

Appendix 1

SCOPE OF WORK FOR THE STUDY ON THE FORMULATION OF GEOGRAPHIC DATA  
BASE OF THE PRINCIPAL CITIES IN THE ATLANTIC COAST IN REPUBLIC OF  
COLOMBIA

SCOPE OF WORK  
FOR  
THE STUDY ON THE FORMULATION OF GEOGRAPHIC DATA BASE OF THE  
PRINCIPAL CITIES IN THE ATLANTIC COAST IN REPUBLIC OF COLOMBIA

AGREED UPON BETWEEN

INSTITUTO GEOGRAFICO AGUSTIN CODAZZI (IGAC)  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Bogota D.C., 22nd March, 2005



Mr. Nobutetsu ENOSHITA

Leader

Preparatory Study Team


Japan International Cooperation Agency (JICA)



Mr. Iván Darío Gómez Guzmán

Director General

Instituto Geografico Agustín Codazzi (IGAC)



Mr. Luis Alfonso Hoyos Aristizabal

Director

Agencia Colombiana de Cooperación Internacional

(ACCI)



Mr. Pedro Jose Fernandez Ayala

Deputy Director

Departamento Administrativo Nacional de Estadística

(DANE)

## I. INTRODUCTION

In response to a request of the Government of Republic of Colombia (hereinafter referred to as "the GRC"), the Government of Japan decided to conduct "The Study on the Formulation of Geographic Data Base of the Principal Cities in the Atlantic Coast in Republic of Colombia" (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the GRC.

The present document sets forth the Scope of Work with regard to the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

- 1) to formulate new digital topographic maps covering as shown in Appendix-I-1, 1-2 and 1-3 (hereinafter referred to as "the Mapping Area") at the scale of 1:2,000, including taking new aerial photographs (Approximately 400 square kilometers);
- 2) to conduct the feasibility study for the formulation of geographic data base in the other 100 municipalities;
- 3) to pursue technology transfer in the course of implementation of the Study.

## III. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover following items.

### 1. Review of Existing Conditions

Existing conditions relevant to the Study including organization set-up, mapping system, facilities management and control points shall be reviewed.

### 2. Aerial Photography

Black and white aerial photographs at the scale of 1:10,000 covering shall be taken.  
(Approximately 400 square kilometers)

### 3. Map Production for covering as the Mapping Area.

#### 1) Control Point Survey, Leveling and Pricking

Control point survey, leveling and pricking shall be carried out.

#### 2) Aerial Triangulation

Aerial triangulation shall be carried out.

#### 3) Field Identification

Topographic information shall be interpreted mainly using the aerial photographs. The field identification shall be conducted in case that the information on the aerial photographs is difficult to be interpreted.

#### 4) Digital Plotting

Digital topographic data shall be plotted.

- 5) **Editing and Symbolization**  
The digital topographic data shall be edited and symbolized to print topographic line maps at the scale of 1:2,000.
  - 6) **Field Completion**  
Field completion shall be carried out.
  - 7) **CD-ROM production**  
The digital topographic data shall be compiled into CD-ROM.
4. **Conduct of Feasibility Study**
- 1) **Review of Existing Data**  
Existing digital topographic data in the other 100 municipalities shall be reviewed. 100 municipalities are listed as shown in Appendix 2.
  - 2) **Supplementary Survey**  
Necessary data for cost-benefit analysis shall be collected.
  - 3) **Cost Estimation**  
Cost for the formulation of geographic data base in the other 100 municipalities shall be estimated.
  - 4) **Economic and Financial Analysis**  
Benefits which are supposed to be created by the Projects, shall be analyzed.
5. **Utilization of GIS data**  
GIS data formulated in the Study shall be utilized for the various purposes of land use plan, cadastral information, public service networks and so on.
6. **Establishment of Coordinating Committee and Technical Team**  
Instituto Geografico Agustin Codazzi (hereinafter referred to as the "IGAC") is encouraged to establish a Coordinating Committee and Technical Team. The Coordinating Committee is responsible for the management of the Study. The Technical Committee shall conduct the Study based on the direction of the Coordinating Committee.
7. **Technology Transfer**  
In order to facilitate technology transfer to the counterpart personnel, part of the above-mentioned items shall be undertaken by the counterpart personnel under the technical supervision of the members of the Study.
8. **Dissemination of the Final Products**  
Recommendations for the wide and effective use of the topographic data produced under the Study shall be prepared.

#### IV. STUDY SCHEDULE

The Study will be implemented in accordance with the tentative schedule as shown in Appendix-3. The schedule, including dispatch schedule of the full-scale study team (hereinafter referred to as "the Study Team") and report submission dates stated in the next clause (V), is tentative and subject to be modified when both sides agree

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upon because of any necessity that arises in the course of the Study.

## V. REPORTS AND FINAL PRODUCTS

JICA will prepare and submit the following reports and the final products of topographic mapping works to the GRC.

1. Inception Report  
Twenty (20) copies (ten (10) copies in English and ten (10) copies in Spanish) at the commencement of the Study
2. Interim Report  
Twenty (20) copies (ten (10) copies in English and ten (10) copies in Spanish) within fifteen (15) months after the beginning of the Study
3. Draft Final Report  
Twenty (20) copies (ten (10) copies in English and ten (10) copies in Spanish) within twenty-six (26) months after the beginning of the Study  
IGAC will submit its comments within thirty (30) days after the receipt of the Draft Final report.
4. Final Report  
Twenty (20) copies (ten (10) copies in English and ten (10) copies in Spanish) within thirty (30) days after the receipt of the comments on the Draft Final Report.
5. Final products of topographic mapping
  - 1) One (1) set of negative films of aerial photographs
  - 2) One (1) set of contact prints of aerial photographs
  - 3) One (1) set of digital data of aerial photographs
  - 4) One (1) copy of result of ground control point survey for map production of the Mapping Area.
  - 5) One (1) copy of result of aerial triangulation for map production of the Mapping Area.
  - 6) Five (5) sets of 1:2,000 scale digital topographic data of the Mapping Area
  - 7) Two (2) sets of 1:2,000 scale topographic maps plotted on polyester base of the Mapping Area

