GLOBAL RESEARCH ALLIANCE
ON AGRICULTURAL GREENHOUSE GASES

Croplands Research Group Meeting

Rooms 5 and 6, Marriott Waterside Hotel and Marina, 700 South Florida Avenue, Tampa, Florida, USA

7 November 2013

Meeting Report

OVERVIEW

The fifth meeting of the Croplands Research Group of the Global Research Alliance on Agricultural Greenhouse Gases ("the Alliance") was held at the Marriott Waterside Hotel and Marina, 700 South Florida Avenue, Tampa, Florida USA on 7 November 2013 following the ASA-CSSA-SSSA "Tri Societies" annual meeting. The Alliance meeting was chaired by USA (Dr Alan Franzluebbers, USDA-ARS) as Co-Chair of the Croplands Research Group.

This report is a summary of the key discussions and outcomes of the meeting. PDF's of the presentations are provided separately on the member's area of the Global Research Alliance website.

PARTICIPANTS

The meeting was attended by 41 participants, representing 21 Alliance member countries, one Alliance Partner and other invited speakers.

- **Alliance Members attending:** Australia, Brazil, Canada, Chile, China, Denmark, France, Germany, Ireland, Japan, Korea, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, UK, USA, Uruguay.

- **Alliance Members unable to attend:** Argentina, Colombia, Costa Rica, Finland, Ghana, Italy, Malaysia, Mexico, Nicaragua, Indonesia, Peru, Philippines, Thailand, Viet Nam.

- **Alliance Partners attending:** Climate Change and Food Security (CCAFS)

MEETING OUTCOMES

The meeting achieved the following outcomes:

- Update from the Alliance Secretariat including outcomes from the latest Council meeting.
- Updates on the other Research Groups of the Alliance.
- Identification of adaptation and mitigation synergies and opportunities in the workplan.
- Development of a Partnership and alignment of activities with CCAFS.
- Launch of the GRAMP website.
- Announcement of a modelling project workshop in collaboration with the Soil Carbon and Nitrogen Cross-cutting Group Paris, France, 17-19 March 2014.
- Further discussion on the work areas identified at the last meeting, and development of the identified activities in the Group workplan.
- An agreement to contribute to regular emails and questions, continuing activities between meetings.
- Next steps for the Group and discussion about future meetings.

SUMMARY OF DISCUSSIONS

OPENING REMARKS

The meeting was opened by Dr Alan Franzluebbers (Agricultural Research Service-USDA) as US Co-Chair. Dr Franzluebbers has replaced Dr Steve Schafer as the US Co-Chair of the Group, and had previously supported Dr Schafer in this role. The Co-Chair conveyed apologies from the Brazilian Co-Chairs Dr Ladislau Martin-Neto and Dr Renato Rodrigues who were unable to attend the meeting.

The Chair welcomed all participants to the fifth meeting of the Group, and thanked them for their attendance. Representatives from Spain who were attending via a video link were also welcomed to the meeting.

UPDATE FROM THE SECRETARIAT

The representative for the Alliance Secretariat provided an update on current activities underway in the Alliance including a refresh of Research Group and member country pages on the Alliance website. All participants were encouraged to check that the activities they participate in are included on the Alliance website and promoted on their country webpage outlining support for the Alliance. The Secretariat also noted that it is the responsibility of Research Group participants to communicate opportunities and outcomes resulting from Research Group meetings to Council representatives.

There are now 40 member countries in the Alliance; new members that have joined since July 2013 are Belgium, Bolivia, Ecuador, Honduras, Nicaragua, Panama and Sri Lanka. Some of these new member countries have yet to identify participants for each of the Research Groups and the Secretariat asks members with contacts or colleagues in these new Alliance countries to introduce these contacts to the aims of the Alliance and suggest activities they could be interested in joining.

