée et joindre les lignes
20	03	00	Chemin de fer dans le tunnel		**chemin_de_fer.shp**	Ligne	Saisir le centre du tunnel de voie ferée et joindre les lignes
20	04	00	Ligne de transport d'énergie électrique haute tension		**ligne_de_transmission.shp**	Ligne	Saisir le centre de la ligne d'énergie éléctrique haute tension et joindre les lignes
30	01	00	Limite d'Etat (Frontière d'Etat)		**adm_line.shp**	Ligne	Saisir le centre de la limite d' l'Etat et joindre les lignes
30	02	00	Limite de Région		**adm_line.shp** **adm_reg_poly.shp**	Ligne	Saisir le centre de la limite de 1er ordre
30	03	00	Limite de Province		**adm_line.shp** **adm_prov_poly.shp**	Ligne	Saisir le centre de la limite de 2e ordre et joindre les lignes

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
30	04	00	Limite de Commune		**adm_line.shp** **adm_com_poly.shp**	Ligne	Saisir le centre de la limite de 3e ordre et joindre les lignes
30	05	00	Limite de Arrondissement		**adm_line.shp** **adm_arro_poly.shp**	Ligne	Saisir le centre de la limite de 4e ordre et joindre les lignes
30	06	00	Limite de Secteurs		**adm_sect_poly.shp**	Ligne	Saisir le centre de la limite de 5e ordre et joindre les lignes
40	01	10	Noyau urbain		**agglo.shp**	Polygon	Boucler le polygon
40	01	29	Noyau urbain <Restitution numérique uniquement>			Point	Symbole du Point représentatif
40	02	10	Zone urbaine viabilisée		**agglo.shp**	Polygon	Boucler le polygon
40	02	29	Zone urbaine viabilisée <Restitution numérique uniquement>			Point	Symbole du Point représentatif
40	03	20	Habitat isolé		**habitation.shp**	Point	Les saisir à la position exacte
40	04	20	Habitation non permanente		**habitation.shp**	Point	La saisir à la position exacte
40	05	20	Campement de nomades		**habitation.shp**	Point	Le saisir à la position exacte
40	06	10	Bâtiment remarquable		**poi_poly.shp**	Polygon	Les saisir à la position exacte
40	06	28	Batiment remarquable (Symbol)		**poi_pt.shp**	Point	Les saisir à la position exacte
40	07	20	Mosquée		**poi_pt.shp**	Point	La saisir à la position exacte
40	08	20	Eglise		**poi_pt.shp**	Point	La saisir à la position exacte
40	09	20	Chapelle ou Temple		**poi_pt.shp**	Point	La saisir à la position exacte
40	10	20	Autres édifices religieux		**poi_pt.shp**	Point	La saisir à la position exacte
40	11	20	Hôpital		**poi_pt.shp**	Point	Le saisir à la position exacte
40	12	20	CSPS		**poi_pt.shp**	Point	Le saisir à la position exacte
40	13	20	Enseignement		**poi_pt.shp**	Point	Saisir à la position exacte
40	14	20	Poste de télécommunication		**poi_pt.shp**	Point	Le saisir à la position exacte
40	15	20	Bureau de poste		**poi_pt.shp**	Point	Le saisir à la position exacte
40	16	20	Gendarmerie, Police		**poi_pt.shp**	Point	La saisir à la position exacte
40	17	20	Douane		**poi_pt.shp**	Point	La saisir à la position exacte
40	18	20	Station Radio diffusion		**poi_pt.shp**	Point	La saisir à la position exacte
40	19	20	Usine		**poi_pt.shp**	Point	La saisir à la position exacte

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
40	20	20	Mine		**poi_pt.shp**	Point	La saisir à la position exacte
40	21	20	Site historique ou archéologique		**poi_pt.shp**	Point	Le saisir à la position exacte
40	22	20	Statue ou monument isolé		**poi_pt.shp**	Point	Le saisir à la position exacte
40	23	20	Cimetière		**poi_pt.shp**	Point	Le saisir à la position exacte
40	24	20	Réservoir d'hydrocarbure		**poi_pt.shp**	Point	Le saisir à la position exacte
40	25	00	Stade, Hippodrome		**poi_poly.shp**	Polygon	Boucler le polygon
40	25	29	Stade, hippodrome <Restitution numérique uniquement>			Point	Symbole du Point représentatif
40	26	28	Stade, hippodrome (Symbol)		**poi_pt.shp**	Point	Le saisir à la position exacte
40	27	00	Piste d'aviation		**poi_poly.shp**	polygon	Boucler le polygon
40	27	29	Piste d'aviation <Restitution numérique uniquement>			Point	Symbole du Point représentatif
40	28	20	Aéroport		**poi_pt.shp**	Point	Poser le symbole au centre de la zone(polygon)
40	30	20	Aérodrome		**poi_pt.shp**	Point	Poser le symbole au centre de la zone(polygon)
40	31	20	Hotellerie		**poi_pt.shp**	Point	La saisir à la position exacte
40	32	20	Marché		**poi_pt.shp**	Point	Le saisir à la position exacte
40	33	28	Gare, Station		**poi_pt.shp**	Point	Utiliser le symbole de sens pour saisir
40	34	28	Halte, Arrêt		**poi_pt.shp**	Point	Utiliser le symbole de sens pour saisir
40	35	00	Voies de garage		**poi_line.shp**	Ligne	Saisir le centre de la voie ferée et joindre les lignes
40	36	28	Tunnel		**poi_pt.shp**	Point	Utiliser le symbole de sens pour saisir
40	37	20	Pylone (Station hertziennes, téléphonies)		**poi_pt.shp**	Point	Le saisir à la position exacte
40	39	27	Borne géodésique		**bgeod_pt.shp**	Point	Les saisir à la position exacte
40	40	27	Point coté		**pt_cote.shp**	Point	Les saisir à la position exacte
40	41	27	Repère de nivellement		**bgeod_pt.shp**	Point	Les saisir à la position exacte
40	42	20	Borne frontalière		**bgeod_pt.shp**	Point	Les saisir à la position exacte
40	43	27	Station permanente		**bgeod_pt.shp**	Point	Les saisir à la position exacte
40	44	27	Borne de nivellement		**bgeod_pt.shp**	Point	Les saisir à la position exacte

