

Annual Progress Reports for ICT-KM Component Projects

Applying ICT and KM for Excellence in Science

The Consortium for Spatial Information:

Thinking spatially, acting globally -
for a sustainable future

Facilitate collaboration and capacity building for
geospatial data sharing, dissemination, and analysis.

FINAL REPORT

Reporting Period: April 15, 2006 to March 15, 2007
Project Duration: March 15, 2004 thru March 15, 2007

Prepared: 15 March, 2007

Submitted on behalf of the Consortium for Spatial Information
by:

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EXECUTIVE SUMMARY

Overall Summary: All project activities were initiated and completed on schedule, with significant additional results.

All project activities have now been initiated and delivered, however this project represents an on-going and continuing effort to strengthen the network of geospatial scientists within the CGIAR and to facilitate an active geospatial community of practice. A successful GeoSpatial Science workshop was held in Nairobi, with representation from all Centers and several other organizations. This workshop, which also served as the CSI annual meeting, set a strategic vision, and outlined a series of initiatives proposed as focal areas for medium and long term development and application of geospatial science within the CGIAR.

The CSI launched its GeoPortal WebSite on Feb 14th, 2004. Since then over 100,000 unique visitors have visited the site. Among the components of this rich and growing valuable international geospatial resource are: Metadata Resource Center, Intellectual Property Rights Resource Center, GeoSpatial Links Database, Portal to GeoSpatial Activities at the CGIAR Centers, and the SRTM Database. The CRU Climate Database forms the second major addition to the GeoSpatial Data Sharing Platform. A third version of the SRTM data for the entire globe is also now available on the CSI website for easy download in a variety of easy to use formats. Since it has been put on-line, it has become the single largest source of downloads within the CGIAR. In addition, the CSI GeoPortal was called into service in the immediate aftermath of the Asia Tsunami on Dec. 26th, and provided a data dissemination platform for emergency response maps. The CSI developed a Tsunami Remote Sensing Data Sharing Platform, with support from CGNET, for distributing a large amount of previously unavailable data.

A CGIAR metadata inventory was initiated and is now active at all Centers. This activity is enabling the CGIAR to widely disseminate and share their geospatial GPG's, and build a comprehensive seamless GeoSpatial Search Capacity across all centers. The agreement reached with FAO – SDRN to join together the CGIAR metadata search with FAO, WHO, UNEP, OCHA, and WFP has progressed, with the CGIAR-CSI as a full member of the GeoNetwork Steering Committee, and invited to join the UN Geographic Working Group (UNGIWG). The GeoNetwork OpenSource metadata search capability is now installed at all centers, and has been used to develop a unified metadata search portal which serves as the unified search engine for all Center and Initiatives. All Centers now have metadata records for geospatial data accessible from the CGIAR-CSI GeoNetwork node. Currently, more than 15,000 geospatial metadata records originating in the CGIAR (including ICIMOD) are available through the GeoNetwork node, with an additional 5,000 records accessible from the UN and the FAO. In addition, the InterMap application allows non GIS specialists to access some of this CGIAR geospatial data online and to create custom mapping and geospatial analytic products using a standard web browser.

The most significant results of this project has been the strengthening for the CGIAR-CSI and the CGIAR geospatial community of practice, the development of a vibrant and active network for data sharing and collaboration, and a significant elevation of CGIAR-CSI's profile both within and outside of the CGIAR.

BODY OF REPORT

Financial Management and Reporting

Disbursement of funds from the ICT-KM Program to this project will be (and have been) made according to the following schedule, dependent on the achievement of specified milestones and the receipt of acceptable Financial and Technical Reports.

Agreed Schedule for Disbursement of Funds:

Funds will be disbursed to IWMI as the lead institution according to the following schedule, and as outlined in the attached budget:

Start Date: April 1, 2004

Year One:	USD	\$349,480.00
Year Two::	USD	\$89,680.00
Year Three:	USD	\$25,960.00

Financial Report

Financial Report has been prepared following the format of the line items in the Project Budget. It is signed by Dr. Robert Zomer, the Project Coordinator and by Mr. Gamini Helvitge, a duly authorized financial officer of the International Water Management Institute. This Year Three and Final Progress Report includes:

- (1) A budget table (see Appendix A) including: the total budget per line item; the budget for the reporting period per line item; expenditures by line item for the reporting period including commitments; the balance remaining by line item; and forecast of expenditures by line item for the following reporting period;
- (2) Some contributions outside of the the funds disbursed by the ICT-KM Program were received during the project period, and used for additional activities. The total amount of contributions received, including cash and in-kind contributions is USD 45,000 from the CGIAR Secretariat, 15k of which was used to provide support to African and regional CGIAR scientists to attend the Annual Meeting and Workshop in Nairobi, Oct. 2005 The remaining 30k was used to fund activities which enhanced this project, but were additional to the described deliverables. Additional support in kind was provided by IWMI to support computing and technical needs, , and also by CGNET, particularly for Tsunami efforts.