Key Outcomes from the Council Meeting

- Uruguay took on the role of Council Chair.
- The Netherlands was confirmed as Vice-Chair of the Alliance Council.
- A discussion on mobilisation of resources with all members agreeing to:
    - Highlight / promote the Alliance in related activities and events.
    - Integrate the Alliance into national agricultural research programs.
    - Member countries should identify opportunities and activities to include in the Research Group workplans.
- Research Groups were requested to provide a list of partnerships/collaborations underway.
- The Council agreed that adaptation and mitigation synergies within the Alliance need increased promotion, Research Groups and their representatives are requested to:
    - identify/develop mitigation projects or activities that have synergies with adaptation.
    - Include synergies between mitigation and adaptation in reporting to the Council.
    - Create specific networks to promote synergies between mitigation and adaptation.

UPDATE ON WORKPLAN ACTIVITIES

The Croplands Research Group work is divided into three main components and associated activities. Coordinators for each of the three components were asked to provide an update to the Group on activities underway and completed since the last meeting in Bari, Italy, July 2012.

Modelling N_2O emissions and Soil Carbon stocks

An overview of component 3: Modelling N_2O emissions and Soil Carbon stocks was provided by Sylvain Pellerin as component coordinator. The activity to create a database of N_2O models for crops will be developed at a workshop to be held 17-19 March 2014 in Paris, France. The workshop will be held in collaboration with the Soil Carbon and Nitrogen Cross-cutting Group with an objective to improve the synergies with the Cross-cutting Group's modelling inter-comparison project and agricultural crops. The agenda outline has been prepared with a view to cover the basic process of modelling, state of the art models, measurements and databases. There will also be sessions covering the key practices that can be used to mitigate greenhouse gas emissions (fertiliser management, soil tillage, cover crops, other) and a session on cross-cutting issues.

Topics for the presentations given during the workshop will be chosen based on the relevance to the discussions outlined on the agenda. The discussions will focus on cropping systems and will consider the N_20 guidelines that were developed by the Livestock Research Group. For this particular workshop grasslands management and modelling will not be included. The Co-Chairs from the Soil Carbon and Nitrogen Cross-cutting Group have been in discussion with the Research Groups of the Alliance to identify modelling concerns and interest.

Global Research Alliance Modelling Platform

The progress on a UK lead activity to develop a Global Research Alliance Modelling Platform (GRAMP) under component 3 was presented to the Group by Luke Spadavecchia, Jagadeesh Yeluripati and Pete Ingraham, including the launch of the website itself for the Groups thoughts and input during the testing stage.

During the Bari meeting in July 2012 the Group agreed to establish a collaborative project resolving issues around the lack of adequate metadata and information sharing for the DNDC model which was seen as a barrier to progress in inventory development. The establishment of a DNDC network brings together experts to describe versions of the model, outline model capabilities and identify mitigation options with the use of an online resource for virtual discussions and model development.

The web-based modelling platform is designed to link researchers with appropriate datasets, models and training material. The platform will eventually support a variety of models, but has begun with variants of the DNDC model to trial the platform's architecture and functionality. The DNDC model was chosen as it is one of the most widely used models for cropping systems, with multiple versions available and the ability to be modified by users.

To date experts from the United Kingdom have led the development of GRAMP with interest in collaboration from Canada, New Zealand, Denmark, Spain and the USA:

- Reviewing and integrating the existing resources for modellers using DNDC, in particular the Global DNDC network and DNDC website.
- Describing the available DNDC model versions and developing a tree of the model family which will be provided on GRAMP website.
- Identifying the best uses for the DNDC model, strengths and weakness.
- Providing recommendations for the next stage of the project including creation of a user manual, providing guidance on good practice, online tutorials and coordination of further model testing.

The test version of the GRAMP website may be found at gramp.org.uk. Members are encouraged to provide feedback and comments, but most importantly to become active users of the website.

Managing Agricultural Greenhouse Gases Network (MAGGnet) Database

The MAGGnet activity lead by the USA (Mark Liebig) under component 1 establishes a global network of experimental sites and research expertise. The network is compiling metadata from experimental sites across member countries that measure greenhouse gas fluxes and monitor soil carbon dynamics. The database currently holds information from 202 experiment sites across 16 countries.

The data collected about these sites includes location, experiment description, duration and treatments, as well as the type of data collected (soil, greenhouse gas flux, plant), a listing of related publications is noted as well as contact information for the principal investigator.

