Contents

Aims

The Permaculture Association UK is working on building the evidence base for permaculture and improving permaculture practice. The international permaculture research project was set up as a response to the recognition that there is a lot of permaculture research going on around the world but the majority is neither published nor disseminated. In order to support people in sharing their findings, and to further the development of consistent research programs around the world, it was decided to carry out four Surveys looking at different aspects of research to inform the building of a research network.

The first Survey investigated the scope and scale of permaculture research (full report available here) and Survey 2 looked at 'What research is wanted?' (full report available here). The aim of Survey 3 was to identify how respondents collaborate and share information.

The most important aspects of this question were identified as;
- How do those involved in permaculture research see themselves?
- Would respondents be interested in being involved in an online community dedicated to permaculture research?
- Do respondents currently collaborate?
- How do respondents currently collaborate?
- What are the perceived barriers to collaboration?
- Do respondents currently share their research?
- How do respondents currently share their research?
- What are the channels currently used to publish and disseminate permaculture research?
- What are the perceived barriers to sharing research?

From this it is hoped that it will be possible to answer the research questions;
- Is there interest in an online community dedicated to permaculture research?
- What format would be preferable?
- How can collaboration be facilitated?
- How can the sharing of research be facilitated?

Methods

The project set out to investigate how researchers and practitioners share research and collaborate, so a survey method was used. A survey with open questions and prose answers was chosen to allow full expression of people's opinions and views whilst avoiding leading participants' answers.   Thus the survey acts like a giant brain-storming session where each person comes up with the answers alone and then they are pooled. The online survey format, in addition to being quick and relatively easy, also removes social factors which can have a negative influence on the productivity of such sessions where the primary goal is to distil into solutions a number of people's experiences of problems. Where appropriate a 'yes/no' question format was used.

The survey (available here) consisted of:
- an introductory page
- a page with a data protection query and personal details entry form
- a page where respondents self-classified as either academic researchers, permaculture practitioners or both
- a page with questions concerning collaboration
- a page with questions concerning the sharing of research
- a page with questions concerning the publication and dissemination of research
- a page exploring barriers to sharing and collaboration
- a feedback page
- a final page thanking respondents for participating

Narrative analysis was used to identify common themes in responses. This was achieved by inputting all valid responses into a mind map and then grouping them by common themes.

Analysis and Results

In total, 75 respondents categorised themselves and included their current collaboration and sharing statuses and so were included in the analysis. Some responses contained more than one narrative (for a full table of results, please see Appendix 1) and thus are represented by more than one data point in some charts.

Self-Perception of Permaculture Researchers

All 75 participants answered the question "Which category best fits your approach to permaculture research: Academic Researcher, Permaculture Practitioner, Both". 13% (n=10) categorised themselves as academic researchers, 51% (n=38) as permaculture practitioners and 36% (n=27) as both.
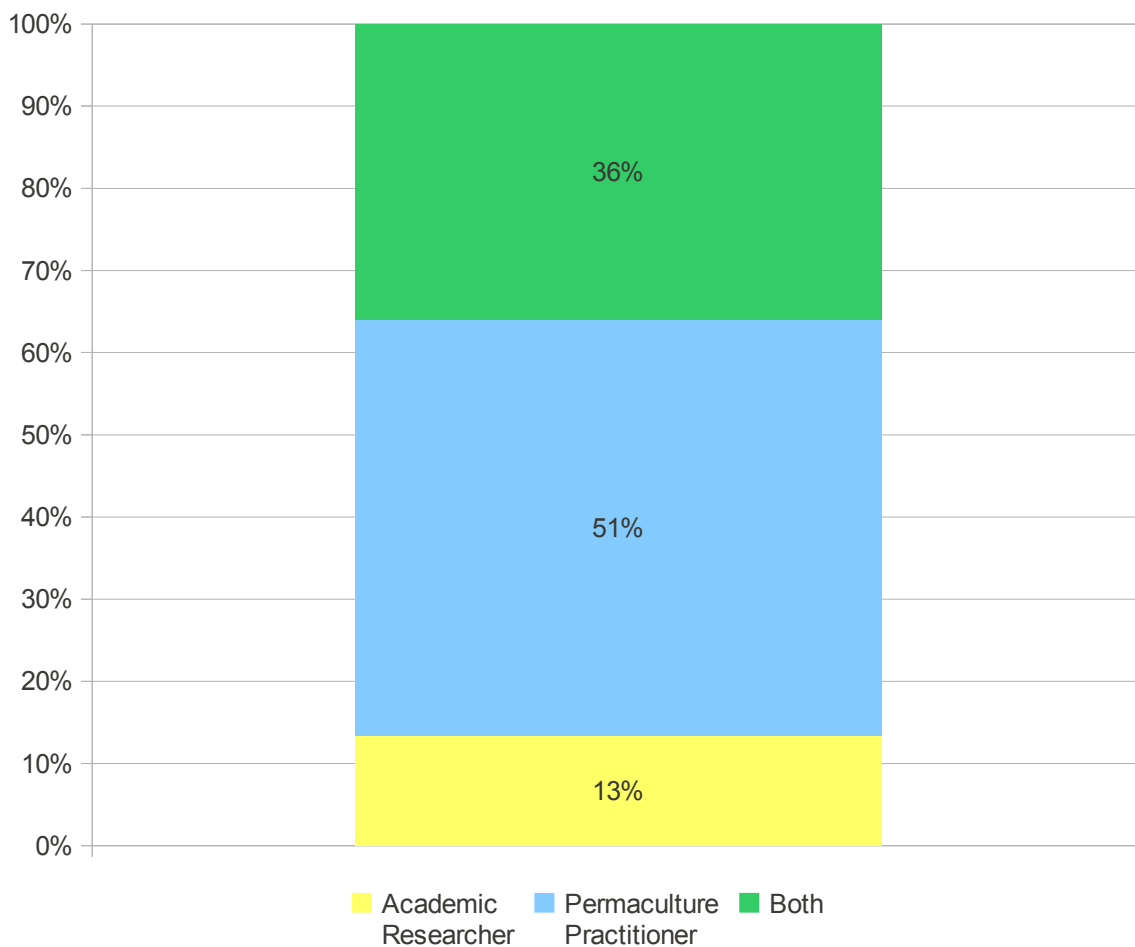
Interest in an Online Permaculture Research Community

Yes
No

11%

89%
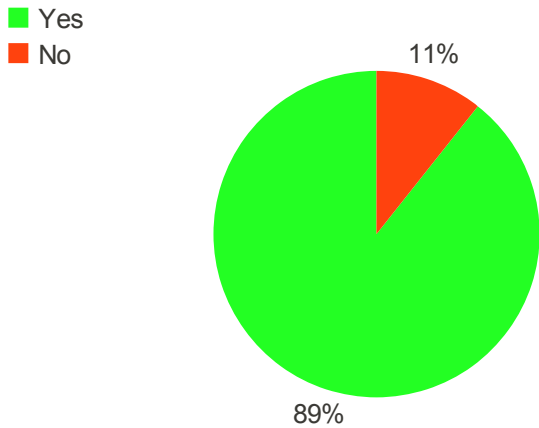
All 75 participants answered the question "Would you be interested in being involved in a forum/ email list/ google group dedicated to research?", which was of a yes/no answer format. 89% (n=67) of respondents were interested in being involved, with just 11% (n=8) not interested.

Of those not interested in participating, 4 classified themselves as practitioners and 4 as both practitioners and researchers. Elaborations on why participants were not interested in being involved were included in the analysis of why participants were not collaborating (p11).