## VI. UNDERTAKING OF THE GRC

1. To facilitate the smooth conduct of the Study, the Technical Cooperation Agreement signed between the GRC and the Government of Japan on 22nd of December, 1976, and the Note Verbals issued by the Government of Japan on 17th of September, 2001 and confirmed by the GRC on the 21st of January, 2002 will be applied:
  - 1) to secure the safety of the Study Team ;
  - 2) to permit the members of the Study Team to enter, leave and sojourn in Colombia for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees;
  - 3) to exempt the members of the Study Team from taxes, duties and other charges on equipment, machinery and other materials brought into Colombia for the implementation of the Study ;
  - 4) to exempt the members of the Study Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowance paid to the members of the Study Team for their service in connection with the implementation of the Study ;
  - 5) to provide the necessary facilities to the Study Team for the remittance as well as utilization of the funds introduced into Colombia from Japan in connection with the implementation of the Study and



- 6) to bear claims, if any arises, against the members of the Study Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Study Team.
2. IGAC: To facilitate the smooth conduct of the Study, IGAC shall take the following necessary measures:
  - 1) to secure necessary permission to use aircraft for aerial photography in connection with the implementation of the Study;
  - 2) to facilitate legal entry with permission into private properties and restricted areas for the implementation of the Study; and
  - 3) to secure permission for the Study Team to take all data (including topographic maps, negative films, contact prints and digital data of aerial photographs) related to the Study out of Colombia.
3. The IGAC shall act as counterpart agency to the Study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. The IGAC shall, at its own expense, provide the Study Team with the following :
  - 1) available data and information related to the Study;
  - 2) security-related information;
  - 3) information on as well as support in obtaining medical service;
  - 4) counterpart personnel;
  - 5) suitable office space with necessary office equipment and furniture;
  - 6) credentials or identification cards; and
  - 7) vehicles with drivers.

Note: The IGAC shall have cooperation with other organizations concerned for above 1), 2) and 3).
5. The IGAC shall, at its own expense, take aerial photographs mentioned in the article 2. of "III. SCOPE OF THE STUDY". Likewise the IGAC shall, at its own expense, scan those photographs and provide them the Study Team at the beginning stage of the Study

## VII. UNDERTAKING OF JICA

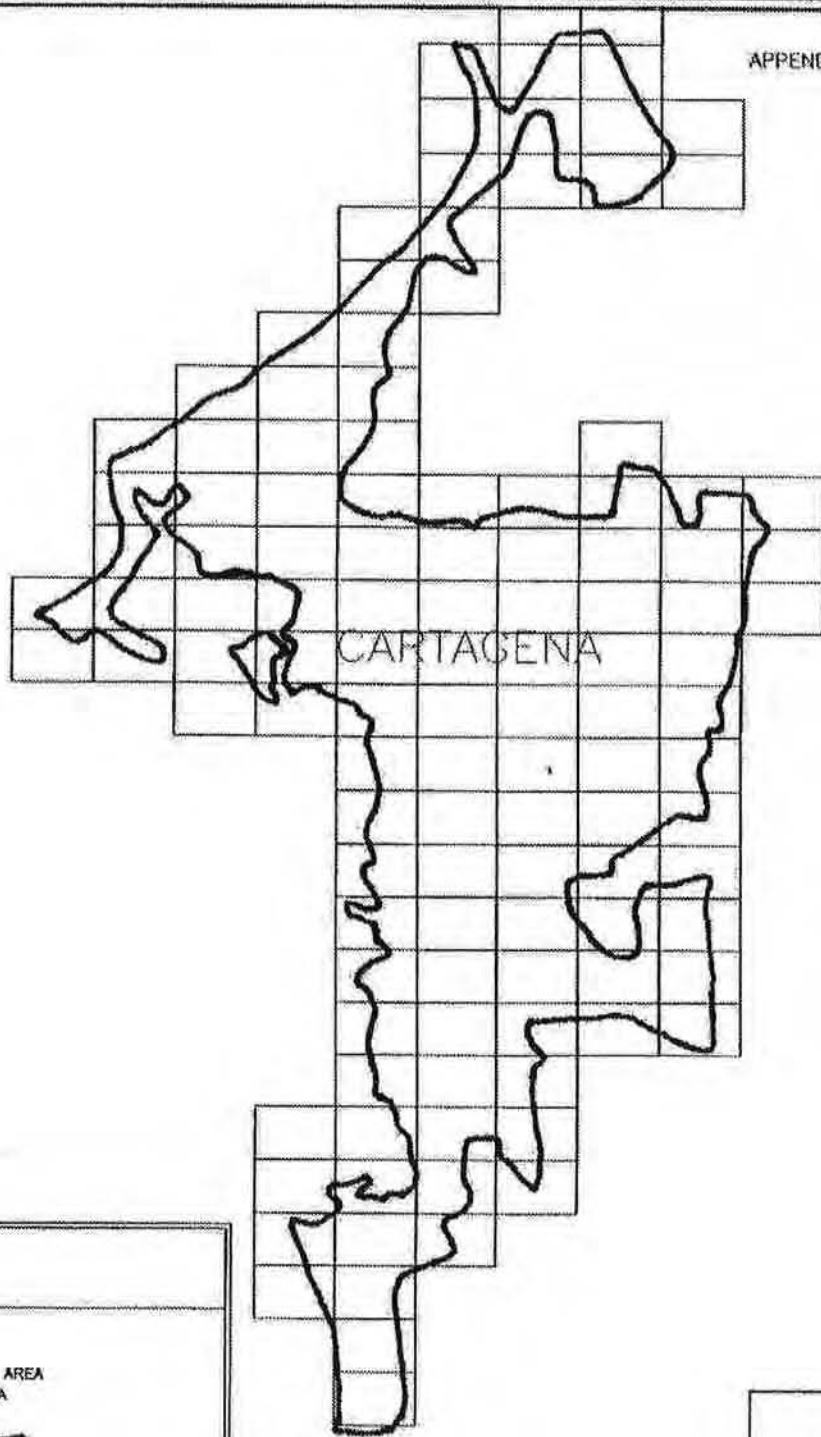
For the implementation of the Study, JICA shall take the following measures :

- 1) to dispatch, at its own expense, the Study Team to Colombia; and
- 2) to pursue technology transfer to Colombia counterpart personnel in the course of the Study.