Project Performance

Result and Achievements as per Work Plan:

Activity 1. Facilitate scientific and problem-focused dialogue among the CSI - GeoSpatial Community of Practice, and Promote Integration with the larger Global Community of GeoSpatial Data Users and Practitioners:

1.1 Coordination of the Consortium for Spatial Information (CSI) and Annual Meetings

Annual Meeting held in conjunction with the CGIAR-CSI Center-wide GeoSpatial Science Meeting - Oct 12th, Nairobi 2005. Representatives from all Centers were in attendance. ICIMOD was invited to become a full member, and a MOU with ICIMOD was signed in 2006.

GeoSpatial Science meeting was held concurrently with the Annual Meeting in Nairobi, with attendance of over 50 scientists and researchers, with participation from all CGIAR Centers, local and regional partners, and international organizations, including the UNEP and FAO. CGIAR Secretariat provided additional support for the GeoSpatial Science meeting, particularly to support participation by scientists from the African region and the CGIAR regional offices.

The CGIAR-CSI was elected to the steering committee of the GeoNetwork project, and invited to be first non-UN full member of the UN Geographic Information Working Group.

1.2 Specialized Training Workshops for Data Providers and Users within the CGIAR

Online training and support for the Metadata Inventory Activity was provided to all Centers, including Online Metadata Procedural Manual, and a on-line Metadata Resource Center . All centers again received a subscription to the ESRI on-line Virtual University. A user-group email list for GeoNetwork was established and is moderated. The members of IWMI-based GeoNetwork support team attended a FAO workshop to equip them to provide online support to the CGIAR GeoNetwork. FAO-SDRN and UNEP provided training and information at the GeoSpatial Science workshop, to both CSI members and external partners (primarily from Africa). The CGIAR-CSI co-sponsored a Hydrological Modeling Workshop, held in Nairobi, in collaboration with the Water for Food Challenge Program and USGS. Over 25 participants attended, with 7 scientists from CGIAR centers and associated projects attending, most from African nations.

Activity 2. Developed the CGIAR-CSI GeoSpatial Web Portal and Data Sharing Platform

2.1 Development of the CGIAR-CSI Geo-Spatial Web Portal (GeoPortal)

A CGIAR-CSI Geo-Spatial Web Portal was developed and is now hosted at CGNET. This ongoing and continuing activity of the project, has grown to be very popular,

with thousand of hits per month, including an overwhelming response to the SRTM database, which is now the single largest user of bandwidth in the CGIAR system. We are currently discussing a way forward to address bottlenecks created by the huge demand for products available. This site has now become a active information and data source for the CGIAR geospatial community, as well as many other users, either in developing countries, or working on developing country issues.

2.2 Multi-Center Map Server Capability Based on International OpenGIS Standards

This capacity is now up and running on the CGIAR-CSI GeoPortal. Although the deliverables of this activity have been met, ie to demonstrate the capabilities of these advanced technologies, the InterMap application itself is still at the early stages of it's development. This promising addition to the GeoNetwork allows a standard web browser to display data housed at the various CGIAR Centers, including overlay of more data from multiple Centers. Additional development, especially in working with the individual Centers to provide more of this data online in this format, is required.

2.3 Multi-Center Metadata Search Capability

Initial trials and exploratory testing for building the search capability were concluded with the end of the successful pilot project in Oct 2005. Five centers participated in the pilot project, and the results were successfully demonstrated in Nairobi at the annual meeting.

Full scale implementation of the CGIAR-CSI GeoNetwork has now been completed, with all Centers now accessible and providing metadata records through the CGIAR-CSI GeoNetwork.

2.4 Geo-Spatial Data Sharing Platform

The GeoPortal Data Sharing Platform has been initiated with the SRTM database, and the addition this year of the CRU Climate Database, and is currently operational and very much in demand. This site now constitutes the single highest bandwidth demand in the CGIAR, with over 1100GB per month being downloaded, and accounting for 70% of all CGIAR bandwidth.

2.5 GeoSpatial Toolkit

Contracts were signed with six centers in Year One. All centers have delivered their geospatial tools. Finished tools are now available on a dedicated page online in web enabled or web accessible format, and are being distributed through the GeoPortal.

