



# KAGERA FACTSHEET

## SHARING SUSTAINABLE LAND MANAGEMENT KNOWLEDGE

Marebe microcatchment, Kigali province, Rwanda (photocredit: James Batchelor)

This factsheet presents Kagera TAMP project progress to analyze, document and evaluate Sustainable Land Management (SLM) technologies and related approaches in the transboundary Kagera river basin. The aim is to generate knowledge on SLM management and at the same time help the project team to promote wide adoption of SLM technologies and approaches that can generate local, national and global benefits including: restoration of degraded lands, agro-biodiversity conservation and sustainable use and improved agricultural production, leading to increased food security and improved rural livelihoods and protection of the international waters of the Kagera river.

This document aims to share our experiences in applying WOCAT methodology for SLM assessment and documentation: from conducting SLM documentation workshops and creating networks of local SLM documentalists, to selecting sustainable technologies and approaches, recording land users experiences and enhancing their stories with photographs and technical drawings, and learning from each other through evaluation and performing critical analysis of the produced SLM case studies.

In the spirit of SLM knowledge generation, we also want to share our plans to: to use the SLM documentation to support catchment and local plans; to expand our participatory

research to document and assess effectiveness of SLM practices when applied at a catchment /watershed scale and to introduce additional SLM (water harvesting) interventions in the target catchments.

*“SLM documentation process facilitate the exchange of valuable knowledge worldwide”*

Currently, our team of SLM documentalists is completing a quality check of 36 technologies and approaches. The outcomes will be finalized and disseminated by mid 2014 via Kagera and WOCAT websites. In addition we are planning to publish a handbook on selected SLM case studies in the Kagera basin.

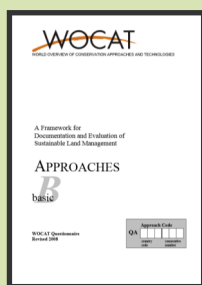
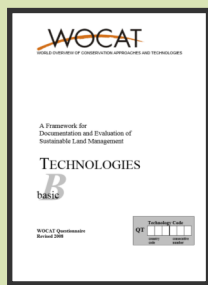
We hope that this factsheet will inspire you to document your own SLM technologies and approaches. We encourage you to apply WOCAT methodology (all tools and guidance are freely available on the WOCAT website( [www.wocat.net](http://www.wocat.net)) and if you are interested to document additional SLM stories in the Kagera basin, please join our SLM network.

