

GLOBAL POLLINATION PROJECT AND HONEYBEE FORAGE PROJECT SOUTH AFRICA

National Steering Committee Meeting #7

Thursday, 21 August 2014

KRC Seminar Room, KRC Building, Kirstenbosch Gardens, Cape Town

MINUTES

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS USED

FAO	Food and Agricultural Organisation of the United Nations
GPP	Global Pollination Project
HFP	Honeybee Forage Project
NEMBA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
NSC	National Steering Committee
PMU	Project Management Unit (currently: C Poole, R Veldtman, J Colville and M Mswazi)
SA	South Africa
SANBI	South African National Biodiversity Institute
WWF	World Wide Fund for Nature

DECISIONS, RECOMMENDATIONS AND ACTION ITEMS SUMMARY

Decisions taken:

- All members agreed that there were no amendments needed and the minutes of the November/December 2013 NSC meeting were accurate.
- NSC members decided that final deliverables appropriate for public consumption should be made available/accessible on the project website at C Poole's discretion.
- NSC members decided that the management plan should be entitled "Developing a National Strategy for Managed Pollination in South Africa."
- NSC members agreed that a broad "Pollination Forum" should be initiated in order to address the concerns in the strategic document.
- All NSC members were in agreement that the list of media coverage is a good manner of showcasing what the team achieved in terms of public awareness, although it would have been good to have some slightly more concrete statistics of awareness raised.
- NSC members agreed that the only way to report on the headline indicators is for C Poole to write a summary to inform FAO that the headline indicator deliverable is not applicable to the SA project.

Recommendations made:

- M Allsopp suggested that permanent exhibition sites be developed in the other National Botanical Gardens (other than Kirstenbosch NBG and Iziko South Africa Museum) to promote more exposure of pollination and honeybees.
- P Ivey suggested that C Poole investigate the cost of hiring a PR company to obtain some before- and after- evidence of the increase in public awareness resulting from press releases.

Action Items table:

	WHO	ACTION ITEM	AGENDA ITEM	TIMELINE
1	S Nicholson	To send peer-review publication to C Poole to be added into the list of publications for the SA GPP.	1.i	asap
2	NSC members	To send comments on management plan in track changes to C Poole.	2.1	asap
3	M Allsopp	To send updated strategic document for honeybees to C Poole and M Mswazi.	2.1	asap
4	M Allsopp	M Allsopp to comment on management plan section where more detail is required and send it to C Poole.	2.1	asap

5	C Poole	Liaise with SANBI senior management to discuss the best way to encourage the creation of a "Pollination Forum".	2.1	asap
6	PMU	Consider all the 'way forward' recommendations from this meeting and insert them into the management plan where relevant.	2.1	asap
7	PMU	See if the "Buzz for Food" short film can be included on the Hortgro online film collection via the SA Orchard website	3.2	asap
8	C Poole	Send the draft text of the new eucalyptus booklet to all NSC members for comment	3.2	asap
9	NSC members	Send pictures that can help identify gums to C Poole	3.2	asap
10	NSC members	Send C Poole publication websites and journals to which the popular article could be submitted	3.2	asap
11	NSC members	Send C Poole more occasions where the PMU can share research findings and create awareness about the GPP and HFP	3.3-3.7	asap
12	M Allsopp	Send C Poole contact details of Crop Life and Agro-Chemical Forum, as they have promised to do more press releases on crop species important as honeybee forage.	4.2	asap
13	C Poole + NSC members	Send Infosheets to NSC members once they are complete and all NSC members to provide comments.	4.3	asap
14	C Poole	Contact WWF regarding their new best practice fruit standard, in the hopes that honeybee forage considerations could be included.	4.3	asap
15	C Poole	Submit a brief summary to FAO regarding the headline indicators deliverable	f.i	asap

WELCOME AND PROCEDURAL ISSUES

a.i WELCOME

Chair's welcome

At 10:00 on Thursday 21 August 2014, the meeting Chair, Prof Sue Nicolson, welcomed members and staff to the seventh National Steering Committee (NSC) meeting of the Global Pollination Project and Honeybee Forage Project in South Africa – the final NSC meeting of the projects. As Prof John Donaldson was unable to attend and chair this final NSC meeting, Prof Sue Nicolson assisted in this regard and welcomed new committee member Ms Mereille Lewarne, the Senior Stewardship Officer of the Sustainable Agriculture Programme at WWF.

The minutes below reflect the agenda structure in number order as reflected in the meeting pack.

Attendance and Apologies

The following people attended the meeting:

NSC: M Allsopp, N De La Querra, P Greeff, P Ivey, M Lewarne, M Mac Intyre, S Nicolson, J Wolfaardt

Project Management Unit (PMU): M Mswazi, C Poole, R Siebritz, R Veldtman

Apologies were received from: J Donaldson, J de Waal, F Steyn and J Colville

K Naicker and J Hurter did not attend the meeting.

a.ii MINUTES OF THE PREVIOUS MEETING AND PROGRESS ON ACTION ITEMS

The NSC members reviewed the minutes of the previous meeting that was held via email for November/December 2013 (page 2 - 5 of meeting pack). C Poole indicated that not much feedback was received from members regarding the management plan, but that this important document would now be discussed in more detail at this final meeting. She gave a clear breakdown of the progress of action items listed in table format from the 30 May 2013 NSC meeting.