## VIII. OTHERS

1. JICA and the IGAC shall consult with each other in respect of any matter that may arise from or in connection with the Study.
2. The Scope of Work is prepared in English and Spanish, and both versions are signed by the both partners. In case any doubt arises in interpretation, the English text shall prevail.
3. Minutes of Meeting dated on 22nd of March, 2005 complements the Scope of Work.



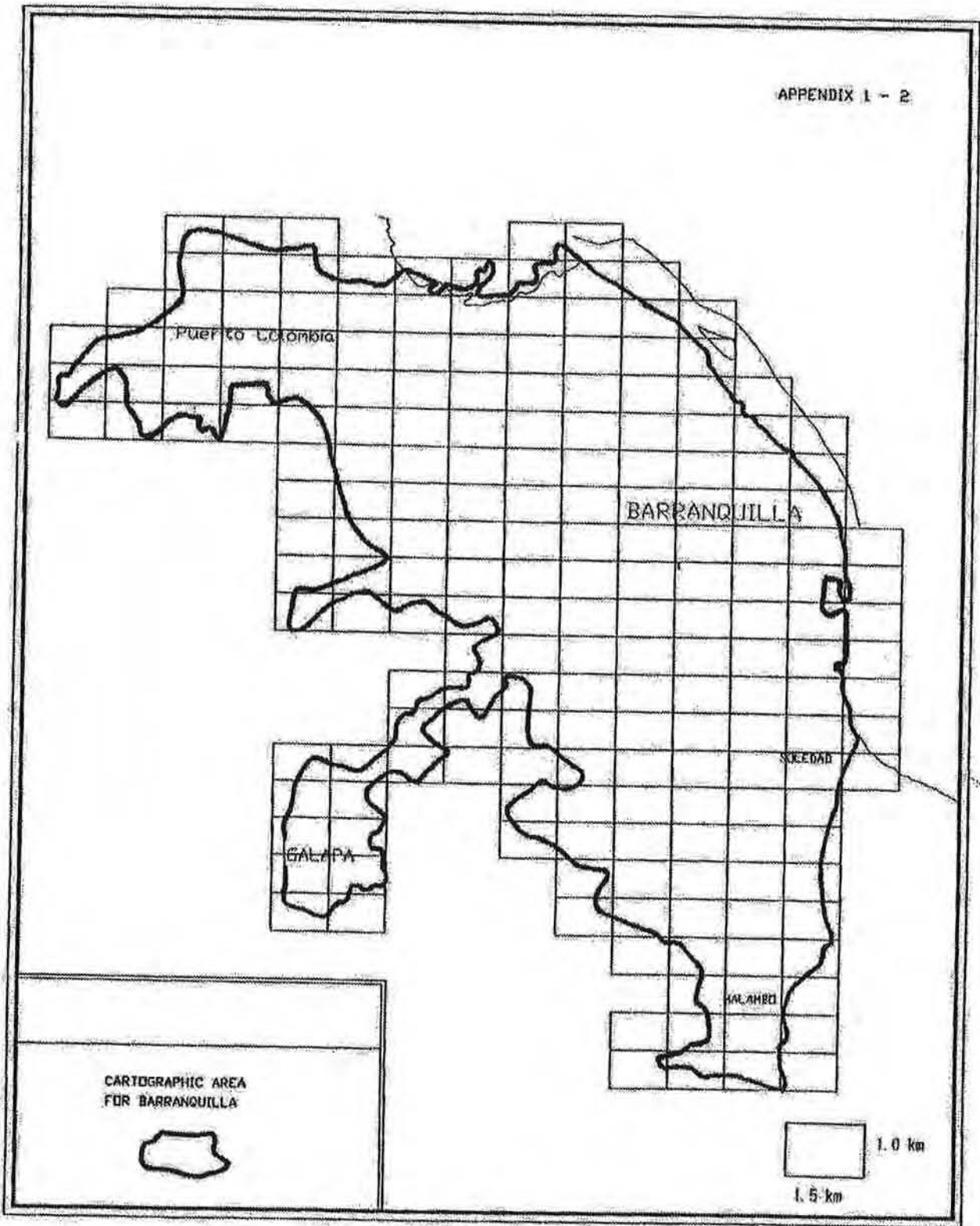


CARTOGRAPHIC AREA  
FOR: CARTAGENA

1.0 km  
1.5 km

*Handwritten signature or initials*

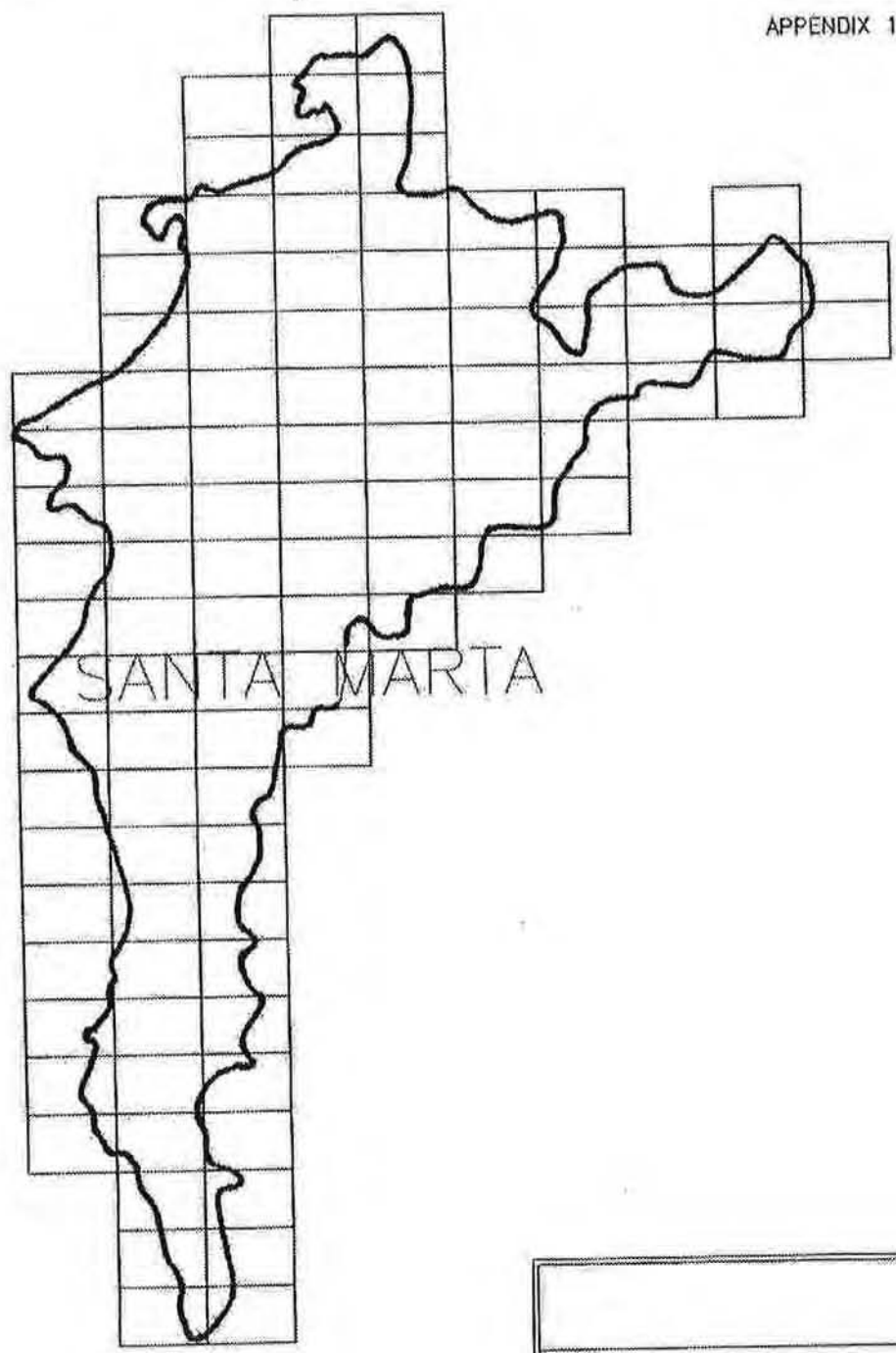
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*M. P. P.*

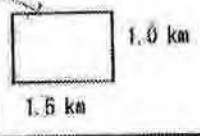
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SANTA MARTA

CARTOGRAPHIC AREA  
FOR SANTA MARTA



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## 100 Municipalities in Colombia

No.	Province	Municipality	No.	Province	Municipality
1	SANTANDER	BUCARAMANGA	51	TOLIMA	CHIAPARRAL
2	TOLIMA	IBAGUE	52	PUTUMAYO	PUERTO ASIS
3	CUNDINAMARCA	SOACHA	53	VALLE	PRADERA
4	SANTANDER	FLORIDABLANCA	54	HUILA	GARZON
5	RISARALDA	LOS QUEBRADAS	55	TOLIMA	MARIQUITA
6	BOYACA	SOGAMOSO	56	SAN ANDRES	SAN ANDRES
7	BOYACA	DUITAMA	57	ATLANTICO	BARANOA
8	BOLIVAR	MAGANGUE	58	ARAUCA	TAME
9	NORTE DE SANTANDER	OCANA	59	CUNDINAMARCA	FUNZA
10	SANTANDER	GIRON	60	CAUCA	PUERTO TEJADA
11	NORTE DE SANTANDER	VILLA ROSARIO	61	VALLE	CANDELARIA
12	VALLE	YUMBO	62	TOLIMA	FLANDES
13	CALDAS	LA DORADA	63	GUAVIARE	SAN JOSE DEL GUAVIARE
14	SANTANDER	PIEDICUESTA	64	VALLE	ROLDANILEO
