

MINUTES OF THE PLENARY MEETING HELD IN Ouagadougou, Burkina Faso

July 06-09, 2015

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WAHARA Meeting Ouagadougou, Burkina Faso 6-9 July 2015



Minutes by Luuk Fleskens and Rudi Hessel

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Participants

Alterra: Rudi Hessel

UNIVLEEDS: Brian Irvine, Luuk Fleskens

MetaMeta : Abraham Abishek

IRA : Mohamed Ouessar

INERA: Hamado Sawadogo, Compaore Emmanuel, Dao Vincent, Sermé Sounkali, Agolo

Ernest, Compaoré Halidou, Ouattara Korodjouma, GUEL N. Hortense

University of Ouagadougou: DAMOUE Clément, Sawadogo Felix

Ministry of Agriculture, Burkina Faso: Ganame Sayouba

MU: Kifle Woldearegay

GART: Silenga Wamunyima

WU: Berhane Grum

ACA: Piet Stevens

Action List

no	What	Who	When
1	Send french magoye ripper manual to Hamado	Piet	July 6th
2	Provide report on adaptation	Tunisia, Zambia	July 23th
3	Discuss sharing of data in Burkina with WHATER project	Rudi, Hamado	July 31 st
4	Look at WOCAT database in WP5	WP5	July 31st
5	Submit scientific papers	All	Feb 2016
6	Decide on ESS classification to use in WAHARA	Rudi, Piet	July 31st
7	Adapt excel file based on feedback received	Piet	July 20th
8	Provide requested info in excel file WP5	Study Sites, WP1-3	July 31st
		WP4	asap
9	Develop vision, send around for feedback	WP6	July 31st
10	Decide how long website will remain after end project, arrange this	Alterra	August 31st
11	Look at lessons that could be learned from DESIRE in relation to impact/dissemination	Rudi	August 31st
12	List of upcoming dissemination possibilities, including events	WP6	From now on
13	Request for information on partnerships	WP6	July 31st
14	Updated information on publications to Rudi	All	From now on
15	Maintain list publications, create repository	Rudi	From now on
16	Check whether GART received whole interim payment	Rudi	July 31st
17	Inform Rudi about: <ul style="list-style-type: none"> - How much will you still spend (if below budget) - How much could you still spend (if above budget) 	All	July 31st
18	Discuss WAHARA finances with admin at Alterra	Rudi	July 31st
19	Suggestions for using remaining money	All	July 31st
20	Check rules submission C-forms at end project	Rudi	September

			30th
21	Provide overview spendings in different cost categories	Rudi	July 31st
22	Send Douglas Moono email to ask if GART can host final meeting	Rudi	July 31st
23	Organise WAHARA webinar	MetaMeta	Prior to final meeting
24	End of monitoring for deliverable D3.1	Study Sites	June 30th
25	Analysed monitoring data to WP3	Study Sites	July 31st
26	D3.1 provided	WP3	August 31st
27	Send monitoring data to WP4 too	Study Sites	July 31st
28	Send runoff data to WP4	Tunisia	July 31st
29	Check WAHARA ftp site for data	Rudi/Brian	July 31st
30	Socio-eco input data WP4 modelling	Study Sites	Sept 30th
31	Provide overview of which modelling input is available, and which is needed	Brian	July 20th
32	Provide rainfall data to Brian	Study Sites	ASAP
33	Provide all missing data to WP4	Study Sites	August 31st
34	Organise modelling workshop in Leeds	WP4	October 31st
35	Develop upscaling approach WAHARA	WP4	Sept 30th
36	Decide on data storage after end project	Alterra	Oct 31st
37	Regular contact to facilitate linkages and timely provision of data to other WPs	WPs 3-6	From now on

Monday 6 July

9:00 Official opening of the meeting

Welcome by Mr. le DAP de l'INERA. The Director welcomed all participants and introduced the WAHARA project, its partners, objectives and its activities in Burkina Faso for national television coverage, and opened the meeting.

Mr le Coordonnateur International du Projet WAHARA thanked the director for hosting the meeting and for giving an accurate summary of the project, and expressed that the international participants look forward to seeing the results of the WAHARA project in Burkina Faso during the excursion.

9:30 Welcome Rudi¹

Rudi introduces the goals of this meeting, with emphasis on planning for the completion of the project. His presentation reminded participants of the framing of the project, the current state of each WP, and how results need to come together. He ended with an overview of the meeting programme.

