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Kuala Lumpur, 11-14 April 2000
Item 5 of the provisional agenda*

DEVELOPMENT NEEDS TASKFORCE STATUS REPORT

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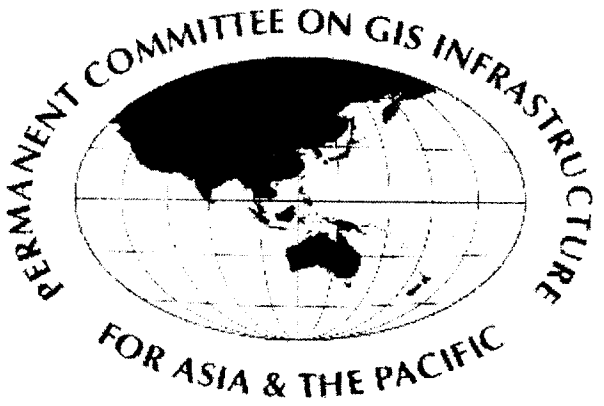

Permanent Committee on GIS Infrastructure for Asia and the Pacific

Development Needs Taskforce

STATUS REPORT

for

15th UNRCC-AP / 6th PCGIAP Meeting
KUALA LUMPUR, MALAYSIA
11-14 APRIL 2000

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Development Needs Taskforce
STATUS REPORT
for
15th UNRCC-AP / 6th PCGIAP Meeting
KUALA LUMPUR, MALAYSIA
11-14 APRIL 2000

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Taskforce workplan

1. **Prepare an SDI strategy / discussion paper**
2. **Determine member's NSDI development needs**
3. **Prepare a Communication Plan**
4. **Prepare a Glossary of SDI Terms**

Progress against Taskforce workplan

1. Prepare an SDI strategy / discussion paper

This work has been completed with the production of Publication No.1 – a definition of the APSDI. This document remains open for comment.

A power point presentation on Publication No.1 has been prepared as the basis for PCGIAP presentations.

2. Determine PCGIAP members' NSDI development needs

The Taskforce produced a questionnaire (and associated documents) that was circulated to all 55 member countries by the four Taskforce sub-region chairs (Malaysia, Japan, Iran and Australia). Thirty three responses were received and responses collated and analysed.

A detailed report follows from page 2.

3. Prepare a Communication Plan

This work is an ongoing activity of the Taskforce and the PCGIAP and includes publications, promotions, presentations and information about PCGIAP. The following main items refer:

- Wide circulation of Publication No.1 including via PCGIAP web site
- Production and wide circulation of outcomes from PCGIAP workshops
- Updating and maintenance of PCGIAP web site
- Presentations and papers on PCGIAP at various fora and in journals
- Preparation of PCGIAP glossy brochure and inclusion on web site
- Communication with related bodies or activities such as UNRCCs, GSDI, Global Map, ESCAP, EUROGI and CERCO.
- Action for UNRCC-AP and PCGIAP meetings in 2000 will be to list PCGIAP communication activities including an explanation on how the results of Taskforce development needs analyses could be communicated.

4. Prepare a Glossary of SDI Terms

Malaysia has prepared draft Glossary and sought comment from PCGIAP members, for discussion at 15th UNRCC-AP.

2. Determine PCGIAP members' NSDI development needs

Introduction

The PCGIAP Taskforce conducted a workshop in Canberra 29-30 September 1999 to analyse results of the responses to the Taskforce questionnaire over the four Taskforce sub-regions. The questionnaire was dated 27 February 1999. A draft report analysing the responses was presented to the Executive Board meeting in Melbourne 28 October 1999.

Conduct of the workshop and preparation of a draft report to the Melbourne Board meeting were agreed action items from the April 1999 PCGIAP meeting in Beijing.

This report collates analyses and presents outcomes from the workshop and from the consideration by the PCGIAP Executive Board. The Board had requested for the figures in the priorities table (Attachment 3) to include number of responses as well as the weighting.

This report will serve the basis for discussion at 15th UNRCC-AP / 6th PCGIAP meeting in Kuala Lumpur 11-14 April 2000.

Summary

The main points to come out of the survey were:

- Countries that are either not participating in the PCGIAP or participating infrequently would prefer closer involvement by attending meetings and joining working group activities
- The majority of countries in the region require SDI development support.

The following summarises recommendations from the workshop which were accepted by the Executive Board.

1. Proceed with the PCGIAP Pacific Group institutional strenghtening project
2. Scope proposal for West Asia sub-region Taskforce workshop for the Russian speaking countries
3. Arrange for balance of Taskforce questionnaires to be completed through specific positive encouragement to relevant member countries.

Canberra Workshop

The workshop assessed the 33 questionnaire responses and a report was prepared for the Board's consideration.

At the workshop Mr Teng Chee Boo, Malaysia presented the results of responses for the SE Asia sub-region.

Mr Abbas Rajabifard, The University of Melbourne, attended the workshop because of his research work on spatial data infrastructures that relates to PCGIAP Working

Group 2 – Regional Fundamental Data. Mr Rajabifard also presented the results of responses from the West Asia sub-region on behalf of Iran.

Mr Bob Irwin, Australia and Executive Officer of the Taskforce presented the results of responses for the Oceania/Pacific sub-region and for the North Asia sub-region on behalf of Japan. Mr Irwin also facilitated the workshop.

Mr Glenn Johnstone, Australia provided secretariat support during the workshop. Mr Johnstone is Executive Officer of PCGIAP Working Group 2.

Responses to questionnaire

The following number of questionnaire responses per sub-region were received from country members and analysed at the workshop. Refer Attachment 1 for breakdown of countries per sub-region.

West Asia	4 from 16	SE Asia	6 from 10
North Asia	7 from 8	Oceania/Pacific	16 from 21

Total: 33 responses from the 55 PCGIAP member countries.

Points to note:

- Countries that provided a response to the questionnaire have varying SDI development needs however the majority of the 33 countries would be in the category of requiring development assistance within the aims of the Taskforce.
- The overall answering of questions was meaningful while a small number of individual answers were too brief or missed the point of the question.
- Thirty three countries equates to over one-sixth of the countries in the world.

Following workshop deliberations, summaries of responses to questionnaires were prepared in descriptive form per question (Attachment 2) and tabulated per sub-region and region and by question (Attachment 3). Attachment contains the critical Priorities table of development needs items from the priorities chosen by member countries in the responses.

Priorities

In consideration of priorities and the number of countries listing the priority items the responses indicated the following development needs priorities (refer Attachment 3):

1. Development of NSDI policy and programmes
2. Geodesy (especially data processing but also with field activities and equipment)
3. Map and spatial data standards
4. Coordination of spatial data activities between agencies
5. Cadastral systems development
6. GIS (theory, system design and applications)
7. Digital topographic mapping technology.

Outcome and Recommendations

Most countries that responded don't have an NSDI structure compatiable with the APSDI model. A small number of countries are well advanced in this area.