A proposal to expand MAGGnet sites which has been submitted through the FACCE-JPI multi-country funding call will provide resourcing to include greenhouse gas emissions and soil organic carbon stock change measurements to the database, and form better collaborations with the Soil Carbon and Nitrogen Cross-Cutting Research Group and their modeling activities.

Next steps for the Group include updating the second version of the database and including data from additional countries that have shown interest in the project. The network is searching for the additional funding that will allow them to undertake harmonisation of the data once it is collected. To identify appropriate mitigation options flux measurements will need to be included in the database and additional mechanisms to compare mitigation results with adaptation practices.

The Group discussed options for site classification as a way to quantify the value of the data collected. Classification would relate to the type of data collected at each site, based on the experimental set up and measurement protocols. Examples of projects using similar classifications include AGMIP and the Global Soil Map.

INRA Inventory Database

A presentation on the development of a French developed N_20 database by INRA was given to the Group by Pierre Cellier of INRA, France. The database is used to calibrate models, verify mitigation options and support policy development. The database was developed at the request of the French Ministry of Agriculture and is used as a basis for developing a Tier 2 inventory approach for France.

The database was developed in partnership between researchers and institutes combining climate and soil data along with tillage practices and crop data from previous experiments. There are some regions that are overrepresented in the database so when running a model variables and their availability in public data need to be identified. France has found that a detailed database such as this is the ideal opportunity to improve models and develop emission factors that can accurately represent national systems.

Quantifying uncertainties in N_2O emissions due to nitrogen fertiliser application in cultivated areas

Pierre Cellier then presented results from a recent project at INRA Grignon with a proposal for the Group to contribute and collaborate in this area. Accurate estimation of N_2O emissions is a requirement in croplands systems where N_2O emissions are the main greenhouse gas produced. To reduce the level of uncertainty around Tier 1 calculations and the statistical methods used to estimate for N_2O emissions the project looked across fourteen models and the resulting N_2O emissions predicted from amount of applied nitrogen comparing the resulting uncertainties. The results show that:

- Models with exponential relationship outperformed linear model.
- Models in which applied N (X) was included as an explanatory variable were better than without.
- Models with one or two random effects outperformed those with fixed effects only.

When the data was compared against IPCC models and values the IPCC models predicted greater emissions than a more considered model selection. The results suggest that improving data analysis

is just as important as standardising data collection. There is need to coordinate efforts for improved data analysis, which could be an opportunity for scientific exchange between Alliance members.

Management practices for reduction of N_2O emissions: meta-analysis

Chuck Rice from Kansas State University, USA provided results on a literature based meta-analysis identifying management practices to reduce N_2O emissions from croplands. The analysis considered global publications from peer reviewed literature that included nitrogen management and soil tillage experiments on croplands. 50 datasets were found to have published the metadata required for analysis; many publications did not include complete datasets or correct information that could be used. Key considerations from this analysis:

- Nitrogen placement and timing e.g. broadcast fertiliser or banded application
- Comparison of fertiliser types, organic or mineral
- control plots provide better comparisons than IPCC defaults
- comparison of crops e.g. low emissions from wheat compared to sugarcane
- Soil classification data is not always correct; few papers include percentage of clay and silt in the soil which is considered a limitation of the database.
- Soil tillage and no-till management did not show a significant difference across the selected datasets
- Emission rate studies, use of a non-linear mixed model can explain 50% of the variation, up to 65% of the variation is explained if temperature and precipitation data is included
- A total of 1-2 % nitrogen is lost through N_2O emissions for most crops.

The UK noted that a domestic review of their meta-data is under development; this could be a useful comparison with the findings above. The Soil Carbon and Nitrogen Cross-cutting Group workshop, March 2014 in Paris will include a discussion on meta-analysis and consider the global or regional effect of mitigation options that can be identified using this method.

Agricultural peatlands and wetlands

Lillian Øygarden of Norway, as one of the coordinators of component 2 provided an update on the activities for the agriculture peatlands and wetlands, reducing high greenhouse gas emissions from soils with high carbon stocks which have been drained for agricultural use. This effort is being led by representatives from Denmark, Finland, Norway and Sweden with interest expressed from several other countries, which is welcome by the leaders.