9:45 Study site Ethiopia Kifle

Bench terraces signify the largest influence of WAHARA in Tigray and beyond, in Ethiopia. It was initially selected in the stakeholder workshop, but has been taken up since its assessment by WAHARA. The project now needs to come up with design considerations for all technologies. One of the activities was an inventory of failure mechanisms of check-dams

¹ All presentations are available on the WAHARA website

(e.g. piping, side erosion, overtopping, improper design of apron, location problem, improper spacing between check-dams, siltation/sedimentation, etc.). Criteria need to differentiate between purpose of the check-dam (sediment trapping or water collection). For bench terracing, no controlled experiments were done in WAHARA, but the design considered wider scale experiences with the terraces constructed through the government. The design e.g. needs to consider the balance between drainage and water storage (depending on rainfall conditions). The effect of upstream interventions has been monitored using groundwater level observations.

Q&A

Luuk: Did you take into account the frequencies of different failures of check-dams? No, there are too many check-dams to inventory. But suggestion perhaps even qualitative assessment of which failures are common or less common, to help guide constructors.

Piet: and do you also consider siting advice on where to build or not to build check-dams (e.g. meandering rivers). Kifle: yes.

Rudi: do not need full coverage of all check-dams to make conclusions, but e.g. sample of 500 check-dams. Do you intend to provide guidelines? Kifle: yes.

Piet: do you have info on costs?; Kifle: yes, these were documented.

10:25 Study site Burkina Faso Hamado

Experimental design to test different WHT options. The cropping season 2014 had a good quantity of rain, but low number of rain days (e.g. 36 vs. normal of 42-45).

Experiment 2: soil fertility management in zai. 10 farmers in each site.

Cowpea experiment on old field of WHT for women and young people (10 per site).

Banka experiment; paper expected: the effect of supplementary irrigation on maize crop using different water harvesting technologies at Ziga; magoye gives better results for maize than zai. Did not expect this, but magoye seems to be a good technology for maize, whereas for sorghum zai are on average better.

Major challenge is to transform the fieldwork to technical documents and scientific papers (need soil analysis, help in identifying journals, and translation in to English).

Q&A

Piet: there is a magoye ripper manual in French from Zambia – will send to Hamado (**action 1**)

Luuk: initially the study sites were Ziga and Somyaga, now Ziga and Masbore. Hamado: Masbore farmers saw experimentation and Ziga and asked for extending testing to their field. Somyaga also still monitored but data now shown for Ziga and Masbore, as the latter also allows to see a difference in sowing period (1 month).

Berhane: difficult to separate effects of zai and magoye from effect of fertilisation, as no fertilisation is applied in control plot? Hamado: Yes, true, but a control plot with fertilisation is not realistic as people do not do that in practice. If they apply fertilisation, they use WHT too.

Piet: Magoye ripper vs. zai: even if no difference in yield, farmers in Zambia prefer the magoye because its speeds up work. Hamado: yes, in Burkina data on labour input was also collected, but not yet analysed.

11:25 Study site Zambia – Silenga

Rainfall 2014/15 received 467mm vs 675 in 2013/14. Dry year, late start planting (December), moisture stress in March. Crop damage up to 80%. Monitoring actions of 4 WHT with 5 farmers (control, magoye ripper, zero-till, basin cf. zai)

Challenges: Silenga lacks a computer, farmer compensation.

Q&A

Rudi: what are you monitoring apart from yield? Silenga: soil sampling (SOM, pH), conductivity

Hamado: how many replications? Silenga: no replications. Are using 5 fields of 0.5 ha each.

Kifle: what are the main findings for WP3? Silenga: on computer that is being serviced, not yet analysed.

Rudi: last year 5 farmers, would have been augmented to 20 this year. Has this not been done due to lack of inputs? Silenga, no continued with the existing farmers as it would have been difficult to compare. Rudi: but then there would have been replicates.

11:40 Study site Tunisia – Mohamed

Daily rainfall recorded to work on water balance. Experimental/demonstration sites in three main sites. Study is being done into conjunctive use of WH and SI for olive trees. Infiltration characterization was done behind gabions. Gabions are officially owned by the government, but in transformation allowing local land users to use the land while increasing infiltration. Also working in collaboration with PhD Student Wageningen on evaluation of WHT using multi-criteria analysis. Looking into ways to connect surface and groundwater, but risk of contamination. A PhD student is looking into this by modelling the risk of groundwater contamination. Modelling groundwater (MODFLOW), to be linked to surface water modelling using SWAT.

Q&A

Kifle: What risk of contamination? Mohamed: mostly domestic waste. Recharge wells directly link to groundwater and pose the main risk for contamination. If there is gravel, there is no need to go that deep. Ongoing research in demonstration site in a project with University of Sassari. Kifle: also working on a groundwater recharge project using a filter (gravel).