	WHO	ACTION ITEM	STATUS
1	PMU	To incorporate SANBI 'Making the Case' language into the Impact Pathway and other documentation where relevant.	Done
2	PMU	To consider financial situation for 2014 and, if necessary, apply for more funding during P Ivey's budget motivation period in Nov/Dec 2013.	No further funding needed
3	PMU	To include West Coast plants and reviews from beekeepers in the Beeplants of SA book. Draft version of the book be given to NSC members and beekeepers to ensure all comments are incorporated into final version.	Backup and west coast plants assured. Full check against PRECIS and comments by chapter experts concluded
4	PMU	To arrange that J Hutton-Squire's results are reviewed and that preliminary meetings are held to discuss the ways forward after the thesis is handed in, so as to ensure the results can be made public as soon as possible after the examination is complete.	Thesis to be handed in end Aug. Draft summary of findings is prepared.
5	NSC members	To provide a list of target stakeholders that C Poole can contact for the workshop(s) arranged to discuss J Hutton-Squire's species list before it is made available to the public.	Primary stakeholders identified. Held meeting with Guy Preston in Jan.
6	Z Visser	To discuss the potential for incorporating some social science expertise into the strategizing over the use of J Hutton-Squire's results.	Not needed for SANBI project. Will note in management plan.

7	NSC Members	To send a list of possible people to profile in the Scutellata region to C Poole.	People identified, profiles completed
8	M Mswazi	M Mswazi to relook at information included in the management plan document under 1.3 (page 52 of meeting pack) and include accurate details before the next NSC meeting. He must contact S Nicolson about a document on correct application of chemicals in considering forage resources and pollinators when spraying.	On-going, major problems already corrected. See document for comments
9	C Poole	C Poole to confirm with FAO that the management plans can be consolidated into one overall management plan for South Africa.	Completed. FAO accepts one management plan
10	PMU	To continue to work on the management plan document to simplify it, make it more readable, and exclude copy and pasted information and jargon. All recommendations from this NSC meeting should be considered as the document progresses.	Mostly completed. see draft and please comment
11	PMU	Must ensure that all NSC members and several beekeepers have an opportunity to review the management plan document at its next iteration.	NSC to comment now
12	F Steyn	To send the Conservation Agriculture review to C Poole as an example of a large-scale review of a body of work that might provide an example from which to start drafting a skeleton for a pollination-related assessment.	Discussions have taken place.
13	J Colville	To send C Poole previous reviews/special editions on pollination as additional examples for the pollination assessment.	Discussions have taken place
14	C Poole	Construct proposed skeleton of the assessment and take the issue forward with J Donaldson before presenting the skeleton at the next NSC meeting.	Not undertaking a National assessment anymore but R Veldtman and C Seymour are involved in IPBES rapid assessment.
15	F Steyn	To send dates of upcoming events to the PMU where talks can be presented.	On-going. NSC to continue to send ideas
16	F Steyn	To send more details of the programme for the WC extension symposium as well as contact details for Jerry Aries to the PMU.	Completed. Attending extension officers block session on 3 Oct 2014
17	C Poole	To send more posters, DVDs and a few slides about the projects to F Steyn for him to take to workshops to ensure more exposure and awareness.	Completed
18	M Mac Intyre and all NSC members	To send funky ideas for plant bee-friendly icon to C Poole.	Completed

Decisions

All members agreed that there were no amendments needed and the minutes of the November/December 2013 NSC meeting were accurate.

COMPONENT 1: KNOWLEDGE BASE

C Poole reminded members that there were four components to the project (as displayed in the diagram on page 6 of meeting pack) and that the main aim of this final NSC meeting was to assess the deliverables, plot the way forward as needed and record the lessons learned in each component. She explained that the meeting was therefore structured to look at the details of each activity under the four components, clearly indicating where the PMU is with regards to achievements, and what still needs to be done in terms of deliverables. She apologised for the strange numbering system of the agenda, noting that she wanted to match the activity/deliverable numbers to the agenda numbers. She suggested that the 'way forward' for each component should be captured so that these can be undertaken within the remaining project period or at least listed in the management plan document as ideas to be discussed. She also suggested that a list of 'lessons learned' should be compiled for each component, so that these can be raised at the International Steering Committee meeting in Italy in November 2014.

C Poole enquired from the NSC members whether or not to include these final deliverable reports on the website, making them accessible. After some discussion, the NSC members confirmed that only final reports with critical findings should be made public and that C Poole can use her discretion about which final reports to upload.

Decision

NSC members decided that final deliverables appropriate for public consumption should be made available/accessible on the project website at C Poole's discretion.

1.1 LITERATURE REVIEW AND BIBLIOGRAPHY

R Veldtman provided a brief summary and update, noting that the final version of the literature review will contain information of the three crops and bee forage issue. He indicated that the literature review was due at the end of September 2014 and will also consist of the students' introduction chapters, as far as possible, describing the general background of the GPP and HFP.

1.2 MONITORING RESEARCH FINDINGS + META-ANALYSIS

R Veldtman informed the NSC members that the monitoring data from the various countries will be analysed in a meta-analysis (South Africa has provided some data already). The sunflower monitoring data is the most comprehensive and J Colville's report emphasized that there was variation in species captured between years, however there was not much variation in species captured between crops close to natural areas and crops further from natural areas. Therefore there are many pollinators living inside the agricultural system. For apples, most of the species captured in the pan traps were honeybees. It is uncertain if these were managed or wild bees because it is difficult to determine this with SA's honeybees being indigenous. Findings also indicated that wild pollinators in the natural vegetation are not attracted to the apple crop when it is flowering, as there was very little activity inside the crop except for honeybees. The onion seed crop results also showed very little variation with regards to how close the crop is to natural vegetation. Research shows that bees are utilising farm landscapes inside the study areas compared to the drier natural areas due to water availability and the timing of the season. Overall there was not much monitoring done in the onion seed crops, other than results from PhD student M Brand. The pan traps collected a variety of insects, but her research showed that very few of the same insect species were found on the onion flowers – therefore showing that there is a big disconnect between the monitoring using pan traps and the actual pollinators doing the pollination on the flowers.