A review paper on peatlands in agriculture will be submitted for publication by the end of 2013. All members were invited to contribute to this paper and include country case studies. The paper includes results and specific case studies from Denmark, Finland, Norway and Indonesia to look at the viability of mitigation options:

- Possibilities to reduce greenhouse gas emissions from agricultural peat soil.
- Emission rates and mitigation options.
- Significance of cultivated peatlands in national greenhouse gas budgets.
- Land use policies to promote mitigation
- Impact of land use policies on emissions- discussed by comparing by case studies

- Future perspectives

The final paper will be linked to from the Alliance website and can be included in the Group newsletter. Options are being explored to translate the paper into other languages following its publication, so that it can be considered in the development of policy options in many countries.

Efforts are underway to host a scientific workshop for an activity coordinating a network of experimental sites on agricultural peatlands. Attempts to fund this workshop have been unsuccessful to date, however the organisers will continue to apply for resourcing for this event. This network will be similar to the US GRACEnet activity that is being considered by others in the Alliance. Future activities for the network that will be under discussion include:

- Minimum datasets required from measurements for modelling
- Consideration of peatlands soils within other ongoing modelling projects in the Alliance and elsewhere

Åsa Kasimir Klemedtsson, the Swedish coordinator has attended two FAO workshops "Expert meeting on the Role of Peatlands and Organic Soils in Climate Change Mitigation" to coordinate activities of the Group with projects underway in the FAO. The FAO community for climate change mitigation in agriculture (http://www.fao.org/climatechange/micca/75150/en/) is developing guidelines outlining responsible management considerations for peatlands. The Alliance should not duplicate this effort, but instead support the development of these guidelines and the dissemination of them to scientists and government contacts. Other opportunities for the Alliance to support these activities in the FAO include:

- Organisation of a joint seminar/workshop,
- Recommendations on agricultural peatland treatment
- Possibilities for initiating joint funding for research
- Alliance newsletter articles to report on cooperation with the FAO

Swedish researchers are developing two set of guidelines that are similar to the guidelines from the FAO as described above but with a regional focus. One will be on management of forests on drained organic soils and another on managing drained organic agricultural soils to reduce greenhouse gas emissions. Development of regional guidelines could be a future Alliance activity if other members would be interested in developing similar guidelines.

Library Database

Charles Rice, of Kansas State University proposed an addition to the Croplands Library database project on behalf of the librarians at Kansas State who support and maintain this database. http://www.lib.k-state.edu/gracroplands/

The library database currently holds peer reviewed literature relating to greenhouse gas emissions from croplands systems and is searchable and browsable by country, climate, and cropping system. The database itself does not contain complete papers or literature; it links directly to the sites that host this information. The proposal to improve the database would build a small repository of grey literature that would be contributed by members and be hosted at Kansas State library. Examples of grey literature could include PowerPoint presentations or white papers from government research and policy makers which might not be otherwise easily accessible. Any grey literature added to the

website would be done so by the owners of the research or with their permission, and would be research that could be made freely available to the public.

Other opportunities for improving the database include:

- Standardized metadata schema to ensure system interoperability
- Add full-text indexing
- Add advanced search options
- Seek grant support to scale up the project
- Potential to collaborate with the Livestock Research group and the Paddy Rice Research Group

INVITED PRESENTATIONS

Potential Collaborations with CCAFS

Meryl Richards from the CGIAR programme of Climate Change Agriculture and Food Security (CCAFS) was invited to attend the Croplands Research Group meeting and present to the Group possible collaborations with the CCAFS programme. The CGIAR is an Alliance Partner and the CCAFS which is one of the cross-cutting research issues under the CGIAR, has many synergies with the aims of the Alliance.

