

**Online Learning Resources (OLR) Project  
March 2004-March 2006  
Reporting Period: March 2005-March 2006**

**OLR Annual Progress Report  
by  
ICT- KM Projects**

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## **2. EXECUTIVE SUMMARY**

This reporting period of this OLR Project under the ICT-KM projects spans the one year period of March 2005-March 2006. Although it does include some assessments of the project as a whole the activities deal primarily with the outlined time period. A survey was distributed to the OLR, CGIAR Training Community group on March 20<sup>th</sup>, 2006 (See Annex 3), and some of these answers are reflected in the document. For more information on the first phase of the project, please refer to the March 15<sup>th</sup>, 2005 Progress Report from Sheila Rao, or contact Courtney Paisley, [c.paisley@cgiar.org](mailto:c.paisley@cgiar.org) for more information.

As a project that seeks to take on such a complicated and ambitious task as sharing training-related-materials within the CGIAR and beyond, there have been success and challenges on many fronts. The last year has seen the project change directions from a 'stand-alone' knowledge pool to a Learning Object Repository using internationally recognized standards that allow exchanges with other learning objects referatories and repositories. Although resources for this project were minimal, the project was able to successfully continue thanks to the support provided by interns from the Commonwealth of Learning.

Despite funding constraints, the OLR Project Staff believed that it was important for the Training Community to meet and garner a better understanding and support for the tools that had been created and to develop strategies and best practices for their use. Funds for this face-to-face meeting were partially secured through another training project implemented by the World Agroforestry Centre.

Technical challenges were addressed through the partnership with the European ARIADNE Foundation. The CGIAR LOM Core Application Profile was successfully implemented into the CGIAR Learning Objects Repository, thus creating something of value and relevance to a community of trainers and educators in agriculture and natural resources management. Technical support will need to continue beyond the present phase of the project, in order to maintain a level of service that will fix bugs that occur as well as to continue to provide added-value to the repository with new features to allow the system to evolve with changes in training and the community.

The progress made in this section of the project's report includes increased research in the new direction of the project and further documentation of this for the community. The implementation of the tools required a close collaboration between the technical partner, ARIADNE and the project team to ensure that the

tools would reflect the 'look and feel' of the CGIAR and become valuable and essential tools for trainers.

The project coordinating team tried to work with the community as much as possible to provide a greater feeling of 'ownership' over the repository, which was successful in some aspects and not so successful in others.

The community's commitment to the project was the most visible in two main events. The first was that the majority of the community provided support from their own Centre for a representative to attend the Leuven Implementation Workshop in October, 2005. In fact, 60% of the workshop attendees covered all of their participation with the remaining 40% covering partial costs for attending. The second was the commitment from the community to upload their training for the AGM in December 2005, and the fulfillment of those pledges, at their own cost.

Although the project has faced some problems and will need to seek further support in order to complete some essential tasks in order to sustain it, overall it has been a year of progress and success for the OLR project.

### **3. BODY OF THE REPORT**

#### **3.1 Financial Management and Reporting**

##### **3.1.1. Financial Disbursements**

The payment schedule and expenditure are attached in Annex 1 of this report.

##### **3.1.2. Financial Report**

The financial report for the overall project expenditure and the one for the period April 2005 to March 2006 are attached in Annex 1 of this report. It must be noted that there are still some outstanding expenses that need to be paid for after March 2006 and that the funds for this have been committed. Overall, the project will stay within the original budget of 213,900 US\$ over the 2 year period.

The budget line 'training COP representatives' was supplemented by some additional funds from ICRAF after the ICT-KM Programme indicated that no additional funds could be made available to pay for a second, unplanned, workshop to bring the Training CoP Representatives for further training needed as the result of a change in project direction. Most of this budget line was used to pay for ARIADNE membership in 2006 since the dedicated support and

upgrading of the open software tools is absolutely necessary for the successful continuation of this project. None of the CGIAR Centres is currently in a position to maintain and further develop these tools independently and attempting to do so at this stage may compromise the initial investment in this project.

All other budget lines have been used as planned and no further budget adjustments need to be made.

It must also be noted that substantial contributions in staff time have been made by various Centres, especially ICRAF and CIP, since the original project budget grossly underestimated the amount of staff time needed to implement this project, especially as the result of a change in technical direction beyond our control. In this context, also the Commonwealth of Learning has made a significant contribution to the project by allowing their ICRAF interns to fully dedicate themselves to this project. ICRAF also used additional funds to partially pay for the implementation of the second project workshop in Leuven and several Centres also contributed to this by fully or partially sponsoring their training representative to attend this workshop.

**Budget Notes:** (to be included in annex 1)

**Coordinators:** Contributed partially to the staff time of those at ICRAF and CIP involved in project coordination, implementation, monitoring and evaluation.

**Training COP Representatives:** Used to pay for the membership of ARIADNE as a strategic technical partner needed to develop the open software tools as the main project outputs. Originally, the training community of practice was to develop these tools but when the first technical advisor left the CGIAR, it became clear that the available technical expertise within the CGIAR would not allow us to deal with this.

**Software:** Various purchases of proprietary software that have been used for R&D as well as promotion of the tools developed.

**Computing Maintenance:** Purchase and maintenance of a dedicated server to host the LOR tools.

**Travel:** Contributions to travel of project coordinators to attend various meetings.

**Workshops:** Mostly relates to the first project planning workshop in Hyderabad, India (June 2004).

## **3.2 Project Performance**

### **3.2.1 Progress**

The Monitoring and Evaluation indicators are based on the previously submitted monitoring and evaluation chart that was modeled on the Outcome Mapping tool produced through the International Development Research Centre (Annex 2). A series of questions was developed as a guide to monitor the progress of the project for behavioural changes in project contributors, both coordination team and the OLR community at large as a result of the project taking place. The project has continued to target the overall goals in the M&E plan, despite the changes to some of the direct outputs.

### **A change in direction**

The project was still grappling with the new challenges, as a result of the change in direction from the original project document. The original CGLRC site and project document was modeled on the IRRI Rice Knowledge Bank site (<http://www.knowledgebank.irri.org/cglrc/default1.htm>).

The loss of the technical expertise previously provided by Dr. A. Atkinson (IRRI) was filled by Dr. Thomas Zschocke (CIP), who has expertise on e-learning and instructional technologies. He introduced the Training Community to the concepts of Learning Object Metadata (LOM) in designing an online learning resource repository and the growing research and development in the area of educational technologies. Thus, the OLR project team spent many months researching this new direction and the development of a new OLR project allowing CGIAR learning resources to be shared and used by an international training and education community of practice, based on international instructional specifications, standards and e-learning approaches.

A significant research period in this new field resulted in the development of new tools and approaches. The OLR coordination team decided that they would need to bring the community together once again to engage them further in understanding the new tools and sharing ideas on the project.

### **Project Delivery/Strategies**

(As outlined in the Monitoring and Evaluation Planning Worksheet: Annex 2)

### **Incentives**

In a cross-regional environment like the CGIAR, incentives are important to ensure that project participation is at its maximum. Further incentives that have been provided in the OLR project since the Progress Report of March 15th, 2005 are:

*The tools*

The Learning Object Repository (LOR) and the Moodle Learning Management System (LMS) were developed using open-source software, increasing their accessibility for use by a larger community. The tools developed will enhance the workflow of an international teaching and learning community of practice in developing, sharing and re-using their learning resources in agriculture and natural resources management.

*Learning Object Repository*

The LOR was developed using the Application Profile (the CG LOM Core) created by the OLR coordination team and the training Community of Practice. Learning Object Metadata (LOM) is a set of metadata created specifically to describe educational objects, which is what makes the OLR project unique and very relevant for a specific training and learning community.

The learning object approach encourages the creation of learning resources in a de-contextualized form, allowing them to be re-contextualized to the needs of the institutions. This also results in a similar consistency of training material among centres, thus facilitating the transfer and use of material between different CG centers. Through extensive re-use of these resources training officers will not have to create all of their materials from scratch, and are thus, able to save time.