1.3 DEFICIT RESEARCH FINDINGS + META-ANALYSIS

R Veldtman explained that the purpose of the deficit research was to establish whether crops were experiencing a yield deficit due to a lack of pollinators. Throughout all three study crops, there were a lot of species in the system, but the bulk was honeybees doing the pollination. This stimulated the PMU to start the Honeybee Forage Project.

Rainfall is one of the biggest factors that influence pollination of sunflowers in dry land agriculture. The results also indicated that natural pollinators were either not around or not making use of the sunflower crop whether near or far from natural vegetation. In all three crops, it was very difficult to study any yield deficit as it was hard to find fields away from managed hives.

R Veldtman noted that the initial selection of crops to study for this project were not necessarily the best crops to provide the deficit research findings originally anticipated, although the original selection did cover a range of provinces. He suggested that perhaps seed sunflowers could have been a better option and given a different result because there is a higher demand for cross pollination. C Poole explained that in her understanding, the three crops studied were selected for SA because at the time there was a pollination problem or potential problem with these crops in SA. There followed a debate on the correct crops that could have been selected where pollination was a definite problem and NSC members were in agreement that the issue of crop selection should be highlighted in the 'lessons learned'.

1.4 INTERACTIONS BETWEEN AGRO-ECOSYSTEMS AND POLLINATION MANAGEMENT – STUDENT PROGRESS ON HFP & GPP

R Veldtman provided an update on the three students' progress on the HFP and GPP. He indicated that originally the project was focused on pollination, addressing the pollination issues around biodiversity and food security. However, when the findings showed the high reliance on managed honeybees it became important for the projects to investigate the issue of honeybee forage. This changed the project focus to be more forage research rather than pollination research for SA.

C Poole reminded the NSC members that the funding received for the GPP was based on food security with a biodiversity focus. She further expressed that many of the other countries obtained results closer to those expected – identifying a diversity of wild pollinators and creating conservation programmes to sustain their pollinator populations on farm sites. However, it was not as easy for SA to obtain these results due to the majority of the pollination being by South African honeybees. However, as the honeybees are indigenous, there is still an important conservation outcome for the project.

R Veldtman then summarised the students' work as follows:

M Brand completed her PhD in April 2014 showing the importance of honeybees in the onion seed crop; however findings did not provide the necessary answers onion growers were seeking to assist with occasional pollination failure, as this is more likely due to environmental issues rather than the abundance of pollinators. M Allsopp noted that the seed companies have proposed undertaking further research on the pollination failure that happens every few years, but have not yet committed funding to this research.

J Hutton-Squire is currently compiling his thesis to be submitted end August 2014. His research was on past and current patterns of forage use for honeybees, including exotic species like eucalyptus and crops – which were a major component of forage in the past and still are today. Findings indicate that there are not sufficient indigenous species available to replace exotic forage, and beekeepers are opportunistic and utilise what is available.

T Masehela will complete his thesis in December 2014 on forage studies, including: practical questions on forage, the impact of bee-keeping, and how to replace colonies. The forage information compiled is for all provinces; however the Western Cape has the best data coverage due to the good response to questionnaires in that province.

A Melin will complete her project in early 2015. She is taking a modelling approach to see what the various forage sources are by interviewing beekeepers and growers, as well as ground-truthing.

P Greeff recommended that further research be done through NRF for another 5 year programme to obtain more resolutions to the pollination and forage problem. However, the NSC agreed that this is not something SANBI would be undertaking, but that it could be included in the 'way forward' proposals included in the management plan documentation.

1.5 SOCIO-ECONOMIC EVALUATION

R Veldtman explained that the socio-economic valuation of pollination and pollinator-related issues has progressed well so far, despite SA not being able to follow the FAO protocol and only really doing an economic valuation. The original protocol was to look at socio-economic valuations of various practices – but it was developed with small-scale farming in mind and therefore SA could not apply the protocol. A workshop was held in late 2013 to discuss this issue, but the new method proposed was also not that suitable for South Africa. R Veldtman explained that assistance was sought from an economist to attempt to quantify the value of honeybee forage in South Africa; while the FAO template for national valuation of pollination value is also being used. R Veldtman is going to deliver a document on these results as part of the September 2014 quarterly deliverables to FAO.

1.6 TOOLS/NETWORKS FOR POLLINATOR IDENTIFICATION

C Poole reported that this did not have a specific deliverable. While some countries in the GPP needed major taxonomic support and many produced a pollinator identification guide for farmers, South Africa did not need such materials. A bee identification course with Connal Eardley was held for researchers early on in the project, and this was sufficient as a deliverable.

1.7 POLLINATION INTERACTION DATABASE + META-ANALYSIS

R Veldtman reported that the species found foraging on the various crops from all seven countries will be captured in a database. J Colville is currently waiting for a few outstanding identifications from Connal Eardley, which will be added to the final database.

1.8 DECISION SUPPORT SYSTEM

C Poole noted that this would be discussed further under agenda item 4.5.

