

**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.

## **PROGRESS REPORT: YEAR TWO**

**Reporting Period: April ■, 2005 to March ■, 2006**  
**Project Duration: March 2004 thru March 2007**

**Prepared: 15 March, 2006**

Submitted on behalf of the Consortium for Spatial Information  
by:

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## **EXECUTIVE SUMMARY**

Overall Summary: All project activities are on schedule, with significant additional results.

All project activities have now been initiated. 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.

A CGIAR metadata inventory is nearing completion at all Centers. This activity is enabling the CGIAR to build a seamless GeoSpatial Search Capacity across all centers. The agreement reached with FAO - SDRN to join together the CGIAR metadata search with FAO, WHO, and UNEP, has progressed. A pilot project successfully demonstrated of the GeoNetwork OpenSource metadata search catalog functionalities, and the potential to develop a unified metadata search capability for all Center and Initiatives. The pilot project was evaluated by the membership at the annual meeting, and GeoNetwork was adopted by consensus, with the understanding that all Centers will implement and maintain a GeoNetwork node. Five centers participated in the pilot project, and the results were successfully demonstrated in Nairobi at the annual meeting. Development of a full scale implementation of the CGIAR-CSI GeoNetwork was approved and adopted by consensus (i.e. all Centers voted for and committed to participate by maintaining a Geonetwork node).

The CSI launched it's GeoPortal WebSite on Feb 14<sup>th</sup>, 2004. 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 SRTM database forms the first major addition to the GeoSpatial Data Sharing Platform. A second versioin of the Digital Elevation Data for the entire globe is 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. 26<sup>th</sup>, and provided a data dissemination platform for the emergency response maps. The CSI developed a Tsunami Remote Sensing Data Sharing Platform for distributing a large amount of previously unavailable data.

## 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 Fu

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**

<b>Year One:</b>	<b>USD</b>	<b>\$349,480.00</b>
<b>Year Two::</b>	<b>USD</b>	<b>\$89,680.00</b>
<b>Year Three:</b>	<b>USD</b>	<b>\$25,960.00</b>

### **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 Mr. Gamini Helvitge, a duly authorized financial officer of the host Center. This Year One 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 reporting period, and used this year, and also allocated for additional activities in the next year. The total amount of contributions received to date, 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. The remaining 30k will be used to fund activities which enhance this project, but are additional to the described deliverables. Additional support in kind was donated by CGNET to support computing needs, particularly the Tsunami efforts.

## **Project Performance**

### **Progress Made vis a vis 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 12<sup>th</sup>, Nairobi. Representatives from all Centers were in attendance. ICIMOD was invited to become a full member, and we are currently in the process of developing a MOU with ICIMOD.

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.

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

Online training and support for the Metadata Inventory Activity continues, 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 team attended a FAO workshop on GeoNetwork, to equip them to provide support to the CGIAR GeoNetwork. Several persons from 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 was elected to the steering committee of the GeoNetwork project.

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. Develop 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**

Preparatory work for building this capacity has begun, and the first prototype is now up and running at CIAT. This promising addition to the GeoNetwork is currently in the testing phase, with an ability currently to display data housed at CIAT, CIMMYT, and CIFOR. This will go into full deployment on the main CSI-CGIAR GeoNetwork Node during the next few months.

## **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. Five centers participated in the pilot project, and the results were successfully demonstrated in Nairobi at the annual meeting. Development of a full scale implementation of the CGIAR-CSI GeoNetwork was approved and adopted by consensus (i.e. all Centers voted for and committed to participate by maintaining a Geonetwork node).

A powerful Linux based server was donated by CGNET to the Tsunami effort, and this has served as a base for the CGIAR-CSI GeoNetwork. We have now installed 7 nodes on this server for Centers who have chosen to house their node on the CSI server. Again, full implementation depends upon completion of Activity 2.6, the metadata inventory. Activity will continue through Year Two and Three.