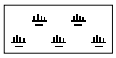
REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
40	50	20	Parc de vaccination		**poi_pt.shp**	Point	Le saisir à la position exacte
40	52	00	Limite de zone		**poi_line.shp**	Ligne	Le saisir à la position exacte
40	53	10	Zone urbaine non viabilisée		**agglo.shp**	Polygon	
40	53	29	Zone urbaine non viabilisée <Restitution numérique uniquement>			Point	Symbole du Point représentatif
50	01	07	Courbe maîtresse		**cb_niv.shp**	Ligne	joindre les lignes des lignes
50	02	07	Courbe normale		**cb_niv.shp**	Ligne	joindre les lignes des lignes
50	03	07	Courbe intercalaire		**cb_niv.shp**	Ligne	joindre les lignes des lignes
50	04	10	Sommet		**relief_line.shp**	Ligne	Saisir en regaredant à sa droite le niveau inférieure
50	05	20	Pic		**relief_pt.shp**	Point	Utiliser le symbole de sens pour saisir le sommet
50	06	00	Talus latéritique		**relief_line.shp**	Ligne	Saisir en regaredant à sa droite le niveau inférieure
50	07	00	Levée de terre		**relief_line.shp**	Ligne	Saisir le sommet de la terre soulevée
50	08	10	Sommet rocheux		**relief_line.shp**	Ligne	Saisir en regaredant à sa droite le niveau inférieure
50	09	20	Piton rocheux		**relief_pt.shp**	Point	Utiliser le symbole de sens pour saisir le sommet
50	10	10	Zone rocheuse		**relief_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
50	10	28	Affleurement rocheux		**relief_pt.shp**	Point	Utiliser le symbole de sens pour saisir
50	10	29	Zone rocheuse <Restitution numérique uniquement>			Point	Symbole du Point représentatif
50	11	00	Ligne de crête		**relief_line.shp**	Ligne	Saisir le sommet à pic
50	12	00	Escarpement		**relief_line.shp**	Ligne	Saisir en regaredant à sa droite le niveau inférieure
50	13	28	Courbe de cuvette			Point	Les saisir à la position exacte
50	14	00	Cordon dunaire		**relief_line.shp**	Ligne	Boucler le polygon
50	15	10	Zone sableuse		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
50	15	29	Terrain sableux <Restitution numérique uniquement>			Point	Symbole du Point représentatif
60	01	10	Cours d'eau permanent (Représenté avec 2 bords)		**eau_poly.shp**	Polygon	Boucler le polygon
60	01	29	Cours d'eau permanent (Représenté avec 2 bords) <Restitution numérique uniquement>			Point	Symbole du Point représentatif
60	02	00	Cours d'eau permanent (Représenté avec une seule ligne)		**eau_line.shp**	Ligne	Saisir le centre du cours d'eau et joindre les lignes

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
60	03	10	Plan d'eau		**eau_poly.shp**	Polygon	Boucler le polygon
60	03	29	Plan d'eau <Restitution numérique uniquement>			Point	Symbole du Point représentatif
60	04	00	Cours d'eau temporaire		**eau_line.shp**	Ligne	Saisir le centre du cours d'eau et joindre les lignes
60	05	00	Canal		**eau_line.shp**	Ligne	Saisir le centre du canal et joindre les lignes
60	06	00	Barrage		**eau_line.shp**	Ligne	
60	07	10	Mare		**eau_poly.shp**	Polygon	Boucler le polygon
60	07	29	Mare <Restitution numérique uniquement>			Point	Symbole du Point représentatif
60	08	10	Zone humide		**eau_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
60	08	29	Zone humide <Restitution numérique uniquement>			Point	Symbole du Point représentatif
60	09	10	Zone inondable		**eau_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
60	09	29	Zone inondable <Restitution numé rique uniquement>			Point	Symbole du Point représentatif
60	11	21	Cascade, chute d'eau		**eau_line.shp**	Ligne	La saisir à la position exacte
60	11	28	Cascade, chute d'eau (Symbol)		**eau_pt.shp**	Point	La saisir à la position exacte
60	12	20	Puits, Citerne, Abreuvoir, Lavoir, forage		**eau_pt.shp**	Point	La saisir à la position exacte
60	13	20	Château d'eau		**eau_pt.shp**	Point	Le saisir à la position exacte
60	15	20	Source		**eau_pt.shp**	Point	Les saisir à la position exacte
60	16	20	Autres points d'eau (Fontaine, etc)		**eau_pt.shp**	Point	Les saisir à la position exacte
60	17	10	Dépression fermée		**eau_line.shp**	Ligne	Boucler le polygon
70	01	09	Limite de végétation <Restitution num érique uniquement>			Ligne	Concordance du point de départ avec celui final (polygon)
70	02	10	Forêt claire ou savane boisée		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	02	29	Forêt claire ou savane boisée <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	03	10	Savane arborees ou arbustives		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	03	29	Savane arborees ou arbustives <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	04	10	Steppe ou Prairie		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	04	29	Steppe ou Prairie <Restitution numé rique uniquement>			Point	Symbole du Point représentatif