Enjoy reading,

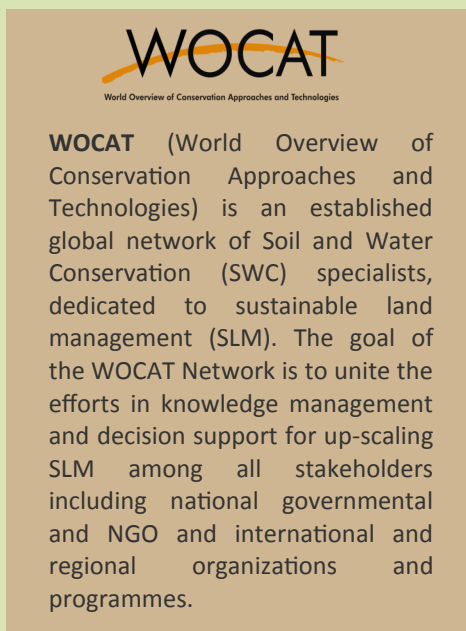
**Iwona Piechowiak**



# USING THE RIGHT METHODOLOGY



WOCAT methodology require application of Technology and Approach questionnaires



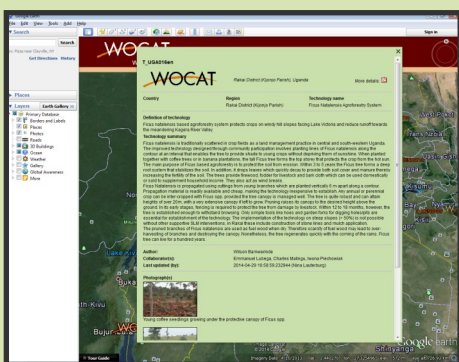
To document, evaluate, share, disseminate and use knowledge about SLM in the Kagera river basin, the project team applied the WOCAT methodology. The inventory template and a set of 3 comprehensive and standardized WOCAT questionnaires (technologies QT, approaches QA, watershed management QW) were used to collect and document all relevant characteristics of SLM interventions selected and promoted by the Kagera TAMP project. The questionnaires on technologies and approaches are used to describe an SLM case study within a selected area: QT enables specification of the technology (purpose, classification and analysis of economic, socio-cultural and ecological benefits); QA enables the associated implementation approach to be documented (operation, participation by land users, financing, monitoring and evaluation and impact analysis). The QW module is applied to obtain and overview and analyse the interactions of various SLM interventions on a watershed scale (human and natural environment, institutional and policy aspects and analysis of economic, socio-cultural, ecological impacts on- and off-site).

After selection of suitable SLM interventions and filling relevant questionnaires, the SLM documentalists enter results of questionnaires into the WOCAT global database. All technologies and approaches entered into the WOCAT database are then quality controlled by WOCAT Secretariat and freely stored and shared ([www.wocat.net](http://www.wocat.net)). The WOCAT database is also connected with Google Earth for easy tracking of suitable technologies and approaches. The WOCAT database already contains a wide range of different SLM case studies documented from all over the world (around 500 technologies from 52 countries) that are freely available to anyone who has internet access.

*Where there are many, nothing goes wrong. – Swahili*

The WOCAT methodology also helps to produce reader friendly SLM case studies (4-5 pages summaries), either manually using a prepared template or automatically through the WOCAT database.

# PREPARING SLM DOCUMENTATION STRATEGY



An example of a SLM case study tracked through Google Earth connected to WOCAT database

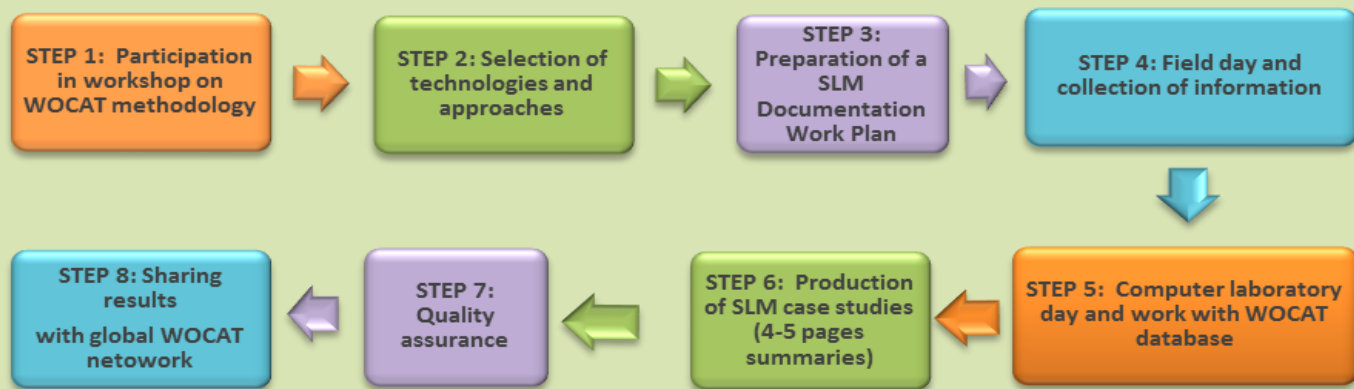
For the SLM documentation exercise, TAMP project management team and the Kagera TAMP management team identified around 30 SLM specialist with different background and experiences who are familiar with specific technologies and approaches (technical, financial and socio-economic aspects). Each SLM case study was documented and evaluated by a team of 2-3 SLM experts (main contributors) and reviewed by a wider group of SLM experts during the quality assurance process.