1.i LIST OF PEER-REVIEWED PUBLICATIONS

C Poole briefed the members on the list of peer-review publications listed on page 21 of the meeting pack. She informed members that much of the publication work to date was co-funded. It is unlikely that the monitoring findings or deficit findings will be published; however several of the students will be trying to publish their work. Although the September deliverables calls for "scientific publications", there is currently nothing to report – although a paper by A Melin is currently in press.

The HFP will also publish a book by M Johannsmeier (essentially peer-reviewed as each chapter had a reviewer) by the end of this financial year. S Nicolson noted that her recent paper on sunflower pollen should be included on the publication list. It was also noted that M Brand's chapter of David Roubiks' revised book and the T Masehela, C Poole and R Veldtman chapter in the new FAO book "Towards Sustainable Crop Pollination" should also be added.

Action Item

S Nicolson to send peer-review publication to C Poole to be added into the list of publications for the SA GPP.

1.ii LESSONS LEARNED AND WAY FORWARD FOR COMPONENT ONE

LESSONS LEARNED

- 1.1 Could alternative crops have been chosen for South Africa in the Project Development Phase? It seems that crops like mango, seed sunflowers, berries or even canola could possibly have been better options – i.e. crops that possibly have a more measurable pollination deficit or an unknown reliance on managed honeybees.
- 1.2 The premise that biodiversity conservation leads to food security was perhaps not applicable to all situations – i.e. some studies show pollinator diversity benefits crop pollination, while other studies are showing that there is a heavy reliance on very few pollinator species, not on a diversity of pollinators. It can be challenging to ask the right questions in a changing scenario.
- 1.3 While the South African project did not focus on alternative wild pollinators and promoting the conservation of their habitat, it was a good result to showcase that honeybees are so important in a country where they are indigenous – it is vital to note the contribution of honeybees even though the world is looking for alternative pollinators.
- 1.4 Deliverables, such as those required by the GEF/UNEP/FAO project, were not easily met by students. This is because students inevitably run late on their projects and there are embargos on the release of information until such time as they publish their findings.
- 1.5 The funding received by the GEF/UNEP/FAO project was not enough to pay scientists in South Africa, and therefore students were used to undertake the research component. While this builds capacity in young scientists, it leads to the problems in #4 above.
- 1.6 The delays in the arrival of the funding contributed to the problems in #4 above, as the students were working on their research at the same time that the other components were being undertaken instead of slightly offset as was intended in the project design.

WAY FORWARD

- Other crops requiring research effort: seed sunflower, canola.
- Alternative pollinators indirectly sustain flora that sustains honeybees
- Build findings into sustainable agriculture framework
- Centre of Excellence for pollination issues (NRF?)
- Needs turn-around strategy that has government buy-in
- Risk assessment / scenario investigation: what is the likely influence on honeybee forage resources if a) the eucalyptus forestry industry does x; b) alien invasive species management agencies do y; c) swarm-trapping continues.... (needs a scenario-investigation exercise).

C Poole wrapped up Component One by explaining to the NCS members that no further research will be taken forward by SANBI, unless there is something specific that has a biodiversity focus. The list of suggestions noted above will be captured into the management plan document so that other researchers can continue this much needed research. Each section in the management plan has a "further work required" section and all research needs to be included in these sections. She requested that NSC members comment in detail on the management plan document.

COMPONENT 2: MANAGEMENT PRACTICES

2.1 MANAGEMENT PLAN

C Poole explained that management plans for other countries were fairly simple – as they provide advice on how to promote good pollination in a particular crop system. However, this was not possible for SA as pollination using managed honeybees should really be managed on a national and/or regional scale. The aim of SA's management plan document is therefore on a national scale and is currently titled "Developing a National Strategy for Securing Managed Honeybees in SA". The document will pool all the research findings of the GPP, discuss anything that is connected to the project in detail and will then also capture all the honeybee research that is still needed, and all outstanding work on other crops.. The document will provide more detail for securing different things to help manage pollinators – such as: vandalism, the viability of bee-keeping as a business, pollination knowledge, and reorganising bee-keeping and obtaining government support, honeybee diseases and pests, and agro-chemical issues.

After some discussion, the NSC concluded that the document should be entitled "Developing a National Strategy for Securing Managed Pollination in South Africa" so that it can encompass issues other than honeybee issues if necessary.

Some discussion about audiences also took place, with C Poole clarifying that this particular version of the document is a deliverable to FAO, but is also directly aimed at people who can take the document forward. Once it is more complete, the audience could be policy-makers, decision-makers and practitioners. There was agreement among NSC members that a team needs to be appointed to take this national strategy forward. The forum must have various experts involved, and include representatives from the Department of Agriculture, Forestry and Fisheries, the Agricultural Research Council, etc.

C Poole requested that NSC members send her any comments on the document as soon as possible, as it is a deliverable for end of September 2014.

Decision

NSC members decided that the management plan should be entitled "Developing a National Strategy for Managed Pollination in South Africa.

NSC members agreed that a broad "Pollination Forum" should be initiated in order to address the concerns in the strategic document.

Action Items

All NSC members to send comments on the management plan in track changes to C Poole as soon as possible.

M Allsopp to send updated strategic document for honeybees to C Poole and M Mswazi.

C Poole to liaise with SANBI senior management to discuss the best way to encourage the creation of a "Pollination Forum".

PMU to consider all the 'way forward' recommendations from this meeting and insert them into the management plan where relevant.