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
70	05	10	Brousse tigrée		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	05	29	Brousse tigrée <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	06	10	Formation ripicole et forêt galerie		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	06	29	Formation ripicole et forêt galerie <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	07	10	Limite de forêt classée de réserve de flore ou faune		**z_cons.shp**	Ligne	Boucler le polygon
70	08	00	Haie (ou cloture)		**haie.shp**	Ligne	Saisir le centre du fossé
70	09	10	Zone de Culture		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	09	29	Zone de Culture <Restitution numé rique uniquement>			Point	Symbole du Point représentatif
70	11	10	Culture irriguée		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	11	29	Culture irriguée <Restitution numé rique uniquement>			Point	Symbole du Point représentatif
70	12	10	Jachère		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	12	29	Jachère <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	13	10	Terrain nu		**oc_ter_poly.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	13	29	Terrain nu <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	14	20	Epineux		**veg_pt.shp**	Point	
70	15	20	Baobab		**veg_pt.shp**	Point	
70	16	20	Bambou		**veg_pt.shp**	Point	
70	17	20	Fromager		**veg_pt.shp**	Point	
70	18	20	Gomme arabique		**veg_pt.shp**	Point	
70	19	20	Dattier		**veg_pt.shp**	Point	
70	21	10	Plantation de manguiers		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(1) symbole dans le polygon.
70	21	29	Plantation de manguiers <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	22	10	Plantation d'anacardiers		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(2) symbole dans le polygon.
70	22	29	Plantation d'anacardiers <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	23	10	Plantation de roniers		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(3) symbole dans le polygon.

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
70	23	29	Plantation de roniers <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	24	10	Plantation d'eucalyptus		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(4) symbole dans le polygon.
70	24	29	Plantation d'eucalyptus <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	25	10	Plantation de tecks		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(5) symbole dans le polygon.
70	25	29	Plantation de tecks <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	26	10	Plantation d'orangers		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(6) symbole dans le polygon.
70	26	29	Plantation d"orangerse <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	27	10	Plantation de bananiers		**z_amenage.shp**	Polygon	Utiliser pour saisir la délimitation, boucler le polygon et joindre les lignes. Poser un(7) symbole dans le polygon.
70	27	29	Plantation de bananiers <Restitution numérique uniquement>			Point	Symbole du Point représentatif
70	28	10	Plantation de palmiers		**z_amenage.shp**	Polygon	
70	28	29	Plantation de palmiers <Restitution numérique uniquement>			Point	Symbole du Point représentatif
90	01	30	Capitale d'Etat		**localité.shp**	Texte	
90	02	30	Chef lieu de Région		**localité.shp**	Texte	
90	03	30	Chef lieu de Province		**localité.shp**	Texte	
90	04	30	Chef lieu de Commune		**localité.shp**	Texte	
90	05	30	Village administratif		**localité.shp**	Texte	
90	06	30	Hameau de culture	HC	**localité.shp**	Texte	
90	07	38	Nom de rivières		**text.shp**	Texte	
90	09	30	Quartier		**localité.shp**	Texte	
90	10	38	Route Nationale, Route Régionale, Route Départementale	***N22***	**text.shp**	Texte	
90	12	30	Nom de construction		**text.shp**	Texte	
90	13	30	Repère de nivellement	*RN*	**text.shp**	Texte	
90	14	30	Borne frontalière	*Bne*	**text.shp**	Texte	
90	15	30	Nom de plans d'eau		**text.shp**	Texte	
90	16	30	Nom de entité géographique		**text.shp**	Texte	

REPRESENTATION DES SYMBOLES

Code de couches			Description	Fichier des symboles	GIS File Name	Type de données	Procédure de saisie
90	17	30	Borne de nivellement	*BN*	**text.shp**	Texte	
90	18	30	Arrondissement	**Arrdt 1**	**localité.shp**	Texte	
90	21	30	Plantation de manguiers	M	**text.shp**	Texte	
90	22	30	Plantation d'anacardiers	A	**text.shp**	Texte	
90	23	30	Plantation de roniers	R	**text.shp**	Texte	
90	24	30	Plantation d'eucalyptus	E	**text.shp**	Texte	
90	25	30	Plantation de tecks	T	**text.shp**	Texte	
90	26	30	Plantation d'orangers	O	**text.shp**	Texte	
90	27	30	Plantation de bananiers	B	**text.shp**	Texte	
90	28	30	Zones reservees pour la faune, forêts classees		**text.shp**	Texte	
90	29	30	Texte de description		**text.shp**	Texte	
90	30	30	Texte de l'altitude lue par le restituteur	980		Texte	
90	31	30	Valeur des courbes de niveau (caracteres inclines)	*900*		Texte	
90	32	30	Ferme	*Ferme*	**poi_pt.shp**	Texte	
90	33	30	Carriere	*Carriere*	**poi_pt.shp**	Texte	
90	35	30	Mairie	*Mairie*	**poi_pt.shp**	Texte	
90	36	30	Plantation de palmiers	P	**text.shp**		