*Learning Management System*

A value-added component of the OLR project is in the form of an open-source Learning Management System that has been provided for use by members of the CGIAR. The link that has been created between the CG Learning Resources LOR and the Moodle LMS provides further incentives for the uploading of each centre's learning resources, as they can now be directly deployed into online courses and modules. The Learning Management System also allows trainers to re-use course content that overlaps between the different CGIAR centres.

The training community also identified areas where the LMS could be used; areas where training often overlaps between various CGIAR centres. The

development of a course in one of these identified areas, in a blended learning fashion, could encourage other centres to do the same, especially if they are able to re-use the same course, modifying the content to suit their audience. Cross-cutting subject areas identified in the Leuven workshop include:

*Proposed Courses*

- Learning/training/education.
- Biometrics/statistics.
- Pests and diseases.
- Soil and Plant analysis
- Science writing
- Marketing/enterprise development.
- Natural Resources Management
- Policy
- Agro-ecology
- Agricultural Economics
- Proposal writing and project management
- Fundraising
- Resource mobilization related to training
- Food Security
- Trade and micro-economics

Many centres have demonstrated a growing interest in the system through the development of test courses. Some sample courses that have been created thus far include:

CIP - International Potato Center

- Feeding cities in Anglophone Africa with urban agriculture

ICARDA - International Center for Agricultural Research in the Dry Areas

- Hybridization Techniques in Faba Bean
- Introduction to Biological Nitrogen Fixation
- Hybridization Techniques in Chickpea

World Agroforestry Center (ICRAF)

- Vegetative Tree Propagation in Agroforestry
- Tree Seeds for Farmers
- Mango Growing in Kenya

**The Implementation Workshop**

*The role of participants in the workshop and action plan*

The training workshop for the CGIAR ICT/KM Project on 'On-line Learning Resources' (OLR) held at the Department of Computer Science at the Katholieke Universiteit Leuven (KUL) in Belgium from October 24-28, 2005 brought together 14 participants representing the training and education departments of 10 CGIAR Centres.

The aim of the workshop was to familiarize the CGIAR training community with the tools that have been developed since the planning workshop in Hyderabad in 2004. These tools include the learning object repository where training materials can be uploaded and shared among the centres and a learning management system where training resource persons can develop and conduct web-based training courses. Particular emphasis was placed on teaching the centres how to populate the CG Learning Resources Repository with their Centres' learning objects and resources and how to integrate these processes into their work.

The training community 'portlet' on the CGXchange site was also introduced at the workshop. Links with other projects through this portal will give the CGIAR Training Community of Practice and CGIAR staff at large a suite of tools and information that will greatly enhance efficiency and collaboration.

The participants actively engaged in discussion of the issues; however some areas proved to be too technical to generate valuable discussion. Much of the time also involved training the community on the tools developed which limits participant contribution. In general, the participants reflected on the end goals of the project and provided praise, criticism and suggestions for improvement on the ideas of the project as well as the tools. Brainstorming sessions also captured new ideas on the possible directions for a phase 2 of the project.

After the workshop, the community's belief in the value of the tools and processes was evident in their commitment to upload a certain amount of resources before the CGIAR Annual General Meeting in Morocco in December 2005.

The workshop report contains a detailed action plan (Annex 8). Consensus was achieved in the proposed plan, which was formed in part during the Workshop with the participants and in part with the Project staff after the workshop was finished. The OLR project team has ensured that action points were completed as they remained relevant to the course of the project's progress.

## Collaborative Working Spaces

### *CGXchange*

Participants were found to respond positively to the DGroups space that was created at the project's inception. This site was then shifted to the CGXchange in order to support the site provided through the ICT-KM project. The site is still relatively new and has not seen a great deal of use, however it is hoped that this new forum will gain popularity and help to reduce the amount of email overload in people's email inboxes. The CGIAR Training Community of Practice website was set up on the CGXchange site in January 2006, and has been populated with OLR Project Resources by the OLR Project Staff, with a training calendar and discussion spaces.

### *Moodle*

Before the workshop in Leuven, Belgium the project staff decided to expose the participants to the new tools as well as the concepts involving learning objects and repositories. A pre-workshop Moodle site was set up for the participants to get familiar with using Moodle and the idea of blended-learning courses. The majority of the participants did log on to find workshop details including accommodation information and preparatory materials for the workshop. The workshop evaluation revealed that 100% of the participants said that they had received sufficient preparatory information before attending the workshop.

## The OLR website and community contributions

The OLR websites for the LOR and LMS have been developed; however with little participation from the community. This area proved to be quite technical and was thus, developed by Ariadne based on the input from the OLR Project staff. Attempts to garner community participation through email were largely unsuccessful, with many people not answering calls for feedback and others unsure on what aspects to comment on.

## Centre Learning Resources uploaded into the LOR

At the workshop, each centre was asked to give a verbal commitment to the number of Learning Objects that they would upload onto the repository before the Annual General Meeting of the CGIAR in Marrakech at the beginning of December 2005.

Centre	Committed Number of Objects (+/-)
IITA	70
CIP	20

IRRI	100
ICARDA	10
IPGRI	50
CIMMYT	20
IFPRI	30
ICRAF	100
ILRI	20
CIAT	10
<b>Total</b>	<b>430</b>

The repository now contains over 560 resources. This demonstrates the commitment of the Centres to the project.

However, since this time the drive to upload resources has waned. In the recent survey, when the participants were asked to choose any 'learning resources uploading' scenarios that best apply to their use of the CG Learning Resources Repository, 33% of them selected the response that "We are currently developing new learning resources with the intention of uploading" with 50% choosing "I continue to upload the learning resources I believe are fit for public use".

### **OLR Subject Matter Research**

Since the March 2005 Progress Report, the OLR project staff have continued extensive research and development in educational technologies, including metadata and learning objects which was necessary to continue the development of the OLR along this new direction. The areas of focus in this research included:

- Metadata and application profile development
- Learning Object theory, development and implementation
- Technical aspects of repository development (XML binding, schema)
- Learning content management systems (open source/proprietary software)
- Learning Management Systems (predominantly Moodle and Atutor comparisons)
- Online Course Development, including blended learning approaches.

### *Learning Object Resources and One-Pagers*

The concept of learning objects was further researched and summarized as a reference for the OLR community. The community was provided with well researched lists of the most relevant and useful resources from which to educate

themselves further in the subject area. Documents on the subject matter were created including Learning Object one-pagers that describe areas from 'what is a learning object' to how to create them from scratch and from existing materials.

### *ARIADNE*

Due to the heavy technical requirements of the OLR project and the minimal available expertise in this area within the CGIAR, the coordinating team established a partnership with ARIADNE in Belgium to assist in this area. ARIADNE is one of the leading organizations dealing with issues of metadata, learning objects and repository development ([www.ARIADNE-eu.org/](http://www.ARIADNE-eu.org/)).

The core of the ARIADNE infrastructure is a distributed network of learning repositories. The mission of ARIADNE is to enable better quality learning through the development of learning objects, tools and methodologies that enable a "share and reuse" approach for education and training.

Under the OLR Project, the CGIAR community purchased an ARIADNE 'gold membership' which provides help and advice, both technical and theoretical from the ARIADNE team. Although the products produced by ARIADNE are 'open-source', the labour and technical assistance are not. The primary areas in which, ARIADNE provided consulting services is in the development of the tools and their sites including the implementation of the learning object metadata application profile.

### **Quality Control**

A repository of CGIAR learning resources spans many CGIAR Centres, each with their respective internal policies, guidelines and procedures on the quality of resources produced in their centres. As there is no standard CGIAR policy, the onus of quality currently rests upon the shoulders of the individual Centres.