2.2 PROFILES

M Mswazi briefed the members on the five different profiles that were completed during the course of the GPP/HFP. He provided a brief background of why the following beekeepers and farmers were profiled for this project:

Scutellata region

Profile Name	Reason for profile (background/story)
T Engelbrecht (beekeeper)	He transports his hives across very large distances while doing pollination services for farmers and sourcing forage
D Darling (Sunflower seed farmer)	He makes use of dry land agricultural systems and relies on rainfall. His fields are very large and he decided to build his own equipment to make small furrows between the crop rows to catch the rain and prevent run-off. Pollination and yield are not of great concern.

Capensis region

P Ransom (beekeeper)	He is a landowner and beekeeper who bought a degraded farm and started planting forage species for his honeybees.
M Mac Intyre (beekeeper)	He leads a consortium of beekeepers and focuses on honey production, and builds good relations with farmers to encourage the preservation of forage resources.
J Becker (onion seed farmer)	He does not rely on bringing in managed honeybees, but undertakes practices on the farm to encourage the presence of wild honeybee swarms.

C Poole informed NSC members that these profiles have already been submitted to FAO and were approved. She further informed members that the profiles were posted on the website.

2.3 LESSONS LEARNED TO BE PUBLISHED

C Poole informed NSC members that confirmation must still be received from FAO about exactly what this deliverable consists of and what is required from the countries. She will obtain this clarity at next International Steering Committee meeting.

2.i GENERAL LESSONS LEARNED AND WAY FORWARD FOR COMPONENT TWO

LESSONS LEARNED

- 2.1 When there is no crisis, it is hard to encourage people to notice or be concerned about an issue, i.e. because South African honeybees are not showing the same serious declines as elsewhere in the world, the management practices intended to help our honeybees are not taken seriously. It is challenging to prove that it is “a bubble about to burst”.
- 2.2 South African farmers won't change practices without proof of increase to bottom line or proof of reduced risk.
- 2.3 The “Management Plan” deliverable has been a challenging one for South Africa as it has ended up being so different to the crop-based management plans in the other countries. It has been hard to make a relevant document that can be utilised and taken forward.
- 2.4 The issue of eucalyptus being an important forage resource for beekeepers and being an important alien invasive species has led to important lessons learned in the South African project – not least in the policy arena, but also in relation to management practices and best practices to propose going forward.

- 2.5 For the South African project, with its move to the landscape and regional level issues of honeybee forage, the scale went beyond the management practices that the pollinator-dependent crop farmer can accomplish – i.e. it is a provincial and even national issue, not something the pollinator-dependent crop farmers can change on their own.

WAY FORWARD

- Recognise Stewardship as a clear means to influence practices on the ground [it must be noted that Stewardship only deals with conservation areas, not necessarily agricultural best practice].
- SANBI and all NSC members can encourage the formation of some kind of Pollination Forum that can take the “National Strategy for Securing Managed Pollination in South Africa” forward.
- Is it possible to influence the regional crop issues? – e.g. seedless citrus and the excluding of bees from this important forage resource. Perhaps utilise new fruit standard being created by WWF and make sure best practices relating to bees are included.

COMPONENT 3: CAPACITY BUILDING

3.1 CAPACITY NEEDS ASSESSMENT

C Poole explained that the capacity needs assessment deliverable requested by FAO was about formal training needs. She further explained that the team undertook a needs assessment for capacity building in two ways: the first was evaluating several curricula at the high school level (Life Sciences and Agricultural Sciences) and certain colleges and universities – identifying how pollination was studied at these institutions. The second method of assessment was doing surveys of various audiences: farmers, farm workers, extension officers, etc. Questionnaires were completed and the result analysed. C Poole reminded the NSC that the full reports of this needs assessment are available, but that the basic findings showed that there was little linkage made (both in curricula or in general understanding) between the issue of honeybee forage and how that helps with good pollination and how that leads to good crop production. She noted that therefore the majority of the capacity building materials developed through the project were developed to try to make the links: forage-pollination-food production.

3.2 MATERIALS DEVELOPED

M Mswazi informed the members of the materials that were developed from this project, which included: a brochure and poster about the projects in 2011; the “Pollinators of SA Crops” poster; the honeybee forage infographic; the online reference “The Bee Genera and Subgenera of Sub-Saharan Africa” (co-funding); the “Pollinators in Africa” booklet, the DVD consisting of the short film “Buzz for Food” and materials for educators; and the brochure “Honeybees in South Africa – what landowners can do to help”.

M Mswazi further explained that there are still a few outstanding products that are in process:

- Kirstenbosch National Botanical Garden: plan to add bee-friendly plants and interpretation to the existing “wildlife friendly garden” before end of 2014.
- Iziko Exhibition: proposal has been submitted to build a pollinator/honeybee exhibit area.
- Eucalyptus booklet and identification guide: step-by-step guide on how landowners can assess whether they need to remove or demarcate their gums (as per the new NEMBA regulations). Will contain Quick Identification Guide of certain species. Awaiting comments from G Preston and others.

- Beeplants of South Africa. Book; likely to be published late in 2014. Currently in editing stage. This is considered a peer-reviewed publication and is one of the projects' main outputs. The hardcopy book will be sold at the SANBI bookshop and a digital / online version will also be available.
- Nurseries and nursery associations to make use of the plant lists and materials on our factsheets to create their own posters to encourage people to plant bee-friendly plants.
- A popular article to contribute to the following publications (and others): Conservation Farming, AgriHandbook, EnviroTeach. The idea is to submit this popular article to various magazines to educate people on why they should care about honeybees and what they can do to assist.