2.6 Inter-Center Metadata Inventory

All Centers have made major strides in instituting the GeoSpatial Metadata Inventory. Results have allowed for substantial progress on towards a full scale inventory of CGIAR geospatial GPG's. This activity is continuing and on-going, with significant progress made towards mainstreaming for metadata creation into the geospatial workflow. An online and improved metadtata editor is now included as part of the GeoNetwork installation.

2.7 Multi-Center On-Line Analytic Capability for MapServer Function

This activity was begun early in Year Three. Software and implementation approaches were reviewed by the CSI reps at the Annual Meeting, and a set of general implementation principles were delineated. In addition, a decision was taken to adopt the GeoNetwork InterMap combination generally, as a CGIAR standardized approach, to be implemented by all centers. Currently this functionality is online and demonstratable, however,

Coordination, Development, Implementation, and Dissemination of GeoSpatial Toolkit

3.1 Development and Dissemination of a GeoSpatial Toolkit of Specialized Geo-Spatial Tools Relevant to the Analysis of Sustainable Development Issues

Work is ongoing and in progress, with delivery of tools and integration of toolkit into the data sharing platform planned for Year Three.

3.2 User-Friendly and Web-Enabled Implementations of CG GeoSpatial Tools

Contracts previously signed with six centers. Work is ongoing and in progress, with delivery of tools and integration of toolkit planned for Year Three. Several additions include the GeoLinks Database, and the PODIUM- Water and Food Security Site

3.3 GeoSpatial Tools included within the GeoSpatial Toolkit

Contracts previously with six centers. Work is ongoing and in progress, with delivery of tools and integration of toolkit continuing and planned for Year Three.

Results, Outputs and Deliverables:

Outputs produced: products (tools, reports, installations); people trained; relationships established

The deliverables achieved and expected up to the end of project are listed below:

1. Steering Committee Meeting , April 2005
 - Project Review, Progress to date approved.
 - Dates and planning for Annual Meeting and GeoSpatial Science Workshop
2. CGIAR-CSI GeoSpatial Science Meeting
 - Over 50 participants, with all CGIAR Centers represented, with talks and attendance by more than 20 senior scientists, and many representatives from external organizations, both international (e.g. UNEP, FAO, ICIMOD, ICIPE, USGS), and local African partners (notably representatives from the Regional

Remote Sensing Centers and the RCMRD in Nairobi, Kenya Remote Sensing Dept., Africover). In addition, additional funding for this meeting was made available by the CGIAR Secretariat to all the participation of more than 15 regional and junior scientists from various Centers and other partners in Africa.

3. CGIAR-CSI website URL: <http://csi.cgiar.org>
 - CGIAR- CSI website completely redesigned (version 2)
 - Significant additions include enhancements to
 - Intellectual Property Resource Center
 - Links to MapServers and Spatial Data at CGIAR Centers
 - SRTM Database
(900GB download per month)
 - Metadata Resource Center
 - GeoLinks URL Database (English, Spanish, French, Chinese)
 - Over 70,000 unique visitors since launch on Nov. 14th, 2004

3. Metadata inventory ongoing at all 15 centers
 - Contracts signed with all collaborating Centers in Year One
 - Metadata Resource Center online
 - Continued training provided to all centers
 - ESRI Virtual University Online Course
 - Procedural Manual Completed and Distributed (now online version)
 - Need for metadata has been successfully highlighted as an institutional priority

4. GeoSpatial Toolkit
 - Contracts signed with the 6 Centers
 - PODIUM (IWMI Project) - ONLINE
 - Mdb (IFPRI) delivered, ONLINE
 - DREAM update (IFPRI) ONLINE
 - ClimChart (ICARDA) - will be online by April 30th.
 - LU Database for S. America (CIAT) - delivered - ONLINE
 - Habitat Mapper (IPGRI) ONLINE.

5. CGIAR-CSI elected to Steering Comm. of the FAO-GeoNetwork Project, and will work together with the UN system within a GeoNetwork Consortium. Agreements stipulate data sharing with CGIAR and relevant UN agencies.

6. Private-Public Partnership with ESRI for major support of ICT-KM project, and Clark Labs systems-wide software agreement.