Annexe 2.2 Spécifications de données de base

category	code	name of shp file	No	data type
Transport	01	chemin_de_fer.shp	1	Line
		ligne_de_transmission.shp	2	Line
		route_line.shp	3	Line
		route_pt.shp	4	Point
Frontières-Limites administratives-Autres Limites	02	adm_line.shp	5	Line
		adm_reg_poly.shp	6	polygon
		adm_prov_poly.shp	7	polygon
		adm_com_poly.shp	8	polygon
		adm_arro_poly.shp	9	polygon
		adm_sect_poly.shp	10	polygon
localités	03	agglo.shp	11	polygon
		habitation.shp	12	Point
		localité.shp	13	Point
Constructions Diverses	04	bgeod_pt.shp	14	Point
		poi_line.shp	15	Line
		poi_poly.shp	16	polygon
		poi_pt.shp	17	Point
Relief	05	cb_niv.shp	18	Line
		pt_cote.shp	19	Point
		relief_line.shp	20	Line
		relief_poly.shp	21	polygon
		relief_pt.shp	22	Point
Végetation	06	haie.shp	23	Line
		oc_ter_poly.shp	24	polygon
		veg_pt.shp	25	Point
		z_amenage.shp	26	polygon
		z_cons.shp	27	polygon
Hydrographie	07	eau_line.shp	28	Line
		eau_poly.shp	29	polygon
		eau_pt.shp	30	Point
Annotations	08	text.shp	31	Point

File Name	chemin_de_fer
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	ligne_de_transmission
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	route_line
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	route_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
angle	rotation angle	double	degree	anti-clockwise three decimal point

File Name	adm_line
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	adm_reg_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
region	name of region	text	-	
Capital	capital city of region	text	-	Chef-lieu de Région

File Name	adm_prov_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
region	name of region	text	-	
province	name of province	text	-	
capital	capital city of province	text	-	Chef-lieu de Province

File Name	adm_com_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
region	name of region	text	-	
province	name of province	text	-	
commune	name of commune	text	-	

File Name	adm_arro_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
region	name of region	text	-	
province	name of province	text	-	
commune	name of commune	text	-	
arrondisse	name of arrondissement	text	-	

File Name	adm_sect_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
region	name of region	text	-	
province	name of province	text	-	
commune	name of commune	text	-	
arrondisse	name of arrondissement	text	-	
secteurs	number of secteurs	text	-	

File Name	agglo
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	habitation
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	localité
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
name	string	text	-	
region	name of region	text	-	
province	name of province	text	-	

File Name	bgeod_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
cote	elevation	double	metar	three decimal point
Ellipsoid	elevation	double	metar	three decimal point
number		text	-	from documents
name		text	-	from documents
code		text	-	from documents

File Name	poi_line
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	poi_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
name		text	-	

File Name	poi_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
angle	rotation angle	double	degree	anti-clockwise three decimal point
name		text	-	

File Name	cb_niv
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
cote	elevation	text	meter	

File Name	pt_cote
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
cote	elevation	text	meter	three decimal point

File Name	relief_line
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	relief_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	relief_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	haie
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	oc_ter_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	veg_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	z_amenage
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	z_cons
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
name	name	text	-	

File Name	eau_line
Data Type	Line

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
name	name	text	-	

File Name	eau_poly
Data Type	Polygon

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec

File Name	eau_pt
Data Type	Point

Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
angle	rotation angle	double	degree	anti-clockwise three decimal point

File Name	text
Data Type	Point

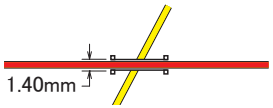
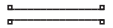
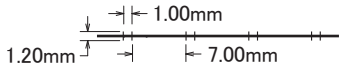
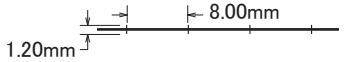
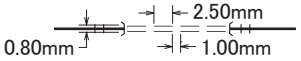
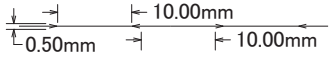
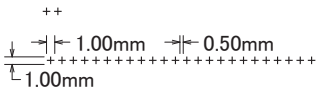
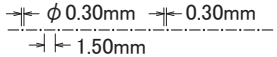
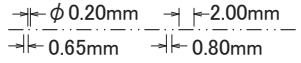
Field name	Items	Type	Units	Remarks
category	number	code	-	
layer	layer code	text	-	6 figures
contents	description	text	-	from Symbolspec
name	string	text	-	

Annexe 2.3 Spécifications de symboles de carte

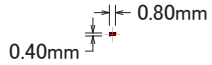
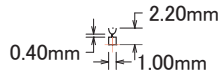
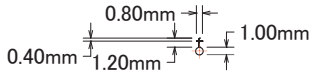
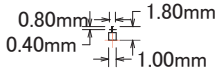
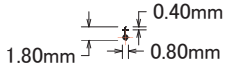
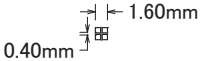
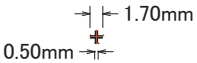
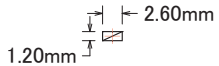
	Name	colour		Name	colour		Name	colour	
	Red	C 0 M 100 Y 100 K 0		Bronze	C 8 M 22 Y 46 K 28			C M Y K	
	Orange	C 0 M 70 Y 100 K 0		Beige	C 7 M 5 Y 24 K 16			C M Y K	
	Green	C 65 M 0 Y 100 K 0		Magenta	C 0 M 100 Y 0 K 0			C M Y K	
	Gray	C 50 M 40 Y 30 K 0		Orange_r	C 0 M 50 Y 100 K 0			C M Y K	
	LightGray	C 0 M 0 Y 0 K 20			C M Y K			C M Y K	
	Blue	C 100 M 30 Y 0 K 0			C M Y K			C M Y K	
	LightBlue	C 50 M 0 Y 0 K 0			C M Y K			C M Y K	
	Yellow	C 0 M 0 Y 100 K 0			C M Y K			C M Y K	