35 respondents expressed an opinion as to their preferred format of communication, with emails and forums being the formats most often mentioned (n=11 for both) followed by a google group or similar format (n=7). 5 participants stated that any format was fine or that they were not sure, 2 suggested a wiki format and 10 participants suggested other formats such as through videos, radio networks or specific contexts within which they would like to collaborate. All answers which received only one mention were classified together as 'Other'.
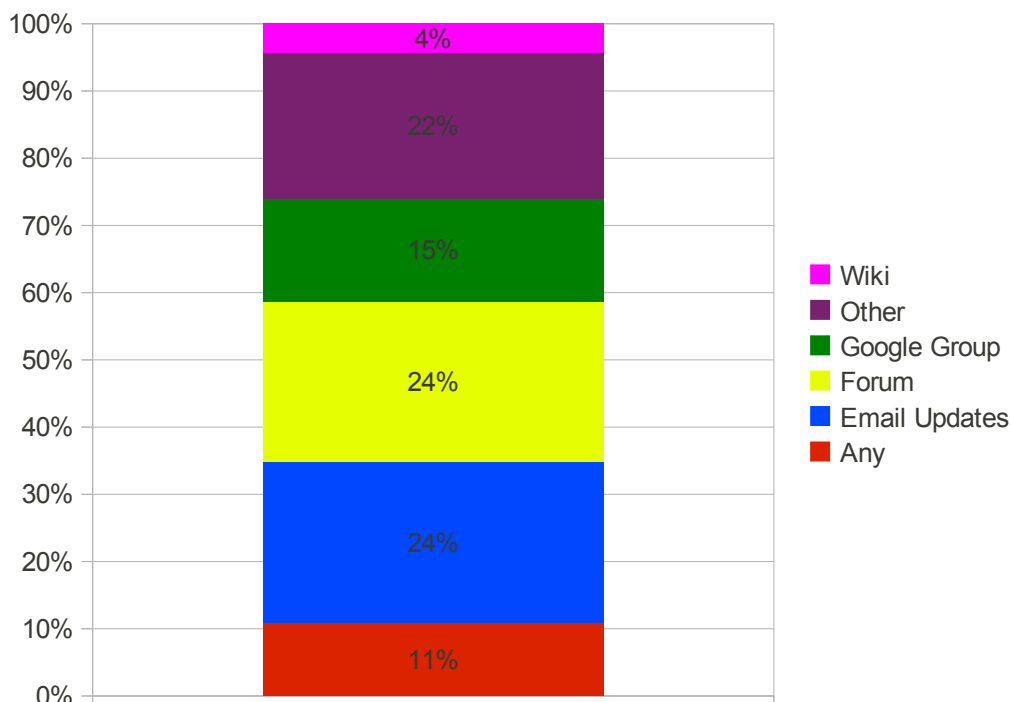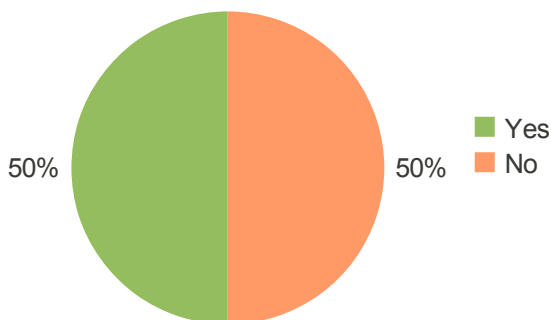
Collaboration in Permaculture Research

Academic Researchers Collaborating with Academic Researchers
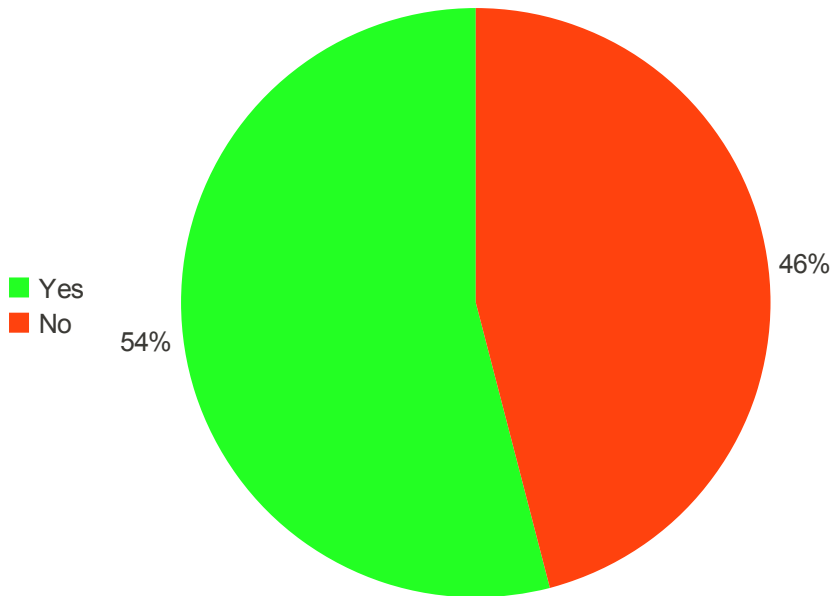
Participants who classified themselves as either academic researchers or as both academic researchers and permaculture practitioners were asked "Are you collaborating with other academic researchers?" using a yes/no answer format. Of those asked (n=37), 54% (n=20) were collaborating with other researchers and 46% were not (n=17).

Half (n=5) of the participants who classified themselves as solely academic researchers were collaborating with other academic researchers whilst 56% (n=15) of those who classified themselves as both academic researchers and permaculture practitioners were collaborating with other researchers.
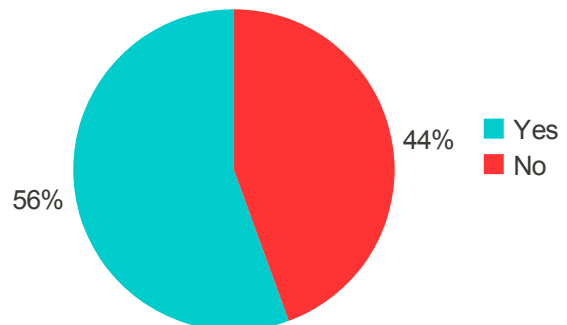
Academic Researchers

Both

Participants who classified themselves as either permaculture practitioners or as both academic researchers and permaculture practitioners were asked "Are you collaborating with other permaculture practitioners?" using a yes/no answer format. Of those asked (n=65), 86% (n=56) were collaborating with other permaculture practitioners and 14% (n=9) were not.

14%

86%

- Yes
- No
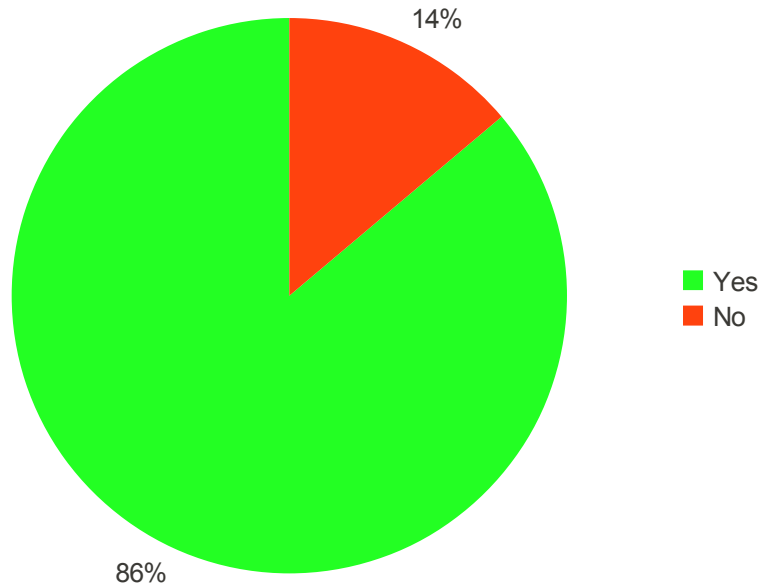
87% (n=33) of those who described themselves as permaculture practitioners were collaborating with other permaculture practitioners and 85% (n=23) of respondents who classified themselves as both permaculture practitioners and academic researchers were collaborating with other permaculture practitioners.

Permaculture Practitioners

13%

87%

- Yes
- No

Both

15%

85%

- Yes
- No
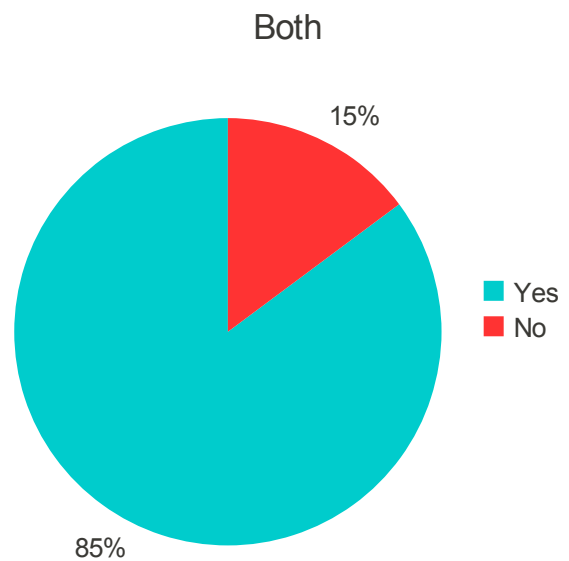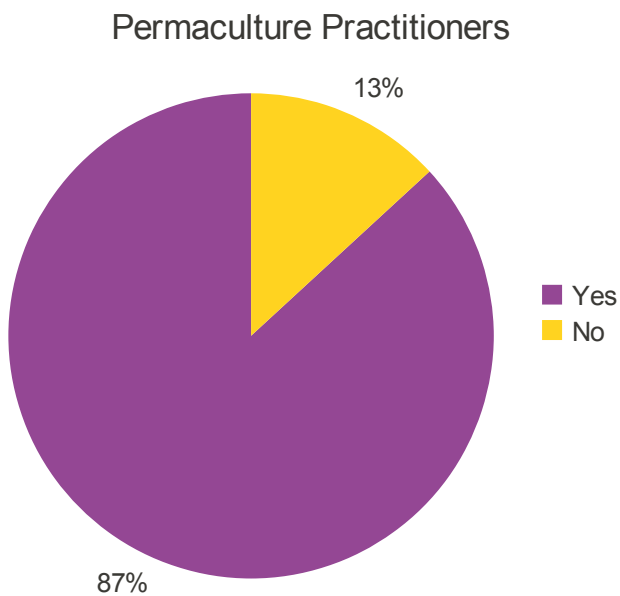
Collaboration Networks