One method of ensuring that the repository maintains more internal control is by providing individual login/passwords based on Centre identification, and not individual. The administrator of that login is then responsible for any low-quality materials that are uploaded onto the site. If someone has found a resource that is not up to a CGIAR 'centre of excellence' standard, the administrator whose login has been used to upload that resource must ensure that the individual who uploaded the resource understands the level of quality required in that centre, and that no further low-quality materials are uploaded.

Suggestions from the workshop included:

- Having one administrator per Centre. This person can then create accounts for others within their Centre who will be uploading resources.

- Provide one login account per Centre. One person will be responsible for that account and thus, the information that is uploaded by the persons, to whom they distribute the rights to that account.
- Each Centre should be able to decide for themselves, which direction they want to take.

Further discussions on this are expected within the Training Community of Practice and an eventual consensus on this policy. Half of the respondents on the survey indicated that they do have clearly established quality control guidelines for their Centre and half indicated that their guidelines are not entirely clear or do not exist. When provided with a list of options on what would best fit in the CGIAR to support the quality of our learning resources, 80% of the respondents indicated that a Draft for a CG system-wide training and learning quality assurance policy would be the best option.

### **Support for the OLR within the training community and the CGIAR at large**

The group committed to upload a certain number of their Centre's training resources during the Leuven workshop. The centres uploaded more than the number they had committed to, which demonstrates definite support for the project.

There also remains some scepticism surrounding the ability of the project to thrive once the funding has been removed. The continual uploading of training materials requires resources in the form of staff time, a cost that will only be borne by the centres if they fully appreciate the overall value of the project.

#### *Workshop Evaluation – Support for the tools*

At the workshop, participants contributed to a survey outlining their level of satisfaction and/or support for the tools developed. The following is a summary of the survey findings.

The CGLearning (LOR) Usability Evaluation yielded positive results. Worth noting is the level of confidence participants felt they had in using the LOR once they return to their offices, which scored an average of 4.1 out of 5. Respondents also expressed a high degree of interest in using the LOR for future work purposes, scoring an average 4.4 out of 5.

In terms of operating the LOR, 100% of the respondents agreed that the program was easy to navigate, and easy to use for uploading and downloading learning objects. A majority of participants found federated searches and sharing resources between other Content Management Systems and online repositories, such as EdNet and Merlot, increased the appeal of the LOR in the CGIAR.

*Challenges:*

Some participants expressed their concern that the LOR may have difficulty expanding and becoming a valuable tool for trainers because it appears too internally driven and needs to focus more on partner needs at this phase of the project. While all respondents committed to uploading their learning objects into the LOR, a few respondents expressed how the repository could face potential challenges in terms of becoming a useful training tool. Comments were made on client and partner needs and instructional design use. Due to the unanimous support to upload learning objects by the OLR community, it is assumed that participants may have expressed "using the LOR" in terms of uploading only and not downloading learning objects for reuse.

*Moodle Usability Survey*

Overall, the OLR community members present at the workshop were able to show significant advances in using Moodle applications and design features. Despite little to some previous experience with e-Learning and Moodle, participants felt confident in their abilities to create courses using the open source software when back in their offices, scoring an average of 4.2 out of 5 in terms of confidence.

The majority of respondents also found the applications, productivity and collaboration features to be useful for designing courses, together they averaged 4.2 out of 5. Many respondents showed an interest in applying a variety of features, with a few exceptions expressing possible overload on user options. The majority, however, still found the software easy to navigate and were able to readily access documents.

*Challenges:*

While Moodle garnered a lot of enthusiasm and the evaluations showed that respondents were comfortable with learning online, the results for anticipating the actual use of Moodle as an e-Learning or blended learning approach scored slightly lower than anticipated with a combined average of 3.4 out of 5. Perhaps the question would have been more effective if it asked about comfort level for designing e-Learning.

Suggestions for promoting Moodle within the CGIAR were mainly directed to marketing and improving the interface. A major challenge faced by the OLR collaboration team in the coming phases of the project will be to promote usage of these tools and encourage experimenting away from traditional instructional design while maintaining the pedagogical integrity of the work. This may require the allocation of resources for further train-the-trainer sessions, routine and timely correspondence with the OLR community as well as creating tools and provide ongoing technical assistance in the design and development of online courses.

### **Links with other ICT/KM projects**

Links with other projects are not entirely clear due to the uncertainty surrounding the integration of various search mechanisms within the CGXChange. There is a clear lack of technical integration and coordination between the Programme's various Content for Development projects.

### **GO-FAU: by Indira Yerrameredy**

The activities of the OLR project are complimentary to the activities of the Global Open Food and Agriculture University (Go-FAU). The centralized location of these learning objects will make it easier for the course module developers of GO-FAU to have access to CGIAR learning objects for constructing full M.Sc. courses in agriculture and natural resources management. GO-FAU will also gain an electronic repository, in which it will be able to upload its learning objects. Also, the integration with Moodle will provide a platform where partner universities will be able to access the contents for the M.Sc. program developed by GO-FAU and its partners. Faculty can then download these files from the internet through this platform. GO-FAU will also be able to track who is downloading materials and what materials are being downloaded.

#### **Objectives:**

Staff working on GO-FAU will benefit from the OLR project, allowing them to:

- Employ learning objects as an approach of storing, sharing, and re-using GO-FAU learning resources;
- Describe GO-FAU learning resources with learning object metadata for this software;
- Utilize learning repositories (or knowledge pools) for GO-FAU learning objects;
- Develop on-line learning by having access to electronic learning objects;

- Modify existing training materials of IFPRI and GO-FAU partners into learning objects and populate the CGIAR SILO with these learning objects;
- Utilize the Moodle Learning Management Systems (LMS) for delivering GO-FAU content to partner universities; and
- Assess the development and implementation of a Wiki, a piece of server software that allows users to freely create and edit Web page content using any Web browser, on agricultural education and training.

The GO-FAU representative can also encourage the initial uploading of CGIAR learning objects related to agricultural economics, agribusiness, and agroecology. Having access to these learning resources through OLR will increase the efficiency of implementing GO-FAU two subject matter pilot programs-- agricultural economics/ agribusiness and agroecology.

Some participants at the Leuven workshop voiced their concern about the integration of the various ICT-KM projects through the following statements:

- “There seems to be unresolved overlaps between this OLR project and other knowledge management initiatives in the CGIAR. Perhaps the vision for OLR needs to be more discussed as well as the road to get there”
- “Unclear about integration with ICTKM – content 4D projects. CIO could have been more explicit about it”

### **Training and mentoring/support on OLR related matters**

Training has been provided in the Leuven workshop on the tools and processes and how to best integrate them into the workflow.

‘How-to guides’ have also been created by OLR project staff as guidelines for the community on the new approaches and the technical details of the tools.

An OLR email has been set up: [admin\\_cglearning@cgiar.org](mailto:admin_cglearning@cgiar.org) to provide the community and users of the tools with a place where they may request help on the tools, request an email account or provide feedback.

### **The promotion of the OLR site and it’s use within the international learning community**

It is still far too soon to gauge the level of use of the repository or the LMS by an international learning community. Unfortunately due to the change in direction

of the project and thus, extension of implementation time the deployment of the tools occurred at a very late stage in the project timeline. Further uploading of resources is required and increased marketing before a quantitative and qualitative assessment can be made.

Strategies that will be implemented to monitor the use of the tools are as follows:

- 1) A monitoring system developed by ARIADNE which will determine not only the amount of usage but which resources are most used and thus can be considered the ones most useful to the community.
- 2) Monitor activity levels on the forums where the community can share resources, exchange ideas, comment on the tools and highlight resources that they found particularly useful.
- 3) A 'star-rating system' to be developed by ARIADNE, whereby the community can rate resources, thereby contributing to the issue of quality control.

Based on feedback from the recent survey, it appears that the community would benefit from further expertise and support with the tools. When the participants were asked "What would motivate you (e.g., training, design features, content, etc.) to use the CG Learning Resources repository more frequently in your work?" some responses were:

1. If they involved a level of inter-activity, with an "expert" or facilitator identified for each item, or group of items.
2. Provide handy resources for quick training and on-the-job capacity building for field workers and the NARS staff
3. A user-friendly manual/ training tutorial that I can send colleagues onto so that they can be confidently self reliant when uploading their resources.