The CCAFS has a regional focus, with most activities taking place in East and West Africa, Asia, South East Asia and Latin America. The programme is currently structured into four research themes:

- Long-term adaptation
- Climate risk management
- Low emissions agriculture
- Linking knowledge with action

and will reorganising into flagship programmes in 2015:

- Climate smart practices,
- Climate informed safety nets,
- low emissions agriculture development
- Policies and Institutions

Previous and ongoing collaborations between the Alliance and CGIAR/CCAFS include capacity building activities such as regional workshops to build networks and training in Livestock greenhouse gas inventory training and workshops and pastoral greenhouse gas inventory training, Latin America, 2013 with International Centre for Tropical Agriculture (CIAT). Alliance member have also been involved in CGIAR events as formal advisors, champions and resource people and are consulted in the development of methods and measurement protocols.

Possible collaboration opportunities between the Groups are listed below for future exploration and discussion:

- Joint databases, SAMPLES mitigation data and the Climate Smart Agriculture (CSA) compendium
- Standard Assessment of Mitigation Potential and Livelihoods in Smallholder Systems (SAMPLES), collaboration to developing methods and protocols.
- Compendium of climate smart agriculture practices to develop a CSA prioritisation tool
- MAGGNET collaboration
- Info brief on CSA practices with proven mitigation co-benefits
- Measurement, results and verification (MRV) for nationally appropriate mitigation actions (NAMAs)
- DNDC network – Global Research Alliance Modelling Platform

CCAFS would welcome expert review on the protocol methodology for the Samples project. The document outline will be circulated to the Group for comment.

Borlaug Fellowships

Borlaug fellowships are US funded science awards offered by the United States Department of Agriculture (USDA) through the Foreign Agricultural Service (FAS) and the United States Agency for International Development (USAID). The fellowships support the goals of the Alliance and are available for young scientists wishing to learn new methods and techniques over a 12 week period. The programme requires US scientists to act as a mentor for the fellow during their time in the US, USDA works with Universities to find mentors appropriate to the fellow's research interests.

Hero Gollany from USDA spoke to the Group on her experiences of the fellowship programme as a mentor for several visiting scientists. It is important that fellows receive exposure to scientific developments from several labs and establish long term contacts with scientists in the US. The mentor spends some time in the fellow's home country to identify opportunities for support or ongoing collaboration once the US training has been completed.

Coordinated Agricultural Projects

Three US university research scientists were invited to present to the Group their experiences in participating in USA university consortia research programmes – Coordinated Agricultural Projects (CAP). These projects support collaborative research across universities and USDA research centres, with the results contributing to a wider programme of work. Funding for US research is moving towards developing scientific networks and coordination mechanisms. The CAP projects have some ability to involve international participants, including through the hosting of international meetings.

REACCH project

The Regional Approaches to Climate Change for Pacific Northwest Agriculture (REACCH PNA) CAP was presented by Dave Huggins of Washington State University. The project aims to project projected climate changes for wheat growers in the pacific northwest of the US, covering a range of agro-ecological zones using the modelling programme CropSyst.

- Objectives
    - Modelling framework

- Baselines of soil carbon and nitrogen greenhouse gas emissions
- Compare current and alternate production
- Social and economic impacts
- Identify potential pests, diseases and beneficial organisms

Components of the project include education and extension, capacity building and training for interns and post graduate students. The project has developed a cyber structure of tools which could offer collaborative opportunities (www.reacchpnw.org).

Climate change mitigation and adaptation in dairy production systems in the great lakes regions

Matt Ruark of the University of Wisconsin described his involvement with the CAP researching climate change mitigation and adaptation in dairy production systems in the great lakes regions. The project is based in north east of the US across four agro-ecological zones including the states of Wisconsin, New York and Pennsylvania. The project compares adaptation and mitigation options available to dairy farmers and covers research, data modelling and extension activities.

Each research site covers a set of treatments and site specific options for livestock, manure management and soil measurements. In particular, application of manure to the soil is a large component of the project and directly relates to cropping systems and management. www.sustainabledairy.org

Climate change mitigation and adaptation in corn based cropping systems

On behalf of the project team Alan Franzluebbers presented the work of the climate change mitigation and adaptation in corn based cropping systems CAP. The experimental sites are located in the mid north-west of the US, across the corn growing region.