Academic Researchers Collaborating with Academic Researchers

Participants were asked to elaborate on the contexts within which they were collaborating with other academic researchers, 20 participants (out of 37 asked) answered the question and their 30 answers were divided into 7 categories.
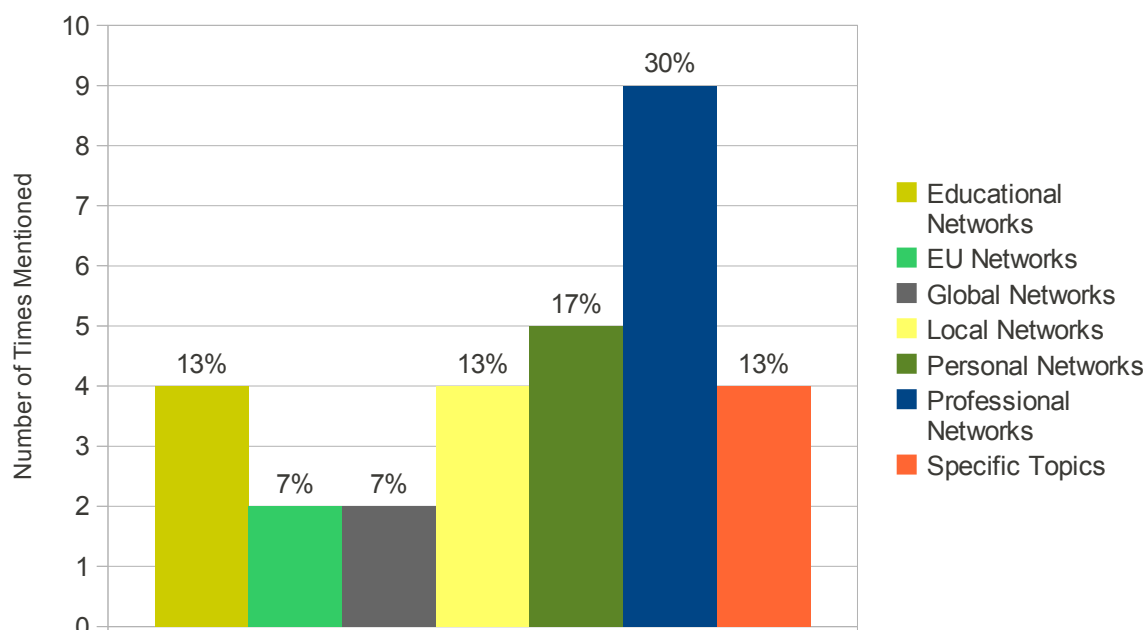
Educational Networks – 13% (n=4) of answers suggest that participants were collaborating with other academic researchers using educational networks such as the "Agricultural University of Vienna" and "bringing permaculture into city colleges".

EU Networks – 7% (n=2) of responses mentioned collaboration at a regional level for instance through the "European Commission" and the "Erasmus programme from the EU".

Global Networks - 7% (n=2) of replies showed that respondents to this question were collaborating on an international scale for instance "in the UK,Chile and El Salvador" and "campaigning for a UN Climate Technology and Reforestation Program".

Local Networks – 13% (n=4) of answers mentioned that participants were using local networks to collaborate for instance "around social activism … and a bunch of community organizing" and "CSA projects".

Personal Networks – 17% (n=5) of responses suggested that researchers use networks of a personal nature to collaborate, for example "not formal collaboration … some dialogue and mutual support", "projects we manage in common" and "with as many as I can on as many subjects as possible".

Professional Networks – 30% (n=9) of the answers described how researchers collaborate using professional networks such as a "research team" or on "multiple research projects".

Specific Topics – 13% (n=4) of answers mentioned specific topics and projects which researchers were collaborating on such as "biodynamic research", "food culture and food sovereignty" and "the religious/faith contributions in sustainable agriculture".

Permaculture Practitioners Collaborating with Permaculture Practitioners

The contexts within which permaculture practitioners were collaborating with other permaculture practitioners was also explored, using an open answer format, with 55 participants (out of 65 asked) answering the question and their 98 answers grouped into 9 categories.
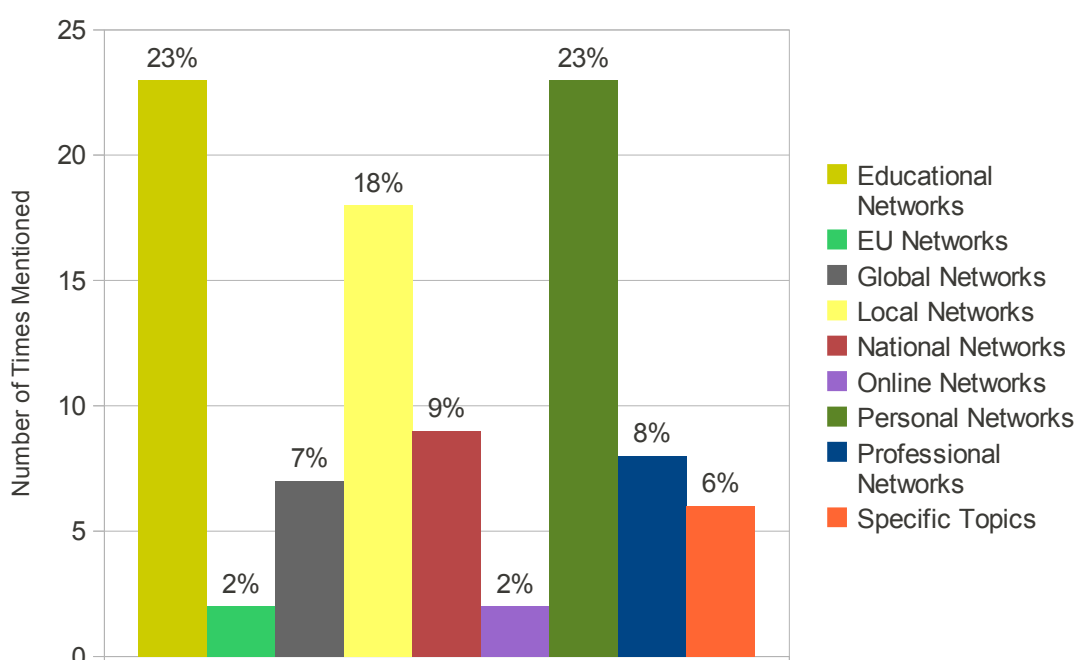
Educational Networks – 23% (n=23) of answers mentioned educational networks such as "courses", "teaching invitations", "teaching together perma-courses", "Gaia U" and "training under (a) more experienced practitioner".

EU Networks – 2% (n=2) of answers referred to regional level networks such as the "European PC-Teachers Partnership" and the "European convergence".

Global Networks – 7% (n=7) of responses indicated that practitioners were collaborating at an international level for instance "GAPPS (global alliance for permaculture partnerships and solutions)", "International Permaculture Convergences" and "campaigning for a UN Climate Technology and Reforestation Program".

Local Networks – 18% (n=18) of answers suggested that practitioners were collaborating through local networks for example, "informal contacts with projects locally", "Permaculture Ottowa", "permablitz community garden workshops" and "Lampeter Permaculture Group".

National Networks – 9% (n=9) of responses mentioned national networks including "the Permaculture Network of Malawi", the "administrating guild of the Permakultur Akademie … and Ghana Permaculture Institute", "permaculture diploma guild in Finland" and "academic research with (the) permaculture association (UK)".

Online Networks – 2% (n=2) of responses talked about online networks, for example, "Permaculture Spokane email list" and "on facebook".

Personal Networks - 23% (n=23) of answers suggested that practitioners are collaborating using their own personal networks - "I chat with others but it's not formal", "in daily life" and "in a social context".

Professional Networks – 8% (n=8) of answers mentioned professional networks such as the "WWOOFers" and "Apios Institute board" to "raise funding, share information and resources" .

Specific Topics – 6% (n=6) of responses mentioned specific topics/ projects on which practitioners are collaborating for instance, "setting up trial poly-cultures", "BSK climate mitigation, hoop-house season extension, high-tunnel mini-food-forest" and "I am currently writing my dissertation on knowledge and organisation in the permaculture network".