Within the overall aim of seeking:

- greater participation in PCGIAP activities; and
- institutional strengthening for those member countries requiring development needs assistance,

the following recommendations were agreed to by the Board subject to further analysis of the responses:

1. **Proceed with the Pacific Group institutional strengthening project.**

   The workshop concluded that this initiative for the Pacific sub-region should be carried forward because it is in a fairly mature state of preparation. As well it was thought that to incorporate other sub-regions into a similar Asia and the Pacific wide project may cause undue delays for the Pacific Group.

2. **Scope and seek funds for a Taskforce workshop (similar to March 1999 Suva workshop) for Russian-speaking 'stan West Asian countries.**

   These countries are currently not participating in the PCGIAP and this recommendation proposes scoping a workshop (participants, benefits, and arrangements such as translations and interpreting) and using this document as the basis to seek funding support for the event.

   In addition the workshop proposed immediate action to translate PCGIAP information into Russian for these countries to increase their awareness of PCGIAP aims and activities.

3. **Send information on the Taskforce and a summary of PCGIAP, (and re-send questionnaires) to countries that have so far not provided questionnaire response.**

   The documents would cover:
   - Overview of PCGIAP
   - Taskforce achievements and aims, and
   - benefits that could result for these countries from their responses to the Taskforce questionnaire and from their participation in PCGIAP activities.

   These documents would be translated into Russian as appropriate for West Asian member counties.

Additional benefits arising from Taskforce data collection

Receipt of questionnaires provided valuable information for updating:

- PCGIAP member contact details; and
- the table of geodesy information of PCGIAP member countries that reside on the PCGIAP web site.

The information already gathered provides a valuable "audit" of survey and mapping capability and programme information of member countries. Further data collection from balance of member countries will create additional value.

Attachments

Attachment 1 – Countries that responded to PCGIAP Taskforce questionnaire

Attachment 2 – Summaries of responses to all questions

Attachment 3 – Summary of responses tabulated per sub-region and region and by question. It also includes priorities with numbers of responses.

Attachment 4 – Action from Beijing PCGIAP Meeting April 1999

Attachment 5 – Report of Pacific Workshop, Suva Fiji, 22-25 March 1999

Attachment 1

Countries that responded to PCGIAP Taskforce questionnaire

The following questionnaire responses per sub-region were received from PCGIAP country members. Total response was 33 from 55 countries.

Sub-region / Sub-region Chairman	**Member Countries that provided response**	**Member Countries yet to respond**
SE Asia / Dato' Abdul Majid bin Mahomed, Malaysia	Brunei Darussalam, Laos, Malaysia, Philippines, Singapore, Thailand.	Cambodia, Indonesia, Myanmar, Vietnam.
North Asia / Mr Motoyuki Kidikoro, Japan	China, Hong Kong - China, Japan, Korea - South, Macau, Mongolia, Russian Federation.	Korea - North
West Asia / Mr Saeid Noori Bushehri, Iran	India, Iran, Maldives, Sri Lanka.	Afghanistan, Armenia, Azerbaijan, Bangladesh, Bhutan, Kazakhstan, Kyrgystan, Nepal, Pakistan, Tajikistan, Turkmenistan, Uzbekistan.
Oceania/Pacific / Mr Drew Clarke, Australia	American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu.	Marshall Islands, New Caledonia, New Zealand, Northern Marianas, Tuvalu.

Attachment 2

Summaries of responses to all questions

This attachment documents information from collating the analyses of the 33 questionnaire responses. The information provided the basis for discussion in the September 1999 Canberra Taskforce workshop and for recommendations from the workshop.

Each question is listed and a general statement is made on the responses with additional comments where appropriate that either refer to a particular sub-region or country/ies. The table at Attachment 3 contains collated summaries abbreviated per sub-region and for the region.

Q 1. Have you attended any annual meeting/s of PCGIAP ?

Six countries have participated in all annual meetings (Australia, China, Japan, Malaysia, Iran and Indonesia).

Eighteen other member countries have participated in one or more annual meeting following the PCGIAP establishment meeting in 1995 in Malaysia (American Samoa, Armenia, Bangladesh, Brunei, Fiji, Hong Kong - China, India, Kiribati, Korea S, Macau, Mongolia, Pakistan, Philippines, New Zealand, Russia, Singapore, Thailand, Vietnam).

Thirty one countries (56%) have not participated in an annual meeting. (Figures from questionnaire responses and PCGIAP records.)

Q 2. What is your country's current level of activity in PCGIAP ?

For W Asia only Iran participates in PCGIAP activities.

For the other three sub-regions there is a varying level of participation.

Q 3. Would you like your country's role in PCGIAP to be ?

From the 33 responses almost all who are not active would like to be more involved, particularly in annual meetings. There was also a general interest to participate in the working groups.

Q 4. What are the barriers, if any, to your country's current participation ?

With very few exceptions, funds are the major constraint. Awareness was quoted by a small number of countries. For those countries that did not respond it was thought that funds and lack of awareness would also be the major constraints.

Q5. Have you received PCGIAP material by post ?
Q 6. Please indicate the reports of PCGIAP meetings you have received.

Receipt of posted material and reports has been good in SE Asia while varying between good and poor in N Asia and Oceania/Pacific. In the past incorrect agency contacts have caused mail to go astray particularly in W Asia but improved contact details have improved receipt of material.

Q 7. Do you have Internet availability and access to the PCGIAP web site ?

Countries with email capacity has increased significantly during 1999. Thirty eight countries are now contactable by email. (PCGIAP records)

Q 8. Does your country have government survey network/s ?

All 33 have government survey networks though two indicated they do not have national networks.

Q 9. Does your country have a single or multiple geodetic datum/s ?

All countries have a national geodetic datum though many in less developed countries are on older systems. A small number operate multiple datums for various reasons while some countries are moving to or have moved to a geocentric datum.

Q 10. Does your agency have access to GPS receivers or other space geodesy equipment, suitable for precise geodetic operations ?

A small number of countries have access to many GPS units and other geodesy equipment. Most others of the 33 have access to GPS receivers though in most cases they are older units. Few countries have SLR, VLBI or DORIS capability.

Q 11. Please describe your country's management of geographical place names.

Around 50% of the 33 countries have official names boards and nearly all have a system for managing geographical names.

Q 12. Please list and describe the national and international standards and the national and international specifications used for mapping and survey work in your country.

Most countries indicated they have some form of standards or specifications for national mapping work. A small number noted they are moving towards adopting international standards. The results are not conclusive but do provide a useful guide under this question.

Q 13. What national mapping programme/s does your country have ?

The 33 replies indicated all have national programmes such as mapping, geodesy and aerial photography. Pacific nations generally noted older currency and many highlighted the need for significant resources to update and upgrade their work.