15	NARINO	IPALES	65	ARAUCA	ARAUQUITA
16	HUILA	BITALTO	66	NORTE DE SANTANDER	TIBU
17	TOLIMA	ESPINAL	67	VALLE	ZARZAL
18	CUNDINAMARCA	EACATATIVA	68	BOYACA	PUERTO BOYACA
19	VALLE	JAMUNDI	69	BOLIVAR	MOMPOS
20	NORTE DE SANTANDER	LOS PATIOS	70	CORDOBA	MONTELIBANO
21	META	ACACIAS	71	CUNDINAMARCA	MADRID
22	QUINDIO	CALARCA	72	CALDAS	VILLAMARIA
23	CESAR	AGUACHICA	73	TOLIMA	LIHANO
24	META	GRANADA	74	GUAJIRA	FONSECA
25	MAGDALENA	CIENAGA	75	CORDOBA	TIERRALTA
26	CUNDINAMARCA	CHIA	76	QUINDIO	LA TEBADA
27	BOLIVAR	TURBACO	77	QUINDIO	MONTENEGRO
28	CUNDINAMARCA	MOSQUERA	78	CASANARE	AGUAZUL
29	CORDOBA	LORICA	79	SUCRE	SAN ONCERE
30	CAUCA	SANTANDER DE QUILICHAO	80	MAGDALENA	PLATO
31	CORDOBA	CERETE	81	META	PUERTO LOPEZ
32	RISARALDA	SANTA ROSA DE CABAL	82	MAGDALENA	ZONA DANANERA
33	SANTANDER	SAN GIL	83	SUCRE	SAN MARCOS
34	CORDOBA	SAHAGUN	84	HUILA	CAMPO ALEGRE
35	TOLIMA	MELGAR	85	SUCRE	TOLU
36	BOYACA	CHIOJINQUIRA	86	MAGDALENA	PIVJAY
37	MAGDALENA	EL BANCO	87	SANTANDER	PUERTO WILCHES
38	MAGDALENA	FUNDACION	88	TOLIMA	GUAMO
39	GUAJIRA	SAN JUAN DEL CESAR	89	QUINDIO	QUIMBAYA
40	SUCRE	CORDAZAL	90	TOLIMA	LERIDA
41	CESAR	AGUSTIN CODAZZI	91	HUILA	LA PLATA
42	BOLIVAR	ARJONA	92	SANTANDER	SOCORRO
43	VALLE	FLORIDA	93	META	SAN MARTIN
44	ARAUCA	SARAVENA	94	GUAJIRA	BARRANCAS
45	NORTE DE SANTANDER	EMPOLONA	95	VALLE	CAICEDONIA
46	TOLIMA	FRONDA	96	CASANARE	PAZ DE ARIPORO
47	VALLE	SEVILLA	97	VALLE	LA UNION
48	CORDOBA	PLANETA RICA	98	CAQUETA	PUERTO RICO
49	CALDAS	CHINCHINA	99	CESAR	CHURUMANI
50	VALLE	EL CERRITO	100	CALDAS	ROSUCIO