Reasons for Not Collaborating

Having been asked about their collaboration status, participants were given to opportunity to elaborate on why they were not collaborating. The answers to this question were pooled with participants' elaborations on why they were not interested in being involved in an online research community as the reasons given were found to correspond to the same categories.   20 participants answered these questions giving a total of 25 narratives which were categorised into 6 groups.
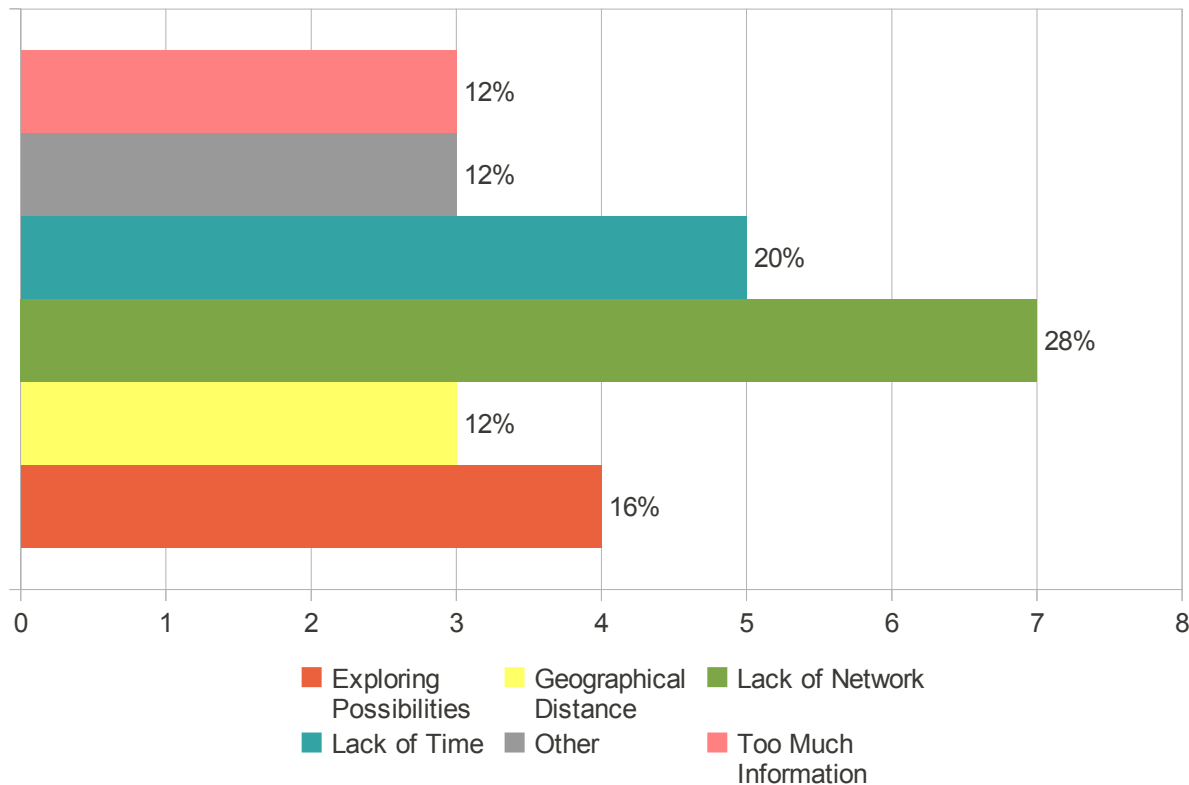
Lack of Network - The most frequently stated reason for not collaborating, 28% (n=7), was lack of a network, for instance "there are no political scientists who are interested in permaculture", "I've never met anyone else … that is doing this kind of research" and "no contacts established yet that could be mutually beneficial".

Lack of Time - The second most frequently mentioned reason was lack of time, 20% (n=5), "there are so many demands upon my time!", "I am too busy doing to be reading :-)" and "I have too much on my plate".

Exploring Possibilities - 16% (n=4) of participants were exploring ways in which they could collaborate with others but were not currently doing so. For example "trying to find the best way to merge research with permaculture", "no formal collaboration … I'm not clear how I could reconcile it with my programmatic requirements" and "I am just about to apply to get scholarship to get in touch with academia".

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Too Much Information - Another 12% (n=3) of participants felt that they had "too much information in my life" and were suffering from "email overload".

Geographical Distance - A further 12% (n=3) of participants cited geographical isolation as a reason for their lack of collaboration - "none of them live very near me and I seldom see them", "not many in this area" and "we don't have very many yet in Alaska".

Other - 12% (n=3) participants had other reasons for not collaborating for example "I have very limited internet facility", "because of commercial application" and "the academy is deeply compromised … much prefer to develop strength outside of such a compromised zone".

Perceived Barriers to Collaboration

Respondents were asked "What barriers are there to you collaborating with others for research purposes?". 62 participants answered the question, producing 97 narratives which were grouped into 7 categories.
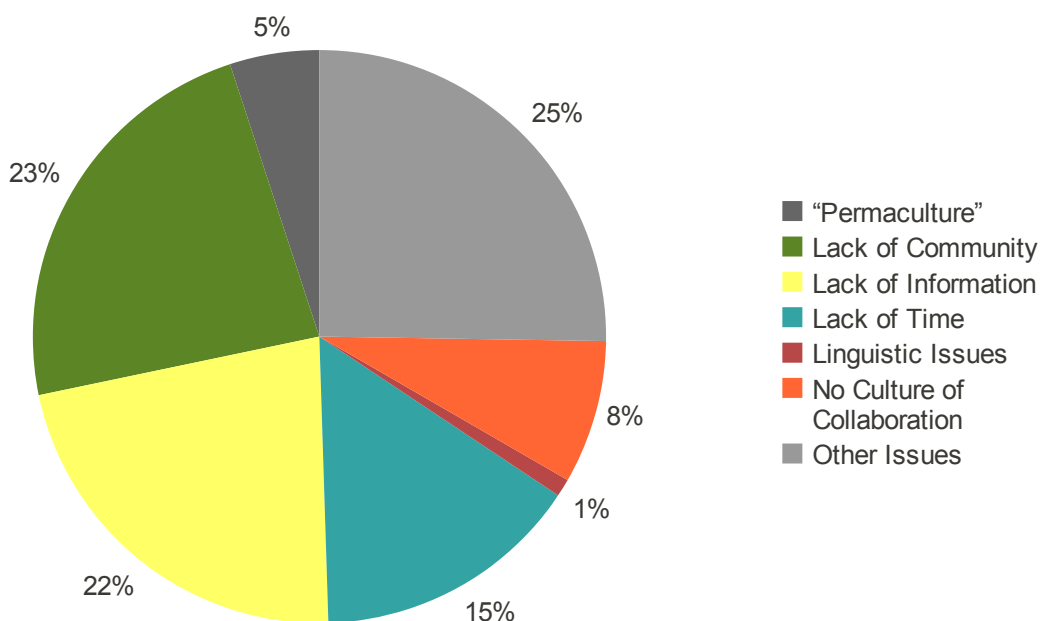
"Permaculture" - This category of answers, representing 5% (n=5), mentioned that the reputation of permaculture precedes them - "it can be career suicide to link your name to something with a vocal wing of people un-ironically named "Starhawk"" - and expanded on the difficulties of researching such a nebulous topic - "is it agroforestry, planning, or a religion?" - which may not fit with current institutional structures where there are "interdisciplinary barriers" and "narrow minded institutional thinking".

Lack of Community- 23% (n=23) of responses cited social factors such as "no common platform … very little consciousness about the need to function as an epistemic community", "identifying others in similar conditions doing complementary work has been problematic" and "lack of places to pool information". As well as "disconnection from a solid group with whom to

collaborate", "unwillingness to share information due to monetary implications (which) may be thought to be attached to the research" and "the human stuff".

Lack of Information – 22% (n=21) of answers suggested that lack of information was a barrier to collaboration for example, "limited awareness of research methods and theory among practitioners", "I haven't found information about academic research groups working on Permaculture", "lack of quality data gathered by permaculturists" and "knowing who is doing what and where". Answers which mentioned that access to funding and money was an issue were also included in this category.

Lack of Time – 15% (n=15) of answers talked about lack of time as being prohibitive - "people are busy experiencing", "personal time input, since I am busy in other areas" and "fluctuations in my time availability prevent me from consistent measuring which renders any recording valueless".

Linguistic Issues – One answer mentioned that "the snobbery of academic language" was a barrier.

No Culture of Collaboration – 8% (n=7) of answers mentioned that there were cultural and institutional barriers to collaboration, for example it is "difficult to pursue grants that include participation from international researchers", "it isn't common for us to collaborate with others" and "suspicion of exploitative motives".

Other Issues – 25% (n=25) of responses mentioned other barriers to collaboration such as "physical distance" (n=3), "none", "few" and "I don't know".

Sharing Permaculture Research

Overall

Participants were asked "Do you currently share your research with anyone?" using a yes/no answer format. All 75 participants answered the question with 81% (n=61) currently sharing their research and 19% (n=14) not currently doing so. Of those not sharing their research 8 were permaculture practitioners and 6 were both academic researchers and permaculture practitioners.