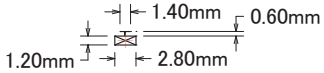
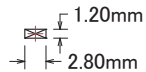
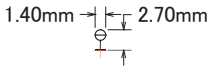
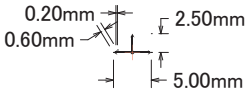
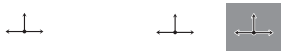
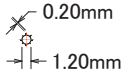
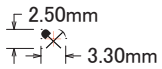
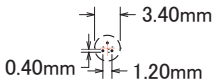
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
1	100100	Route nationale bitumée 国道（舗装）	0.15mm 1.00mm	100100f 100100	Red100 K100	Off On	
2	100200	Route nationale non bitumée 国道（未舗装）	0.15mm 4.00mm 1.00mm 2.00mm	100200f 100200w 100200	Red100 CMYK0 K100	Off Off On	
3	100300	Route régionale bitummée 地方道路（Regional・舗装）	0.15mm 1.00mm	100300f 100300	Orange_r100 K100	Off On	
4	100400	Route régionale non bitumée 地方道路（Regional・未舗装）	0.15mm 4.00mm 1.00mm 2.00mm	100400f 100400w 100400	Orange_r100 CMYK0 K100	Off Off On	
5	100500	Route départementale bitumée 地方道路（Departmental・舗装）	0.15mm 1.00mm	100500f 100500	Y100 K100	Off On	
6	100600	Route départementale non bitumée 地方道路（Departmental・未舗装）	0.15mm 4.00mm 1.00mm 2.00mm	100600f 100600w 100600	Y100 CMYK0 K100	Off Off On	
7	100700	Route à chausées séparées 分離帯のある道路	0.15mm 1.00mm Lineweight 0.1mm (100700k)	100700k 100700f 100700	K100 Magenta50 K100	On Off On	
8	100800	Autre route en zone urbaine 都市部のその他の道路	0.10mm 0.35mm	100800f 100800	CMYK0 K100	Off On	

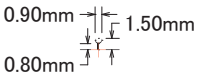
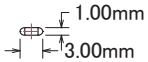
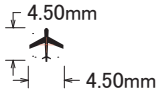
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
9	100900	Piste 軽車道	0.15mm	100900	K100	On	
10	101000	Sentier 徒歩道	0.15mm 0.50mm 1.50mm	101000	K100	On	
11	101100	Route en construction 建設中の道路	0.10mm 0.50mm 0.80mm 3.00mm	101100f 101100	CMYK0 K100	On Off	
12	101220	Route bordee d'arbres 道路並木	0.7mm	101220	Green100	On	
13	101621	Pont 橋	1.30mm 45° Lineweight 0.2mm	101621	K100	On	
14	101628	Pont(symbol) 橋	0.50mm 1.30mm 45° Lineweight 0.2mm	101628	K100	On	
15	101721	Radier ou chaussée submersible インバードまたは潜水道路	1.30mm Lineweight 0.2mm	101721	K100	On	
16	101728	Radier ou chaussée submersible(symbol) インバードまたは潜水道路	1.50mm 1.30mm Lineweight 0.2mm	101728	K100	On	

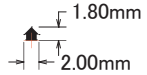
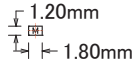
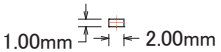
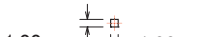
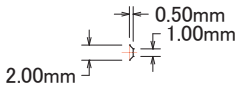
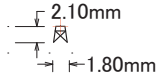
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
17	101900	Echangeur 道路橋（立体交差部）	 Lineweight 0.2mm	101900	K100	On	
18	200100	Chemin de fer à 2 ou plusieurs voies 複線鉄道線路	 Lineweight 0.15mm, 0.2mm	200100f 200100	K100 K100	On On	
19	200200	Chemin de fer à 1 voie 単線鉄道線路	 Lineweight 0.15mm, 0.2mm	200200f 200200	K100 K100	On On	
20	200300	Chemin de fer dans le tunnel トンネル内鉄道	 Lineweight 0.1mm	200300	K100	On	
21	200400	Ligne de transport d'énergie électrique haute tension 高圧電線	 Lineweight 0.10mm	200400f 200400	K100 K100	On On	
22	300100	Limite d'Etat (Frontière d'Etata) 国の境界（国境）	 Lineweight 0.15mm	300100	K100	On	
23	300200	Limite de Région 一級境界（Region）	 Lineweight 0.15mm	300200	K100	On	
24	300300	Limite de Province 二級境界（Province）	 Lineweight 0.15mm	300300	K100	On	

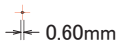
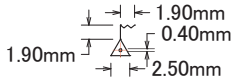
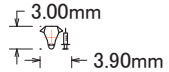
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
25	300400	Limite de Commune 三級境界（Commune）	B φ0.20mm 2.00mm 0.55mm 0.60mm Lineweight 0.15mm	300400	K100	On	
26	300500	Limite de Arrondissement	φ0.40mm 1.00mm Lineweight 0.40mm	300500	K100	On	
27	400110	Noyau urbain 都心		400110	Gray50	Off	
28	400210	Zone urban viabilisée 都市区域		400210	LightGray75	Off	
29	400320	Habitat isolé 離れてある住居	1.00mm	400320	K100	On	
30	400420	Habitation non permanente 常住されていない住居	1.00mm Lineweight 0.15mm	400420	K100	On	
31	400520	Campement de nomades 放牧民地	1.00mm 0.3mm 1.50mm Lineweight 0.15mm	400520	K100	On	
32	400610	Bâtiment remarquable 離れてある目立つ建物		400610	K100	On	