7. UNSDI Global Partner: CGIAR-CSI invited as first non-UN member of the United Nations Geographic Information Working Group

Additional Achievements:

1. SRTM Database Online

- Over 16000 unique visitors since November 20th.
 - Visitors from over 113 countries
 - Current downloads over 900GB per month.
 - Many messages of thanks continue to be received
2. GeoSpatial Information for Disaster Relief and Emergency Response
 - Tsunami Data Sharing Platform Developed:
 - Over 1600 High Resolution Images put online
 - In collaboration with USGS and FAO
 - Over 600 registered users
 3. CRU Climate Database Online
 - CRU TS2.1 Data converted to GIS friendly format
 -

Changes in target group KM behaviors, procedures and use of outputs (Centres, CG management, communities of practice)

This project has brought about significant, substantive, and visible changes in the membership, going beyond improved general recognition of the role of the CGIAR-CSI to actively representing GeoSpatial Scientists at all Centers. Consensus at the Annual Meeting showed a change in behaviour and attitude by scientists at the various Centers towards active participation and support of the CGIAR-CSI. Generally, there is enthusiasm to participate and join together as a CoP, and a general recognition of the advantages of having a Consortium. This last two years however this was translated into action, with Centers actively proposing and implementing CSI activities and joint collaboration, in recognition of the advantages of membership. In addition, there is a much greater awareness of the important role that GeoSpatial Activities play within the CGIAR, and particularly, within it's important ICT-KM mandate. Additionally, this project has significantly elevated the profile of the CGIAR-CSI with the global research and development communities, notably within the UN system and the global spatial data infrastructure initiatives.

Project Design & Implementation (M& E Monitoring)

Project / Program: CONSORTIUM FOR SPATIAL INFORMATION					
Purpose (What use & for which events or decisions)	Audience	Information Needed (issues, questions, concerns)			Sources: (Who collects, how & when)
		Project Delivery / Strategies	Results: outputs & outcomes	Co. Practices	
Feedback & Learning					
CSI Consultation and Steering Comm. Mtg.	CSI Reps, Steering Comm. Members, PC	Review of Project Implementation Strategy, Review of Participant Roles	Participant roles defined, consensus on implementation strategies.	Seeking feedback from key informants	PC @ Steering Comm. Minutes @ March 2005
CSI Annual Meeting	CSI Reps, Steering Comm. Members, PC	Review of Project Implementation Strategy for 2nd Phase, Review of Participant Roles	Participant roles defined, consensus on implementation strategies.	Seeking feedback from key informants	PC @ Annual Comm. Minutes @ October 2005
Review agreements with all partners on implementation and roles	CSI Reps - PC	Elaboration on roles and participation for 2nd phase of project	Status of all Agreements (contracts) signed with all partners reviewed	Assessing and redesigning products, procedures	PC, WMI Finance Dept., March 2005
Facilitate scientific problem focused dialog	CG Scientists, Nation and International Partners	Animate CSI CoP, Workshop, trainings, email discussion list, public relations activities, outreach to national and international orgs.	Elevated profile for CSI and GeoSpatial CoP. Improved communication and information exchange, web-based information sharing platform	Sharing best wisdom, seeking feedback, prospection new opportunities	On-going activity, duration of project and beyond
Maintain active working collaboration for metadata inventory activity	CSI Reps @ Project Partners, PC, Metadata Coordinator	Email discussion list, procedural manual, regular consultation	Metadata inventory procedural manual produced, Metadata inventory completed	Designing systems and procedures	PC, On-going activity, expected completion at 20 months
Facilitate Inter-Center and Global Data Sharing and Dissemination Capacity	CG Scientist, Global Research and Development Community	On-line implementation of information sharing facility, facilitation of intercenter collaborations	Web-based geospatial portal and data sharing platform, collaborative geo-application prototype	Designing systems and procedures	On-going activity, duration of project and beyond
Reporting:					
Bi-annual reporting (September 15 & March 15)	CIO & Projects coordinator	+ Implementation of strategies aimed at: 1. Collaboration & dialogue 2. Use of tools (access & capacity) 3. Continued & expanded use of tools & viability of community of practice + Revisions to project objectives and planned activities	+ Products produced + Results of strategies used + Progress towards achieving stated project objectives;		CSI PC is responsible
Exchanging Project & Program Lessons					
Updating of Project Collaboration Website, Regular consultation with Partners	PC, CSI Reps, Steering Comm.	Make all project documentation and electronic outputs available.	Establish collaboration site and email list discussion	Share best wisdom with the world	CSI PC
Regular contribution made to ICT-KM newsletter	CG Staff, Collaborators	Ensure that key staff and collaborators are kept up to date on progress	Provide ICT-KM program with timely update reports	Share best wisdom with the world	CSI PC
Reporting to CSI Steering Comm.	CSI Reps, Collaborators	Bring the key group of CSI Reps up to date with progress and obtain feedback	Presentation given to annual Steering Comm @ Marc. 2005 and to General Annual Meeting - Oct 2005	Seeking feedback from key informants	CSI PC, Steering Comm.
Communications	CG Staff, CDC, Collaborators, Global Research and Development Community, National Partners	Communicate project objectives, progress and successes	Various presentations given at international conferences, presentation to selected donors.	Share best wisdom with the world, Seeking feedback from key informants	CSI PC, CSI Reps, Project participants.
Evaluation of adoption and participation in data sharing and dissemination, and collaborative approaches	CIO, CDC, CG Staff, Global Research and Development Community	Identify use and uptake of new technologies and opportunities offered and develop by the project.	Key clients are participating in data sharing and making resources available. Key clients are accessing available resources. Key clients are initiating collaborative project based on resources made available through the project	Seeking feedback from key informants. Check with those already served to add value. Share best wisdom with world	CSI PC, CSI Reps, Project participants