Berhane: when check-dams are filled with sediments, how to collect water? Recharge by transmission losses as the valley bottom is composed by gravel. So blocking the wadis helps recharge.

Piet: how big are areas of siltation? 100 x 100 m more or less. Recharge mostly between two consecutive check-dams

Hamado: what is the average yield of olive trees with zai? Difficult as there is a time lag, and because of annual bearing behaviour of olive tree.

Hamado: Problems with sedimentation of tabia? Not a problem as purpose is to build the soil. It is a problem for gabions as they prevent infiltration (Piet: but possibly displaced infiltration elsewhere).

Luuk: Is there, given lack of yield, monitoring of other aspects, such as height of tree seedlings? Yes, physiological approaches, and costs and benefits are also being collected in the experiments.

12:15 WP1 Mohamed

Presents HH survey set-up and results.

Q&A

Piet: how important is agriculture? 2% of income seems very low, even when considering self-consumption. Mohamed agrees the figure is low; livestock is quite important for many

households and might not be included in these 2%. Perhaps business activities include sales of agricultural products. Investment in agriculture also limited by availability of water.

Monday afternoon

14:05 WP2 Luuk

Presents CE on behalf of Kaushali Dave, who performed the CE analysis. Rest of WP2 is already completed. Statistical models to try to understand what is most valuable to farmers, e.g. to decrease risk or to increase production. These models were developed when results site were available.

Q&A

Abraham: when decided to have CE? A: was in proposal, to validate selection process workshops. But that is not really possible due to constraints in number of choice cards possible. Can look at top-3 though.

Piet: increase yield, or lower risk. Possible to say which they value more? A: Yes, in WP4

14:20 WP3 Kifle

Sites already presented on WP3 activities, so just a summary. Developed protocol about what study sites should do. Request report from Tunisia, Zambia on adaptation, as these did not take part in competition (**action 2**). Ethiopia continue monitoring until October.

Q&A

Luuk: bring results together need to understand what was good, what bad. Look at specific indicators that can be used in modelling, upscaling.

Rudi: deadline deliverable. Monitoring can continue, e.g. for scientific publications.

Whater project representative: Model: can perhaps use some data from Whater. Relevant to collaborate. Hamado: Thanks for suggestion. Made early trips to sites together. Whater in different parts of the country, other amount of rainfall. Brian: useful to see the data. Hamado: discuss between coordinators, also in Europe (**action 3**). Rudi: even if not for modelling, could combine work e.g. evaluation WHT semi-arid with more humid.

14:35 Luuk WP4

Intends to make use of WP5/6 section too. Needs to work towards integration WPs. Explains principles of DESMICE. Flow separated in rapid overland flow and slower sub-surface flow. CE results to include risk into the analysis. Ethiopia, Tunisia people interested in risk reduction, more than in increased yields. Burkina other way round, Zambia no data. Trialled approach with data Cape Verde. Currently developing scenarios. Timing critical, scenarios take a lot of time. Can only be done once, so scenarios cannot be revised later.

Q&A

Piet: feasibility criteria table arbitrary? A: rules are used, but can be changed. E.g. risk was assumed most important. Mohamed: depends on who pays for the technology? If subsidised more likely to try. A: in CE as if farmers had to pay themselves

Rudi: programming completed for modelling? Brian: most WHT can be modelled through changes in input. Routing not included yet.

Hamado: inconsistent things? A: No, in Cape Verde results monitoring pointing in different directions. Difficult to model in that case. Would need guessing.

Piet: did you check choice technologies in Cape Verde. A: no, was experimental
Kifle: landscape different technologies, very efficient. Try to validate the model with data? A: run models, compare with own ideas (expert evaluation).

15:15 Piet WP5

Task 2 limit to technologies we have studied. WP5 delayed, but can still be done. Presents aim and planning. Plans to work on data for task 5.1 and 5.2 on Wednesday, using Excel file.

Q&A

Abraham: deliverables. Work together on D5.2&5.3. Spend time together. Rudi: WP5 WHT, WP6 adoption, dissemination.

Luuk: potential & adaptation. Adapt to local conditions. Link to manual Kifle? Piet: Yes, valuable. Kifle: not written yet, but thinking about how works on the ground. Why some Technologies accepted why others not? Costs & does it really work? Brian: how much of that is in WOCAT? Luuk: selection of technologies. Magoye to Burkina example. Works well for maize, not sorghum. Adaptation use if for different crop? Rudi: WOCAT adaptation because no blanket approach. Always consider if should be adapted, but could be implemented without adaptation. Perhaps still adapted later, change of design? Abraham: look at WOCAT database for Africa? Luuk: other areas as well ([action 4](#)).