Q 14. Does your country have programme/s for the following core datasets ? If so please list agency/agencies.
Geodetic Control Network; Elevation; Drainage Systems; Transportation; Populated Places; Geographical Place Names; Vegetation; Natural Hazards; Administrative Boundaries (eg national, state, provincial, forest boundaries); Land Use.
There is good to variable coverage of the above core datasets in national programmes. Greatest coverage is for Geodetic Control Network; Elevation; Geographical Place Names; Vegetation; Administrative Boundaries; and Land Use.

Q 15. Do you have digital mapping responsibility and capacity in your organisation ?
Is the digital data suitable for use in GIS applications ?
Please describe the level of structure of the data. (eg topologically structured)

Almost all have digital mapping capacity and the remaining countries are moving in this direction. Not all of these countries have structured data suitable for GIS applications and the level of structure seems variable.

Q 16. Please outline the hardware, software and spatial databases used in your organisation for surveying, mapping and GIS activities.

Most countries have appropriate hardware and software. A number of countries, in particular most Pacific nations, require upgrading to current technology.

Responses to this question did not enable conclusions to be drawn on spatial databases.

Q 17. Is your country's cadastral surveying linked to a geodetic datum ?

Responses received as follows:

SE Asia – 6/6; W Asia – 2/4; N Asia – 5/7; Oceania/Pacific – 12/16.

Q 18. Is your country's cadastral mapping linked to a geodetic datum ?

Responses received as follows:

SE Asia – 6/6; W Asia – 2/4; N Asia – 6/7; Oceania/Pacific – 10/16.

Q 19. Is your country's cadastral survey and cadastral mapping system in the same government organisation as land title and land administration?
Please describe the legal framework for land administration and management of the cadastre

Around half of the responses indicated cadastral survey and cadastral mapping systems are in the same government organisation as land title and land administration.

Responses to this question did not provide sufficient information on legal framework for land administration and management of the cadastre.

Q 20. Is the private sector involved in the collection of spatial data in your country ?
If yes please describe involvement.

Responses received as follows:

SE Asia – 5/6; W Asia – 2/4; N Asia – 4/7; Oceania/Pacific – 11/16.

Level of involvement varies from significant government contracts to minor survey work (which seems to be the most prevalent).

Q 21. Please list the areas for which there is significant GIS use in your country.
(For example: urban planning, utilities management, coastal zone management, environmental management)
Are the following core datasets used in the GIS applications ?
Geodetic Control Network, Elevation, Drainage Systems, Transportation, Populated Places, Geographical Place Names, Vegetation, Natural Hazards, Administrative Boundaries, Land Use

GIS applications vary within the individual sub-regions and across the region; and the following refers:

SE Asia – 4/6 countries have specific GIS applications in management and planning while 2 countries have no GIS applications.
The 4 countries are using most of the core datasets in GIS applications.

W Asia –3/4 countries use GIS in cadastral, agricultural, utiliity & coastal management applications. 1 country has no GIS application.

Three countries are using most of the core datasets in GIS applications.

N Asia – 4/7 countries have significant GIS applications primarily in urban planning, land use analysis, utilities management & environmental management. Other three countries are developing GIS capability.

Core datasets are being used by the majority of countries in particular for geodesy, elevation, drainage, place names, administrative boundaries and land use.

Oceania/Pacific – Varied use of GIS across the sub-region with the primary application in Pacific island countries being for utilities management. Remaining Pacific island countries are just starting to develop GIS capability.

A small number of Pacific island countries are using one or more core datasets in GIS applications.

Asia and the Pacific - More than 50% of respondents undertake GIS applications. The other countries are at different stages of development and many of these would benefit from assistance. Most of the 50% of respondents undertaking GIS applications are using the core datasets.

Q 22. Regarding availability of spatial data in your country please answer the following question:

Are there restrictions on access to and use of the following core spatial datasets ? :
Geodetic Control Network, Elevation, Drainage Systems, Transportation, Populated Places, Geographical Place Names, Vegetation, Natural Hazards, Administrative Boundaries, Land Use

Almost all countries have restrictions though these vary depending on the use and in at least one case, on the scale.

Q 23. If there is a charge for purchasing government core spatial data, does it apply to all government spatial data ?

Most of the 33 countries have charges at the cost of distribution.

Q 24. Is your country planning to develop or enhance a national spatial data infrastructure (NSDI) as described in Attachment B ?

Almost all countries are either planning, developing or implementing a national SDI. It was thought that in a small number of cases the level of NSDI is less than as defined in the Attachment B.

A small number of countries, particularly in the Pacific area, have yet to begin this process.

Q 25. If you answered yes to above question, are there other agencies involved in your country's NSDI implementation or management ?

In all but a small number of cases there are other agencies involved.

Q 26. Is there a lead organisation/s (ie. agency or committee) for your country that is responsible for the coordination of survey, topographic mapping, cadastral mapping, land title, land administration, GIS and related activities, or for NSDI development ?

In most countries there is a lead agency and these are generally the PCGIAP member agency.

Q 27. Does you organisation exchange or share spatial data with other organisations in your country?

In most countries PCGIAP member agencies exchange or share data with other organisations.

Q 28. Pt 1. Are there any special funds set aside for national spatial data infrastructure (NSDI) activities ? If so please briefly describe.

Nine of the 33 countries have special funds set aside for NSDI activities. However the level of funding varies across the region and within the sub-regions. Thirteen Pacific island countries have no special funds set aside for NSDI activities.

Q 28. Pt 2. Please describe the following components that may comprise your country's NSDI

Most countries don't have an NSDI structure compatiable with the APSDI model. A small number of countries are well advanced in this area.

The responses to part 2 of this question indicate there is a varying lack of knowledge by around half of the 33 countries (most particularly Pacific island countries) as to what comprises a SDI. The situation has improved at least with Pacific island countries as a result of the information made available at the March 1999 Suva workshop and through the provision of PCGIAP material since that time to all PCGIAP member countries.

Attachment 3

Summary Tables of Questionnaire Responses

- **Priorities**

Prioritised responses – 3 points for priority 1, 2 for 2 and 1 for 3 – against the items PCGIAP members were invited to prioritise (as their top three) from the list at the end of the Taskforce questionnaire. Also included (in brackets) are total numbers of responses (that were prioritised as either 1, 2 or 3 from the list).