The project compares management options in corn based systems such as improved drainage, cover crops and extended rotations. The project method will evaluate site specific treatments and results and use integrated modelling systems to extrapolate the results across the region. www.sustainablecorn.org

OTHER ACTIVITIES AND NEW PROPOSALS

Brazil's LABEX exchange programme

An update on the opportunities available through the LABEX exchange programme was provided by Carlos Lazarini of Embrapa, Brazil. The exchange encourages research collaboration between Brazilian scientists and other countries under several specific priority topics – including climate change.

- Established positions for Brazilian scientists - a coordinator and several researchers to work in each priority area, based in the collaborating countries
- Embrapa funds early-career scientists and university students

- LABEX reverse, senior scientists from collaborating countries travel to Brazil. Priority topics include climate change, drought tolerance and sustainable landscapes with collaborations underway through GRACEnet and other networks
- LABEX programme can also facilitate collaborations to Embrapa research projects.

Contact: carlos.lazarini@embrapa.br

Agroforestry

Denis Angers provided an update on two previously proposed projects by Canada. Agroforestry is a major component of Canada's national agricultural greenhouse gas research programme (AGGP).

- 6 projects (university based) with a focus on measurement and quantification
- Canada hosted the 13th North American AgroForestry Conference in June 2013 in Charlottetown, Prince Edward Island with participants from Canada, USA and Europe.
- A strong partnership between USDA National Agroforestry Center and Canada's – Agroforestry Development Centre (AAFC) has been developed with a formal MOU.
- Agroforestry as a climate change mitigation and adaptation tool for agriculture. Journal of Soil and Water Conservation, Volume 67, Number 5, 2012

Canada would like to exploring possibilities of expanding this formal collaboration under the Alliance and the Croplands Research Group.

Contact: Henry.deGooijer@agr.gc.ca

Guidelines for Soil Organic Carbon

Denis Angers provided an overview of the soil carbon measurement guidelines activity that the Inventories and Measurement Cross-Cutting Group is coordinating.

The Alliance could provide the experts and resources required to develop consistent measurement guidelines and methods. The guidelines will be developed incrementally on each issue with the Croplands Research Group asked to participate in their areas of expertise, such as measurements from grassland systems, aerial estimation of soil organic carbon and treatment of soil carbon pools.

Inconsistencies in the way soil carbon data is collected means that many current measurements are unable to be compared, limiting effective data sharing. By developing these guidelines within the Alliance we will build on existing work and share experiences.

Contact: brian.mcconkey@agr.gc.ca or denis.angers@agr.gc.ca or Jan Verhagen adrianus.verhagen@wur.nl

Global Potato Stocktake and Network

Jan Verhagen gave a presentation on a potato crop initiative from the Netherlands, which has links to the Inventories and Measurement Cross-cutting Group, but is more closely aligned with the work of the Croplands Group.

Potatoes are a major export crop for the Netherlands, and are now a global crop with opportunities in many regions to improve productivity. The proposed activity would have a focus on the field and farm level, and will explore links to partners across the value chain to establish a network sharing experiences and expertise. Initial activities for the Group would include:

- Global stocktake of potato crops and importance – Scoping paper is underway to identify hotspots and potential bottlenecks
- Developing a network of interested countries,
- Creation of an exchange database, including inputs, management practices, climate change impact, economic development targets
- Identify main adaptation options and quantify the impact
    - Direct (temperature and precipitation)
    - Indirect impacts (pest and diseases, Salinization)
- Identification of the main mitigation options
    - The most important GHG sources in the different production systems
- Quantify the GHG emissions (e.g. by using the Cool Farm Tool) and direct and quantification of impacts
- Cross-check of adaption outcomes against mitigation measures
- Develop links with public and private sector policy makers

Mitigation and Adaptation Synergies Discussion

In response to the Alliance Council's request for Research Groups to promote adaptation and mitigation synergies through the creation of networks, the Group discussed the current structure of the Group. The Co-Chair emphasised the need for a member to lead a network and for all members to support and resources the activities this network would undertake.

Adaptation was defined as responding to the effects of climate change with mitigation described as the efforts made to reduce the impacts of climate change. It was mentioned that it seemed inefficient to separate the two concepts and that cross-checking adaptation against mitigation options and vice-versa, as described in the potato systems proposal above, would be a way to keep both objectives in mind.