19%

81%

- Yes
- No
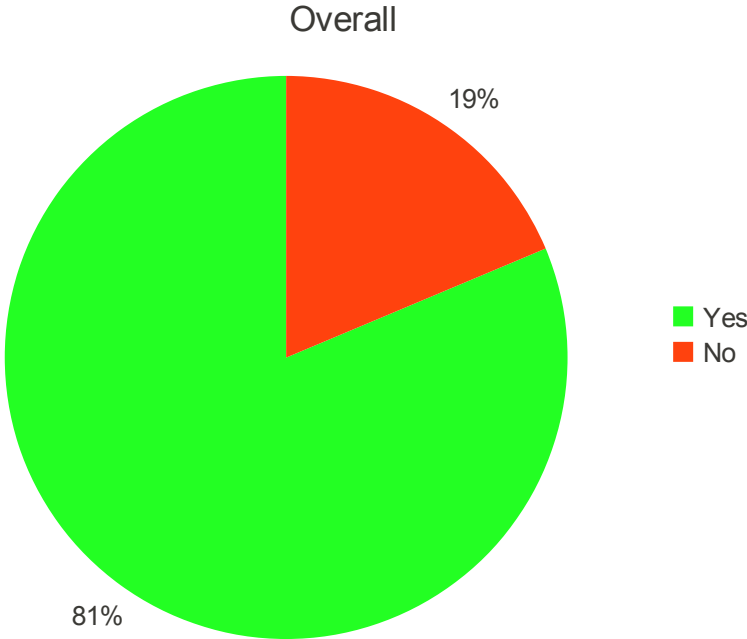
All respondents who classified themselves as academic researchers, 79% (n=30) of respondents who described themselves as permaculture practitioners and 78% (n=21) of participants who described themselves as both permaculture practitioners and academic researchers, currently share their research with others.

Permaculture Practitioners

21%

79%

- Yes
- No

Academic Researchers

100%

- Yes
- No

Both

22%

78%

- Yes
- No
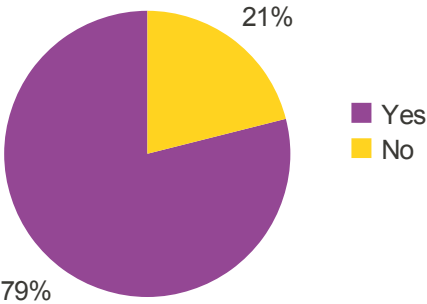
Channels for Sharing Research

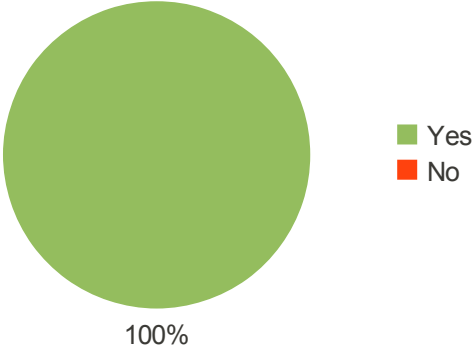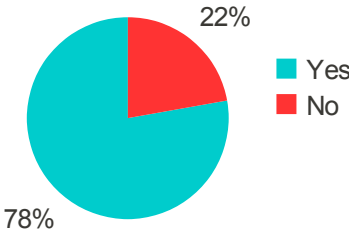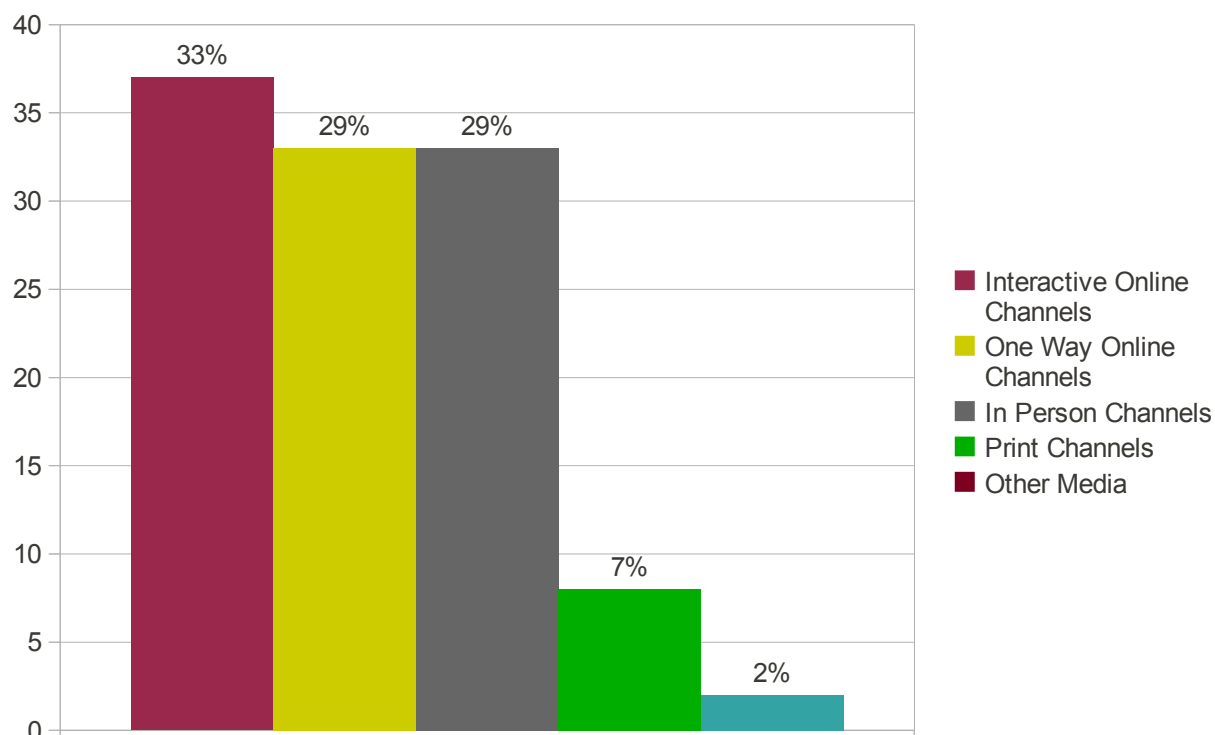Respondents were then asked "If Yes, what communication channels do you use?" and given an open answer format within which to answer. 61 participants answered this question and their 113 answers were divided into 5 categories of communication channel.

Interactive Online Channels – 33% (n=37) of answers mentioned online channels of communication which allow a two-way exchange of ideas and information. Included in this category were email, forums, skype and social media networks.

One Way Online Channels – 29% (n=33) of responses mentioned that the respondents used online channels which are more focussed on the provision of information than on an interaction, for instance blogs, websites, newsletters and email lists.

In Person Channels - 29% (n=33) of answers suggested that the respondents use face-to-face interactions to share their research such as discussions, convergences, meetings, workshops and conferences.

Print Channels – 7% (n=8) of answers indicated that participants use print channels such as academic journals, magazines and books to share their research results.

Other Media – 2% (n=2) of answers mentioned other channels of communication, such as video and pictures.

Reasons for Not Sharing Research

Respondents who were not sharing their research were prompted to elaborate with the question, "If No, why not?". 14 participants answered the question producing a total of 17 answers which were divided into 5 groups.
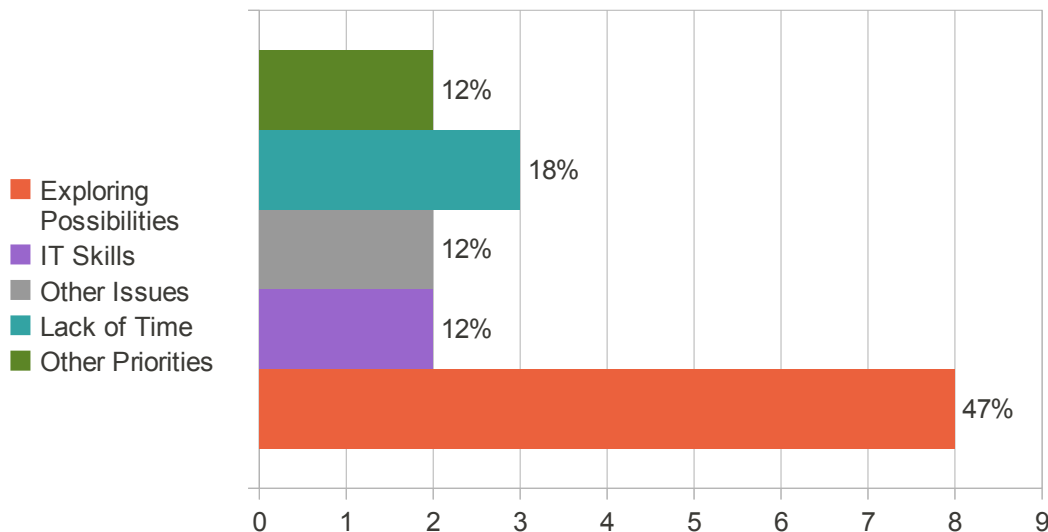
Exploring Possibilities – Answers which were put into this category, (n=8) 47%, suggested that whilst the respondents were not currently sharing their research, they were interested in doing so in the future. For instance, "still learning", "I have very little", "it's not real research it's just studies I do" and "I'm beginning".

IT Skills – 12% (n=2) of responses highlighted their lack of IT skills as preventing them from sharing their research, "I find … IT skills an issue" and it is "time consuming transferring information to a computer format".