### 3.2.2 Results

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

1) The Application Profile (the CG LOM Core) (This document is too large to be included here, please contact [c.paisley@cgiar.org](mailto:c.paisley@cgiar.org) for a copy), based on international metadata standards, IEEE LOM was finalized by the project staff of the OLR in coordination with the CGIAR training Community of Practice. This was then implemented in the CG Learning Resources Repository.

2) A community portlet on the CGXchange site, linking to the URL <http://learning.cgiar.org/> which allows all CGIAR staff direct access to both the LOR and the LMS through the single-sign-on capability of the system.

3) CGLearning Resources. This Learning Object Repository is an area where training officers can upload their resources for the benefit of other users as well as access resources that have been uploaded by other users. This site is set to be the central source of training resources within the entire CGIAR training community. <http://learning.cgiar.org/resources>

4) A collective resource uploading effort of more than 560 Training Resources from 11 out of 15 CGIAR Centres.

5) CGMoodle: This Learning Management System is an area where the training community can host on-line courses. The community can also use the existing courses to replicate it at a huge savings of time and effort or take some parts and modify it to suit their audience. <http://learning.cgiar.org/moodle>

6) A collaborative working space for community members. The site has shifted from the former DGroups site to the CGXchange site. This is an area where the community can exchange ideas, host discussions and share resources.

7) A demonstration of how a 'blended learning' course could work. Participants logged into the Moodle site to find information and resources before attending the Leuven Workshop.

8) Individuals in the process of developing on-line courses for their centres. Many individuals pledged to develop on-line courses at the workshop and have since followed up, actively engaging ARIADNE in technical implementation questions. One centre has also convened a series of meetings within their centre on the topic and is in the process of writing a formal proposal for on-line courses using the LMS.

9) A workshop report with a detailed implementation/action plan

10) A CGIAR Community of Practice, trained in the tools developed and an understanding of how they can be integrated into their work.

11) A working relationship with ARIADNE. The level of service provided to the CGIAR includes maintenance of the tools and the sites, keeping the CGIAR abreast of innovative developments in the field of educational technology and to implement ideas from the Training Community to make the tools more relevant for trainers and educators.

12) A new Commonwealth of Learning (COL) intern was recruited at ICRAF headquarters, with extensive experience in Learning Objects and designing online courses in an organizational training capacity. She has been the focal point of the Learning Management System developments and has begun work on creating a pilot course on the LMS.

13) A greater understanding of educational technology among the project staff as a result of dedicated research and the production of background documents on the basics of the subject matter (Annex 5).

14) A series of one-pagers on Learning Objects (Annex 6), their construction and use within agricultural and natural resource management training and education.

15) A 'how-to' guide for uploading resources into the CGLearning Resources site (Annex 7).

16) The project, its tools and approaches were presented to an international audience at the EDMEDIA Conference, July 2005 and are will be presented at the E-Learning in Africa Conference, May 2006.

17) A strengthened network of trainers within the CGIAR. The workshops and discussion forums have further explored the needs and concerns related to the sharing of resources within the CGIAR and have resulted in further communication between the training in the centres and a drive to increase efforts of work on a CGIAR level.

- **Changes in target group KM behaviours, procedures and use of outputs (Centers, CG management, communities of practice)**

### **Impact of Incentives**

The degree of recognition of the importance of the tools and the project became evident in the pledge by centres to follow-up on their commitment and upload their resources. However, as the momentum of resource upload has waned, centres will require a clearer recognition of how their working as a community to upload resources and populate the repository with resources will strengthen the capacity of training within the CGIAR.

Training within the CGIAR is characterized by traditional face-to-face methods and is only beginning to venture into on-line methods. There are many valid reasons for this, including lack of in-house technical expertise and limited bandwidth. However, the community was encouraged to look at the different possibilities of on-line learning, through using the user-friendly, open-source LMS Moodle, and by offering blended learning courses (using both on-line and face-to-face components). The community is very enthusiastic about this new approach and since this time many members have actively sought out more information on the system and some are in the process of developing proposals within their centres.

The project coordination team members have expanded their knowledge on the new technologies and are continually seeking new partners that may have relevant agricultural LOs, to increase the materials available. The project is also known by other organizations working in this field (African Virtual University, Commonwealth of Learning, ARIADNE and their extended partners), and is seen as one of the first of its kind in dealing with agricultural and natural resource management global public goods.

There appears to be an interest by CGIAR Training officers to contribute more to the project; however workloads and individual Centre-priorities still keep many of them from actively contributing to the collaborative workspace. There has been minimal usage of the CGXchange site since its creation in January 2006.

The community recognizes the need to communicate and share resources between Centres; however there has been greater recognition of the need to include the NARS. The community have provided feedback on actions that they would like to see to make the tools useful for the NARS.

### **3.2.3 Project Design & Implementation (response to context)**

- **What strategies worked well during the reporting period & what will the project continue or increase doing?**

#### *Implementation Workshop*

After the change in direction it was necessary to engage the Training Community with the new tools and processes and to collectively work towards a stronger community of practice by sharing resources in the most effective way. Hands on technical workshops seem to be the preferred strategy to actively engage the community of practice.

### *Community Participation*

The project will continue to engage the community in discussions, and exchanges of ideas. Continued communication with the community allowed for the integration of their ideas and concerns, when provided, into project planning. This exchange will need to continue in order to understand how to best integrate the use of the concepts and the tools into the workflow of the trainers in the CGIAR. Individuals participating in the training community of practice still seem to favour face-to-face meetings to discuss problems, issues and opportunities since it is easier to focus on the issues at hand while being away from the office.

### *Technical Support*

Support will continue through the partnership with the ARIADNE Foundation. A gold membership ensures that any bugs are fixed and that the products will continue to evolve based on the feedback from the training community. We can continue to build upon the existing structure and promote new developments based on demonstrated needs. The strategic partnership with ARIADNE and their dedicated support to the project have allowed continuous improvement of the tools.

- **What strategies did not work well & what could be improved?**

The project consisted of ambitious plans, yet suffered from insufficient financial resources to implement them. Once the technical advisor of the project had left, the project was forced to change direction. The project team was then suddenly faced with the realities of the extensive research and training that the new strategy would require. This led to serious delays in the development of the tools; which were finalized at a very late stage in the project leaving no time for the marketing of the tools, their substantial use by the learning community or appropriate monitoring and evaluation.

Before undertaking the project, there should have been a realistic assessment of time commitments that the staff at various centres would be willing to commit. Staff workloads at individual Centres within the CGIAR are significant and the concept of working on a collaborative, inter –Centre CGIAR platform is not yet integrated into the work culture in each of the centres.

- **What challenges or changes to project context were faced?**

*Technical Barriers*

The need to rely on 'external' support for the technical implementation and maintenance of the tools resulted in some delays in implementation. Furthermore, working with those outside of the CGIAR system requires a period of adjustment where the external consultants get a feel for what the CGIAR is about and how it functions. Originally, all technical aspects related to the development of the tools would have been dealt with internally but this proved not to be possible due to lack of internal expertise or its availability where it exists.

*Underestimation of Required Time/Resources*

The change in project direction came as a result of the departure of the technical leader of the project, Albert Dean Atkinson. The new project approach required far more time and resources than was anticipated.

*Community Commitment and Participation*

It is difficult to maintain momentum after the workshops have finished and to expect centres to upload their resources on their own time and funds. Participation in a project such as this is mostly based on goodwill and personal interest since there are no formal mechanisms or policies that force a CGIAR training community of practice to work together. Each Centre has its own priorities, supported by its donor community, and anything that comes in addition to this can be accepted or rejected by the individuals concerned. Only adequate funding to compensate for the additional staff time required and commitment by the senior management of each Centre to contribute to such project can make this successful.