During the SLM documentation process, the SLM specialists were supported by a WOCAT methodology advisor, Kagera

TAMP project management team and WOCAT Secretariat. The SLM documentation strategy for Kagera TAMP project has been implemented in 8 steps.

⇒ **STEP 1:** the selected SLM specialist participated in a WOCAT methodology workshop which used a wide range of learning by doing exercises (field and computer based) on how to define, document and evaluate SLM interventions.

⇒ **STEP 2:** the SLM specialist selected technologies and approaches to be assessed, based on their identification



The 8 steps SLM documentation strategy designed for Kagera TAMP project

- ⇒ during the workshop and in consultation with project management.
- ⇒ **STEP 3:** a SLM documentation and evaluation plan was prepared for each country and each SLM case study including list of resources persons to be consulted during the data collection process (land users implementing the technology, project team, agricultural advisors, research institutes) and list of relevant documents to be reviewed (reports, technical papers etc on the technologies and approaches).
- ⇒ **STEP 4:** the SLM specialists completed a field exercise, interviewed land users and other resource persons, took photos and GPS measurements for location and scale.
- ⇒ **STEP 5:** after return from the field, the SLM documentalists collected additional information (consulted experts and documents), uploaded results of the questionnaires into the WOCAT database
- ⇒ **STEP 6:** and made a print-out of results- SLM case studies (4-5 pages summaries).
- ⇒ **STEP 7:** finally, the SLM case studies went through a quality assurance process during which main contributors revised data by incorporating reviewers' comments and improvements.
- ⇒ **STEP 8:** the final version of SLM case studies were submitted to WOCAT Secretariat for final approval before being shared with global WOCAT network and other interested SLM practitioners.

## TRAINING SLM DOCUMENTALISTS



Practical training on fulfilling WOCAT questionnaires, Tanzania, December 2012 (Photocredit: Jason Rwazo)



SLM documentalists interviewing land user, Uganda, December 2012, (Photocredit: Wilson Bamwerinde)

In February 2012 a group of local SLM experts (3 per country) interested in collaborating in the Kagera TAMP project gathered for Sustainable Land Management documentation training.

This initial workshop gave an introduction to the WOCAT methodology and identification of SLM interventions to be assessed. During subsequent training in local land use diagnostic a practical exercise was conducted on use of WOCAT questionnaires to document a SLM practice. The field visit allowed participants to collect information through interviewing key stakeholders (individual or groups land users, agricultural advisors etc.), taking relevant photos and using GPS tools to record boundary points and calculate areas of SLM interventions. The workshop participants were split into

small groups so each participant had an opportunity to raise problems and discuss potential solutions with team members.

In December 2012 Kagera TAMP project management team organized supplementary workshops on WOCAT methodology for the small groups of highly motivated SLM documentalists (17), interested in selection and scaling up SLM measures in Kagera region. The workshop participants worked in small groups composed of around 5-6 SLM documentalists in Tanzania, Rwanda and Uganda. Each team analyzed their results and shared experiences on the process, exchanged technical knowledge and identified additional innovative technologies that should be documented.

# DOCUMENTATION EXPERIENCES AND FIRST RESULTS

## BURUNDI - DEFINING TECHNOLOGIES AND APPROACHES



Energy saving cooking stove, Burundi, February 2014, (Photocredit Salvator Ndabirorere)



HIMO approach (Haute intensité de main d'oeuvre), Burundi, February 2014 (Photocredit: Salvator Ndabirorere)

The WOCAT inventory sheet helps and livelihoods and presented to compile selected SLM case results to their project manager. Salvator Ndabirorere (NPM) together with FAO HQ management team further analyzed the selected SLM interventions, in the context of catchment plans and objectives.

The questionnaires provide clear definition of a technology and approach as well as selection criteria referring to the natural (bio-physical) and human (socio-economic) environment.

During the first WOCAT methodology workshop, the Burundi SLM documentalists compiled a list of actual and potential technologies and approaches in the country. This included SLM interventions already practiced by land users, promoted by research, extension and by local projects.