Other Issues - 12% (n=2) of narratives were only mentioned once each and so group together. One mentioned a lack of "academic background … to enable writing articles suitable for peer review publication" and the other "I need more support before sharing information".

Lack of Time - 18% (n=3) responses mentioned lack of time - "no time mainly!" - as their reason for not sharing research.

Other Priorities - Responses which were categorised in this group, 12% (n=2), indicated that the respondents were focussed on other things at the moment. For example, "I have not been focusing much on research".

Perceived Barriers to Sharing Research

To examine the perceived barriers to sharing, participants were asked "What barriers do you face when seeking to share your research with others? (This can be either informally or by publication)". 62 participants answered the question producing 90 answers which were split into 8 categories.
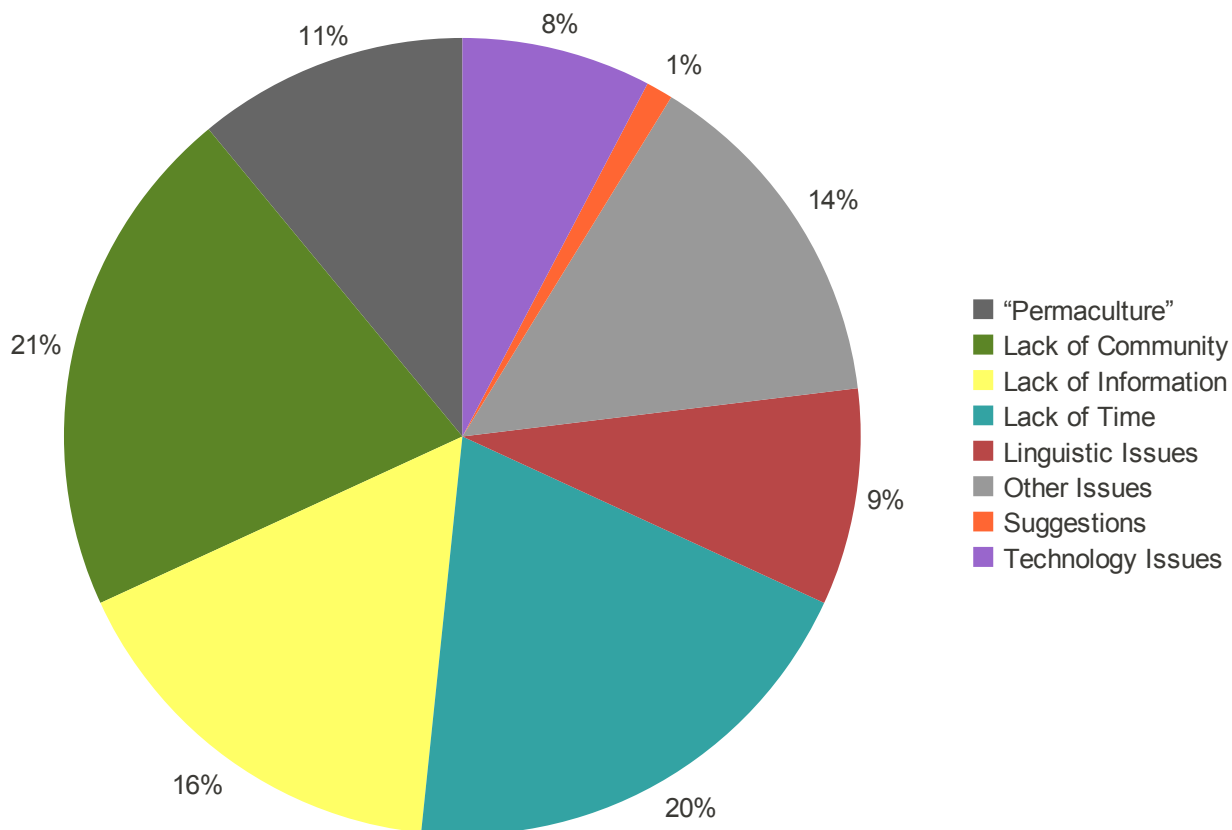
"Permaculture" - 11% (n=10) of responses to this question raised the issue of permaculture's "credibility bottleneck" - "it sometimes feels as though there's a sense that 'that's just some hippies' and justifying doing the research (to grant funders etc) is difficult", "no one has heard of such technology and probably don't believe it when they do", "publication has been too controversial and systemic for agri-industry focused journals" and "most institutional thinkers associate permaculture with hippies, and never take it seriously".

Lack of Community – Answers in this category, 21% (n=19), highlighted a lack of knowledge of people with whom to share research. For instance, "limited knowledge of academic permaculture research network", "myself and my organisation are not recognised in the field of research", "sometimes feel like a lone voice in the wilderness" and "finding them".   Other issues to do with lack of a social network included "almost no (serious) feedback" and "greed, envy and lack of willingness to cooperate".

Lack of Information - 16% (n=15) of answers mentioned lack of information as a barrier to sharing research, for example, "no existing academic periodical to reference", "most permacultural operations do not keep relevant records so most of the data is hearsay", "knowledge of the process of publishing research" and permaculturists "justifying our proposals solely with anecdote and ecological principles (and misrepresenting the ecological principles in the process)".

Lack of Time - 20% (n=18) of responses suggested that lack of time was a barrier to research sharing - "time! Practitioners are too busy 'doing it'!" and "demands on my time mean that I don't write up and share and follow through as much as I'd like".

Linguistic Issues - 9% (n=8) of responses mentioned linguistic issues were a barrier to sharing research. For instance "many publications in Austria are written in German. Therefore it's a kind of a barrier to the English speaking world" and "I struggle to write in Finnish which is the language of the country where I live". One response mentioned how "my research area uses participatory video and body mapping I face less barriers than most as I can disseminate via youtube and my work is easily understood visually so I don't have problems communicating with people who do not speak English as a first language".

Other Issues - Barriers which were only mentioned once were categorised together, 14% (n=13), and included "none", "organisational", "the misapprehension of biodynamics" and "the laws and the authorities".

Suggestions - One answer suggested that "we should look to agroecology as an example of the relationship between a grass-roots movement and a scientific discipline. Not to simply emulate it, but to imagine what that relationship could be like for permaculture".

Technology Issues - 8% (n=6) of responses talked about technological issues both in terms of "my computer skills", "lack of good connection (Internet) in our areas" and "limitation in access to modern communication facilities".

Publication and Dissemination of Research

Publication and Dissemination Channels for Permaculture Research

Respondents were asked "What are the channels for publication and dissemination of permaculture research that you are aware of?", 70 participants responded giving 119 answers which were categorised into 6 groups.
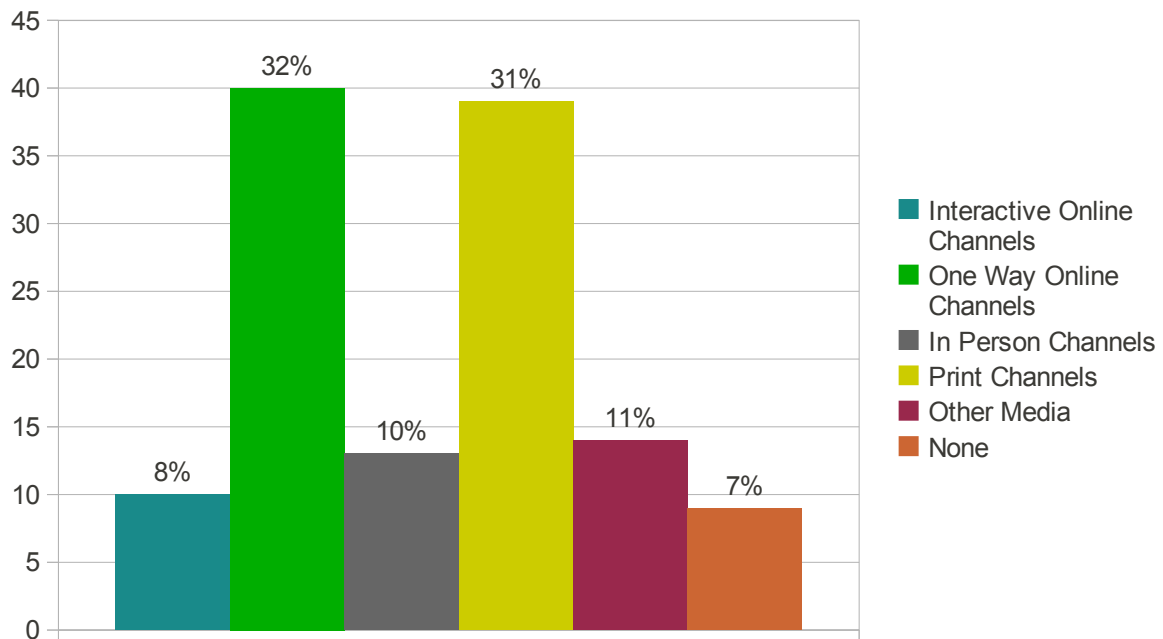
Interactive Online Channels – 8% (n=10) of answers mentioned online channels of communication which allow a two-way exchange of ideas and information. Included in this category were email, forums and social media networks.

