

PRACTICE BRIDGE

Towards meaningful youth participation in science-policy processes: a case study of the Youth in Landscapes Initiative

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In the context of complex intergenerational challenges such as climate change and sustainable development, it is increasingly important for scientists and policy-makers to actively engage with and support the meaningful participation of youth in policy and decision-making. This research evaluates the effectiveness and impact of the Youth in Landscapes Initiative in supporting the active participation and leadership development of youth (aged 18–30 years old) participants at the 2014 Global Landscapes Forum (GLF), an international science-policy forum. This ‘youth program’ comprised a Youth Session, skills workshops and mentoring programs to empower youth through leadership and capacity building opportunities. Results show a high demand for youth participation: 34% of GLF conference delegates expressed interest to attend the Youth Session, over 22% of GLF session organisers requested youth to take on leadership roles, and the youth program itself received over 770 applications for the ‘facilitator’ and ‘pitcher’ leadership positions. The skills-based ‘masterclasses’ successfully built the confidence and knowledge of youth participants, as shown by post-evaluation survey responses. This translated into active and substantive youth participation throughout the forum. Senior professionals connected to the program praised it highly, seeing it as an opportunity for mutual, intergenerational learning. The Youth in Landscape Initiative is presented as a model and distilled into a framework to inform future youth engagement strategies in international conferences and associated science-policy processes.

Keywords: sustainable development; leadership; capacity building; empowerment; mentoring; youth

1 Introduction

Empowering young people to play an active role in development and policy processes is crucial for achieving the Sustainable Development Goals (SDGs) and meeting urgent plans to address climate change. As such, there is a growing recognition of the importance of promoting the active and meaningful participation of young people in science-policy and decision-making processes. Policy makers and practitioners are increasingly acknowledging youth as key stakeholders and future leaders and decision-makers, particularly in the context of complex intergenerational issues (El Zhogbi 2015). Youth can bring unique perspectives and offer creative solutions to these issues (Zeldin et al. 2000; Scheve et al. 2006).

Many youth also possess strong skills in information and communication technologies (ICT), and are able to harness these to effectively mobilise, and bridge the gap between, diverse groups in order to promote civic and political engagement (MacKinnon et al. 2007; Riemer et al. 2014). A growing body of literature also highlights the importance of building knowledge and leadership skills of youth in order to promote their engagement in environmental issues and empower them to affect positive change in their local and global communities (Arnold et al. 2009; Browne et al. 2011).

At the international policy level, many governments and decision-makers have long acknowledged the need to involve young people in decisions and development programs that affect them. Chapter 25 (titled ‘Children and Youth in Sustainable Development’) of Agenda 21 – the comprehensive action plan for sustainable development adopted by the United Nations at the 1992 Rio Earth Summit – identified youth as key stakeholders in sustainable development, and stated “the involvement of today’s youth in environment and development decision-making...is critical to the long term success of Agenda 21” (UNCED 1992). Three years later, the World Program

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of Action for Youth (UN 1995) identified the “full and effective participation of youth in the life of society and in decision-making” as one of ten priority action areas. Since then, an increasing number of inter-governmental forums, programs and resolutions have called for the promotion of active participation of young people, and youth-led organisations, in these international processes (see for eg. Lisbon Declaration on Youth Policies and Programs 1998; United Nations Resolution 68/30 Policies and Programs Involving Youth; UNDP Youth Programme for Sustainable Development and Peace 2016–2020). Furthermore, the United Nations SDGs, which were adopted by countries in September 2015 and outline the global approach and priorities for the sustainable development agenda until 2030, include specific targets relating to youth empowerment, education and capacity building (e.g. SDG 4; SDG Target 8.6;), and emphasise the importance of participatory and inclusive decision-making and societal development across all levels irrespective of age or other status (e.g. SDG Target 16.7).

There is increasing recognition of the need to empower young people to play an active role in development processes, and to build the capacity of young people to actively engage with environmental issues at local, national and international levels. However, there are limited data on the extent to which these stated commitments have translated into genuine opportunities for meaningful youth participation. At the same time, there are multiple and diverse definitions of what constitutes ‘participation’ (Cockburn et al. 2000), from ‘tokenistic’ consultation, to youth-driven processes that empower young people and facilitate active involvement in decision-making. Many youth groups in the climate space focus on direct action against entrenched power structures (such as the fossil fuel industry or governments), as seen, for example, in protests at COP21 in Paris. These forms of grassroots activism and action by youth and non-government organisations can play a critical role by acting outside existing structures and institutions and demanding change. An alternative view could see youth seeking more power and influence by joining these existing power structures, such as through formal stakeholder roles in United Nations processes. Checkoway and Aldana (2013: 1896) distinguish between various forms of youth engagement and participation in decision making, from the former “grassroots organising” for social and political action, to the latter “civic participation” through formal and established institutions.