	SE Asia	W Asia	N Asia	Pacific	Asia-Pacific
Geodesy equipment	2 (1)			9 (5)	11 (6)
Geodesy Field activities	4 (2)			9 (4)	13 (6)
Geodesy data processing	4 (3)		1 (1)	10 (4)	15 (8)
Geodesy technical standards	3 (2)				3 (2)
Topographic map & spatial data standards	3 (2)	2 (1)	7 (3)	3 (2)	15 (8)
Digital topographic mapping technology		4 (2)	2 (1)	1 (1)	7 (4)
RS imagery for map applications			2 (1)	5 (2)	7 (3)
GIS theory, system design		4 (2)		6 (2)	10 (4)
GIS applications			5 (3)	2 (1)	7 (4)
Cadastral system development	1 (1)	2 (1)		6 (3)	9 (5)
Cadastral survey & mapping				3 (2)	3 (2)
Geographical names management					
Geographical names standardisation					
Coordination of spatial data activities and agencies	3 (2)		6 (3)	4 (3)	13 (8)
Development of NSDI policy & programs	2 (1)		10 (4)	12 (6)	24 (11)
Definition of national geodetic datum			1 (1)		1 (1)

- **Summary of responses tabulated per sub-region and region and by question**

Qsn	SE Asia	West Asia	North Asia	Oceania/Pacific	Asia Pacific
1	5 members from 6 responses attended. 10 Members	4 countries responded from 16 Members. Iran only participant	7 responses from 8 members. Quite good participation except from Macau and Nth Korea	16 responses from 21 members. 15 from 19 Pacific island countries. Virtually no PC meetings attended.	See note 1
2	Most are interested in attending a meeting	Only really Iran.	Various levels of participation.	Minimal activities	6 active participants, 18 have participated,

					over 50% have not been to any meeting
3	Most are interested in attending meeting and WG activities	Mixed interest - meetings, WG and correspondence. Would be more interest if funding was available	All countries want more active role particularly in annual meetings	Most would like greater involvement in WG and annual meeting	Those that don't regularly participate are most interested in attending meeeting and WG activities
4	Except for Brunei and Singapore it is all funding	All responses have funding as the main barrier + awareness	Funding	Funding for all and awareness of activities for a smaller no. of countries	FUNDING! Small no. countries lack of awareness
5	all	variable (due to incorrect agency contact)	all	variable and improving	varies and improving
6	all	variable	generally good	variable (due to incorrect agency contact)	as above particularly those on email
7	all	all	all	3 yet to have access	38 members with email
8	all	Maldives have no national network	all	all	only one execption
9	all have geodetic datum. Geocentric datum for Singapore. Malaysia have 2 geodetic datum and Laos has 3	Iran have 2 datums, Sri Lanka, Maldives and India each have 1	all have geodetic datum. Most have single, Hong Kong have 2. China have geocentric datum	Variable. Most are on older systems. Small number have multiple datums. PNG have geocentric datum. Small No. use WGS72 or WGS84	all have some sort of datum. Some older and small no. moving towards or have adopted a geocentric datum
10	all, ranging from 4 to 50 units	all, ranging from 3 to 20 (no No. for India)	all, Japan has 1000 permanent GPS trackers, China has ~20, Russia over 200. 5 VLBI stns in Japan + access to SLR facilities.	Most have GPS receivers. Some require upgrading Aust has VLBI, DORIS, SLR. PNG has DORIS	While some have access to units they are generally oder models. Small no. countries have significant No.s of units.
11	3 responses (Laos have policy on official and unofficial names, Singapore have official names only, Malaysia is done on a State by State basis	Sri Lanka have no Board, all others do	All	variable (some have a board, others nothing, traditional names, issues with official and unofficial names	~50% of responses have official names boards and nearly all have a system for managing geog names.
12	all countries have some form of regulation / specification	Iran and Sri Lanka have a national standard, Maldives have nothing, India did not answer satisfactorily	all have national, some mentioned they are moving towards international standards	Variable and inconclusive	Most countries have some form of standards / specificiations for national mapping work. Some are

					moving towards adopting international standards

13	all	Iran have good topo and cadastral national programs, Sri Lanka have topo and thematic mapping, Maldives have ad hoc requests / needs, India covered	all have programs, some are very detailed	generally most have programs of some sort (geodesy, aerial photography, topo, etc). Some countries may need assistance	All countries have national mapping programs. Diverse levels of currency and resourcing. 30-40% of responses require signigcant resourcing to upgrade and update their programs
14	see table below	see table below	see table below	see table below	
15	all have capability 5 from 6 have structured data	all 3 from 4	all 4 from 7	Most have or are starting to have a capacity Small number	Most have a digital mapping capacity. The balance are moving in this direction. 30-40% don't have structured data suitable for GIS applications (Pacific)
16	all have computers with appropriate hardware and software	all have computers with appropriate hardware and software	all have adequate hardware & software	Generally countries have a reasonable level of hardware & software. Most require an upgrade to both of these	Most have appropriate hardware and software. Some require upgrading to current technology.
17	6 from 6	2 from 4	5 from 7	11 from 15	
18	6 from 6	2 from 4	6 from 7	9 from 15	
19	1 no, 1 yes, 1 yes/no	2 no, 1 yes, 1 unknown	2 no, 4 yes, 1 unknown	7 no, 3 unknown, 5 yes.	
20	5 yes, 1 no	2 yes, 2 no	4 yes, 3 no	5 no, 10 yes	
21	4 have specific GIS applications in management and planning.. 2 countries have no GIS applications 4 from 6 countries are using most of the core datasets.	3 countries use GIS in cadastral, agricultural, utiliity & coastal management, 1 country has no GIS application. 3 countries have most of the core datasets used.	Most countries have significant GIS applications, primarily in urban planning, land use analysis, utilities & environmental management. Small no. of countries developing GIS capability. Most countries are using the majority of core datasets in particular geody, elevation,	Varied use of GIS. Primary application is utilities management. Some countries are just starting to develop GIS capability. A small no. of countries are using one or more core datasets in GIS applications.	More then 50% of respondents undertake GIS applications. Others are at a different stage of development and require further assistance(?) Most of the above are using core datasets.

			drainage, names, admin boundaries and land use.		
22	6 from 6 have restrictions (often these are scale dependent)	1 no restrictions, 3 have restrictions on some (often these are scale dependent)	2 have no restrictions, 5 have restrictions on some (often these are scale dependent)	4 no restrictions, 9 have restrictions on some (depending on use, licensing, charing protocols, case by case, thematic)	Generally most countries have restrictions on making spatial data available (these are usually scale & use dependant)
23	Charges apply to 4 from 6. 2 have some free data and some chargable data	3 yes (cost of distribution) 1 no	7 yes (generally the cost of distribution and if data is being pruchased by Govt agency)	Generally yes, cost at the cost of distribution	Most respondents have charges for the cost of distribution
24	6 from 6 are either planning, developing or implementing	3 yes, 1 no	7 yes	Most countries have plans in place to develop an NSDI. A small no. are yet to begin this process.	Nearly all are either planning, developing or implementing an SDI.
25	6 from 6 have other agencies involved (ranging from 2 to more than 10)	3 yes, 1 has no plans for an SDI	7 yes with varying numbers of other agencies involvement (eg. Japanese have 23)	3 no, balance are a variety of other agencies (country dependent)	In most cases other agencies are involved.
26	6 from 6 have a lead agency (all are PC members)	2 from 4 have a lead agency (both PC members), 2 no lead agency	1 no, 6 yes (only 2 of these are the PC member)	5 no, 10 yes (generally the PC member)	A lead agency most countries – generally PC member
27	3 from 3 yes	3 yes, 1 no	6 yes, 1 yes unders special circumstances	Generally yes, free of charge & to avoid duplication	In most countries PC agencies exchange or share data with other organisations.
28	3 no, 2 have funding (Malaysia, Singapore), 1 no answer	3 no, 1 yes (Iran)	5 no, 2 yes (China, Japan)	2 have very small funds set aside, 13 no	2/3 (24 of 33) don't have special NSDI funds set aside, 2 have very small funds