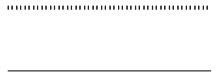
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
33	400628	Batiment remarquable(symbol) 離れてある目立つ建物		400628	K100	On	-
34	400720	Mosquée モスク	 Lineweight 0.15mm	400720	K100	On	
35	400820	Eglise 教会	 Lineweight 0.15mm	400820	K100	On	
36	400920	Chapelle ou Temple 礼拝堂	 Lineweight 0.15mm	400920	K100	On	
37	401020	Autres édifices réligieux その他の宗教的建物	 Lineweight 0.15mm	401020	K100	On	
38	401120	Hôpital 病院	 Lineweight 0.15mm	401120	K100	On	
39	401220	CSPS 診療所	 Lineweight 0.15mm	401220	K100	On	
40	401320	Enseignement 教育施設	 Lineweight 0.15mm	401320	K100	On	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
41	401420	Poste de télécommunication 通信設備のある郵便局	 Lineweight 0.15mm	401420	K100	On	
42	401520	Bureau de poste 郵便局	 Lineweight 0.15mm	401520	K100	On	
43	401620	Gendarmerie, Police 憲兵隊警察		401620	K100	On	
44	401720	Douane 税関	 Lineweight 0.15mm	401720	K100	On	
45	401820	Station Radio diffusion ラジオ局	 Lineweight 0.15mm	401820	K100	On	
46	401920	Usine 工場	 Lineweight 0.15mm	401920	K100	On	
47	402020	Mine 鉱山		402020	K100	On	
48	402120	Site historique ou archéologique 考古学的史跡	 Lineweight 0.15mm	402120	K100	On	

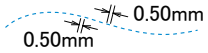
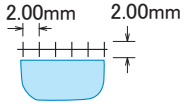
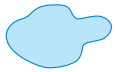
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
49	402220	Statue ou monument isolé 離れてある像（モニュメント）	 Lineweight 0.15mm	402220	K100	On	
50	402320	Cimetière 墓地	 Lineweight 0.15mm	402320	K100	On	
51	402420	Réservoir d'hydrocarbure 燃料タンク	 Lineweight 0.15mm	402420	K100	On	
52	402500	Stade , Hippodrome スタジアム、競技場	 Lineweight 0.15mm	402500	K100	On	
53	402628	Stade, Hippodrome（SYMBOL） スタジアム、競技場	 Lineweight 0.15mm	402628	K100	On	
54	402700	Piste d'aviation 空港（滑走路）	 Lineweight 0.15mm	402700	K100	On	
55	402820	Aéroport 空港		402820	K100	On	
56	403020	Aérodrome 飛行場		403020	K100	On	

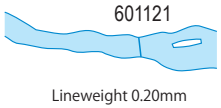
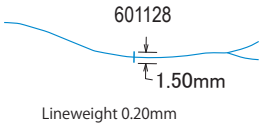
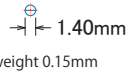
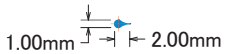
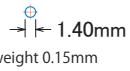
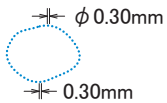
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
57	403120	Hotellerie 宿泊できる場所		403120	K100	On	
58	403220	Marché 市場	 Lineweight 0.15mm	403220	K100	On	
59	403328	Gare, Station 駅、停車場	 Lineweight 0.15mm	403328	K100	On	
60	403428	Halte, Arrêt 停車場		403428	K100	On	
61	403500	Voies de garage 待避線	 Lineweight 0.20mm	403500	K100	On	
62	403628	Tunnel トンネル（抗口）	 Lineweight 0.15mm	403628	K100	On	
63	403720	Pylone (Station hertziennes, téléphonies) 鉄塔	 Lineweight 0.15mm	403720	K100	On	
64	403927	Borne géodésique 基準点	 Lineweight 0.15mm	403927	K100	On	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
65	404027	Points coté 図化標高点		404027	K100	On	
66	404127	Repère de nivellement 水準点（埋石）		404127	K100	On	
67	404220	Borne frontalière 国境の標石		404220	K100	On	
68	404327	Station permanent 電子基準点	 Lineweight 0.15mm	404327	K100	On	
69	404427	Borne de nivellement 水準点（杭）		404427	K100	On	
70	405020	Parc de vaccination 家畜等の予防注射場	 Lineweight 0.15mm	405020	K100	On	
71	405200	Limite de zone 区域界	 Lineweight 0.10mm	405200	K100	On	
72	405310	Zone urban non viabilisée		405310	Pattern	Off	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
73	500107	Courbe maîtresse 等高線（計曲）	Lineweight 0.20mm	500107	Orange100	On	
74	500207	Courbe normale 等高線（主曲）	Lineweight 0.10mm	500207	Orange100	On	
75	500307	Courbe intercalaire 間曲線	1.00mm 2.50mm Lineweight 0.10mm	500307	Orange100	On	
76	500410	Sommet 頂上（真形）	B 0.50mm 0.50mm Lineweight 0.15mm	500410L 500410	Orange100 Orange100	On On	
77	500520	Pic 尖峰	1.20mm 1.40mm Lineweight 0.15mm	500520	Orange100	On	Scatter Brushe 
78	500600	Talus latéritique ラテライトの傾斜	B 0.50mm 0.30mm Lineweight 0.15mm	500600L 500600	Orange100 Orange100	On On	
79	500700	Levée de terre 地面の盛り上がり	B 0.50mm 6.00mm Lineweight 0.15mm	500700L 500700	Orange100 Orange100	On On	
80	500810	Sommet rocheux 頂上および頂きが環になった 岩の峰(真形)	B 0.50mm 0.50mm Lineweight 0.15mm	500810L 500810	K100 K100	On On	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
81	500920	Piton rocheux 頂上および頂きが環になった岩の峰(記号)	1.20mm 1.40mm	500920	K100	On	
82	501010	Zone rocheuse 露出岩(範囲)		501010	Pattern	Off	
83	501028	Affleurement rocheux 露出岩(記号)	4.00mm 1.00mm 1.00mm	501028	K100	On	
84	501100	Ligne de crête 岩の稜線	B 0.50mm 6.00mm Lineweight 0.15mm	501100L 501100	K100 K100	On	
85	501200	Escarpement 傾斜面/断崖	B 0.50mm 1.00mm Lineweight 0.15mm	501200f 501200	K100 K100	On On	
86	501328	Courbe de cuvette 凹地	0.50mm 2.00mm	501328	Orange100	On	
87	501400	Cordon dunaire 砂丘		501400	Orange100	Off	
88	501510	Zone sableuse 砂地		501510	Pattern	Off	