One Way Online Channels – 32% (n=39) of responses mentioned that the respondents used online channels which are more focussed on the provision of information than on an interaction, for instance blogs, websites, newsletters, podcasts and email lists.

In Person Channels - 10% (n=13) of answers suggested face-to-face interactions such as discussions, convergences, meetings, seminars, workshops and conferences.

Print Channels – 31% (n=38) of answers indicated that participants use print channels such as academic journals, magazines, course materials and books to share their research results.

Other Media – 11% (n=11) of answers mentioned other channels of communication such as radio, TV, video and DVDs.

None – 7% (n=8) of responses indicated that the participant was not aware of any channels for publishing and disseminating permaculture research.

Participants' Permaculture Research

Participants were asked "Have you written any papers on the subject of permaculture? Please include web links or references where possible", 58 participants responded to the question and their 68 responses were categorised into 5 groups.
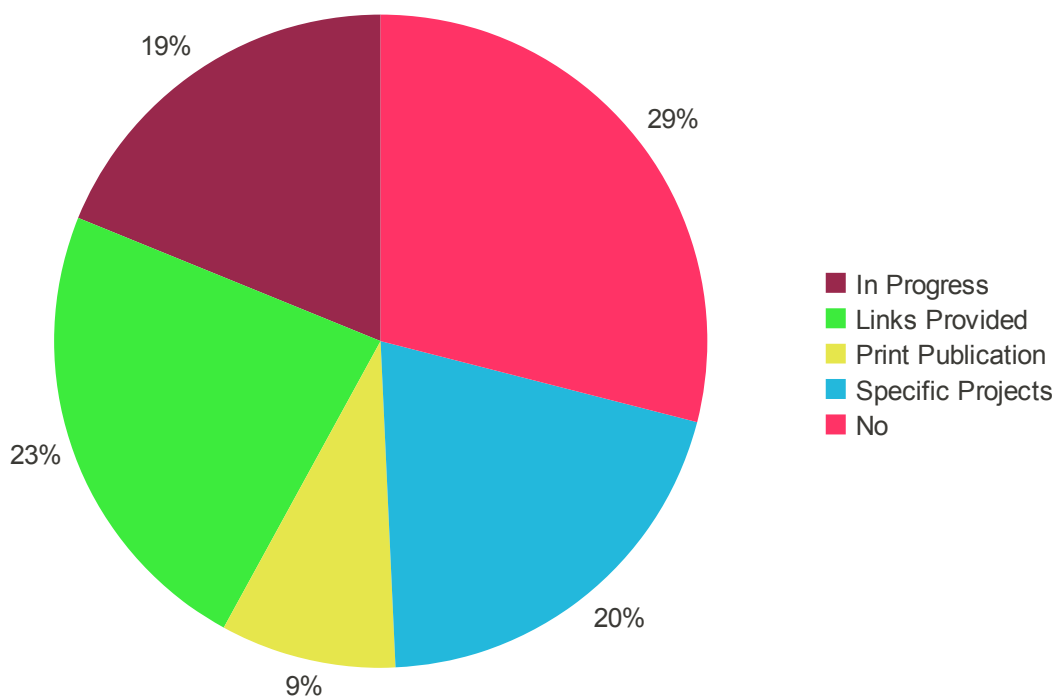
In Progress - 19% (n=13) of responses indicated that participants were looking to publish papers on the subject of permaculture but have not done so yet.

Links Provided - 23% (n=14) of responses provided links to their work which is available online (listed in Appendix 2).

Print Publication - 9% (n=6) of answers suggested that respondents have published print material on permaculture which is not accessible on the internet.

Specific Projects - 20% (n=15) of answers to this question mentioned projects on which material has been published and the respondent involved but without indicating the format or location of publication.

No - 29% (n=20) of responses to this question indicated that the participant has not published any papers on the subject of permaculture.

Participants' Other Research

Respondents were also asked "Have you written any papers that don't mention permaculture specifically but could be relevant? Please include web links or references where possible", 49 participants responded, giving 68 answers which were divided into 6 categories.

In Progress - 6% (n=3) of responses indicated that participants were in the process of publishing papers which do not mention permaculture specifically but could be relevant, but have not done so yet.

Links Provided - 18% (n=9) of responses provided links to their work which is available online (listed in Appendix 2).
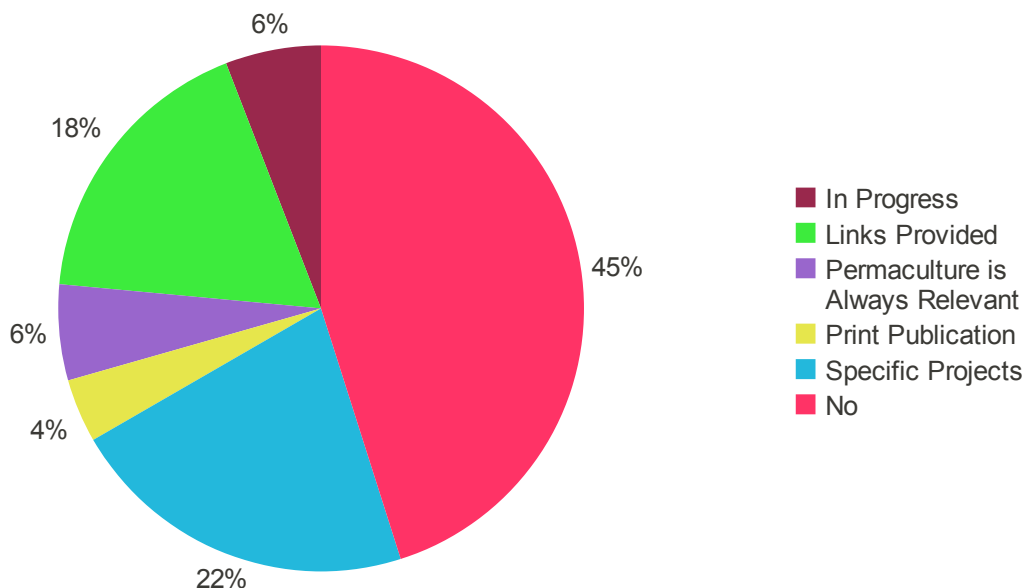
Permaculture is Always Relevant – 6% (n=3) of the responses expressed the view that "the principles are entirely relevant to almost everything I write" and "I always acknowledge the impact and influence of permaculture".

Print Publication - 4% (n=2) of answers suggested that respondents have published print material which is not accessible via the internet.

Specific Projects - 22% (n=11) of answers to this question mentioned projects on which material has been published and the respondent involved but without indicating the format or location of publication.

No - 45% (n=23) of responses to this question indicated that the participant has not published any papers that do not specifically mention permaculture but which may be relevant.

Discussion

Is there interest in an online community dedicated to permaculture research?

Similarly to previous surveys, a large majority (89%) of participants expressed an interest in being involved in a community dedicated to permaculture research.

What format would be preferable?

Participants were fairly evenly split across the suggested formats for an online permaculture research community, suggesting that a blend of formats may be the optimal solution. However an ideal format would facilitate both the sharing of research and the collaboration of both researchers and practitioners whilst also fulfilling possessing the aspects of an aspirational permaculture research network as laid out in the report from Survey 2 (available [here](#));

- Opportunities for coordination and collaboration
- Open to feedback
- Transparent and accountable
- Information collated and disseminated efficiently
- Relevant to 'those on the ground'
- Inclusive
- Improve media exposure
- Strengthen the empirical evidence base for permaculture
- Networking opportunities
- Regionally relevant
- Expertise and experience

How can collaboration be facilitated?

With more than half (54%) of academic researchers reporting that they are already collaborating with other researchers and an encouraging 84% of permaculture practitioners reporting that they are collaborating with other practitioners, it would appear that there is a fair amount of collaboration already in progress. However, the results also suggest that researchers and practitioners are using different networks through which to achieve this collaboration. For instance, the most commonly reported collaboration route reported by academic researchers was professional networks (30%), whereas permaculture practitioners most commonly reported collaborating using educational networks (23%) and personal networks (23%). An online permaculture research community could boost the facilitate collaboration by providing a shared international network via which both researchers and practitioners could collaborate.

20 participants elaborated on their reasons for not collaborating and not wanting to be involved in a permaculture research community, with the most frequently cited being lack of network (28%), followed by lack of time (20%). This difficulty in finding like-minded others with whom to collaborate could be ameliorated by grouping community participants, possibly by location, research methods and interests, and making any database easily searchable. This could

also help those who feel they cannot collaborate due to geographical isolation (12%) and an effective search function could benefit those struggling from too much information (12%). Lack of time was a recurring issue throughout the questionnaire suggesting that any community should not require large amounts of time-consuming input to maintain collaboration and community participation. It is promising that 16% of respondents were exploring opportunities for collaboration, again this could possibly be facilitated by grouping community members in some way and making the information searchable in an efficient manner.