SLM documentalists examined their objectives and impacts on the ecosystem, agricultural productivity

This exercise showed that some of the land users may be not be capable or interested, or reluctant to try to adapt to the changing socio-economic environment. It stimulated Kagera TAMP management team to assess current policies and institutional support as well as possibilities for change in terms of land and water use rights, gender gaps or market orientation.

*The unborn baby that fears criticism will never be born - Burundi quotes*

## TANZANIA – LISTENING TO LAND USERS VOICES



SLM documentalist interviewing field staff and land user, Kyazi village, Missenyi district, Tanzania, December 2012, (photocredit: Jasson Rwazo and Allan Bublewa)

To improve the quality of documented SLM case studies, the WOCAT methodology recommends to seek, as much as possible, advice from other SLM specialists and land users, ideally in the area or country. The WOCAT questionnaires include questions directed specifically to the SLM documentalists (expert opinion) and land user (point of view) which together fill knowledge gaps, improve the quality of data as well as readers understanding.

The two documentalists Jasson Rwazo and Allan Bublewa have

been documenting the Improved Kibanja Cropping System technology. To review and enrich initial responses to questions (QT/A), they contacted John Bocko who applies this technology on his land and an agricultural advisor supporting farmers from the Kyazi village. Mr. Bocko was very happy to see Allan's and Jasson's interest in their experiences and enthusiastically joined the dialogue on land use problems, development of technology, maintenance activities and observed positive and negative impacts.





SLM documentalists interviewing land user, Missenyi district, Tanzania (Photocredit: Jasson Rwazo and Allan Bubelwa)

The Bocko family have a tradition of practicing Kibanja (Ekibanja) also gain respect of the local community.”

*Wisdom is wealth. Swahili*

cropping system, which has been passed down from generation to generation (since 1884). It is not surprising therefore that John Bocko was proud to share his SLM knowledge: “I would like to pass my knowledge to other farmers; I would like to help others. A well-managed farm helps to feed your family but

Jasson’s and Allan’s commitment to the interview process helped to record a wide-range of information on how this technology was modified over the last decades to overcome soil erosion problems and adapt to climate change. This resulted in enriched and accurate description of the documented SLM practice.

## UGANDA – SELECTING PHOTOS & PREPARING TECHNICAL DRAWINGS

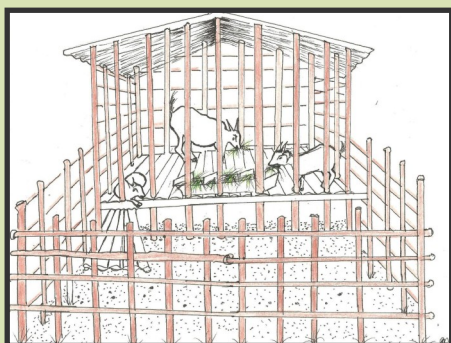


Zero Grazing technology, Uganda, February 2014 (Photocredit: Charles Malingu)

Good photos and technical drawings are crucial for understanding and illustrating documented technologies and approaches. Each documented SLM case study is supported by at least 2 high quality photos illustrating the main feature of the SLM case study plus a comprehensive and detailed technical drawing with technical specifications, measurements, spacing, gradients etc.

discussion on how to improve description of characterization and purpose as well as implementation and maintenance activities. Stefan Schlingloff from the management team confirmed: “ photos helped me to overcome communication difficulties and allowed me to ask questions”.

*“I don't trust words. I trust pictures” – Gilles Peress.*



Technical drawing illustrating Zero Grazing technology by Byonabye Proscovia, Uganda, February 2014

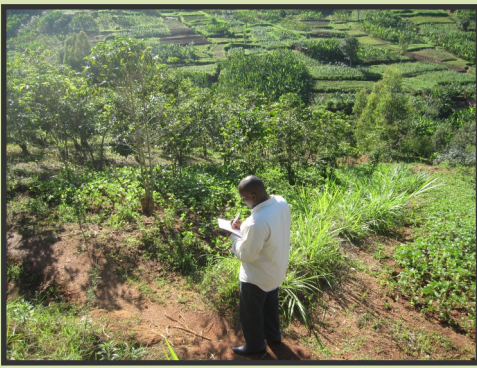
For documentation of a Zero Grazing technology, Wilson Bamwerinde and Charles Malingu took several photos over various seasons of livestock shelters, land users collecting fodder, feeding their goats and discussing maintenance activities. After return from the field, the SLM documentalists uploaded the most suitable photos into the WOCAT database and selected 2 photos of the technology and approach description to be attached to SLM case study.