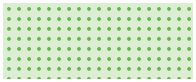
No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
89	600110	Cours d'eau permanent (Représenté avec 2 bords) 涸れない河川(真幅)	 Lineweight 0.15mm	600110L 600110	Blue100 LightBlue50	On Off	
90	600200	Cours d'eau permanent (Représenté avec une seule ligne) 涸れない河川(一条)	 Lineweight 0.15mm	600200	Blue100	On	
91	600310	Plan d'eau 涸れない河川の広がり	 Lineweight 0.15mm	600310L 600310	Blue100 LightBlue50	On Off	
92	600400	Cours d'eau temporaire 一時的河川	 0.50mm 0.50mm Lineweight 0.15mm	600400	Blue100	On	
93	600500	Canal 運河	 Lineweight 0.15mm	600500	Blue100	On	
94	600600	Barrage ダム	 2.00mm 2.00mm Lineweight 0.15mm	600600L 600600	K100 K100	On On	
95	600710	Mare 沼・池		600710L 600710	Blue100 LightBlue50	On Off	
96	600810	Zone humide 湿地		600810	Pattern	Off	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
97	600910	Zone inondable 氾濫を起こしやすい土地		600910	Pattern	Off	
98	601121	Cascade, chute d'eau 滝		601121	Blue100	On	
99	601128	Cascade, chute d'eau(Symbol) 滝		601128	Blue100	On	
100	601220	Puits, Citerne, Abreuvoir, Lavoir, et forage 手掘り井戸およびボーリング井戸		601220	Blue100	On	
101	601320	Château d'eau 給水塔		601320	Blue100	On	
102	601520	Source いずみ		601520	Blue100	On	
103	601620	Autres points d'eau (Fontaine, etc) その他の給水点		601620	Blue100	On	
104	601710	Dépression fermée 周囲を塞がれた沈下地（くぼ地）		601710	Blue100	On	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
105	700210	Forêt claire ou savane boisée 疎林または木の多いサバンナ		700210	Pattern	Off	
106	700310	Savane arborees ou arbustives 木または小潅木生えたサバンナ		700310	Pattern	Off	
107	700410	Steppe au Prairie ステップ		700410	Pattern	Off	
108	700510	Brousse tigrée 虎斑の深い藪		700510	Pattern	Off	
109	700610	Formation ripicole et forêt galerie 川岸の形成体および一連の森		700610	Green50	Off	
110	700710	Limite de forêt classée de réserve de flore ou faune 保護林、動植物保護区の境界	Lineweight 1.50mm	700710	Green100	On	
111	700800	Haie (ou cloture) 塀(または植物の囲い)	B φ 0.40mm 0.25mm φ 0.25mm	700800	K100	On	
112	700910	Zone de Culture 耕作地		700910	Pattern	Off	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
113	701110	Culture irriguée 灌漑農地（稲、野菜など）		701110	Pattern	Off	
114	701210	Jachère 休耕地		701210	Beige60	Off	
115	701310	Terrain nu 荒地		701310	Bronze40	Off	
116	701420	Epineux とげのある木	2.50mm 4.20mm	701420	K100	On	
117	701520	Baobab バオバブ	3.00mm 3.00mm	701520	K100	On	
118	701620	Bambou 竹	2.30mm 2.30mm	701620	K100	On	
119	701720	Fromager パンヤの木	3.00mm 2.50mm	701720	K100	On	
120	701820	Gomme arabique アラビアゴムアカシア	2.50mm 2.50mm	701820	K100	On	

No	Layer	Description	Symbol	Sub-Layer	Colour	Over print	
121	701920	Dattier デーツの木	3.00mm 2.00mm	701920	K100	On	
122	702110	Plantation de mangues (M) マンゴプランテーション		702110	Pattern	Off	
123	702210	Plantation d'anacardiers (A) かじょ樹（カシュー・アップル）プランテーション		702110	Pattern	Off	
124	702310	Plantation de roniers (R) ロニエプランテーション		702110	Pattern	Off	
125	702410	Plantation d'eucalyptus (E) ユーカリプランテーション		702110	Pattern	Off	
126	702510	Plantation de tecks (T) チークプランテーション		702110	Pattern	Off	
127	702610	Plantation d'orangers (O) オレンジプランテーション		702110	Pattern	Off	
128	702710	Plantation de bananiers (B) バナナプランテーション		702110	Pattern	Off	