Within the current work plan modelling activities show the greatest synergies between the adaptation and mitigation, also the peatlands component was noted to have clear links to adaptation issues.

It was agreed that the current structure of the Group would not be changed at this time to create a new network; members should keep in mind the request for adaptation synergies when proposing new activities. Research to develop and promote mitigation options should also consider adaptation effects. The Groups next report to the Council will show the ways in which this issue can be best addressed under the current work plan. All members were also requested to report back on these outcomes to their Council representatives.

SUMMARY OF OUTCOMES AND ACTION ITEMS

MAGGnet

- Updated second version will be completed in the next three months
- Planning a workshop developing common views, end of 2014 or beginning of 2015
- Future work under this activity could see new and ongoing projects added to the database, showing opportunities for project collaborations and opportunities.
- Opportunities to link MAGGnet with the CCAFS compendium project will be explored.

Agricultural peatlands and wetlands

- Arranging a workshop to discuss modelling opportunities
- Updating the list of member contacts by the end of 2013
- Circulate new activities to the Group, and possible collaborations with the FAO

GRAMP

- Organising a joint workshop with participants of component 1
- Identifying collaborations with the Soil Carbon and Nitrogen Cross-Cutting Group, now that the GRAMP infrastructure is in place.

CN-MIP

- CN –MIP is an activity of the Soil Carbon and Nitrogen Cross-Cutting Group, which has been submitted to the FACCE-JPI multi country funding call.
- The project will begin in January 2014
- Objectives to coordinate model comparisons, testing and training
- Links with Croplands and Paddy Rice Research Groups, and the Grasslands Network
- Planning for a small workshop next year
- Could usefully link into the GRAMP project as well.
- A request for datasets, meeting the project requirements will be sent in March 2014.

Next meeting

To begin the discussion around the location for the next meeting the Co-Chair noted that the planned joint meeting between the Croplands Research Group and the Paddy Rice Research Group had been discussed with reservation during the October 2013 meeting of the Paddy Rice Research Group. The joint meeting had been planned for JeJu, Korea alongside the 20th World Soil Congress, however the Paddy Rice Research Group were now in favour of meeting elsewhere.

Options for the sixth meeting of the Croplands Research Group included:

a. 8-13 June 2014 during evenings of the World Congress of Soil Science in Jeju, Korea (some Paddy Rice members might still attend, as well as CN Crosscutting Group members have interest in jointly meeting) – deadline for abstract submission is 30 November 2013 – www.20wcss.org

b. 28-29 August 2014 following the European Society of Agronomy Annual Meeting (25-29 Aug) in Debrecen, Hungary, deadline for abstract submission is 1 March 2014. http://www.esa2014.hu/welcome/

c. 6-7 November 2014 following ASA-CSSA-SSSA Annual Meeting (2-5 Nov) in Long Beach, California, deadline for abstract submission is 6 June 2014 – https://www.acsmeetings.org/meetings

d. 9-15 November 2014 during or after the 20th Latin American Soil Science Meeting in Cuzco, Peru – http://www.xxcongresolatinoamericanodesuelosperu.org/index_e.php

The Co-Chair will survey all members of the Group for a preferred meeting date, with an agreed location to be announced by the end of November 2013. Further discussion on possible dates for future meetings identified the options listed below; members are welcome to make additional suggestions if they are aware of other international events the Group could meet alongside.

- 2015 July 30-August 4, Brazilian Congress of Soil Science, Natal, Rio Grande do Norte, Brazil - GRA Croplands RG business meeting prior to the congress
- 2016 November 6-9, ASA-CSSA-SSSA Annual Meetings, Phoenix, Arizona, USA - GRA Croplands RG business meeting on 10-11 Nov
- 2017 Possibly Africa as part of international event?
- 2018 August 12-17, World Congress of Soil Science, Rio de Janeiro, Brazil - GRA Croplands RG business meeting during early evenings and on 18 Aug

APPENDIX 1: Participants List

Country	Attendees
Alliance Member Countries	
Australia	Peter Grace: Queensland University of Technology (pr.grace@qut.edu.au) Iurii Shcherbak: (shcherba@msu.edu)
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