Checkoway (2011: 341) further argues that youth participation “is measured not only by its scope, such as the number of people who attend a number of activities, but also by its quality, such as when people have real effect on the process, influence a particular decision, or produce a favorable outcome”. We consider these latter forms to constitute active and meaningful participation and to require youth to have the knowledge and competencies to effectively engage in these processes; not only environmental knowledge, but also skills in critical thinking, communication, decision-making and leadership (Riemer et al. 2014; El Zoghbi 2015; Buchanan 2017). In the context of sustainability, Frisk and Larson (2011) emphasise

competence-based learning and education and highlight key competencies such as stakeholder engagement, group collaboration, and change agent skills, the latter supported through active, experiential and/or place-based learning.

Informal, experiential, and collaborative learning processes are important for fostering these forms of youth participation and leadership, with active calls for the development of youth engagement programs outside of formal education (Riemer et al. 2014). In her discussion of transformational learning and transformative sustainability pedagogy, Burns (2015) argues for a shift from traditional transmissive models of teaching to a more active, participatory and engaged form of learning in which learners are encouraged to critically think, reflect and discuss; consider complex issues from diverse perspectives; and reflect on and transform any unsustainable values or beliefs. Models that support processes of transformative learning and the development of transformational leadership are key in both empowering and preparing youth to tackle complex sustainability challenges (Burns 2011; Buchanan 2017).

Conferences and science-policy forums are one example of science-policy processes that can provide spaces of knowledge sharing, experiential learning, and networking. Conferences provide an opportunity for youth to develop their understanding of science and complex policy issues, and to interact and share knowledge with a diverse range of participants, both peer and senior (Pancer et al. 2002; El Zoghbi 2015). By bringing together people from diverse disciplines and backgrounds, large-scale science-policy conferences also promote networking and (often inter-generational) dialogue. However, recent research suggests that many youth lack the confidence or skills (such as networking or conveying ideas) to be active participants in these events, and highlights the importance of developing new, innovative and creative models to support positive youth engagement in these informal spaces (El Zoghbi 2015). While recent years have seen a growing number of conferences incorporating a targeted ‘Youth Session’ or youth component, the extent to which these effectively promote learning, capacity development or meaningful participation of youth is underexplored.

This paper seeks to address this gap in the literature between the recognised importance of engaging youth in decision-making processes, and the effectiveness of conference-based youth programs in fostering youth leadership and participation in science-policy processes, by presenting a case study of youth participation in a global science and sustainability conference: the Global Landscapes Forum (GLF). Since its inception in 2013, a key element of the GLF has been a youth program, referred to since 2014 as the Youth in Landscapes Initiative. The first three authors of this paper were directly involved in the design and implementation of the 2014 Youth in Landscapes Initiative, as members of the steering and organising committees.

The overarching goal of this initiative is to facilitate and support the meaningful participation and representation of youth in conference-based discussions and associated decision-making processes. In this context we draw on

the work of Cockburn et al. (2000) and Checkoway (2011) presented above to define meaningful participation as comprising the active and substantive contributions of youth throughout the conference proceedings, through which youth are valued as key stakeholders and their views and contributions influence conference and associated science-policy outcomes. In addition, we consider meaningful participation as a process that empowers and builds the capacity of a global network of youth to affect positive sustainability change in both science-policy processes and in their local landscapes and communities. These aims are addressed through a comprehensive program incorporating skills-building, mentoring, and facilitation of peer-to-peer and intergenerational discussions and networking, and an emphasis on creating a platform for youth to actively engage, as key stakeholders, in science-policy discussions.

The 2014 Youth in Landscapes Initiative also included a thorough and collaborative monitoring and evaluation program. In this paper, we build on this initial program evaluation to assess the effectiveness and impact of the 2014 Youth in Landscapes Initiative in terms of promoting active and meaningful participation of youth delegates in the GLF by addressing the following research questions:

1. *How effective was the 2014 Youth in Landscapes Initiative in building participants' knowledge and skills, and supporting peer-to-peer and intergenerational discussions and networking?*
2. *To what extent did participation in the 2014 Youth in Landscapes Initiative translate into active and meaningful youth participation at the GLF and youth empowerment to affect positive sustainability change?*

After addressing these research questions, and reflecting on the developments from subsequent Youth in Landscapes Initiative events, we then propose a framework to inform future youth engagement strategies in international conferences and science-policy processes.

2 Methods

2.1 Case study description

The case study for this research is the Youth in Landscapes Initiative at the second GLF, held in Lima, Peru on December 6–7, 2014. The GLF is an annual international forum that was initiated and is coordinated by the Centre for International Forestry Research (CIFOR). The GLF began as a side event to the United Nations (UN) Framework Convention on Climate Change Conference of the Parties (UNFCCC COP) in 2013, becoming a stand-alone event separately held in Bonn since 2017. Each year the GLF brings together over 1,000 policy, business, civil society and scientific delegates from multiple sectors and levels in an effort to seek integrated solutions to global land use issues, such as deforestation and agricultural policy. The GLF has directly involved a diversity of international organisations working at the forefront of integrated, cross-sectoral landscape management spanning agriculture and forestry (the “landscapes approach”).