C Poole provided some more details about the eucalyptus booklet, noting that she is interpreting the regulations and will need this interpretation to be confirmed by G Preston. Several steps are set out for landowners to determine whether they need to apply for a permit or not. M Johannsmeier and taxonomists from the SANBI Invasive Species Programme have been assisting to create a quick identification key for certain gum species that will be included in the booklet. She noted that she had also had the opportunity to comment on the draft permit application form – which is easy to follow, but still requires some amendments by the Department of Environmental Affairs. C Poole noted that once the booklet text is all correct, it will be tested on a few landowners who actually own gums (e.g. P Ransom or J Moodie) and possibly on some of the large farms who have bees and gums so that it can give an indication whether this booklet helps. While the new NEMBA Alien and Invasive Species Regulations are effective from 1 October 2014, it will be important to work on the booklet until it is correct and useful – therefore it is unlikely the booklet will be published before November. There was a suggestion to include more economics in the eucalyptus booklet to add more value.

Recommendations

M Allsopp suggested that permanent exhibition sites be developed in the other National Botanical Gardens (other than Kirstenbosch NBG and Iziko South Africa Museum) to promote more exposure of pollination and honeybees.

Action Items

PMU to see if the “Buzz for Food” short film can be included on the Hortgro online film collection via the SA Orchard website.

C Poole to send the draft text of the new eucalyptus booklet to all NSC members for comment.

NSC members to send pictures that can help identify gums to C Poole.

NSC members to send C Poole publication websites and journals to which the popular article could be submitted.

3.3 – 3.7 TRAINING EVENTS/OCCASIONS

C Poole explained that there was a need for training in various types of audiences as per FAO deliverables – at formal school level, in taxonomic knowledge, with farmers and training with extension agents. For this deliverable, C Poole and M Mswazi have listed every event at which the GPP and HFP have been represented and submitted this to FAO every few months as the projects progressed. A list of training events and occasions were shown on page 23 – 26 of meeting pack.

M Mswazi and C Poole briefly highlighted a few events that stood out and indicated the planned presentations still to be done for 2014:

- Presentation at the various Conservation@Work meetings (Western Cape Stewardship Association)
- J Wolfaard has offered to take materials and brochures on behalf of the PMU to the Cape Floral Kingdom Expo and AgriExpo
- Presentation to the Western Cape Department of Agriculture extension officers on 3 October 2014
- Potentially at the Greenchoice Alliance meeting and various Conservation South Africa farmer meetings

C Poole informed NSC members that project materials and results are available on the website, and the short version of “Buzz for Food” is now available on YouTube. M Allsopp complimented the PMU on what they have achieved in terms of the extension components of the projects.

Action Items

NSC members to send C Poole more occasions where the PMU can share research findings and create awareness about the GPP and HFP.

3.8 ROSTER OF CONTACTS

C Poole explained that the roster of contacts was intended to allow people involved in the GPP to remain in contact after the project ends. She noted that several discussions at the International Steering Committee meetings helped bring consensus that the easiest method was to make use of social networking. The PMU was therefore involved in creating and/or encouraging participation in two African Pollinator Initiative social media groups on Mendeley and Facebook. Unfortunately neither group is highly utilised. C Poole encouraged NSC members to join the African Pollinator Initiative groups – the two links were made available on page 27 of the meeting pack for members to join.

3.i LESSONS LEARNED AND WAY FORWARD FOR COMPONENT THREE

LESSONS LEARNED

- 3.1 The Capacity Building and Public Awareness audiences were slightly muddled in the Project Development Phase, leading to the wording of the various deliverables being confusing and the various countries targeting different audiences for different issues.
- 3.2 It was extremely challenging to develop materials while waiting for peer-reviewed publications to be produced.
- 3.3 In South Africa, institutions at the higher level (i.e. college and university) are all so independent and it is very hard to produce materials that would suit them all. It depended on the individual lecturer as to whether they made use of the materials produced or not – which is acceptable.
- 3.4 Real numbers and statistics would be very useful for the capacity building materials, but they are very hard to obtain.
- 3.5 Dealing with the Department of Education (both nationally and provincially) has been very challenging. While some responses were received, there was limited willingness to arrange meetings with curricula advisors, or to try and place our materials onto webportals that educators use.
- 3.6 A short film is a very good tool that can then be adapted for use by facilitators or educators and combined with other materials for capacity building purposes.

WAY FORWARD

- The eucalyptus booklet to include other legislation besides NEMBA. Also important to push Working for Water programme to have a national road show with farmers and beekeepers and involve Department of Agriculture, Forestry and Fisheries. Promote a clear message to landowners that they don't have to remove their gums – there are options.
- Make a large final fanfare regarding M Johannsmeier's book – it is a big output from the projects.
- Is it possible to have more permanent exhibitions on pollination and honeybees?
- Move economic valuation messages in press releases, eucalyptus booklet & Infosheets.
- The training manuals in the beekeeping industry are not up to standard (seed set, hive numbers, hive standards, etc.) This is not something the project can tackle, but the beekeeping and pollinator-dependent crop industry must work on this issue.

COMPONENT 4: PUBLIC AWARENESS & MAINSTREAMING

4.1 ASSESS LEVELS OF PUBLIC AWARENESS

C Poole explained that public awareness and capacity building were mixed up in terms of audiences for some of the deliverables. FAO also suggested a big public awareness baseline survey at the start of the project and then a follow-up survey at the end of the project to measure the impact the project had on public awareness. She reminded the NSC members that she took advice on this issue at the start of the project and realised a full public survey was not possible due to insufficient funding and it was felt that the funding would be better spent for capacity building with the audiences who could make the most difference. The focus of the project therefore became capacity building among farmers and extension officers, while public awareness has only been measured through records of press coverage.