*How to address issues of Quality Control*

Centres must agree on a common standard and practice for quality control within the repository.

- **Adaptations made (during reporting period) to: objectives, strategies, target groups, project organization, management, work plans (timing, milestones), M&E plan**

*Timing*

Due to the shift in the project technical direction, the implementation schedule was shifted as well. The OLR Project team had to embark upon months of research and development before engaging upon the new project direction and delivering the tools proposed in the project document.

#### *Funding/Target Group*

Due to funding constraints, national partners could not be included in the Implementation Workshop in Belgium. This may have impacted the greater objective of involving national institutions.

#### *Monitoring and Evaluation Plans*

The tools were delivered and used at a very late stage in this project phase as a result of the change in technical direction. As a result, it has not been possible to properly monitor and evaluate their use.

#### *Objectives*

The objectives as stated in the original project document remain relevant, despite the change in technical support and management of the OLR. The objectives of the project are as follows:

To develop a CGIAR On-Line Learning Resources centre that will allow an international teaching and learning community of practice to enhance the quality and relevance of their teaching and learning in agriculture and natural resources management in close collaboration and coordination with their CGIAR training and education partners.

#### *Specific Objectives*

- To contribute to the transfer of international public goods knowledge and technologies produced by the CG Centres and their collaborating partners in agriculture and natural resources management.
- To develop learning resources and materials that reflect the current state-of-the-art knowledge and recent advances in agriculture, natural resources management in the context of training and education in these fields.
- To provide a coherent, harmonized platform and approach for sharing these learning resources among Centres and partner organizations.
- To strengthen the capacity of national programme partners to deliver agriculture and natural resources management training and education and to contribute to a centralized learning resources centre.

### **3.2.4 Reflection and Learning**

- **Events held to reflect on project progress**

- 1) During critical periods of the project, weekly meetings were conducted at ICRAF headquarters to establish project direction and progress. However, monthly meetings were regularly conducted at other stages of the project.
- 2) Two workshops were held. The first one in Hyderabad, June 2004, was a project planning workshop where feedback was gathered from the participants to plan the way ahead and also served to plan the second workshop. The second workshop in Leuven, in October 2005, demonstrated the tools that had been created and served to gather feedback on how the tools could better meet the community's needs.
- 3) The project staff periodically convened and shared results and findings based on the continual monitoring and assessment of the status and health of the tools by the project staff and the community. This information was documented and submitted to the technical partner, ARIADNE.
- 4) The workshop evaluation, which covered an assessment of the project on the whole as well as specific workshop activities (Annex 4)
- 5) A survey developed through SurveyMonkey attempted to gauge the level of satisfaction of the project and possible plans for future activities (Annex 3).

- **How has the project shared its learning with others?**

- 1) Communication within the Community has been circulated through e-mail as well as through the use of collaborative sites, such as DGroups which later moved to the CGXchange platform.
- 2) The development of summaries of research on the project, that can be quickly and easily digested by the training community including the 'how-to' for uploading on the CGLearning Resources site and the Learning Object one-pagers.

3) The training workshop in Leuven provided other CG Centres background and strategy on how to use learning resources for development of their training explicitly modified for their audience.

4) A poster entitled “Developing a learning object repository for international agricultural research” was presented by Jan Beniest and Thomas Zschocke at the ED-MEDIA 2005 – World Conference on Educational Multimedia, Hypermedia & Telecommunications, Montreal, Canada, June 27-July 2, 2005.

5) The project and its tools were presented at ICRAF Headquarters campus through internal presentations. The tools have also been demonstrated by Jan Beniest during trainings conducted on the field through other project initiatives.

6) This approach was captured in a paper written by Sheila Rao and Courtney Paisley entitled “Can it work? Computer Based ICTs to support training and education in agricultural development and natural resource management in Africa” set to be published by UNISA in April 2006.

7) The project will be presented by Kerri Jackes in a paper entitled “Open Source eLearning: Promoting access and communities of practice in agriculture and natural resources management education “at the 1<sup>st</sup> Annual E-Learning in Africa conference, Addis Ababa, May 24-26, 2006.

- **Issues which need new or greater depth monitoring or evaluation**

1) The Training Community needs to change the way they develop their training resources. The construction of Learning Objects must be integrated into the process of training resource development. The tools must also become a part of a training workflow; when a resource is created, it must become automatic that the trainer uploads it into the repository. Increased effort and ongoing support for the integration of the LO process into the design of the training resources will be required.

2) Relevant links with other projects such as the CGIAR Virtual Library and e-Publishing will further ensure that CGIAR training staff will have a suite of tools and information available to them as a ‘training community of practice’ that will greatly enhance their efficiency and collaboration to achieve the CGIAR capacity building goals and activities.

3) National partners and institutions need to be targeted as recipients of this resource. The beneficiaries must be kept in sight of the project.

## ANNEXES

### ANNEX 1: Financial Disbursements

Available upon request.

### ANNEX 2: Monitoring and Evaluation Planning Worksheet

PROJECT/PROJECTME: On-line Learning Resources (OLR)					
PURPOSE	AUDIENCE	INFORMATION NEEDED (issues, questions, concerns)			SOURCES
		Project Delivery/Strategies	Results: Outcomes & Outputs	Organizational Practices	
Feedback & learning	<ul style="list-style-type: none"> <li>• CIO/C4D Coordinators</li> <li>• OLR project coordinators</li> <li>• CGIAR Training CoP</li> </ul>	<ul style="list-style-type: none"> <li>• Have incentives been provided?</li> <li>• How was the planning workshop organized and implemented?</li> <li>• Did participants actively contribute to the event?</li> <li>• Was there a consensus on an action plan for the project?</li> <li>• Is there a collaborative working space for project staff and is this actively used?</li> <li>• Does the training community of practice endorse the proposed standards and specifications?</li> <li>• Has the OLR website been developed?</li> <li>• Did the community of practice contribute to this?</li> <li>• Did each Centre make sure that its learning resources are accessible via the OLR?</li> <li>• Is there a well-organized</li> </ul>	<ul style="list-style-type: none"> <li>• A workshop report with a detailed implementation/action plan</li> <li>• A collaborative working space for community members</li> <li>• An inventory of relevant CGIAR learning resources as produced by all Centres</li> <li>• Centre sites that provide access to Centre learning resources</li> <li>• The use of internationally recognized specifications and standards for the development of a CGIAR learning knowledge pool</li> <li>• A central OLR site that facilitates access to CGIAR learning resources and has value added information of interest to the training community</li> <li>• A CGIAR training community of practice that actively uses and contributes to the OLR</li> </ul>	<ul style="list-style-type: none"> <li>• How does the project prospect for new ideas, opportunities and resources?</li> <li>• How does the project seek feedback from key informants?</li> <li>• How does the project obtain support from the next highest powers?</li> <li>• How do project staff assess and (re)design products, services, systems and procedures?</li> <li>• How does the project check up on those already served to add value?</li> <li>• How does the project share its best wisdom with the world?</li> <li>• How does the project experiment to remain innovative?</li> <li>• How does project staff engage in organizational reflection?</li> </ul>	<p>Collection as and when required (bi-annual reporting) using e-mail with attachments (e.g. worksheets) or collaborative work spaces by the following:</p> <ul style="list-style-type: none"> <li>• OLR PC (workshop report, action plan, strategic partnerships, sharing with the world)</li> <li>• OLR Technical Advisor (LOM for CG resources, info on literature, strategic partnerships, sharing with the world, website design, experimenting)</li> <li>• OLR Training CoP (individual</li> </ul>