The improved technology description and photo helped to prepare a complementary technical drawing. After a field visit and review of improved Zero grazing case study, the supporting SLM specialist and professional drafter Byonabye Proscovia was able to prepare several sketches illustrating details of livestock shelter.

Subsequently, the SLM documentalists used these photos to gather feedback on the technology selection and description, showing them to the reviewers starting good

Photographs and technical drawings complement narratives and make SLM case studies more attractive to read. The Zero Grazing case study will definitely prove as a useful promoting and learning tool to encourage implementation in other parts of the Kagera basin.

# RWANDA – LEARNING TOGETHER THROUGH EVALUATION



SLM documentalist collecting additional information to fill questionnaires gaps (Photocredit: Iwona Piechowiak), Rwanda 2014



Trenches combined with living or grass lines technology, Rwanda 2014 (Photocredit: Desiré Kagabo)

The WOCAT methodology is used not only to document but also review and evaluate selected SLM interventions. The questionnaires are used to document experiences of successful and partly failures. Evaluation of their results shows where there is potential for improvement or scaling up, also in another environment.

The review and evaluation process of the technologies and approaches documented by the Rwanda team was completed by Desiré Kagabo and Guy Ngenzi Mazimpaka. During the process of uploading results of questionnaires into the WOCAT database, Desiré and Guy critically reviewed collected information, filled gaps, amended contradictions and identified locally appropriate ways for modifying selected case studies to achieve sustainable and productive land management. This resulted in producing improved SLM case studies, e.g. retention trenches combined with living hedges or grass lines or a combination of manure and mulch application in banana mulch pits.

This process also helped Desiré and Guy to evaluate SLM interventions already documented in the WOCAT database and assess their suitability for wider application in the Kagera basin. During the review process, the SLM documentalists learned from experiences of other SLM documentalists, to judge strengths and weaknesses of their documented technologies and approaches and possibilities of applying or modifying them in the Kagera basin environment.

Desiré and Guy also understood that good review and evaluation of a SLM case study is impossible without close interaction with all actors involved: project team, local institutions and research centres and other local SLM experts. It brings quick benefits and mutual learning. To keep track of all actions and people to contact, Desiré and Guy prepared a work plan with deadlines. The final reward will be completed SLM case studies available to the wide WOCAT global network.

## SLM Documentation Team

Burundi	Rwanda	Tanzania	Uganda
Isaac Nimpagaritse, Jean Paul Musabarakiza, Remy Nzeyimana, Adelaide Nahimana, Donatien Karumbete, Pasteur Bahebura, Philippe Ntineshwa, Marcien Sendegeya, Astère Ndikumana, Hermes Nshimirimana, Adrien Miburo, Evariste Mbonimpa, Dieu-donné Nizigiyimana, Melchior Butoyi, Aimable Nkuzimana, Léonidas Nzigiyimpa and Nimbona Rémy (drafter)	Desire Kagabo, Guy Ngenzi Mazimpaka, Jude Munana, Vianney Kayitare, John Kayumba, Juvenal Kamanzi, Placid Ngabonziza, Bosco Kwizera, Guido Gakuba, Fidel Kidahsa, Cletus Kabandana, Mary Nyirasafari, Claude Manzi and Edgar Gatete, Nabahungu Leon, Muzana Bernard and Rusanganwa Cyamweshi	Allan Bubelwa, Jason Rwazo, Bertha Munyaga, Godfrey Baraba, Philip Ileta, Desdery Domitian, Vincent Mmari, John Subira, Iddi Makung'uto, Annagrace Kagaruki, Michael Waluce and Wilson Mugishagwe	Charles Malingu, Honest Tumuheirwe, Emmy Mpiirwe, Monika Kiruhura, Bruno Twinamasiko, Emmanuel Lubega and Byonabye Proscovia (drafter)