- **Question 14**

	SE Asia	W Asia	N Asia	Pacific
Geodetic Control network	3 from 3	3 from 4	7 from 7	13 from 15
Elevation	3 from 3	3 from 4	6 from 7	11 from 15
Drainage Systems	3 from 3	2 from 4	5 from 7	8 from 15
Transportation	3 from 3	2 from 4	5 from 7	8 from 15
Populated Places	2 from 3	2 from 4	6 from 7	9 from 15
Geographical Place Names	2 from 3	3 from 4	7 from 7	11 from 15

Vegetation	3 from 3	2 from 4	6 from 7	11 from 15
Natural Hazards	2 from 3	1 from 4	4 from 7	6 from 15
Admin Boundaries	3 from 3	3 from 4	5 from 7	12 from 15
Land Use	1 from 3	2 from 4	7 from 7	12 from 15

- **Part 2 of Question 28**

	SE Asia	W Asia	N Asia	Pacific
Policies and Administrative arrangements	2 no reply, 4 have some form of admin arrangements	1 yes, 2 no, 1 just starting	4 no answer, 2 yes, 1 just starting	3 yes, 1 no, 9 no answers
Standards	1 initial consideration, 1 no, 2 yes, 2 no answer	1 yes, 2 initial consideration, 1 no	3 no answer, 3 yes, 1 no	3 yes, 1 no, 9 no answers
Spatial (GIS) Data	See table below	See table below	See table below	See table below
Metadata and means of distribution	4 yes, 2 no	1 yes, 2 initial consideration, 1 no	2 yes, 5 no answers	4 yes, 11 no answer

Most countries don't have an NSDI structure compatiable with the APSDI model. A small number of countries are well advanced in this area.

- **Question 28**

Layer	Malaysia	Brunei	Phillips	Singre	Iran	Japan	Korea	Mongol.	PNG
Elevation					✓				
Geodetic Control Pnts	✓	✓			✓	✓	✓	✓	✓
Hydrology					✓				
Cadastral	✓	✓		✓				✓	
Vegetation					✓				
Transportation				✓	✓				
Utilities					✓				
Topographic (inc hydro, contours, transport'n, etc)	✓	✓	✓			✓	✓	✓	✓
Nautical charts			✓						
Remote Sensing			✓						
Building Outlines				✓					
Structures (ie. bridges, towers)					✓				
Built up area					✓				

Action List from PCGIAP Meeting Beijing, April 1999 Attachment 4

Development Needs Taskforce

1. Prepare an SDI strategy / discussion paper

Action	*Responsibility*	*Target Date*	*Status*	*Description*
Monitor comments on Publication No.1 and report to Executive Board	Secretariat			
Prepare a Power Point presentation on Publication No.1 that can be used for presentations on the PCGIAP	Secretariat			

2. Determine PCGIAP members' NSDI development needs

Action	*Responsibility*	*Target Date*	*Status*	*Description*
Circulated final version of the questionnaire to all 10 countries in the SE Asia sub-region seeking their responses, and collate responses.	Malaysia		Completed	
Seek responses from the one outstanding country and collate responses for North Asia	Japan		Started, not completed	
Conduct a West Asia Taskforce workshop in Tehran around late August-early September to assist countries complete the questionnaire and to discuss PCGIAP matters. Collate responses.	Iran		Withdrawn	
Obtain responses from the balance of five of countries in Pacific subregion and collate all responses.	Australia		Started, not completed	Responses collated for the 33 received.
Arrange and participate in workshop to be held prior to the next meeting of PCGIAP Executive Board. The workshop would analyse the results of the responses to the four sub-regions.	Taskforce, Secretariat, and host country for workshop		Completed	
Collate analyses and outcomes of Taskforce workshop into a draft report for presentation at next meeting of Executive Board.	All four sub-regions and Secretariat	Early October 1999	Completed	
Assess draft report of Taskforce workshop	PCGIAP Executive Board	28 October 1999	Completed	
Using comments from Executive Board, develop draft report of Taskforce workshop	Taskforce and Secretariat		Completed	Report for 15th UNRCC-AP prepared. Development needs projects not able to be finalised.

into a report for presentation at UNRCC-AP and PCGIAP meeting in 2000. The report should include proposed PCGIAP development needs projects				
Write to the countries (USA and France) maintaining territorial rights over four of the Pacific Island countries (French Polynesia, New Caledonia, Guam, and American Samoa) regarding Suva Taskforce workshop Recommendation 3 (refer Attachment C) to: "Advise the Pacific Group on the status of territorial member countries regarding policy decisions of the PCGIAP"	Secretariat		Not started	Waiting for further progress with PCGIAP Pacific Group.

3. Prepare a Communication Plan

Action	*Responsibility*	*Target Date*	*Status*	*Description*
Continue action that promotes PCGIAP (such as web site updates, presentations and liaison)	Executive Board, PCGIAP Members, Working Groups and Secretariat		Continued	
Based on agreement from PCGIAP in Beijing, complete publication of PCGIAP glossy brochure and distribute widely	PCGIAP (in Beijing) and Secretariat		Completed	
List PCGIAP communication activities including an explanation on how the results of Taskforce development needs analyses could be communicated, for UNRCC-AP and PCGIAP meeting in 2000.	Secretariat		Started, not completed	To be discussed at 15th UNRCC-AP.

4. Prepare a Glossary of SDI Terms

Action	*Responsibility*	*Target Date*	*Status*	*Description*
Investigate and list currently available related glossaries, and propose terms specific to PCGIAP	Malaysia		Completed	
Develop definitions of terms and gain agreement on those definitions, including terms specific to PCGIAP	To be accepted		Started, not completed	To be discussed at 15th UNRCC-AP