62 participants gave their views on the barriers which they encountered when seeking to collaborate with the most commonly cited barrier being a lack of community (23%) both in terms of accessing people with similar interests but also in terms of trust and mutual respect. Thus any permaculture research community would need to build these more social aspects in addition to providing a method of communication.   By doing this, the barrier of a lack of a culture of collaboration (7%) could also be addressed. The second most commonly cited barrier was lack of information (22%) both on the part of those seeking to collaborate and those with whom they would like to collaborate. This information ranged from "who is doing what and where" to "research methods and theory". A research community could help with this, both by providing details of others with similar interests, as previously suggested, but also by providing a space in which information could be quickly shared and passed on to those who are in need of it. The linguistic issues of the "snobbery of academic language" could also be addressed by promoting dialogue between academics and practitioners with an emphasis on mutual comprehension. Whilst it is unlikely that an online research community dedicated to permaculture research could add more hours to the day, an interface that required the minimum of time input to be an active part in the community would help those who stated that lack of time is a barrier to collaboration (15%), also participate. A professionally presented and visible online research community could also help to combat the "hippy" perception of permaculture and allow researchers the flexibility to collaborate without the "interdisciplinary barriers" which permaculture researchers can face in an more institutional environment.

How can research sharing be facilitated?

Promisingly, a large majority of respondents already share their research in some way, with 100% of researchers, 79% of practitioners and 78% of participants who thought of themselves as both, replying in the affirmative. Overall, 81% of participants reported that they currently share their research with others, with 47% of those who are not sharing their research exploring possibilities to do so. Most participants share their research using online interactive channels (33%), one way online channels (29%) and in person channels (29%), with the majority of participants sharing their research online (62%) and a minority using print channels (7%) and other media (2%). This supports the suggestion that a permaculture research community could be based online as this is how the majority of researchers and practitioners already share their research. Building on this base of respondents who already share their research online by bringing them together in one online environment could help to facilitate the sharing of research within the permaculture research community.

Interestingly, when asked what channels there were for the publication and dissemination of permaculture research the most frequently suggested channels were one way online channels (32%) and print channels (31%) with interactive online channels (8%) and in person channels (10%) both suggested on less occasions than other media (11%) such as TV,

radio and DVD's. A further 7% of responses indicated that participants were not aware of any channels for the publishing and dissemination of permaculture research. This is interesting as it suggests that participants considered sharing research to be quite different from publishing and disseminating research. Perhaps with publishing and dissemination perceived as more formal, reflected by the swing in responses to more traditional communication channels (e.g. print media) and one way online channels as opposed to more interactive sharing channels (interactive online channels and in person channels). This could be extrapolated to suggest that participation and interaction could be increased by referring to the online distribution of research within a permaculture research community as 'sharing research' as opposed to 'publishing research' or 'disseminating research'.

More participants had published papers on the subject of permaculture (52%) than had published papers that do not specifically mention permaculture but could be relevant (34%), with about half of these providing links to said papers (listed in Appendix 2). Many participants stated that their papers were in progress, 19% on permaculture and 6% relevant to permaculture, which is hopeful, and 6% of participants stating that permaculture is always relevant to what they publish.

It is encouraging to note that the most frequently cited reason (47%) for not sharing research was that the participants were currently exploring possibilities for doing so, suggesting a further pool of permaculture researchers who would use an information sharing resource such as an online permaculture research community to share their research even though they do not do so currently. The second most commonly cited challenge was lack of time (18%) followed by participants having other priorities which they rank ahead of research sharing (12%), computer and technology issues (12%) and other issues (12%). Lack of time and other priorities are issues it would be difficult to address a streamline and intuitive interface could contribute to keeping participation time efficient. In addition to this, if the community provided multiple functions so that the act of sharing research benefited researchers in many ways, this could address both points. An intuitively designed interface could also help those who feel that they lack the requisite computer skills to share their research whilst provisions should also be considered for those with limited internet access.

The barriers which participants described to sharing research were similar to those given for collaboration, with the most frequently cited barrier being a lack of community (21%), closely followed by lack of time (20%) and then lack of information (16%). Lack of community and information are both barriers that could be addressed by a suitably designed online research network, with overcoming the lack of time barrier facilitated by suitable interface and interaction design. The issue of permaculture's "credibility bottleneck" was also raised by 11% of responses and would also have to be dealt with. Again interface design could be of help with this if an emphasis was placed on 'professionalism' and effective data collation and collection at an early stage. A further 9% of responses highlighted the linguistic issues of international research. This is a challenging barrier to address but could be ameliorated either by a small army of translators, by using automatic translation software or, possibly, a combination of the two techniques. Technological issues could be minimised by an intuitive interface design and a system for those with limited internet connectivity should also be considered. The suggestion that permacutlure could look to agroecology for an example of "the relationship between a grass-roots movement and a scientific discipline" should be explored to inform the development of the network.

Suggested Features for a Research Network to Facilitate Research Sharing and Collaboration
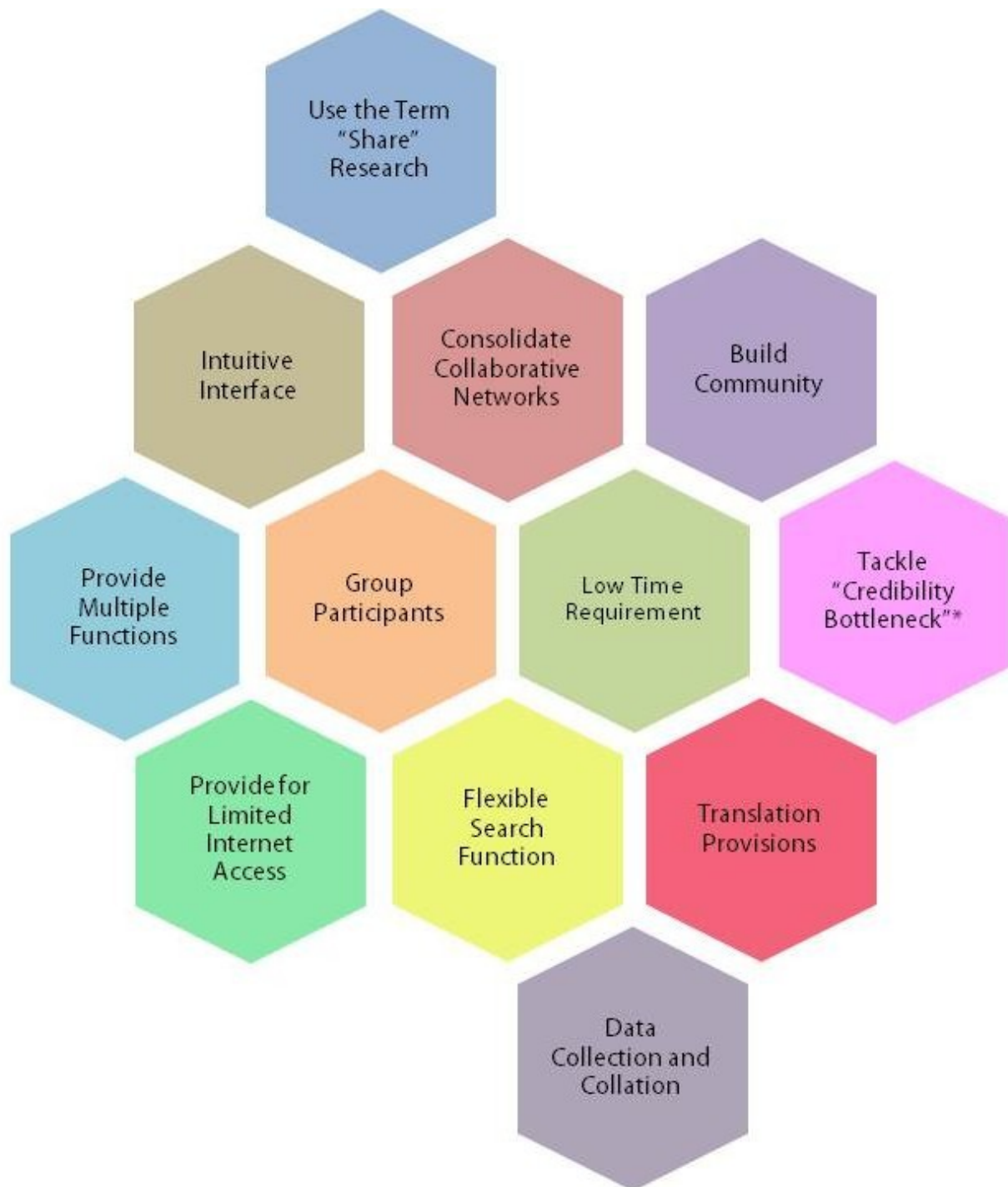
- Is permaculture "agroforestry, planning or a religion?"

The Permaculture Association UK would like to thank everybody who participated in and helped distribute the survey – we couldn't do this without your continued support and participation. You are all wonderful :)