16:00 Abraham WP6

Abraham attended WOCAT meeting. WOCAT now database of choice UNCCD and other international organisations. Poster presentation WAHARA, distributed materials. WOCAT currently gathering feedback to adapt questionnaires. Interviewed some people, will feed into D6.1 & D6.2. Shows draft film made at meeting (interview Hanspeter Liniger, Felix Campaore, Helena Cotler, Martin Baumgart).

EXPO Milan focus on food security, WAHARA presentation.

Work on strategy on Wednesday. How to continue after end WAHARA? Action plan included, and sources of support.

Q&A

Brian: 6.1 knowledge transfer indicators? A: document is available

Rudi: content of policy briefs? A: drawing out of project results. R: so add project results in T6.3 slide. Piet: how many? A: not decided, discuss. Piet: which policy makers? A: draw on 4 sites.

Hamado: have some films, but quality is not good for specialists. Are these useful? A: Would like to sit with Hamado to have a look in the days after the meeting.

16:30 PhD progress Berhane

Present PhD work, especially the first paper. Also 2nd, about field experiments. All treatments less runoff than control. T3,5 highest reduction.

Q&A

Luuk: mapping suitability, e.g. stream order. Depends on pixel size. A: used 90 m, is OK for this scale. Combine with other criteria.

Luuk: Done a lot on this, also in Tunisia. Also in WP4. Need to harmonise things.

Hamado: size of plot. A: 3*15m. 18 plots. Hamado: what soil? A: sandy clay loam. H: yield maize? A: not analysed yet

Kifle: other PhDs working in other areas Ethiopia with more rain, use divisor.

Mohamed: why LISEM? A: first thinking about SWAT. But is long term model, does not have data. Soil loss is event issue as intensity is important.

Piet: what is tied ridge? A: Is a ditch with a bund in the middle.

17:00 Planning Rudi

WP1 database – in which form to be concluded? Need to discuss on Thursday

Plans for end of project meeting? Need to discuss on Thursday

Internal deliverable on WP3 still needs to be provided to Kifle for those sites that did not participate in the contest on adaptation documentation (**action 2**).

Provides some quotes from the impact section of the DOW to guide discussion for what we want to achieve from the project.

Q&A

Luuk: Need to revisit the initiatives we promised to link to. Perhaps some are no longer going strong, or new ones have popped up meanwhile.

Piet: Providing input towards the initiatives mentioned gives some flexibility as we did not promise to do everything ourselves. Rudi: yes, in most cases we said something like 'contribute to', and perhaps not all relevant anymore.

Mohamed: is extension not possible at all? Rudi: the project officer was very very reluctant about it. Rudi: about timing, prioritizing is important and we need to make good use of remaining time, including at this meeting.

Luuk: is impact reporting done in a workpackage, say WP6, or in the final report to the EU.

Rudi: this is done at the highest level (project level), so in the final report.

Hamado: how to deal with the fact that review process of scientific papers will take time.

Rudi: best to submit paper before the end of the project (**action 5**) as funding cannot be claimed afterwards, hoping that revisions will not take too much effort. On the other hand, it is in everyone's best interest to make sure publications are generated, even if no time can be claimed anymore.

Abraham: Is it possible to report submitted papers? Rudi: not in EU system which only accepts published papers and dissemination events. Of course, in the final report we can report on submitted papers.

Hamado: will we have another plenary meeting? Rudi: Yes

17:30 Explanation about excursion tomorrow – Hamado

Hamado provided a brief introduction to the excursion

Tuesday

During the excursion 3 stops were made.





At the first stop, we could see zai and half moons, as well as weeding that was being performed by farmers. In the zai pits, sorghum and cow pea were planted together.

The second stop was at Ziga, where we visited one of the experimental sites of WAHARA. A group of farmers was present to provide answers to questions. Hamado explained the experimental design. We also visited a banka, which is a man-made pool of about 10 * 6 m, in which water is collected to provide supplemental irrigation to crops. At Ziga, we also visited a

bouli, which is a larger pool that is used for irrigation of rice, but also to provide water for animals.

After lunch we visited the farmer Yacouba Sawadogo, who developed the zai forestry system. Mr. Sawadogo showed us his farm, and answered questions. It could clearly be seen that his efforts to reclaim degraded land particularly through growth of trees and shrubs from seed had been highly successful.