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Tentative Schedule of The Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
Work in Colombia	[Shaded]								[Shaded]											[Shaded]										
Work in Japan	[Shaded]	[Shaded]										[Shaded]											[Shaded]							
Report	Δ	Δ				Δ							Δ										Δ							
	IC/R	PR/R				IT/R							DR/R										F/R							

IC/R: Inception Report PR/R: Progress Report IT/R: Interim Report DR/R: Draft Report F/R: Final Report

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Appendix 2

MINUTES OF MEETING ON INCEPTION REPORT FOR THE STUDY ON THE  
FORMULATION OF GEOGRAPHIC DATA BASE OF THE PRINCIPAL CITIES IN THE  
ATLANTIC COAST IN REPUBLIC OF COLOMBIA (8<sup>th</sup> September, 2005)

MINUTES OF MEETING  
ON  
INCEPTION REPORT  
FOR  
THE STUDY  
ON  
THE FORMULATION OF GEOGRAPHIC DATA BASE  
OF THE PRINCIPAL CITIES IN THE ATLANTIC COAST  
IN REPUBLIC OF COLOMBIA  
AGREED UPON BETWEEN  
THE INSTITUTO GEOGRÁFICO AGUSTÍN CODAZZI  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Bogota D.C, 8th September, 2005



Dr. Iván Darío Gómez Guzmán  
Director General  
Instituto Geográfico Agustín Codazzi(IGAC)



Mr. Yoshitaka Gomi  
Leader of the JICA Study Team

The Team for The Study On The Formulation Of Geographic Data Base Of The Principal Cities In The Atlantic Coast In Republic Of Colombia (hereinafter referred to as "The Study Team" and "The Study") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") arrived at Bogotá, The Republic of Colombia on 26<sup>th</sup> of August 2005 for the first work in Colombia.

The Study Team submitted ten (10) copies of Inception Report in English and in Spanish to Instituto Geografico Augustin Codazzi (hereinafter referred to "IGAC").

A series of meetings related on Inception Report was held on 31st of August 2005 between The Study Team and IGAC. A list of participants is attached in Appendix.1.

Inception Report was basically accepted by the Colombia side. During the meeting, the following points were confirmed among the parties.

1. The Study Team requested IGAC to provide the available data, information related to the Study and assign counterpart personnel and IGAC manifested its agreement and was carried out promptly.
2. IGAC made a comment that progress of aerial photography for study area was completed with 80% overlap and the negative films were scanned with the size of pixel of 15 microns, and the Study Team accepted the explanation.
3. The Study Team requested IGAC to take Japan the negative films, digital data file, contact prints and IGAC agreed it.
4. Both parties agreed that the boundaries of 1:2,000 scale digital topographic mapping area shown on the Scope of Work are tentative. So, both parties agreed that the exact boundaries would be decided through the discussion based on the actual requirement.
5. The Study Team explained that for determination of the exact boundary of 1:2,000 scale digital topographic mapping area orthophoto would be used and IGAC accepted the criteria.
6. The Study Team requested IGAC to carry out the necessary actions in order to establish a Coordinating Committee and Technical Team.
7. Both parties agreed that IGAC carries out an initial proposal of the distribution of ground control points necessary. This proposal will be analyzed by the Study Team and

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discussed with IGAC in order to carrying out the necessary adjustments to produce the plan of GPS survey.

8. IGAC requested to the Study Team to consider the schedule of field survey that was programmed from January to February due to the readiness of the budget of IGAC, and the Study Team agreed to consider the adjustment of the schedule.
9. The Study Team explained that with the digital image of aerial photographs and the results of aerial triangulation, orthophoto image would be produced sheet by sheet. This orthophoto will be used for the field identification and IGAC agreed it.
10. IGAC expressed the necessity to carry out part of the technology transfer in Japan. The Study Team manifested to transmit the application from IGAC to the JICA Headquarters.
11. The Study Team proposed holding of the workshop for the technology transfer to IGAC in January, and IGAC accepted it.
12. The Study Team requested IGAC to prepare the necessary office for the Study and was prepared with satisfactory.