Action List from PCGIAP Executive Board Meeting, Melbourne, 28 October 1999

Action	*Responsibility*	*Target*	*Status*	*Description*
Provide statistics on who is hitting the PCGIAP web site for presentation at 15th UNRCC-AP	Secretariat		Started, not completed	Statistics for the PCGIAP web site - from 1 April 99 to 31 March 00 - will be supplied by 15th UNRCC-AP
Circulate copies of Beijing proceedings to key stakeholders such as the UN, World Bank, and GSDI group	Secretariat		Completed	Circulated. Invitations sent to key stakeholders to attend the 15th UNRCC-AP conference as invited speakers.
Send official thank you letter to Vietnam regarding the hosting of the Geodesy workshop	Secretariat		Completed	
Liaise with GSI (Dr Hoshino) regarding admin boundary data from Global Map for pilot project.	WG2 EO and Abbas Rajabifard		Completed	Data provided
Contact pilot project members regarding admin boundary data - at 1:1M scale - for use in the project. (9 countries)	WG2 EO		Completed	Data provided from China, Sri Lanka and Japan. Continuing to seek data from India, Nepal, Mongolia, the Koreas and Bhutan
Find out from PCGIAP members which organisation/s have custodianship and which have the 'authority'.	WG2		Not started	
Confirm with aid agencies regarding their definitions of countries in the Asia and the Pacific region.	EO		Not started	
Update Priorities Table in **Taskforce** report to show the number of responses as well as the weighting.	EO		Completed	For discussion in Kuala Lumpur.
After seeking comment from **Taskforce** members circulate Taskforce glossary to Executive Board members for comment and following feedback send to all PCGIAP members for comment.	Malaysia		Started, not completed	For discussion in Kuala Lumpur.
Arrange contact with new RESAP person and provide update of PCGIAP activities through President.	EO		Completed	Contact made with ESCAP Space Technology Applications Section (STAS) regarding phase 2 of its Regional Space Applications Programme (RESAP2). Chief of STAS Mr WU Guoxiang participating and speaking at 15th UNRCC-AP.
Once speakers for 15th UNRCC-AP have been identified, draft letters for Hermann Habermann to send to invited speakers.	EO		Completed	
Draft letter for President to send to Japan asking Japan to consider hosting 2001 meeting.	EO		Completed	
Send the formal first notice of 15TH UNRCC-AP meeting prepared by Malaysia – Mr Teng to email document to EO for circulation.	EO		Completed	

Attachment 5

Report

of

Pacific Group Workshop

Suva Fiji, 22-25 March 1999

- as input to PCGIAP Taskforce report
for
15th UNRCC-AP and 6th PCGIAP meeting
Kuala Lumpur, 11-14 April, 2000

Introduction

The Suva workshop was a significant event for the PCGIAP Taskforce and has been included as a reference document in the Taskforce report for the 15th UNRCC-AP and 6th PCGIAP meeting Kuala Lumpur 11-14 April 2000.

This report was circulated to the Suva workshop participants and Taskforce Committee members as an interim report in April 1999. The full and final report of the Suva workshop was distributed to workshop participants and Taskforce Committee members in July 1999. The final report used this interim report as it appears here with additional documents from the workshop.

Background

At the March 1998 PCGIAP meeting held in Tehran, PCGIAP established a Development Needs Taskforce to identify and seek funding options for PCGIAP members' GIS and related development needs. The Taskforce would also look at ways to improve participation of member countries in PCGIAP activities.

In carrying out its work across the Asia and the Pacific region the Taskforce was divided into four sub-regions mainly because of the geographical diversity of the region. Taskforce activities are being managed in the four sub-regions as follows:

- **SE Asia**
  Malaysia Dato' Abdul Majid bin Mohamed
- **North Asia**
  Japan Mr Kunio Nonomura
- **West Asia**
  Iran Mr Abbas Rajabifard
- **Oceania**
  Australia Mr Drew Clarke.

  The Oceania group is now called the Pacific Group following the Suva workshop.

Purpose of Workshop

The workshop had the following goals:

1. to provide participants with information about the PCGIAP, its aims and current activities

2. to explore the various uses of GIS

3. to provide a forum for Pacific Island countries to meet and exchange views and experiences

4. to give Pacific Group countries an opportunity to report on their national survey, mapping and GIS activities

5. to build on the responses to the Taskforce questionnaire by developing agreed resolutions and recommendations that:
   - support the aspirations of the Pacific Group countries in becoming more active in the PCGIAP;
     and
   - identify projects that support Pacific Group countries' GIS and related development needs.

The Workshop

Venue

The workshop was held from Monday 22 to Thursday 25 March 1999 at the Tradewinds Hotel and Convention Centre, Lami (near Suva).

Participation

The workshop was hosted by the Fiji Ministry of Lands and Mineral Resources and sponsored by Australia's Department of Industry, Science and Resources and Australia's national mapping agency, AUSLIG.

Fifteen country delegates from Pacific Island countries attended (refer Attachment 5/A).

As well there were representatives from:

- Fiji Ministry of Lands and Mineral Resources
- South Pacific Applied Geosciences Commission (SOPAC)
- Fiji Land Information System (FLIS)
- Fiji Telecom and other Fijian agencies
- The Australian High Commission to Fiji.

during various stages of the workshop.

Format

- Opening ceremony: - Speeches by
  . Ratu Timoci Vesikula, Minister of Lands and Mineral Resources
  . Mr Greg Urwin, Australian High Commissioner to Fiji
  . Mr Timote Rupeni, Permanent Secretary, Ministry of Lands and Mineral Resources
  - Fijian Namuka dance group cultural ceremony
- PCGIAP overview and concept of spatial data infrastructures – Drew Clarke, Australia
- Presentations by South Pacific Applied Geosciences Commission (SOPAC)
- Presentation by Fiji agencies (Fiji Telecom, Fiji Land Information System – FLIS)
- Tutorial presentations: - GIS (James Britton, University of the South Pacific)
  - Geodesy (Jim Steed, AUSLIG)
- Reports by country delegates on status of their national survey, mapping and GIS activities and programs
- Identification of: - key regional priority projects, and
  - manner of improved participation by Pacific Group in PCGIAP meetings and activities
- Resolutions and recommendations
- Discussion on Taskforce questionnaire

As well there were Technical visits to: - Ministry of Lands and Mineral Resources
- Fiji Land Information System
- Fiji Telecom
- SOPAC.

Outcomes and plans

In summary, the outcomes related to a desire of the Pacific Group to become more involved in activities of the PCGIAP, in particular as they relate to Pacific Island countries.

The Pacific Group elected American Samoa to be its primary representative on PCGIAP matters for 12 months, with the Cook Islands as deputy. Fiji will be the initial representative of the Pacific Group with PCGIAP geodesy.

The role proposed for SOPAC was that of a secretariat for the PCGIAP Pacific Group with its involvement in PCGIAP activities. (SOPAC subsequently accepted the responsibility of Secretariat to the Pacific Group – October 1999.)

Refer to Attachment 5/B, Attachment 5/C and Attachment 5/D for further details.

Attachments

This Suva Workshop report (Attachment 5 for Kuala Lumpur) has its own Attachments as follows:

- 5/A – Pacific Group Member Countries
- 5/B – Resolutions and Recommendations from the Workshop
- 5/C – Structure of the Pacific Group
- 5/D – Overview of Projects of the Pacific Group
- 5/E – Overview of Questionnaire Responses by Pacific Group Members.

Attachment 5/A

PCGIAP PACIFIC GROUP MEMBER COUNTRIES

The Pacific Group of 19 PCGIAP member countries, 15 of whom were represented at the Suva workshop, comprises :

American Samoa	Cook Islands	Fiji	French Polynesia
Guam	Kiribati	* Marshall Islands	Micronesia
Nauru	* New Caledonia	Niue	* Northern Marianas
Palau	* Papua New Guinea	Samoa	Solomon Islands
Tonga	Tuvalu	Vanuatu	

* Countries not able to participate at Suva workshop, 22-25 March 1999.