Appendix A: Financial Report

Table One: Overview of Expenditure by Activities

Activities									
Activity 1	Tasks	Total Amount	Year One - Budgeted	YEAR 1 - ACTUAL (Apr.04 - Mar.05)	Year Two - Budgeted	YEAR 2 - ACTUAL (Apr.05 - Mar.06)	Year Three - Budgeted	YEAR 3 - Committed	YEAR 3 - ACTUAL (Apr. 06-Mar. 07)
CSI Annual Mtgs	Activity 1.1	58,000	29,000	6,000	29000	49,071			2,929
Training Workshops	Activity 1.2	15,000	9,000	6,000	6000	9,000			
Coordination	Activity 1.3	31,500	10,500	10,500	10500	10,500	10,500.00	-	10,500
	Activity 1 Subtotal	104,500	48,500	22,500	45500	68,571	10,500.00	-	13,429
Activity 2	GeoSpatial Web Portal								
GeoPortal	Activity 2.1	5,000	2,000	2,000	2000	2,000	1,000.00	-	1,000
Map Server	Activity 2.2	24,000	8,000	8,000	11000	9,758	5,000.00	-	6,242
MetaData Search	Activity 2.3	7,000	3,500	3,500	3500	1,800		-	1,700
Data Sharing Platform	Activity 2.4	16,500	7,500	7,500	7500	7,500	1,500.00	-	1,500
On-line GeoSpatial Tools	Activity 2.5	4,000	1,500	1,500	1500	1,500	1,000.00	-	1,000
MetaData Inventory	Activity 2.6**	102,300	102,300	55,000		8,600		38,700	38,700
MapServer Analytic	Activity 2.7	8,000			5000	4,000	3,000.00		4,000
	Activity 2 Subtotal	166,800	124,800	77,500	30500	35,158	11,500.00	38,700	54,142
Activity 3	GeoSpatial Toolkit								
Develop Tools	Activity 3.1	2,500	2,500	2,500					
Web Enabled Tools	Activity 3.2	2,500	2,500	2,500					
GeoSpatial Tools	Activity 3.3**								
	IWMI (Podium)	22,500	22,500	11,000		10,400			1,100
	IFPRI (DREAM)	22,500	22,500	11,000				11,500	11,500
	ICARDA (CLIMAP)	22,500	22,500	11,000				11,500	11,500
	IRRI (RSDA -LUET)	22,500	22,500	11,000		7,880		3,620	3,620
	CIAT (LSAT)	22,500	22,500	11,000		11,500			0
	IPGRI (HabitatMapper)	22,500	22,500	11,000				11,500	11,500
	CIMMYT (MaizeFinder)	22,500	22,500	11,000				11,500	11,500
	Activity 3 Subtotal	162,500	162,500	82,000	0	29,780	0.00	49,620	50,720
	TOTAL	433,800	335,800	182,000	76000	133,509	22,000.00	88,320	118,291
	Overhead 18%	31,320	13,680	13,680	13680	13,680			3,960
	Total + overhead	465,120	349,480	195,680	89680	147,189	22,000.00	88,320	122,251

Budget Notes:

Activity 2.6: Metadata inventory – contracts were previously signed with 11 centers, half the funds were disbursed at signing, the remainder has been disbursed in Year Three, upon completion.

Activity 3.3: Contracts previously signed with 6 centers, half the funds were disbursed at signing, the remainder has been disbursed in Year Three, upon completion.

All activities are now complete, as per this Final Report, and all outstanding commitments, made or incurred, financial and otherwise, have been satisfied.

Report Approved By:

Project Leader

IWMI Financial Controller