**List of Attendants****COLOMBIA****Instituto Geográfico Agustín Codazzi de Colombia (IGAC)**

Miguel Angel Cárdenas Contreras	Deputy Director of Geography and Cartography
Jaime Alberto Duarte Castro	Advisory of Geography and Cartography Subdirection
Antonio Serrano Priessins	Chief of Photogrametry
William Martínez Díaz	Chief of Geodesic
Edilberto Niño	Coordinator of Digital Plotting and Aerial Triangulation
Alberto Umbarila Madero	Coordinator of Geodetic Methods
Marco Tulio Herrera Sánchez	Coordinator of Field Survey

**JAPAN****The Study Team**

Yoshitaka Gomi	Team Leader
Junichi Koseki	Technical Specification/Pricking
Yutaka Nakada	Control Point Survey I
Shinichi Kohno	Field Identification/Field Completion I
Toru Furuya	Administrator
Mitsuko Takei	Interpreter

**JICA**

Masakatsu Abe	Technical advisor
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**JICA Colombia Office**

Ryozo Hanya	Resident Representative
Takayuki Kondo	Deputy Resident Representative
Naofumi Takase	Assistant Resident Representative






Appendix 3

MINUTES OF MEETING FOR THE STUDY ON THE FORMULATION OF GEOGRAPHIC  
DATA BASE OF THE PRINCIPAL CITIES IN THE ATLANTIC COAST IN REPUBLIC OF  
COLOMBIA (13<sup>th</sup> February, 2006)

Appendix 5

Revised List of 100 Municipalities

19 Feb 2006

**AÑO DE TOMA FOTOGRAFÍA**

	<b>CÓDIGO</b>	<b>DEPARTAMENTO</b>	<b>MUNICIPIO</b>	<b>ÁREA Ha</b>	
1	08137	ATLANTICO	CAMPO DE LA CRUZ	553	2003
2	08141	ATLANTICO	CANDELARIA	169	2003
3	08372	ATLANTICO	JUAN DE ACOSTA	202	2003
4	08421	ATLANTICO	LURUACO	188	2003
5	08436	ATLANTICO	MANATI	374	2003
6	08558	ATLANTICO	POLONUEVO	337	2004
7	08560	ATLANTICO	PONEDERA	145	2005
8	08606	ATLANTICO	REPELON	287	2003
9	08675	ATLANTICO	SANTA LUCIA	167	2003
10	08770	ATLANTICO	SUAN	141	2004
11	08832	ATLANTICO	TUBARA	89	2005
12	08849	ATLANTICO	USIACURI	253	2005
13	13006	BOLIVAR	ACHI	31	2005
14	13030	BOLIVAR	ALTOS DEL ROSARIO	55	2005
15	13042	BOLIVAR	ARENAL	46	2005
16	13052	BOLIVAR	ARJONA	490	2005
17	13062	BOLIVAR	ARROYOHONDO	49	2005
18	13074	BOLIVAR	BARRANCO DE LOBA	120	2004
19	13140	BOLIVAR	CALAMAR	186	2003
20	13160	BOLIVAR	CANTAGALLO	129	2003
21	13188	BOLIVAR	CICUCO	90	2005
22	13222	BOLIVAR	CLEMENCIA	126	2005
23	13212	BOLIVAR	CORDOBA	117	2004
24	13248	BOLIVAR	EL GUAMO	108	2004
25	13268	BOLIVAR	EL PENON	26	2005
26	13300	BOLIVAR	HATILLO DE LOBA	37	2005
27	13433	BOLIVAR	MAHATES	316	2003
28	13440	BOLIVAR	MARGARITA	136	2004
29	13473	BOLIVAR	MORALES	97	2003
30	13549	BOLIVAR	PINILLOS	60	2003
31	13580	BOLIVAR	REGIDOR	70	2003
32	13600	BOLIVAR	RIO VIEJO	99	2003
33	13620	BOLIVAR	SAN CRISTOBAL	125	2003
34	13647	BOLIVAR	SAN ESTANISLAO	207	2003
35	13650	BOLIVAR	SAN FERNANDO	303	2005
36	13654	BOLIVAR	SAN JACINTO	371	POR TOMAR
37	13657	BOLIVAR	SAN JUAN NEPOMUCENO	253	2005
38	13667	BOLIVAR	SAN MARTIN DE LOBA	243	2004
39	13670	BOLIVAR	SAN PABLO	232	2003
40	13673	BOLIVAR	SANTA CATALINA	136	2003
41	13683	BOLIVAR	SANTA ROSA	243	2003
42	13744	BOLIVAR	SIMITI	146	2003
43	13760	BOLIVAR	SOPLAVIENTO	203	2003
44	13780	BOLIVAR	TALAIQUA NUEVO	94	2004
45	13810	BOLIVAR	TIQUISIO	33	2005
46	13838	BOLIVAR	TURBANA	95	2005
47	13873	BOLIVAR	VILLANUEVA	92	2004
48	13894	BOLIVAR	ZAMBRANO	205	2004
49	17050	CALDAS	ARANZAZU	202	2003
50	17272	CALDAS	FILADELFIA	125	2003
51	17388	CALDAS	LA MERCED	218	2004
52	17433	CALDAS	MANZANARES	254	2004
53	17442	CALDAS	MARMATO	664	2004
54	17444	CALDAS	MARQUETALIA	111	2005