The pictures below give an impression of the excursion.

	
<p>Half moons at first stop</p>	<p>Bouli at Ziga</p>
	
<p>Zai at Ziga. There had been rain on the day before</p>	<p>At the farm of Yacouba Sawadogo</p>

Wednesday

WP5 session

Piet gives an introduction. Discussed with Abraham how to divide the day. WP5 in the morning, WP6 in the afternoon. Piet explains what will be done in the WP5 session. A table will be filled to create overview study site in T5.1 and in T5.2. Need to know e.g. which indicators to use, and which values for these mean that they are suitable. Summary of what is available & check for missing information. Discussed adaptation, of technology, but perhaps also of farming system.

Discussion on adaptation

Abraham: guidelines for farmers? Different than for institutions? Rudi: extension, NGO. For farmers language a problem. Might not even be able to read. Is agreed. Luuk: to whom should you give these. Depends on technology too. E.g. some technologies for farmers, other higher level (e.g. check dams).

Piet explains adaptation Magoye ripper, frame & weight.

Mohamed: 2 kinds of adaptation, namely to local circumstances, or to climate change.

Luuk: 2 things. 1) experience within site --> critical factors you might encounter, understand these, 2) Magoye ripper. Define where comes from, e.g. what is you do not have 2 oxen.

Brian: need adaptation if meet limitation.

Mohamed: engineering problems, but also problems linked to implementation. E.g. gabions 1985 compared with new very different. Gained experience, now better structures.

Rudi: WP3 adaptation, 2 stages of adaptation. First is after a technology is selected, it might then need to be adapted to implement if for local conditions. Second is after implementation; results might give reason to adapt.

Hamado: Farmers want to improve e.g. Magoye and zai to combine with applying organic matter at the same time.

Piet: zai accepted system, farmers want to develop that

Berhane: bench terraces, what if not enough money to do whole slope. So, start from top.

Luuk: Mohamed's example. People gain experience. Also risk of opposite. If people who do not understand adopt it might be worse. Guidelines should include that.

Abraham: Process of adaptation & implications. How contribute from systems point of view. How about farmers like Sawadogo. Could farmers like him be included in the work?

Piet: Need champions to motivate people. Use examples, cases.

Abraham: failure stories also, gives insight too.

Luuk: quotes in guidelines, videos online.

Tables for task 5.1 and task 5.2

Piet explains tables. Do not use too many categories as we need to integrate.

Brian: Distinguish between selected and not selected. Agreed, and concentrate on selected

Luuk: bench terraces included, are important according to Kifle

Rudi: looking for range (-- to ++) or description. A: need both, might not fit in table directly, so use link. Descriptive, can be figure, description or reference.

Luuk: general categories. Most technologies in experimental stage. Scale applied is small.

Looking for which info.

Piet: use project data, extrapolate.

Brian: look at climate too.

Rudi: partly in WP3, should take weather into account. Could give info on dry, normal, wet years?

Luuk: extrapolation --> very general? Include importance of agriculture.

Piet: Yes. Would like feedback on what to take into consideration.

Mohamed: some info in WP1 work on climate.

Luuk: aridity index?

Luuk: 2 ways. Consistent framework, or bottom up. Look at conditions technology, see what is important.

Abraham: separate farmers skill and organisation?

Piet: OK, but not too many columns. Both have to do with farmers

Piet: include markets, but no details

Rudi: yes, mention everything important, but only details for what we studied in WAHARA.

Rudi: can use PESERA/DESMICE be used whole of Africa?

Brian: yes at 1 km grid. Also scenarios.

Piet: Need statement like 'Africa can feed itself'. Or where in Africa not to practice agriculture.

Luuk: can use structure from other project. Should not be much work, if info in tables is available.

Brian: probability estimates yield.

Piet: predictions climate change reliable enough? Look 15 years ahead, simulate effect WHT then?

Brian: current variability can cover future change.

Rudi: Quick scan ratio PET/P, ranges for suitability categories WHT. Climate change --> changes in this ratio

Kifle: Understand adaptation method gives capacity to adapt.

Luuk: task 1 applications levels. Community different scales, from few neighbours to governmental level. Place water collection in stream or diversion. Field micro or barriers. 2nd table: labour capacity. Resources availability. Land availability include? More on attitudes/motivation.

Kifle: Half-moon stone bund no longer accepted by farmers.

Example percolation pond Ethiopia. Filled everything to get a feeling for what is needed.

Filled in plenary with input from participants (this file was given to participants at the end of the meeting).