Attachment 5/B

RESOLUTIONS AND RECOMMENDATIONS

PCGIAP Taskforce Workshop
Suva, 22-25 March 1999

Resolution 1.

Recognising the unique needs and common interests of Pacific Island Countries, the Suva workshop resolves to establish a Pacific Group to represent Pacific Island countries in the PCGIAP. The Pacific Group will appoint a Chairman and a Vice-Chairman by annual rotation and a permanent Secretariat.

Resolution 2.

Recognising the geosciences mandate of SOPAC, the Suva workshop requests SOPAC to be the Secretariat of the Pacific Group (subject to approval by SOPAC's Governing Council) and to seek funding to undertake this role.

SOPAC should advise the Pacific Group on arrangements for support of non-SOPAC members. The SOPAC Secretariat role will be documented in a MoU.

Resolution 3.

Recognising the economic, social and environmental benefits of developing national and regional GIS infrastructures, the Suva workshop requests Pacific governments to provide funding and other support for the involvement of the Pacific Group and SOPAC in the PCGIAP.

Resolution 4.

Considering the GIS development needs of the region, the Suva Workshop identifies the following projects as priorities for the PCGIAP in the Pacific:

1. Comprehensive assessment of GIS issues of Pacific Group member countries, leading to a major institutional strengthening project.

2. Expansion of the Asia Pacific Regional Geodetic Project (APRGP) to include all Pacific Island countries.

3. Development of a remote sensing data library for the Pacific.

Future priorities may include participation in the Global Map project and a GIS atlas for the Pacific.

Resolution 5.

Recognising the importance of accurate horizontal and vertical datums, the Suva workshop agrees to send a geodetic expert from the Pacific Group to the PCGIAP Geodesy workshop in Vietnam in June/July 1999 to initiate expansion of the APRGP in the Pacific.

Recommendations to the PCGIAP Meeting in Beijing, April 1999

The PCGIAP Taskforce Suva Workshop recommends that the PCGIAP:

1. Recognise the new Pacific Group as representing the interests of the 19 Pacific Island members of the PCGIAP.

2. Include Pacific Group priorities, as identified by the Suva Workshop, in future PCGIAP work plans.

3. Advise the Pacific Group on the status of territorial member countries regarding policy decisions of the PCGIAP.

4. Hold a PCGIAP meeting in the Pacific in 2001 or as soon as possible thereafter.

STRUCTURE OF THE PCGIAP PACIFIC GROUP

Introduction

This document outlines the structure and operational arrangements of:

1. The parent body of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP), ie. the United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP);
2. PCGIAP; and
3. the newly formed PCGIAP Pacific Group.

United Nations Regional Cartographic Conference for Asia & the Pacific

The PCGIAP was established by the United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP) in Beijing 1994 to coordinate regional geographical information issues and provide a linkage with related bodies in the world.

PCGIAP reports to the Conference at triennial meetings of the UNRCC-AP.

Permanent Committee on GIS Infrastructure for Asia & the Pacific

There are 55 PCGIAP member nations, as defined by the United Nations. Membership comprises heads of national survey and mapping organisations or equivalent national agencies of the nations from Asia and the Pacific.

PCGIAP has an Executive Board of representatives from ten member nations and projects are carried out by working groups.

Current PCGIAP senior Executive positions are:

President – Malaysia

Vice-President – China

Secretary – Australia.

Pacific Group

A Pacific Group comprising the PCGIAP member nations from Pacific Island countries was formed at the PCGIAP workshop in Suva, 22-25 March 1999. (Refer Attachment A for list of Pacific Group countries)

Chair and Vice-Chair

The Suva workshop agreed to appoint a Chairman and a Vice-Chairman for the Pacific Group by annual rotation in alphabetical order of country name. The initial members are:

Chair – American Samoa

Vice-Chair – Cook Islands.

Responsibilities of the Pacific Group Chair:

- Chair meetings of the Pacific Group
- Represent Pacific Group at PCGIAP meetings
- Oversight SOPAC's Secretariat role (refer below)
- Consult other Pacific Group members on matters of interest and facilitate exchange of information.

Secretariat

The Suva workshop requested SOPAC (South Pacific Applied Geosciences Commission) to be the Secretariat of the Pacific Group (subject to approval by SOPAC's Governing Council). The SOPAC Secretariat role will be documented in a MoU.

In its Secretariat role, SOPAC would be responsible for:

- Communications (SOPAC would encourage Pacific Group members to move to the use of email for correspondence as early as possible)
- Pacific Group work program
- Coordination and logistics in consultation with PGCIAP for:
  - Geodesy
  - Geographic data
  - Cadastral
- Source funding to support activities of the Pacific Group and attendance of the Chair at annual meetings of PCGIAP
- Arrange and support meetings of the Pacific Group.

Pacific Group member countries

The Pacific Group of PCGIAP member countries would carry out the following:

- Support the Chair/Vice-Chair and SOPAC
- Provide information of interest to other Group members and to the Secretariat
- Participate in PCGIAP/Pacific Group work programs.

PCGIAP Geodesy and the Pacific Group

At the Suva workshop the Pacific Group:

- expressed it desire to become more involved in PCGIAP's regional geodesy campaigns
- agreed that a senior geodesy expert from Fiji would be the Pacific Group representative at the PCGIAP geodesy workshop to be held in Vietnam in June or July 1999.

OVERVIEW OF PRIORITY PROJECTS OF THE PCGIAP PACIFIC GROUP

Introduction

Resolution 4 of the Suva workshop lists the following projects identified during the workshop as priorities for the Pacific Island PCGIAP member countries:

1. Comprehensive assessment of GIS issues of Pacific Group member countries, leading to a major institutional strengthening project.
2. Expansion of the Asia Pacific Regional Geodetic Project (APRGP) to include all Pacific Island countries.
3. Development of a remote sensing data library for the Pacific.

Background

An important component of the workshop program was the identification, by Pacific Island participants, of the key items that would help solve their GIS and related development needs. A number of items were developed during the workshop and these were voted on by all 15 countries present.

The two items with the most votes were

1. information gathering through a comprehensive survey, spatial data directories, and cadastral benchmarking
2. institutional strengthening.

The workshop agreed these should be combined as institutional strengthening logically follows the information gathering.

Priority key items of the Pacific Group

1. **Comprehensive assessment of GIS issues of Pacific Group member countries, leading to a major institutional strengthening project. (also refer Attachment 5/F)**

    - Comprehensive survey of member countries' major GIS development needs
      Development of spatial data directories
      Cadastral benchmarking
    - Institutional strengthening.