129	702810	Plantation de palmiers (P) パルミラプランテーション		702110	Pattern	Off	

No	Layer	Description	Size	Symbol	Sub-Layer	Colour	Over print	Font
130	900130	Capitale d'Etat 国の首都名、他国名	6.0mm	OUAGA-DOUGOU	900130	K100	On	Arial Bold OUAGA-DOUGOU
131	900230	Chef lieu de Région リージョンの都市名	4.5mm	DORI	900230	K100	On	Arial Bold DORI
132	900330	Chef lieu de Province プロヴィンスの都市名	4.0mm	DJIBO	900330	K100	On	Arial Bold DJIBO
133	900430	Chef lieu de Commune コミューンの都市名	3.5mm	Oursi	900430	K100	On	Arial Bold Oursi
134	900530	Village administratif 村名	2.0mm	Gana	900530	K100	On	Arial Bold Gana
135	900630	Hameau de culture 区・農村小部落名	1.5mm	HC	900630	K100	On	Arial Bold HC

No	Layer	Description	Size	Symbol	Sub-Layer	Colour	Over print	Font
136	900738	Nom de rivières 河川名	1.5mm 2.0mm 3.0mm	Volta Volta Volta	900738	Blue100	On	Arial Narrow Italic Volta Volta Volta
137	900930	Quartier 村名	1.5mm	Nakomko	900930	K100	On	Arial Bold Nakomko
138	901038	Route Nationale, Route Régionale, Route Départementale 道路名	2.0mm	N1	901038	K100	On	Arial Bold Italic N1
139	901138	Destination des routes Nationales 到達名	1.5mm	Route national 5 vers	901138	K100	On	Arial Narrow Italic Route national 5 vers
140	901230	Nom de construction 建物注記	1.5mm	Cathedrale	901230	K100	On	Arial Narrow Italic Cathedrale
141	901330	Repère de nivellement 水準点（埋石）名	1.5mm	RN	901330	K100	On	Arial Narrow Italic RN
142	901430	Borne frontalière 国境の石	1.5mm	Bne	901430	K100	On	Arial Narrow Italic Bne
143	901530	Nom de plans d'eau 場地（水系）、池、湖、沼なども含む	1.5mm 2.0mm 3.0mm	Darkoy Darkoy Darkoy	901530	Blue100	On	Arial Narrow Italic Darkoy Darkoy Darkoy

No	Layer	Description	Size	Symbol	Sub-Layer	Colour	Over print	Font
144	901630	Nom de entité géographique 場地（地形）	1.5mm 2.0mm 3.0mm	*Sèno Yarèndi* *Sèno Yarèndi* *Sèno Yarèndi*	901630	K100	On	Arial Narrow Italic *Sèno Yarèndi* *Sèno Yarèndi* *Sèno Yarèndi*
145	901730	Borne de nivellement 水準点（杭）名	1.5mm	*BN*	901730	K100	On	Arial Narrow Italic *BN*
146	901830	Arrondissement	2.0mm	**Arrdt 1**	901830	K100	On	Arial Bold **Arrdmt 1**
147	902130	Plantation de manguiers (M) マンゴプランテーション	1.5mm	M	902130	K100	On	Arial Narrow Regular M
148	902230	Plantation d'anacardiers (A) かじょ樹（カシュー・アップル） プランテーション	1.5mm	A	902230	K100	On	Arial Narrow Regular A
149	902330	Plantation de roniers (R) ロニエプランテーション	1.5mm	R	902330	K100	On	Arial Narrow Regular R
150	902430	Plantation d'eucalyptus (E) ユーカリプランテーション	1.5mm	E	902430	K100	On	Arial Narrow Regular E
151	902530	Plantation de teck (T) チークプランテーション	1.5mm	T	902530	K100	On	Arial Narrow Regular T

No	Layer	Description	Size	Symbol	Sub-Layer	Colour	Over print	Font
152	902630	Plantation d'orangers (O) オレンジプランテーション	1.5mm	O	902630	K100	On	Arial Narrow Regular O
153	902730	Plantation de bananiers (B) バナナプランテーション	1.5mm	B	902730	K100	On	Arial Narrow Regular B
154	903630	Plantation de palmiers (P) パルミラプランテーション	1.5mm	P	903630	K100	On	Arial Narrow Regular P
155	902830	Zones reservees pour la faune, forêts classées 動物、森林保護区地域名	2.0mm 3.0mm 4.0mm	*FORÊT CLASSÉE* *FORÊT CLASSÉE* *FORÊT CLASSÉE*	902830	C100 Y100	On	Arial Narrow Roman Italic *FORÊT CLASSÉE* *FORÊT CLASSÉE* *FORÊT CLASSÉE*
156	902930	Texte de description 説明注記	1.5mm	Jatoropha Plantation	902930	K100	On	Arial Narrow Regular Jatoropha Plantation
157	903030	Texte de l'altitude lue par le restituteur 標高注記	1.5mm	344	903030	K100	On	Arial Narrow Regular 344
158	903130	Valeur des courbes de niveau (caracteres inclines) 等高線数値	1.5mm	*100*	903130	Orange100	On	Arial Narrow Italic *100*
159	903230	FERME	1.5mm	*Ferme*	903230	K100	On	Arial Narrow Italic *Ferme*

No	Layer	Description	Size	Symbol	Sub-Layer	Colour	Over print	Font
160	903330	CARRIERE 採石地	1.5mm	*Carriere*	903330	K100	On	Arial Narrow Italic *Carriere*
161	903530	MAIRIE	1.5mm	*Mairie*	903530	K100	On	Arial Narrow Italic *Mairie*