Piet: Cases can be useful, as discussed before. Rudi: as proof of what we put in the tables, otherwise might become too general. Makes it more concrete.

Mohamed: Might also be useful to give references in the table instead of only at the end.

Abraham: some point more general about WHT instead of percolation ponds. Piet: can include, and mention for others too.

Luuk: +/- to indicate importance? As not all things mentioned might be equally efficient.

Kifle: integrate different WHT

Piet: correct, is not in table. Should be taken into account

Brian: scale

Kifle: more heterogeneity landscape than scale

Piet: add a line about combinations of technologies.

Kifle: WOCAT only individual WHT. These less effective. Linked technologies needed.

Rudi: select classification of ESS for use in WAHARA ([action 6](#)).

Brian: do we need it given what is already above?

Piet: take away or give different more specific name. Better to include not more than needed.

Luuk: critical conditions regarding location (siting) and operational issues separately.

Piet will adapt excel file based on feedback received ([action 7](#))

Deadline: provide for all technologies. In the last week of July ([action 8](#)). More attention to selected technologies, less on others. Iterative process after that, ask more info, add WP results, look up references. Should not take more than a few hours per technology. Agreed.

WP6 session

As part of D6.2 wants to develop a vision. Vision about upscaling; e.g. how we see Africa after deliverables WAHARA realised. What are we working towards? Compare 'how should the world be' with 'how the world is'. Newspaper as proof realisation vision.

Make page newspaper in pairs; heading, pictures and text. 5 title pages made and put on the wall. Authors explain.

Abraham will take elements for these to develop a vision, will send around for feedback (action 9).

Introduces 5 questions for D6.2. Additional: how to move from 4 countries to Africa? Needs some thinking.

1. Who are actors

What remains of WAHARA to draw upon after end project?

Rudi: website will remain for some time (to decide how long, action 10). Stakeholders in one of the WP1 deliverables.

Piet: physical structures Ethiopia remain demonstration sites. Also something in other sites.

Kifle: learned a lot from implementation of WAHARA. Originally 50000 for implementation, but found partners who were willing to implement. Now 10 M birr available. Have agreed with NGO to continue monitoring and conservation works for the next 3 years. Good collaboration with NGO.

Piet: made WAHARA fit into framework in country.

Kifle: approach WAHARA was really educational, helps to implement similar projects.

Integrate yourself in system, work with stakeholders.

Piet: what farmers have learned. Is more than training, also motivation

Abraham: asks Zambia

Silenga: possibility is there. Piet: conservation farming is policy. WAHARA contributes to that. WAHARA reinforces ongoing policies, with more focus on water harvesting.

Abraham: lessons DESIRE

Rudi: no book or second website, but will think about other lessons we might draw from WAHARA (action 11).

Luuk: WAHARA more on upscaling that DESIRE.

Kifle: bench terraces taking off; is upscaled.

Later, after return Hamado, Mohamed

Mohamed: development projects

Abraham: upcoming things like water vision 2025

Mohamed: subsidies via national framework, so national policy makers important stakeholders. Provinces might become more autonomous, but need to take national level into account.

Luuk: farmers organisations should be included?

Abraham: champion farmers part of the strategy? Like Sawadogo

Hamado: farmers played big role. E.g. NGO bought motor cycles to allow Sawadogo go to market for explaining zai.

Abraham: what remains behind of WAHARA? E.g. translation.

Rudi: translation more needed for more local stakeholders.

Kifle: reach also stakeholders beyond those who contributed to WAHARA. Different approaches for different sites. E.g. Ethiopia government, other places champions. Depends on country, institutes, technologies (some only suitable for groups).

2. Agency and role

Piet: strategy not alien, is feeding existing strategies. E.g. NEPAD, CAADP

Luuk: strategies different in different countries. Some work well, others less

Piet: irrigation not too important, governments may want focussing on that, but rainfed agriculture still much more important in terms of people depending on it so in fact getting/needng more attention.

Rudi: strategy of dissemination and promotion, not strategy of implementation. We hope they do something with it, try to promote it, but can only disseminate.

Abraham: something between outreach and lobbying.

Rudi: also information in the impact chapter on target groups, purpose of dissemination, instruments of dissemination.

3. Scaling up

How to scale up beyond countries. Contact with stakeholders elsewhere. Additional types?

Luuk: African Rainwater harvesting network, Asareca, these have contacts.

Rudi: disseminate to higher level policy makers and others, up to these to disseminate in other countries. Agreed

Piet: e.g. films.