## **2.4 Geo-Spatial Data Sharing Platform**

The GeoPortal Data Sharing Platform has been initiated with the SRTM database, and is currently operational and very much in demand. This site now constitutes the single highest bandwidth demand in the CGIAR, with over 900GB per month being downloaded, and accounting for 70% of all CGIAR bandwidth. These issues will be reviewed as enhancement and enlargement of this site will continue through Year Three.

This activity was recently expanded with a grant from CGIAR Secretariat to develop geospatial “data stacks” specially tailored to a specific set of sustainable development and agricultural research needs. A contract has been negotiated with Robert Hijmans (IRRI) and Andrew Jarvis (IPGRI) to further develop datasets and enhance the data sharing platform.

## **2.5 GeoSpatial Toolkit**

Contracts were signed with six centers in Year One. Two centers have delivered their results, and all other centers are either on schedule, or have been granted a six month extension to complete. Finished and nearly finished tools are currently being evaluated and prepared for public distribution. Work is ongoing and in progress, with delivery of tools and integration of toolkit ontime, and planned for this year.

## **2.6 Inter-Center Metadata Inventory**

All Centers have made major strides in instituting the GeoSpatial Metadata Inventory. Initial results have allowed for substantial progress on the Pilot project and will facilitate the full scale implementation of the GeoNetwork Project. Operational functionalities are expected early in Year Three, to be incorporated into the MetaData Search Pilot Project, but this activity will be on-going. In addition, this year we will implement an online and improved metadata editor as part of the GeoNetwork installation.

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

Will begin early in Year Three, as the MapServer project progresses. 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 GeoNetwork InterMap combination generally, as a CGIAR standardized approach, to be implemented by all centers.

## **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 March 2004 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)
  - Over 16000 unique visitors since launch on Nov. 13<sup>th</sup>, 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. Work progressed on **GeoSpatial** Toolkit
  - Contracts signed with the 6 Centers
  - **PODIUM** (IWMI Project) - Beta testing stage
  - **Mdb** (IFPRI) delivered, being evaluated
  - **DREAM** update (IFPRI) delivered
  - **ClimChart** (ICARDA) - prototype evaluated
  - **LU Database for S. America** (CIAT) - delivered
  - **Habitat Mapper** (IPGRI) - extension granted.
  
5. CGIAR-CSI elected to Steering Comm. of the **FAO-GeoNetwork** Project, and will work together to convert this into 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.

#### Additional Achievements:

1. SRTM Database Online
  - Over 16000 unique visitors since November 20<sup>th</sup>.
  - 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
  -

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

This year there were 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 year 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 its important ICT-KM mandate.

# 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	On Progress	
<b>Feedback &amp; Learning</b>					
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, NMM Finance Dept., Oct 2004/05
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, prospecting 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 InterCenter 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)	DIO & Projects coordinator	<ul style="list-style-type: none"> <li>Implementation of strategies aimed at:                             <ol style="list-style-type: none"> <li>1. Collaboration &amp; dialogue</li> <li>2. Use of tools (access &amp; capacity)</li> <li>3. Continued &amp; expanded use of tools &amp; viability of community of practice</li> </ol> </li> <li>Revisions to project objectives and planned activities</li> </ul>	<ul style="list-style-type: none"> <li>Products produced</li> <li>Results of strategies used</li> <li>Progress towards achieving stated project objectives.</li> </ul>		CSI PC is responsible
<b>Exchanging Project &amp; Program Lessons</b>					
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-JM newsletter	CG Staff, Collaborators	Ensure that key staff and collaborators are kept up to date on progress	Provide ICT-JM 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	CG, 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 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

**Budget Notes:**

Activity 1.1: CSI Annual Meeting was held in October, in Nairobi, in conjunction with the the CSI-Geospatial Science Workshop.

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

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

Report Approved By:



Project Leader



IWMI Financial Controller