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	CÓDIGO	DEPARTAMENTO	MUNICIPIO	ÁREA Ha
55	17446	CALDAS	MARULANDA	21
56	17541	CALDAS	PENSILVANIA	139
57	17614	CALDAS	RIOSUCIO	758
58	17653	CALDAS	SALAMINA	364
59	17662	CALDAS	SAMANA	38
60	17777	CALDAS	SUPIA	267
61	17867	CALDAS	VICTORIA	85
62	18001	CAQUETA	FLORENCIA	1325
63	19001	CAUCA	POPAYAN	3065
64	25001	CUNDINAMARCA	AGUA DE DIOS	336
65	25019	CUNDINAMARCA	ALBAN	41
66	25040	CUNDINAMARCA	ANOLAIMA	90
67	25123	CUNDINAMARCA	CACHIPAY	84
68	25368	CUNDINAMARCA	JERUSALEN	77
69	25386	CUNDINAMARCA	LA MESA	380
70	25488	CUNDINAMARCA	NILO	158
71	25596	CUNDINAMARCA	QUIPILE	16
72	25612	CUNDINAMARCA	RICAUORTE	1154
73	25815	CUNDINAMARCA	TOCAIMA	78
74	25875	CUNDINAMARCA	VILLETA	470
75	25878	CUNDINAMARCA	VIOTA	168
76	25898	CUNDINAMARCA	ZIPACON	23
77	44035	LA GUAJIRA	ALBANIA	400
78	44078	LA GUAJIRA	BARRANCAS	650
79	44090	LA GUAJIRA	DIBULLA	154
80	44098	LA GUAJIRA	DISTRACCION	208
81	44110	LA GUAJIRA	EL MOLINO	242
82	44279	LA GUAJIRA	FONSECA	599
83	44378	LA GUAJIRA	HATONUEVO	256
84	44420	LA GUAJIRA	LA JAGUA DEL PILAR	64
85	44560	LA GUAJIRA	MANAURE	673
86	44650	LA GUAJIRA	SAN JUAN DEL CESAR	956
87	44847	LA GUAJIRA	URIBIA	597
88	44855	LA GUAJIRA	URUMITA	156
89	44874	LA GUAJIRA	VILLANUEVA	401
90	50001	META	VILLAVICENCIO	5880
91	66045	RISARALDA	APIA	177
92	66088	RISARALDA	BELEN DE UMBRIA	180
93	66318	RISARALDA	GUATICA	95
94	66400	RISARALDA	LA VIRGINIA	346
95	66440	RISARALDA	MARSELLA	155
96	66456	RISARALDA	MISTRATO	230
97	66594	RISARALDA	QUINCHIA	113
98	66687	RISARALDA	SANTUARIO	88
99	73001	TOLIMA	IBAGUE	4505
100	76001	VALLE DEL CAUCA	CALI	14317

111.62.2007

AÑO DE TOMA FOTOGRAFÍA |

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Appendix 4

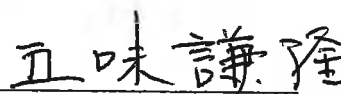
MINUTES OF MEETING ON INTERIM REPORT FOR THE STUDY ON THE  
FORMULATION OF GEOGRAPHIC DATA BASE OF THE PRINCIPAL CITIES IN THE  
ATLANTIC COAST IN REPUBLIC OF COLOMBIA (19<sup>th</sup> July, 2006)

MINUTES OF MEETING  
ON  
INTERIM REPORT  
FOR  
THE STUDY  
ON  
THE FORMULATION OF GEOGRAPHIC DATA BASE  
OF THE PRINCIPAL CITIES IN THE ATLANTIC COAST  
IN REPUBLIC OF COLOMBIA  
AGREED UPON BETWEEN  
THE INSTITUTO GEOGRÁFICO AGUSTÍN CODAZZI  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Bogota D.C, 19th July, 2006



Dr. Iván Darío Gómez Guzmán  
Director General  
Instituto Geográfico Agustín Codazzi(IGAC)



Yoshitaka Gomi  
Leader of the JICA Study Team

The Team for the Study on the Formulation of Geographic Data Base of the Principal Cities in the Atlantic Coast in Republic of Colombia (hereinafter referred to as "the Study Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") arrived at Bogota on July 9, 2006 to start the second stage of the Study in Colombia.

A series of meetings related to the Interim Report and the second stage work were held between the Study Team and IGAC intermittently between July 14, 2006 and July 18, 2006. A list of participants is attached in Appendix.1. The results of the meetings are as follows.

## 1. Interim Report

1.1 The Study Team explained the contents of the Interim Report to IGAC. IGAC suggested minor changes mostly in wording and place names and requested to add description on the instruments and equipment procured by JICA for the Study including the reasons for the selection of the procured brand. After the correction, the Study Team and IGAC agreed on the contents of the Interim Report.

1.2 IGAC also requested the Study Team to make a digest version of the report so that IGAC can distribute them to its regional offices and also to relevant organizations. The Study Team agreed to make the digest version in digital format so that IGAC can make necessary number of printed copies from it.

## 2. Issues related to the second stage of the study

### 2.1 Determination of the coastlines

Based on the agreement made in the first stage of the Study, the Study Team requested IGAC to provide data on the coastlines which should be drawn on the 1:2,000 maps now being produced. IGAC informed the Study Team as follows:

1) Coastlines which are captured on aerial photos should be drawn as the coastlines on the map. Disconnection of coastlines between adjacent flight courses can be smoothed out manually during the mapping process.

2) In the marginal information area of the map sheet, an explanatory note will be inserted to explain the method of the determination of the coastlines. This note will be made by IGAC in Spanish and provided to the Study Team. Also, this marginal note shall appear only on map sheets which have coastlines in it.

The Study Team agreed with the IGAC's proposal on the coastline.

### 2.2 Inspection of annotation

In the first stage, IGAC and the Study Team agreed that IGAC should take responsibility for the spelling of map annotation. The Study Team asked IGAC to correct annotations which were found

incorrect or doubtful during the mapping process in Japan. IGAC agreed to inspect the annotation and make corrections if necessary.

### 2.3 Returning negative film

In the first stage of the Study, the Study Team brought seven rolls of aerial negative film covering the Study area to Japan to carry out the mapping work. Since all the work in which negative film is used were completed, the Study Team informed IGAC that the team would return every negative film by the end of October 2006. IGAC agreed with this plan.