Abraham: things beyond deliverables? Keep media in mind. Physical event or other kind of media attention. E.g. webinar. Local TV etc.

Piet: policy makers not always aware of reality, can be motivated by that. Need to market knowlegde, bring policy makers? Refer to something tangible.

Kifle: research evidence to decision makers is important.

Abraham: info on upcoming opportunities welcome, will make list ([action 12](#)). Also contacts in Africa.

Piet: will carry on with work, using stuff from WAHARA too.

Luuk: back of messages with evidence. Selective in that, e.g. address widespread beliefs that prevent adoption. Or why certain governments do not act.

Tigray: conservation not effective until 2005, almost abandoned concept. One areas it did work, was documented. Before and after situation was known there. Government than adapted approach. We have some evidence why things are working.

Piet: decision made because you could show it, not because of a report. Is crucial.

Brian: barriers uptake. Look at evidence of dilution effects. ??

Berhane: spatial upscaling demonstrate with models what effect would be.

4. Sources of support

Not discussed

5. Action plan

Abraham summarised session. Would like to receive info partnerships (A will contact – [action 13](#)). Media important too. WAHARA meeting was broadcasted on Burkina Faso national television on Tuesday.

Thursday

09:00 Management issues – Rudi

Rudi explains on management issues, and financial issues. The third progress reporting was not yet officially approved by the EU, but a payment letter has been received. There is a need to send papers to Rudi once published as these need to be made available in a repository

Papers

- Fleskens et al. – focus may change
- Lebel et al. cross-site analyse didn't materialize
- Kirkby et al. not clear but leave on list
- Ethiopian papers: are going through but with different authorship
- Berhane papers to be added
- Banka paper Burkina – draft ready October. Request for assistance
- New paper scope for water harvesting in Africa added by Rudi, Piet to lead
- Tunisia: 2 papers by Ammar, some by Mohammed A. Mohamed to send update to Rudi

All to provide updated info to Rudi ([action 14](#)), who will maintain list & create repository ([action 15](#))

Journals

Rudi presented a list of potential journals – plenty of options available

Ongoing collaboration difficult now due to other projects having ended.

Water scarcity solutions call out – Rudi reminds people of this opportunity to publicize WAHARA results, but leaves it up to individual partners to decide as it takes an effort to document a case.

Finances

Rudi to check whether GART received full amount for period 2 ([action 16](#)).

Current financial data are strange in that Alterra received 97% from EU, probably due to budget shift to WU.

Meta-Meta still has to spend 180,000 Euros in the remaining period – is this feasible?

Two main conclusions:

- Avoid paying too much as claiming back from partners is difficult
- Can we minimise underspending?

Needs to know from each partner how much they will spend/could spend ([action 17](#))

Needs to discuss with financial admin at Alterra about options ([action 18](#)), after that might discuss with project officer.

How much each partner should be paid now?

Suggestions about money left. Nothing is decided yet. Can also inform in the next 3 weeks ([action 19](#)).

Q&A

Kifle: wants to do many activities on check-dams and bench terraces – design factors.

Constraint is budget, so would welcome additional budget.

Piet: budget for sending lighter/additional type magoye rippers to Burkina. Promote different models. Can also send blacksmith to give training in Burkina.

Others to send suggestions in 3 weeks ([action 19](#)).

Money left could be according to rough estimates amount to 400 k€. Estimate does not include direct cost, and also does not take into account the need to spend 25% yourself as EU reimburses 75%. Overspending at own risk. Two questions to be answered in 3 weeks ([action 17](#)):

- How much will you still spend (if below budget)
- How much could you still send (if above budget)

Reporting

C-forms still need to be submitted in paper – all other reporting done online.

What happens with C-form at end of project if not on time? Rudi needs to check (action 20), but likely EU will still request this.

Cannot claim budget for reporting after 29 February 2016. All reports need to be submitted by 29 April, but cannot claim time after this.

Hamado: overview of available budget breakdown by category is difficult to have? Rudi: claims on C-forms give info, but no overview. Kifle: need to keep own track. Rudi: can provide a not 100% guaranteed overview (action 21).

Final meeting

How to shape this event?

Abraham: how to engage the media; come up with a plan

Rudi: inviting people from organisations in Africa. Invitation out to all partners

Where? Zambia? Rudi discussed with Silenga; Rudi needs to send email to Douglas Moono (action 22).

Abraham: can also organize a webinar prior to the meeting (action 23)

Piet: possible to have other people to present? Beneficiary views? Journalist who is not us to report on progress in study sites? Rudi – latter may be more difficult.

Mohamed: is there a large meeting that coincides with last meeting that we could relate to?