4.2 MATERIALS AND AWARENESS-RAISING EFFORTS

Following on from 4.1, C Poole noted that reports to FAO will therefore list all the media occurrences over the project period – as listed on page 27 – 28 of the meeting pack.

M Allsopp suggested that Ms Kay Montgomery be contacted to assist with the eucalyptus messaging so that landowners can be encouraged to feel that they do not have to remove their gums. C Poole agreed, saying that K Montgomery has already been approached and is helping with both the gardening/nursery “plant bee-friendly plants” campaigns and the eucalyptus issues.

P Ivey further suggested that there be a press release on the eucalyptus issue, clearly defining the economics and value of pollination and encouraging landowners to look at the booklet and Infosheets for more information. He further expressed concern that a proper public awareness before-and-after survey had not taken place. He suggested that a PR company be hired for a short period to do a quick opinion poll.

C Poole further indicated that there are few outstanding planned media releases to still be done in the coming months before the project comes to an end:

- Infosheets will be made available to journalists and to agricultural communication officers.
- The bee cartoon/icon will be made available to nursery associations and nurseries with the messaging “plant bee friendly plants”, in the hopes they will run campaigns.

- T Masehela's list of species valuable as forage to beekeepers will be posted on SANBI website by end August 2014, along with the Kirstenbosch National Botanical Garden list that was drawn up in April 2014 for the Kirstenbosch Plant Fair.
- Press releases in farmers weekly and newspapers.

Decision

All NSC members were in agreement that the list of media coverage is a good manner of showcasing what the team achieved in terms of public awareness, although it would have been good to have some slightly more concrete statistics of awareness raised.

Recommendation

P Ivey suggested that C Poole investigate the cost of hiring a PR company to obtain some before- and after- evidence of the increase in public awareness resulting from press releases.

Action Items

M Allsopp to send C Poole contact details of Crop Life and Agro-Chemical Forum, as they have promised to do more press releases on crop species important as honeybee forage.

4.3-4.4 POLICY INTERVENTIONS

C Poole noted that J Donaldson and C Poole attended the policy workshop held in Kenya in late 2013. The workshop was aimed at helping all seven countries figure out what their policy interventions were going to be, and the results were that each country had to draw up a 'policy interventions table'. C Poole noted that the NSC had been sent this table via email late in 2013, but that minimal comments were received. Page 29 of the meeting pack contained a table of all the interventions planned in South Africa, and C Poole gave a short update on each.

Under issue 2 (pro-pollinator agro-chemical policies), M Allsopp gave an update on the Agro-Chemical Technical Committee that has been established – explaining that this committee will advise the registrar on products trying to gain registration. M Allsopp will not be participating on this committee unless his costs are covered.

Under issue 3a1&2 (including pollinator and pollinator habitat considerations in land clearing and Environmental Impact Assessment authorisations), C Poole noted that she had discussions with J Manuel from SANBI's landuse planning unit. Because it is not easy to map honeybee forage, it will be very hard to provide direct assistance to landuse planners. However, J Manuel suggested a briefing for landuse planners and EIA practitioners be compiled. He also suggested that perhaps T Masehela's important forage types should be compared to SA's existing vegetation types, as these are already mapped. If the findings show that one particular vegetation type is more important than another vegetation type for honeybee forage, it might encourage the conservation of that particular vegetation type. R Veldtman also presented the conundrum of how to plan for conserving honeybee forage at the Biodiversity Planning Forum, so now landuse planners are aware of the issue. M Lewarne suggested WWF be contacted should more mapping of forage be needed, as they regularly map farms and this can be used as a pilot. P Greeff suggested that Susanne De Kock-Nel can also be contacted for assistance in mapping.

Under issue 3a3, C Poole informed NSC members that she has already presented the honeybee forage issue to the CapeNature stewardship group, but will also present the issue at the National Stewardship Technical Working Group on 10 October 2014.

Under issue 3a4 (agricultural best practice to incorporate pollinator habitat and forage concerns), C Poole noted that she and M Mswazi has met with staff of Conservation South Africa in the hopes that forage considerations could be included in GreenChoice guidelines or their Living Farms Reference. The Living Farms Reference is not currently being updated, but GreenChoice and Conservation South Africa have promised to incorporate the messaging about forage resources into their newspapers as well as distribute the “what landowners can do” brochure at their farmer meetings. M Lewarne indicated that WWF is investing in starting an agricultural best practice document for fruit; and there might be a possibility to incorporate best practice about honeybees. She offered to share the draft document with C Poole, P Greeff and M Allsopp for further input.

C Poole informed NSC members that she is thinking of drafting a letter to Forestry SA from SANBI to recommend the findings of the GPP and HFP and highlight the importance of eucalyptus. However she needs advice from SANBI senior management on this idea.

Under policy-related awareness tools, C Poole noted that the short version of “The Buzz for Food” is available online, and the various Infosheets might also make useful policy tools. She noted that the Infosheets are not yet final therefore have not been sent to the committee via email. Infosheets will tackle a particular topic and will usually accompany press releases or letters addressed to policy-makers.

C Poole requested feedback from NSC members regarding factsheets.

Action Items

C Poole to send Infosheets to NSC members once they are complete and all NSC members to provide comments.