### 3. Technical training in Japan

IGAC asked the Study Team to give IGAC counterpart personnel opportunities to receive training in Japan related to the Study as previously requested in the Minutes of Meeting on the Scope of Work of the Study. IGAC also stated the importance of sending its counterpart personnel to Japan for the inspection and authorization of the maps being produced by the Study Team in Japan. The Study Team agreed to convey the message to JICA.

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Appendix.1

**List of Attendants**

**COLOMBIA**

Instituto Geográfico Agustín Codazzi de Colombia (IGAC)

Miguel Angel Cárdenas Contreras	Deputy Director of Geography and Cartography
Jaime Alberto Duarte Castro	Advisory of Geography and Cartography Subdirection

**JAPAN**

The Study Team

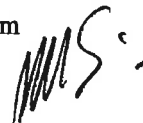
Yoshitaka <del>Gonai</del>	Team Leader
Shigeru <del>Ono</del>	Self Sustainability Analysis
Mitsuko Takei	Interpreter

Masakatsu Abe	JICA Technical advisor
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JICA Colombia Office

Ryozo Hanya	Resident Representative
Naofumi Takase	Deputy Resident Representative
Shintaro Akiyama	Chief of Technical Cooperation Team

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Appendix 5

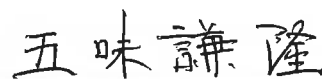
MINUTES OF MEETING ON DRAFT FINAL REPORT FOR THE STUDY ON THE  
FORMULATION OF GEOGRAPHIC DATA BASE OF THE PRINCIPAL CITIES IN THE  
ATLANTIC COAST IN REPUBLIC OF COLOMBIA (22nd October, 2007)

MINUTES OF MEETING  
ON  
DRAFT FINAL REPORT  
FOR  
THE STUDY  
ON  
THE FORMULATION OF GEOGRAPHIC DATA BASE  
OF THE PRINCIPAL CITIES IN THE ATLANTIC COAST  
IN REPUBLIC OF COLOMBIA  
AGREED UPON BETWEEN  
THE INSTITUTO GEOGRÁFICO AGUSTÍN CODAZZI  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Bogota D.C, 22nd October, 2007



Dr. Iván Darío Gómez Guzmán  
Director General  
Instituto Geográfico Agustín Codazzi(IGAC)



Mr. Yoshitaka Gomi  
Leader of the JICA Study Team

The Team for the Study On The Formulation Of Geographic Data Base Of The Principal Cities In The Atlantic Coast In Republic Of Colombia (hereinafter referred to as “The Study Team” and “The Study”) organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) arrived at Bogotá, The Republic of Colombia on 26<sup>th</sup> of August 2005 for the work in Colombia.

The Study Team submitted ten (10) copies of Draft Final Report in English and in Spanish to Instituto Geografico Augustin Codazzi (hereinafter referred to “IGAC”).

After the discussion, the Draft Final Report was basically accepted by the Colombia side. However the Study Team requested IGAC to revise it again to see if any necessary articles exist of correcting. And if there is any correction inform by e-mail from IGAC up to 9th November 2007, the Study Team will agreed to correct them after confirming its content.

The final products described in the Draft Final Report are as follows.

#### **1.Result article**

- |                                     |   |
|-------------------------------------|---|
| (1) Draft Final Report(Main report) | Twenty (20) copies in English<br>Ten (10) copies in Spanish<br>(Ten (10) of each version will be given to IGAC) |
| Summary                             | Twenty (20) copies in English<br>Ten (10) copies in Spanish<br>(Ten (10) of each version will be given to IGAC) |
| (2) Others                          |   |
| • Field survey result               | One (1) set   |
| • Aerial triangulation result       | One (1) set   |
| • GIS model system                  | One (1) set   |

The JICA Study Team explained to IGAC that the following results will be deliver to the Headquarter of JICA and deliver to IGAC through the JICA Colombia Office, and IGAC agreed it.

- |                         |                   |
|-------------------------|-------------------|
| • Polyester base map    | Two (2) sets      |
| • Digital map data file | Five (5) sets(CD) |

#### **2. Borrowing article from IGAC**

- |  |             |
|--|-------------|
| 1) Aerial photo (scale 1 {10,000 black and white} and other articles |             |
| • Negative film  | One (1) set |

- Contact print One (1) set
- Digital data file One (1) set
- Aerial photo index map One (1) set

Among the list, negative films and contact print were returned when the work was finished.

And from the digital data file, the digital maps scale 1:2,000 was created as final product from the digital data file made by IGAC and deliver to IGAC. As for the aerial photo index map, the Study Team superimposed them on the satellite image and delivered to IGAC.

The other contents of the discussions are as follows.

- The result of the final inspection of 1:2,000 maps  
The result of the final inspection by IGAC was done and reported to the JICA Study Team. The JICA Study Team will correct the error and the final data product will be produced.
- Planning of creating the 1:2,000 digital maps of the a hundred municipalities  
The Study Team and IGAC discussed on the topographical digital cartography making for the remains 100 municipalities that require to have topographical digital maps of scale 1:2000 more urgent then other municipality. And IGAC and the Study Team agreed that IGAC puts a goal to complete them by the year 2010.

**List of Attendants**

**COLOMBIA**

Instituto Geográfico Agustín Codazzi de Colombia (IGAC)

Dr. Iván Darío Gómez Guzmán	Director General
Miguel Angel Cárdenas Contreras	Deputy Director of Geography and Cartography
Jaime Alberto Duarte Castro	Advisory of Geography and Cartography Subdirection

**JAPAN**

The Study Team

Yoshitaka Gomi	Team Leader
Yoshiteru Matsushita	Digital editing
Mitsuko Takei	Interpreter
Michi Hayashi	Coordinadora

**JICA**

Masakatsu Abe	Technical advisor
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JICA Colombia Office

Kazunori Hayashi	Representante residente
Naofumi Takase	Assistant Resident Representative
Shintaro Akiyama	Chief of Technical Cooperation Team
Angel S. Oscar Emilio	Coordinator of Technical Cooperation