*OLR Annual Progress Report, March 2006*

PROJECT/PROJECTME: On-line Learning Resources (OLR)					
PURPOSE	AUDIENCE	INFORMATION NEEDED (issues, questions, concerns)			SOURCES
		Project Delivery/Strategies	Results: Outcomes & Outputs	Organizational Practices	
		quality control mechanism at the level of the OLR and the individual Centres? <ul style="list-style-type: none"> <li>• Is project staff active in researching the subject matter of the OLR?</li> <li>• Is this information properly circulated?</li> <li>• Is there support for the OLR within the training community and the CGIAR at large?</li> <li>• Is there a clear link to other ICT/KM projects (VASAT, VL, VRC, E-publiishing, others)?</li> <li>• Has there been training on OLR related matters?</li> <li>• Is there a mentoring/support network that helps members of the training community?</li> <li>• Has the OLR site been properly promoted and is it being used by the international learning community?</li> </ul>			Centre resources, value adding resources, project feedback, product assessment, experimenting, reflecting) <ul style="list-style-type: none"> <li>• CIO (securing internal support – e.g. CDC, AGM,...)</li> </ul>
<b>Reporting</b>  Bi-annual reporting:(September 15, March 15)  Reporting to ICT/KM AG and responding to requests for project information	<ul style="list-style-type: none"> <li>• CIO &amp; Projects Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Revisions to project objectives and planned activities</li> </ul>	<ul style="list-style-type: none"> <li>• Materials produced &amp; catalogued in producers' respective websites;</li> <li>• Use of platforms &amp; technical resources provided by the VRC;</li> <li>• Evidence of emerging community of practice</li> <li>• Progress towards achieving stated project objectives;</li> </ul>		<ul style="list-style-type: none"> <li>• OLR PC is responsible for collection and reporting</li> </ul>

*OLR Annual Progress Report, March 2006*

PROJECT/PROJECTME: On-line Learning Resources (OLR)					
PURPOSE	AUDIENCE	INFORMATION NEEDED (issues, questions, concerns)			SOURCES
		Project Delivery/Strategies	Results: Outcomes & Outputs	Organizational Practices	
Exchanging project lessons	<ul style="list-style-type: none"> <li>• CGIAR community (CDC, ICT/KM projectme and projects)</li> <li>• International learning community (developers, users)</li> <li>• CGIAR training CoP (contributors, producers of learning resources)</li> </ul>	<ul style="list-style-type: none"> <li>• Presentations at various CGIAR meetings and relevant fora</li> <li>• Include lessons learned on OLR and other appropriate websites</li> <li>• Share lessons with training CoP and users</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced availability and usage of CGIAR learning resources</li> <li>• Improvements in how Centres deal with learning resources in the future</li> <li>• Closer collaboration in several learning areas (courses, training and education policies, learning materials,...) between CG Centres</li> <li>• Influence on other C4D projects under the ICT/KM projectme</li> <li>• Increased management support at individual and cross-Centre levels</li> </ul>	<ul style="list-style-type: none"> <li>• Publications in relevant literature</li> <li>• Attending professional meetings to present results and exchange ideas</li> </ul>	<ul style="list-style-type: none"> <li>• OLR PC</li> <li>• OLR Technical Advisor</li> </ul>

### **ANNEX 3: OLR Follow-up Evaluation**

*This evaluation was distributed to the OLR Community on March 20<sup>th</sup>, 2006. The respondents' answers have been incorporated into the Report*

This survey will help the OLR team assess the next steps required for full implementation of CG Learning Resources for the CG Training & Education Community and the Community's partners. We need your input to make these tools and forums useful in your work.

The responses are anonymous; however feel free to contact the authors with your additional comments. There are 10 questions and the survey should take less than 15 minutes to complete.

1. From the list below, choose your prime incentive for contributing your learning resources to the CG Learning Resources repository.

- Promote more cooperation throughout the CGIAR (training & education specifically)
- I am / my manager is interested in promoting our centre's training material
- I do not want my centre to appear uncooperative
- I am seeking opportunities for more collaboration on learning events
- I find this approach to be forward-thinking and support innovative learning
- I believe the CG Learning Resources repository will reduce delivery and development costs and save time when it is bigger
- Other (please specify)

2. From the list below, choose any 'learning resources uploading' scenarios that best apply to your use of the CG Learning Resources repository.

- I continue to upload the learning resources I believe are fit for public use
- I have no time to upload learning resources
- I have uploaded all our centre's recently published learning resources
- I am not / my manager is not interested in contributing our centre's learning resources
- I do not know how to upload and tag learning resources
- We are currently developing new learning resources with the intention of uploading
- Our learning resources are currently under review in-light of being made public
- Other (please specify)

3. What would motivate you (e.g., training, design features, content, etc.) to use the CG Learning Resources repository more frequently in your work?

4. From the list below, choose any 'quality assurance procedures' for training materials that apply to your centre.

- We abide by our centre's established publishing protocols and use the obligatory review channels
- We do not have any official protocols in place to assure the quality of our training materials
- We use a quality assurance checklist tool
- Our training materials are peer reviewed
- Other (please specify)

5. From the list below, choose any options that would best fit in the CGIAR to support the quality of our learning resources.

- Peer rating system within the CG Learning Resources repository
- Draft a CG system-wide training and learning quality assurance policy
- There's no need to adjust the current quality assurance protocols
- A single CG Learning Resources repository administrator should delete learning objects deemed unfit for public use
- In-centre peer review
- Other (please specify)

6. In your opinion, how can the CG Learning Resources repository / Moodle be improved to become more user-friendly, if necessary?

7. In your opinion, what are the most efficient methods to promote (i.e., market) the CG Learning Resources tools in the CGIAR for the widest reach among stakeholders (trainers, scientists, extension workers, partners, etc.)?

8. From the list below, choose one (1) definition that best defines or most closely describes your definition of what is a Learning Object (LO).

- A LO is a digital information file (e.g., WAV, JPEG, MPEG, SCORM, etc.) stored online and used for eLearning
- A LO is any instructional content (e.g., DOC, digital, etc.) with a learning objective, stored online and used to support classroom or eLearning
- A LO is a section of a course (unit, chapter, activity, etc.) that can be reused for another course.
- A LO is a stand alone chunk of instruction free from context
- I don't fully understand the concept of a LO

- Other (please specify)

9. From the list below, choose any options you would like to see employed to engage the CG Training & Education Community.

- Quarterly newsletters showcasing success stories or new ideas in training and course delivery
- Online meetings to discuss the state of training in the CG system
- Keep things as they are
- Annual roundtables to discuss training and update each other on centre initiatives
- Create offices of excellence to specialize-in and share best practices (e.g., distance ed, facilitation, evaluation, etc.)
- Elaborate the CGXchange Training & Education Community
- Other (please specify)

## **ANNEX 4: A summary of the Leuven Workshop Evaluation**

### **Workshop Evaluation**

One of the goals of the OLR Workshop in Leuven was to determine the collective willingness of the training community in utilizing and contributing to a CGIAR-wide Content Management System and introduce Moodle as a primary Learning Management System and eLearning platform. The OLR coordination team, in collaboration with ARIADNE, specialists in education technology, developed three surveys to measure the community's degree of satisfaction with the tools featured in the workshop as well as obtain insight into their improvement and promotion within the CG network and OLR community.

These first-hand opinions and comments allowed the OLR coordination team to draw conclusions on the community's concerns and gauge the OLR project successes and anticipate future challenges. Additional and final comments also enabled the OLR coordination team to begin strategizing the second phase of the project.

### **OLR Workshop evaluation**

The majority of respondents were excited about SILO and Moodle, calling them both "interesting" and "practical" tools. They were deemed the most useful and appealing topics presented during the week. Overall, workshop participants felt they met the objectives outlined earlier in the week and many left with a greater appreciation for the OLR project, despite the loss of a half-day on Friday, 28 October due to a national public strike in Belgium. Participants also expressed a general interest in future developments of education technology, showing a growing appreciation for the advances that will eventually support the OLR, such as visualization search functions, wiki plug-ins and a learning object rating system.

### **Challenges:**

Within the coming months, the OLR coordination team will be required to address a general concern among respondents on how our partners in education will benefit from these tools. At the moment, because the project is in its infancy, the link seems disjointed. One approach that could be adopted would be the promotion of OLR as saving on time and resources. So far, the OLR community has been asked to volunteer additional time to the project. The usefulness of reusable learning objects may not yet be perceptible.