2. **Expansion of the Asia Pacific Regional Geodetic Project (APRGP) to include all Pacific Island countries.**

    - The workshop expressed its desire to be more involved in PCGIAP geodesy activities. As a first step it was agreed that a senior geodesist from Fiji would attend the PCGIAP geodesy workshop to be held in Vietnam in June or July 1999.

3. **Development of a remote sensing data library for the Pacific.**

    - The accelerating development of remote sensing technology and the increasing availability of remote sensing data were noted. Given that a number of Pacific Island countries mapping is out-of-date, a Pacific Group project to enable locating information on data availability and library of imagery was agreed to.

Though important enough to be listed for voting, two other items were not supported as current major priorities. However the workshop agreed that future priorities may include participation in the Global Map project and a GIS atlas for the Pacific.

Note: The above descriptions of the three projects will be developed into one page scoping documents by Australia in consultation with Pacific Group members.

Attachment 5/E

OVERVIEW OF RESPONSES BY PCGIAP PACIFIC GROUP TO PCGIAP TASKFORCE QUESTIONNAIRE

Introduction

Australia circulated the PCGIAP Taskforce questionnaire to all 19 Pacific Island countries prior to the Suva workshop. A number of queries were resolved during the workshop and responses were received from the following 15 Pacific Island countries, and one more is expected:

> American Samoa; Cook Islands; Fiji; French Polynesia; Guam; Kiribati; Micronesia (Pohnpei); Nauru; Niue; Palau; Papua New Guinea; Samoa; Solomon Islands; Tonga; and Vanuatu.

Background

The questionnaire was developed by the PCGIAP Secretariat in consultation with the PCGIAP Taskforce Committee (Malaysia, Japan, Iran and Australia) as a means of data collection across the Asia and the Pacific region. Data being sought comprised the level of participation in PCGIAP activities and the status of GIS and related activity and programs in PCGIAP member countries.

The data would be used to help identify and manage the GIS and related development needs of member countries.

Summary of Responses

This attachment provides an overall summary of the 15 responses, which were consistent with the outcomes of the Suva workshop. A full analysis of the responses is not available at this time.

The following main points emerged from the responses to the questionnaire:

- There had been only minimal participation in PCGIAP activities by Pacific Island countries up to the Suva workshop. All countries expressed an interest in becoming more involved in meetings and working group activities.

- The primary reasons for nil or little participation were:
  - availability of funds
  - little or no knowledge of PCGIAP by small number of countries
  - little understanding of relevance of PCGIAP to member countries

- Most countries have embarked or are embarking on the acquisition digital mapping data and automated systems. The extent of data suitable for GIS applications varies. However a move to GIS compatible date is generally evident.

- All countries expressed a willingness to develop a NSDI for their country and most asked for assistance in this regard.

- There seem to be a lead agency in most countries that would logically take a lead role in NSDI development and implementation.

- GIS is mostly viewed from a local and national level rather than part of a broader spatial data infrastructure.

- There is limited availability of GPS equipment.

- Restrictions and use of digital data vary as do pricing policies and access mechanisms. In most cases data are available at the cost of supply.

- Assistance was mostly identified as being required under the following categories, roughly in priority order:
  - geodesy (processing, field activities, GPS equipment)
  - NSDI policy and coordination
  - GIS theory
  - cadastral systems, surveying and mapping
  - topographic and other data standards
  - remote sensing imagery.

- draft -

Permanent Committee on GIS Infrastructure for Asia and the Pacific

Pacific Group Project Scoping

BACKGROUND

The Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) Pacific Group (PG) workshop in Suva March 1999 agreed on three priority projects critical to PG countries' national spatial data infrastructure (NSDI) development needs, in the following order:

1. Comprehensive assessment of GIS needs and issues of Pacific Group member countries, leading to a major institutional strengthening project.
2. Expansion of the Asia Pacific Regional Geodetic Project (APRGP) to include all Pacific Island countries.
3. Development of a remote sensing data library for the Pacific.

INSTITUTIONAL STRENGTHENING PROJECT

The institutional strengthening project would be carried out under one of the following conditions:

- The project being included as part of a whole of PCGIAP project on institutional strengthening across all, or a large number of the PCGIAP member countries; or
- The PG project as a stand alone project for the Pacific Island countries.

Refer Attachment A:
– PCGIAP Development Needs Taskforce Resolution 2,
5th PCGIAP meeting, Beijing 19-22 April 1999.

Scoping for the institutional strengthening project has been prepared in respect of a stand alone PG project.

Scoping of the project would be amended should agreement at the 6th PCGIAP meeting early in 2000 be for a whole of PCGIAP initiative. However scoping for the stand alone PG project would provide input to the wider initiative.

NSDI MODEL

The model for an NSDI comprises four core components linked as follows:

Institutional Framework
defines the policy and administrative arrangements for building, maintaining, accessing and applying the standards and datasets

Technical Standards
define the technical characteristics of the fundamental datasets and enable them to be integrated with other environmental, social and economic datasets

Fundamental Datasets
are produced within the institutional framework and fully comply with the technical standards

Access Network
is the means by which the regional fundamental datasets are made accessible to the community, in accordance with policy determined within the institutional framework, and to the agreed technical standards

VISION

- Pacific Group agencies developing functional NSDIs
- Pacific Group contributing to regional and global SDI related initiatives that provide wider benefit and in turn derive benefit back to the PG countries.

COMPONENTS

There are two main components for institutional strengthening:

1. Review:
   assessing the current institutional structures and identifying priorities for the strengthening.
2. Implementation:
   formulated from the outcomes of point 1.

TIMETABLE

Stage 1 - Survey design

Engage consultant who in consultation with PG will design survey data collection documentation giving due consideration to:

- the range of NSDI responsibilities and related activities in PG countries
- outcomes from the Suva workshop, March 1999
- current work of the PCGIAP Taskforce and global SDI initiatives.

Timing .....

Stage 2 - Data collection

Consultant will collect data as follows:

- arrange visits to PG agencies and other relevant organisations to meet with senior people responsible for NSDI development

- collect data, including through spatial data directories.

Timing .....

Stage 3 - Reporting

The consultant will report to the PG. Findings will address the following points:

- comprehensive description of each country's NSDI capabilities
- development needs of each country for NSDI related issues
- NSDI awareness, hurdles and opportunities with respect to the countries' political and civil structures, and the business and academic sectors.

Timing .....

Stage 4 - Data analysis

PG in consultation with the PCGIAP/Taskforce will:

- assess the outcomes of the survey
- establish benchmarks for Pacific SDI development
- identify priority issues for institutional strengthening and funding options.

Timing .....

Stage 5 - Implementation

PG in consultation with the PCGIAP/Taskforce will:

- present the main institutional strengthening issues in each country and across the PG as a whole, for example equipment, technology transfer, and training;
- propose methodologies for implementation that could include applications for donor funds.

Timing .....

EXTERNAL FUNDING

External funding should be sought for all stages of the project. However, if for example the initial survey design does not attract funding, other funding sources may need to be explored.