Abraham: Stockholm Water Week (September)

Brian: scanning information on events in Africa and Europe? Rudi: yes could this more systematically

Other issues

WP3

Still needs information about adaptation from Tunisia and Zambia. Kifle: when needed – earlier the better. Agreed: due in two weeks (action 2).

End of monitoring for deliverable (decide): deadline was end of last month.

Kifle: depends on needs in future activities WP4-6

Luuk: how long does analysis take to provide the deliverable?

Kifle: if study sites give data by end of July (action 25), deliverable due end of August (action 26).

Rudi: reiterates – end of monitoring of data to be included is end of June (action 24).

WP4

Input data – WAHARA database ?

Luuk: also continental-scale PESERA-DESMICE modelling can be done, not yet in DOW

Abraham: Will model be available? Brian: Yes

Brian: presents overview of data input WP4. Some data can be collected together with WP3, asks for copy of data sent to Kifle (action 27). From Mohamed: data on runoff (action 28).

Mohamed: check if there are data on the WAHARA ftp site (action 29)

Brian: historical data. Rudi puts on WP1 report with available data. Brian: updating these data to include the period that the experiments ran would be good. Especially time series of rainfall are required. Runoff data of technologies. Other data are great to have.

Luuk: need for WP3 data on costs and benefits, plus need to look at applicability limitations from WOCAT and harmonizing of approaches (Berhane, Ammar – September, action 30).

Would like to have yield data for the different years, not an average.

Mohamed: Modelling work workshop WP4. Purpose: refine modelling results and training? Some data needs to be send beforehand. Brian and Luuk think this might be useful to discuss results and to include additional data.

Brian: sends list of data that he has with request for additional data (action 31). Especially rainfall data asap (action 32). Finally agreed deadline for missing data: end Aug (action 33). General data directly to Brian, experimental data in time series format through Kifle (WP3 leader).

Workshop: late October (action 34)

Upscaling: how to define where technologies fit and upscale from 12km² to 2500km² (Ethiopia). Use of 20km² grids to look at possible locations. Data to support?

Kifle: is modelling looking at combinations of different technologies? Brian: based on suitability maps. Upscaling based on locating 12-20km² catchments for applying technologies in a larger area.

Piet: would a trade-off effect on downstream availability of streamflow be permanent or temporary. Rudi/Brian: Could become more buffered, reduced peakflow. Possibly some time lag but also more water use if higher agricultural production.

Kifle: monitoring of 10 catchments, some up to 50km². Reduction peak flow. Base flow increasing. GEF project.

Brian: what technologies. Berhane: check-dams mainly, also percolation ponds, stone bunds. In other areas also other technologies such as eye-brow.

Kifle: presents overview combination of technologies in Berhane's test catchment. One technology supports the other (e.g. avoiding sedimentation, facilitating recharge, expanding farmland on terraces).

Needs applicability limitations. Brian: resolution now 90m resolution, but difficult to get down to this level of detail. Mohamed: perhaps finding the complementary from separate applicability maps.

Kifle mapping successful landscapes.

Landscape technology – Piet: can it be defined as one technology? Perhaps, and Brian intends to do this this way, but still difficult to validate. Package – rules to apply based on runoff data.

Berhane: Google Earth information on what is done.

Luuk: can you identify levels of treatment in different catchments to explore what level of treatment is enough/most cost-effective to get results? Kifle: nice, but also need to think what is feasible at this point.

Luuk: shows some slides about upscaling done in another project; this approach could be adapted for use in WAHARA (action 35)

Other issues – Rudi

How to share data: ftp, Dropbox, e-mail or file transfer service, e.g. WU service and Wetransfer (paid version? – not necessary). Brian: Prefers to receive data by email, or via a link sent with email.

Database: GIS files or only images? Rudi: also the question of how to store data at the end of the project. This still needs thought (action 36).

Abraham: best practice: database available afterwards needs dedicated partner (e.g. JRC in other projects). Piet: why not website? Rudi: Ok, but needs to check how long available.

Luuk: ISRIC has also different maps for Africa.

Need to provide information in time as we have no options to delay

Rudi suggests WP3-6 leaders to be regularly in touch to facilitate linkages (action 37).

Kifle: what is format for report? Rudi – not really a format, but provide frontpage.

No other issues

Closure of the meeting 12:30.

Rudi thanks, on behalf of the consortium, the Burkina team for hosting the meeting, good discussions, making us feel welcome and smooth organisation.

Hamado thanks all partners for coming and good travel, and hopes collaboration continues.