## **ANNEX 5: Background Information on Learning Objects**

### **Learning Objects**

A learning object represents any entity, digital or non-digital, that may be used for learning, education or training. This concept requires a rethinking in how we design learning content that shifts away from integrated packages, such as training manuals, towards collections of specialized, reusable and granular components. Through further modularization the learning resources that the OLR project team members will contribute to the website can eventually be incorporated into other training events, thus increasing interoperability and reusability of resources.

By breaking educational resources down to their most granular state, they become what is known as “learning objects”. This is a learning resource at its most basic state, stripped of contextualisation, which increases its potential for re-use. The use of learning objects, are then re-packaged and re-contextualized for the target audience, allowing educators to tailor them to specific needs.

The learning object repository uses open-source software, providing greater freedom to other centres and partners, allowing them to participate in this initiative without being subject to associated costs.

Added value within the project comes from a Learning Content Management System. This system is linked to the repository in order to facilitate and encourage the importation of agricultural learning objects into a venue, from which to create and teach on-line courses.

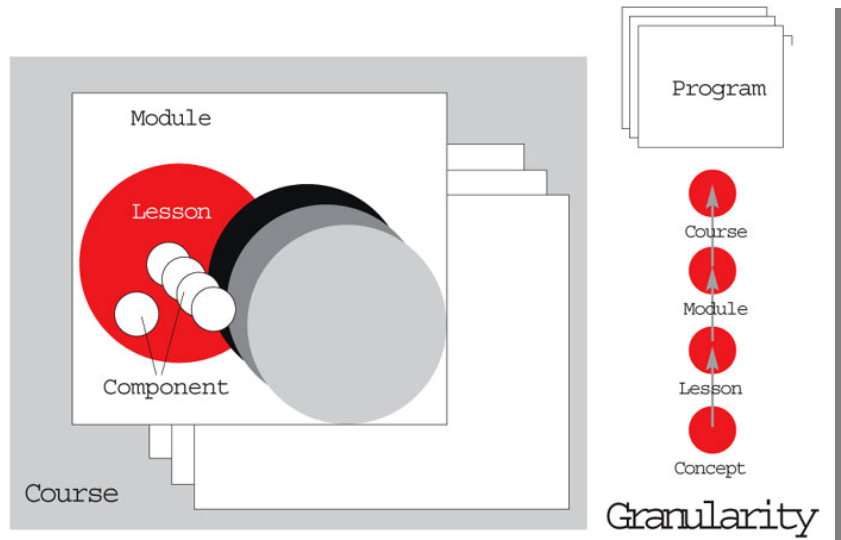
Improvements in educational technology make learning objects and resources accessible internationally by using Learning Object Metadata (LOM). Re-usability and inter-operability of such resources also make sure that they address the needs of a wide audience of teachers and learners. The CGIAR LOR is set to join a global consortium of LORs created and managed by a global learning community; increasing the CGIAR learning resources will become more shareable worldwide so that interested users can access these at one central location.

ANNEX 6: LO One-Pagers (2 examples)

**CGOnline Learning Resources. An Introduction to Learning Objects**

**Learning Objects:** The concept of learning objects provides a means to increase the use (and reuse) of previously developed learning materials, breaking them into specific components or fragments of the original resource, based on the learners or end users learning requirements. When developing learning objects, remember that they will become components or modular units that will be assembled together to form lessons and courses (although they can also be used when developing lectures, presentations or discussions). This means that they should be self-contained so that they can be deployed in varied contexts.

**Thinking LOs...** This concept requires a rethinking in how we design learning content that shifts away from integrated packages, such as training manuals, towards collections of specialized, reusable and granular components. This will allow trainers, educators and course creators to save time by re-purposing existing materials in lieu of developing new ones from scratch.



<http://elearningmag.com/ltimagazine/article/articleDetail.jsp?id=2031>

- Ⓢ The process can be likened to working with LEGO™ blocks, where you take tiny information blocks, put them together and when these assets are organized around a learning objective; they are assembled into Learning Objects.
- Ⓢ A learning object must include a learning objective. It will be deployed in a pedagogical context. For example, a newspaper article cannot be considered a learning object without a specific educational activity involved.

## Learning Objects should be:

**Learnable** - a completed LO will result in a specific learning object achieved

**Deployable** - different LO s can be aggregated and sequenced to form larger units of instruction

\*Barrit and Alderman. *Creating a reusable learning objects strategy*. Pfeiffer. San Francisco. 2004.

## Now proceed to lesson 1: Tip for Trainers 1-Building LOs from Existing Courses

### Example 2:

## CGOnline Learning Resources. Tips for Trainers

### Building Learning Objects (LOs) From Existing Courses

#### Navigating without a map...

There's no instituted "right way" to create LOs from an existing course. Size, shape, and media can vary between authors. We do know that a LO has an instructional purpose embedded in its design. Our goal in the CGIAR is to make our LOs *reusable* by our community and our partners. Without jeopardizing the integrity or objectives of the original design, the first step to identify the natural breaks within the course. There's no need to recreate a course that's been developed. That's far too time-consuming! Instead, approach building an LO like deconstructing a course to a point where a LO makes sense on its own – separate from the manual or program it was originally intended. E.g.: chapters, units, graphics, lessons, activities, etc.

#### Chunking: how small is too small?

Creating LOs can be compared to separating a course into individual chunks. Your LOs need to balance *flexibility* (can it easily be inserted into a new course without much editing by the user?) with *applicability* (does the context still offer educational value?).

The smaller or more *granular* the LO the less context there is for future users to work from. You may need to cross-reference or include enabling objectives in the LO to provide coherence to the topic in question.

#### Things to consider:

1. include an enabling objective if learning outcomes aren't clear;
2. does the LO meet the intended learning outcome or do you require more teaching narrative;
3. simplify text to allow easy reading on-line;
4. use brief sentences and short paragraphs whenever possible;
5. be concise. Bullet lists and tables help;
6. verify that the conclusions and introductions make sense – do they reference another part

There are limitations to reusability. You know your material best. Not all topics can be flexible enough to fit all contexts.

You can't predict whether your LOs will be used in future for eLearning or face-to-face training. The next user will *re-contextualize* and alter the style and format to suit their needs.

- of the course, section or LO;
7. write-out acronyms;
8. include full references for each LO;
9. time permitting, separate your examples from the text to be easily identified; and
10. properly tag your LO so it can be found!

### Here's an example...

We've created two LO examples from *Training in Agroforestry: A toolkit for trainers*. The first example is Part 1 of the full manual. We identified Part 1 as a natural break in the course. The second example is Part 1 split into two LOs: (1) curriculum development background and (2) participatory curriculum development. Note that we've added an enabling objective to LO(1) because the original learning outcome was a better fit with LO(2).



C:\Documents and Settings\kjackes\My I C:\Documents and Settings\kjackes\My I C:\Documents and Settings\kjackes\My I

## ANNEX 7: Uploading How-to document

### Uploading and Indexing at-a-glance

#### 1. Insert New Learning Object

Each data element is provided with a designation detailing the obligation of the element in resource description. ‘Mandatory’ indicates that this element must be filled-in by the metadata author, in fact if the field is left blank; the rest of the uploading of this resource will remain unsuccessful. The ‘Optional’ field indicates that the author can decide whether or not to fill this field. However, resources become of greatest use within the repository when the maximum amount of information is provided

#### General – Mandatory elements

**Document Title:** Insert the title of the object you are indexing. The ‘add’ button can be used to enter a secondary title if needed.

**Document Language:** choose the language of the document from the drop-down list

**Contributor:**

- **Existing Contributors:** The system remembers which contributors you have inserted from previous sessions. You may choose an existing contributor.
- **Role:** Those entities (i.e., people, organizations) that have contributed to the learning object during its life cycle (e.g., author, editor, publisher). Choose the role from the drop-down list.
- **Name:** The identification of and information about contributing entities. Insert any personal, organizational names or conference proceedings that have contributed to the development of this learning object. Order the entities according to relevancy.