C Poole to contact WWF regarding their new best practice fruit standard, in the hopes that honeybee forage considerations could be included.

4.5 WEBPORTAL – DECISION SUPPORT SYSTEM

C Poole reported that the SANBI website includes several pages on the projects, with sections on who the team is, what the team does, and what the project has achieved. Towards the middle of 2015, C Poole will start transferring the information to SANBI’s Biodiversity Advisor as the SANBI website focuses more on the current SANBI projects. The Biodiversity advisor will provide a permanent home for the important project outputs.

4. i LESSONS LEARNED AND WAY FORWARD FOR COMPONENT FOUR

LESSONS LEARNT

- 4.1 For the South African project, it was very hard to measure before and after Public Awareness levels. A full public awareness survey would have used a substantial amount of funding and taken a long time. Therefore the only way to measure “uptake” is to look at the number of media occurrences the various awareness efforts raised. It is hard to gauge actual uptake (i.e. change in practices).
- 4.2 Policy interventions are harder than originally anticipated in the Project Development Phase. It has been difficult to find a champion, as there is currently not a pollination deficit or pollinator crisis in South Africa.
- 4.3 The collaboration between SANBI, the Agricultural Research Council and the Department of Environmental Affairs was instrumental in ensuring that the new Alien and Invasive Species Regulations under NEMBA make provision for eucalyptus to be demarcated as “bee-forage” areas, and have de-listed two important bee-forage eucalyptus species.

WAY FORWARD

- There has been little government buy-in to this project and we need to ensure we have some champions to take this work forward.
- Make sure all press releases cover the need for establishing a pollinator forum and national strategy.
- Would it be possible to hold a “Lab” on pollination issues (like ‘operation Phakisa’ that was recently held on marine issues).
- Ensure that there is a briefing to Forestry about their role.
- Briefing to Parliamentary Portfolio Committee on Agriculture.

WRAPPING UP THE GPP & HFP in SA

f.i **REMAINING DELIVERABLES SUMMARY**

C Poole explained the remaining deliverables listed on page 31-32 of the meeting pack and indicated that there will be two deliverable periods: end September and end December 2014. She noted that all deliverables will be completed by end December.

C Poole raised her concerns about the report on headline indicators, as the project team has never been able to report on the headline indicators throughout this project in terms of FAO requirements. She noted that with the change in project focus, it has been very hard to report on the headline indicator requiring hectare estimates managed better for pollinators. She has sought guidance from FAO throughout the project but has not received any concrete recommendations on how to report on the indicators. SA’s statistics should perhaps not be added to the other countries.

Decisions

NSC members agreed that the only way to report on the headline indicators is for C Poole to write a summary to inform FAO that the headline indicator deliverable is not applicable to the SA project.

Action Item

C Poole to submit a brief summary to FAO regarding the headline indicators deliverable.

f.ii **REMAINING BUDGET**

C Poole simplified the budget contained on page 33 of the meeting page, explaining the last four months remaining of the project. She indicated that the major budget of R204,000 allocated to ‘media and publications’ is for M Johannsmeier’s book and the eucalyptus booklet. All other smaller budget amounts were allocated to operational office expenses including SANBI’s 10% administration fee that is deducted when funds arrive.

She further explained that the last income is expected in February 2015, as the final tranche will only be received once the final report has been submitted to FAO. SANBI is effectively carrying the project financially until this final tranche arrives. As the final report to FAO will need to be submitted in January, the book-printing funding will be transferred to the YREL-BEES cost centre if the book has not yet been printed (as there might be some delays in the editing and layout process).

C Poole reminded the NSC members that the Honeybee Forage Project was funded by Working for Water and the funding was managed from the YREL-BEES cost centre. The Rand-US Dollar exchange rate will likely allow for some additional funds to be allocated to the book – which is beneficial, as the SANBI Publications Unit is advising the more funding will be needed as production of books has become very expensive.

There were suggestions to have a pollination book published. C Poole indicated that NSC members should reflect this suggestion in the management plan for the pollination forum to take it forward.

***f.iii* LESSONS LEARNED RE BUDGET AND PROJECT MANAGEMENT**

- 5.1 For the GEF/UNEP/FAO project, the funding had to go through several levels of complications / bureaucracy / red tape. For example, the signing of a Higher Level Agreement between South Africa and FAO proved challenging and resulted in the first tranche of funding to South Africa being late. The financial reporting on a quarterly basis was also fairly onerous, and some of the countries battled to understand the reporting system – it was originally done in MS Word, but was then transferred to Excel. There was also insufficient clarity on how to account for carry forward amounts between the LoAs.
- 5.2 The exchange rate issue could have been better explained to all countries in the initial stage of the project to ensure that all project managers understood how FAO wanted exchange rate variances accounted for.
- 5.3 The Project Design was complicated – i.e. there were several levels of outcomes, outputs, activities and deliverables. For those not involved in the Project Development Phase, it was hard to understand all the project documentation.
- 5.4 The Semi Annual Technical Report and Project Implementation Review reports were complicated and repetitive.
- 5.5 The National Steering Committee functioned well, and the meeting frequency, paperwork and interactions were good and a model for other projects.

GENERAL DISCUSSION AND CLOSING SESSION

C Poole reiterated that she would convey all the 'lessons learned' captured at this meeting to FAO at the upcoming International Steering Committee meeting. She thanked the NSC members for all the support throughout the project and gave each member a little token of appreciation (wire beaded honeybees).

S Nicolson thanked C Poole and the team for all the hard work to make this project a success, and closed the meeting at 15:00.