### Supporting SLM specialists and Reviewers :

Sally Bunning, Emmanuel Mulgirwa, Wilson Bamwerinde, Fidelis Kaihura, Salvator Ndabirorere, Joseph Anania, Stefan Schlingloff, Janie Rioux and Gérard Ciparisse

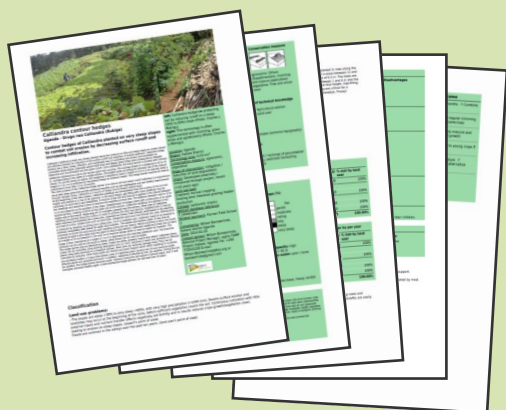
### WOCAT methodology advisors :

Nina Lauterburg and Julie Zähringer (WOCAT secretariat)

**SLM documentation Coordinator:** Iwona Piechowiak



# QUALITY ASSURANCE AND NEXT STEPS



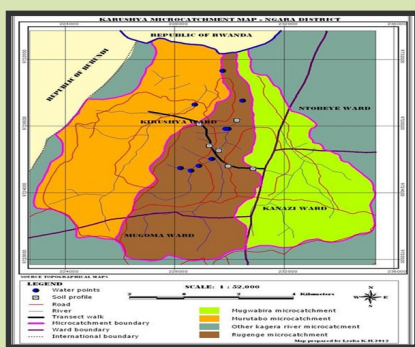
Example of a SLM case study—5 pages summary automatically generated from the WOCAT database, Calliandra contour hedges technology documented by Wilson Bamwerinde, Uganda

Currently all SLM documentation teams are completing quality checks of the documented 36 technologies and approaches. The project team involved a number of SLM experts to review each SLM case study and we are expecting that all improved SLM case studies will be disseminated in May 2014, please check regularly our KAGERA TAMP ([www.fao.org/nr/kagera](http://www.fao.org/nr/kagera)) or WOCAT website for news.

There is significant potential for the use of SLM documentation outcomes. The SLM case studies (4-5 page summaries) will be used by KAGERA TAMP project team to exchange successful field experiences among all stakeholders in the Kagera basin. Predominantly they will be shared with decision makers to support decisions on which technologies and approaches to scale up where in the river basin. The results will be also shared with

WOCAT global network of SLM specialists through the freely accessible WOCAT database. The WOCAT database is also connected with Google Earth for easy tracking of suitable technologies. We expect that they will be widely used by practitioners in the field.

Also this year, the SLM documentation teams have expanded their research to assess effectiveness of various SLM interventions on a watershed scale, considering human and environmental, institutional and policy aspects through analyzing socio-economic, cultural and ecological impacts (on- and off-site) using the Watershed Management (QW) module. In addition, the team will explore opportunities for introduction of water harvesting technologies using good examples of already documented case studies in the WOCAT database.



An example of map supporting characterisation of the Karushya/Rugenge watershed (QW module) Author Mr. K. H. Lyoba, Tanzania, 2012



View on Butare microcatchment selected for the QW assesment (Photocredit: James Batchelor)



Trenches combined with living hedges or grass lines technology, Rwanda (Photocredit: Desire Kagabo)



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## Kagera TAMP Project Website

Please refer to the project website for more detailed and complete information and updates

[www.fao.org/nr/kagera](http://www.fao.org/nr/kagera)