**Description:** Enter a brief, but concise description of the learning object.

**Publication Date:** The date of the contribution (not date of indexing). Insert the numerical entry in the format of: day-month-year.

#### General – Optional Elements (available under the ‘optional’ button)

The ‘optional’ button takes you to more descriptive elements. Please fill out as much of this as you can.

**Identifier:** The name or designator of the identification or cataloguing scheme for this entry. Choose from the following fields:

**ISBN:** International Standard Book Number

**ISSN:** International Standard Serial Number

**URI:** Uniform Resource Identifier

**DDC:** Dewey Decimal Classification

**LCCN:** Library of Congress Call Number

**Structure:** Choose the type of resource, of which this resource is a part.

**Atomic:** an object that is indivisible (in this context).

**Collection:** a set of objects with no specified relationship between them.

**Networked:** a set of objects with relationships that are unspecified.

**Hierarchical:** a set of objects whose relationships can be represented by a tree structure.

**Linear:** a set of objects that are fully ordered (connected by “previous” and “next” relationships).

**Aggregation Level:** Indicate the degree to which, the learning object represents a grouping and how it could be broken down into smaller components.

1 = Topic

2 = Lesson

3 = Module

4 = Course

**Keyword:** Type keywords that describe the resource in addition to the classification, title or description fields.

**Version:** The edition of this learning object. (ex. Alpha, Second edition, Revised edition).

**Status:** The completion status or condition of this learning object.

**Coverage:** Select a country or region to which this learning object applies

## Educational - Mandatory

**Interactivity Type:** Predominant mode of learning supported by this learning object.

- **Active** learning (e.g., simulations, questionnaires, and exercises) is supported by content that the learner is to perform or practice.

- **Expositive** learning (e.g., essays, video clips, graphical material, and hypertext documents) occurs when the learner absorbs the content presented. An expositive learning object displays information but does not prompt the learner for input.
- **Mixed**: When a learning object blends active and expositive learning.

**Learning Resource Type**: The specific kind of learning object.

**Interactivity Level**: The degree of interactivity characterizing this learning object

**Intended End User Role**: Principal user(s) or target audience of this learning object.

**Didactical Context**: Environment where learning and use of learning object is intended.

### Educational - Optional

**Semantic Density**: The degree of conciseness used in the learning object. For example, active documents can have:

- **low semantic density**: a screen filled up with explanatory text, a picture of a combustion engine, and a single button labelled "Click here to continue"; or
- **high semantic density**: screen with short text, same picture, and three buttons labelled "Change compression ratio", "Change octane index", "Change ignition point advance"

**Difficulty**: How hard it is for the intended audience to use or work through the resource.

**Typical Learning Time**: Approximate minutes it takes the intended audience to use or work through the resource.

### Usage Rights

**Access**: Who should have access to this object

**Restrictions**: Conditions for using this learning object.

**Description**: Further description on the restrictions of this resource

### Technical

*The unhighlighted values are automatically generated; you should only insert data if the system does not recognize the format.*

**Main File Name**: The file name of the resource.

**Media (MIME) Type**: Technical datatype(s) of the entire learning object. This data element is used to identify the software needed for access. Select at least one datatype (MIME type) from the drop-down list if one is not automatically generated.

**Required Disk Space (kb):** The actual size of the learning object in bytes represented as a decimal value. This data element refers to the uncompressed size of the resource. Enter the byte size of document if one is not automatically generated.

**Location:** This is where the learning object is electronically located.

**Requirement:** The technology required to use this learning object, e.g., hardware, software, network, etc. Select one technology from the drop-down

- **Minimum version:** Lowest possible version of the required technology to use this learning object.

**Installation Notes:** Explains the procedure of how to install the learning object.

**Other Constraints:** Information about other software and hardware requirements needed to use the learning object and not expressed by 4.4: *Technical Requirement*.

**Technical Duration (minutes):** Continuous time a learning object takes when played at intended speed.

## Classification

**Purpose:** Choose a reason for classifying the learning object from the drop-down list..

**Taxonpath(s):** Specific label under the AGRIS subject categories that characterize the classification of the learning object. Use the space below to refine the description.

- **AGRIS subject categories (ASC):** established agricultural descriptors by the FAO.

**Description:** Description of the learning object relative to the stated purpose, such as discipline or objective.

**Keywords:** Select the Browse button, and key in your term. The AGROVOC Thesaurus will provide you with related terms. Select one from the list.

## 2. Update your Personal Template

This tool enables you to save time uploading resources if you are uploading many of the same type. For instance if you are uploading 10 objects by the same author in the same AGRIS discipline you may want to save this information in your personal template so that you do not have to key it in for the next 10 objects.

Fill-in the Personal Template as you would the Metadata Categories for any new object. You are free to change the template whenever necessary; however, you must update your profile to save changes.

*Please note: this page is not meant to save your personal information.*

For example, to update contributors (useful if you are about to upload a series of objects by the same contributor):

- Choose a new role from the drop-down menu
- To add a contributor you have two options:
  1. Click **Add Contributor** located in the Contributor(s) category; or
  2. Within Existing Contributors, click **Add**. A new entry field will appear beneath the existing contributor.
- The **Optional** button allows you to include contact details. This is useful if specific usage rights on learning objects are needed.
- Once **Optional** is open, you may close it by clicking **Less..** To save your Personal Template, scroll to the bottom and click **Update Profile**.
- Once saved, a message will appear, **“your profile has been updated.”**

**ANNEX 8: Action Plan**

Action	Responsible	November				December		Comments
		1 to 4	7 to 11	14-18	21-25	28 to Dec 2	Beyond	
<b>Application Profile</b>								
Finalization of the Application Profile	Courtney Paisley and Thomas Zschocke							
Layout of the AP into InDesign	Thomas Zschocke							
Translation of the AP into XML	Thomas Zschocke							Attach to the workshop report
<b>Silo</b>								
Access URLs for CGIAR training	Jan Beniast							
Moodle migration to the CGIAR server	Julien and ARIADNE							
Finalizing the AP changes within the Silo	ARIADNE							
<b>VRC/AGM</b>								
Creating center-specific spaces on the VRC site.	Thomas Zschocke							
Creation of a story board for the OLR movie	Thomas Zschocke							
Produce the OLR 'movie'	Beniest, Paisley and Jackes							
Explore, communicate and upload within the VRC. 'adding value'	The OLR community							Specifically, the training calendars of each centre
Promotion Brochure for the ARIADNE and the Moodle	Headed by Jan Beniast and to be implemented by the ICT-KM							
Integration and coordination with other ICT KM projects	Thomas Zschocke							Coordinate with Konnectsoft, specifically

Training Community								
Testing the Silo and Moodle	The OLR Community							Report bugs to Bram and post on Moodle
Populating the Silo with resources.	The OLR Community							
Provide feedback on the draft workshop report								
The creation of a Moodle course and its implementation online	CIP, ICRAF, IPGRI/CIAT, ICARDA							1 inter-center and 4 specific course ones.
Creation of a demo-course for a 'big bang' promotion	All of the CGIAR training centers, individually.							
Development of a proposal for phase 2	The OLR Community							
Coordination								
Create a single workshop email and olradmin acct.	Courtney Paisley							
Identify CGLRC resources that exist in the Silo.	Courtney Paisley							Email the Community
Informing the absent centers to encourage them to participate and upload resources	Jan Beniast							Emails and reminder
Determine the password regulations for the OLR under Plumtree	Jan Beniast and Courtney Paisley with VRC and ARIADNE							
Workshop Report	Kerri Jackes and Courtney Paisley							1 <sup>st</sup> draft; Nov 15. Final Dec 1st
Provide a 'job aid'; guidelines for object insertion	Kerri to lead, with the help of the Training Community and ARIADNE							Gather information from others on 'quality policies'