This initiative was selected as a case study because it is an example of a youth-led conference-based youth

program, coordinated by an alliance of three youth organisations collectively connecting and representing over 18,000 students and young professionals working in agriculture, forestry and agroecology. In 2014 the first and third authors held voluntary and professional positions (respectively) with two of these youth organisations, while the second author held the position of Youth Program Coordinator with CIFOR.

There are many definitions of ‘youth’ – the Youth in Landscapes Initiative, and henceforth this paper, defines “youth” as being from 18–30 years old.

The three aims of the Youth in Landscapes Initiative were to:

- Aim 1. Build the capacity of and provide a platform for youth to meaningfully participate in conference sessions and core activities;
- Aim 2. Foster lively discussions, debate and innovation around youth perspectives on the four key landscapes themes of the 2014 GLF, namely: climate change; sustainable development; the green economy; and integrated landscape management; and
- Aim 3. Facilitate youth and intergenerational knowledge sharing and collaboration in the field of landscapes and climate change.

To meet these three aims, the Youth in Landscapes Initiative organising team decided on a tripartite design for the program (**Figure 1**).

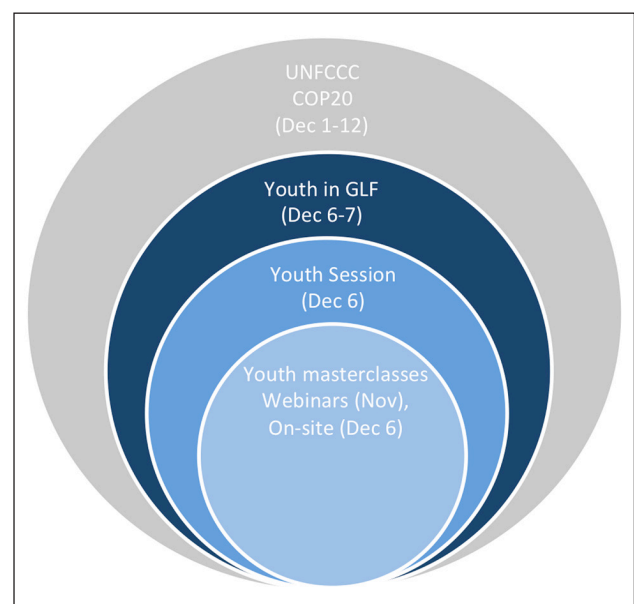


Figure 1: 2014 Youth in Landscapes Initiative program design. The 2014 Global Landscapes Forum youth activities in Lima, Peru had a tripartite design. Youth masterclasses (inner circle) took place prior to GLF, the Youth Session was held on the first day of GLF (second circle) and youth were integrated into the wider conference program throughout the rest of the event (third circle). The GLF was held during the annual United Nations climate summit (UNFCCC COP) (outer circle). DOI: <https://doi.org/10.1525/elementa.327.f1>

Each of the following program elements was designed specifically to achieve one of the stated program aims (see bold in brackets). However, it should be noted that each element could produce multiple and mutually-reinforcing outcomes as secondary aims (see italics in brackets).

1. **Youth masterclasses (aim 1)**: Masterclasses addressed five key skills identified as required for active and engaged participation both at the conference and in future science-policy and sustainability processes: facilitating a discussion; pitching an idea; understanding the subject matter (in this case landscapes); thinking critically about that subject matter; and networking. These skills were identified by the above-mentioned alliance of youth organisations based on their extensive experience and understanding of youth participation gaps, and findings from the broader literature (see for eg. Riemer et al. 2014; El Zoghbi 2015). To teach these skills, webinars were held the month before the GLF and a face-to-face masterclass was held the day before the GLF. For this masterclass, youth delegates to the GLF could choose to attend one of three concurrent streams: 1. facilitating a discussion; 2. contributing to a discussion and pitching an idea (“pitching”); and 3. critical thinking and understanding landscapes. Following completion of the parallel masterclass streams, all participants took part in a fourth masterclass focussed on networking skills, which included a simulated networking activity with senior professionals.
2. **Youth Session (aim 2 and aim 3)**: The Youth Session was a discussion and pitching session designed and facilitated by youth. The aim of this session was to enable youth delegates to formally contribute their ideas on key conference themes and build intergenerational dialogue. The session began with a series of concurrent roundtable discussions, each facilitated in Spanish and English by trained youth facilitators who had developed the specific discussion topic. While branded a Youth Session, with the overarching aim of discussing the key conference themes from the perspective of youth, there was a strong emphasis on intergenerational learning. Organisers actively encouraged senior professionals to participate in the discussions and to consider the perspectives and challenges facing young people. To encourage innovation and applied outcomes, the key outcome generated from each discussion was ‘pitched’ to a “Dragon’s Den” panel of science, business and policy experts for constructive critique.
3. **A ‘Youth in GLF’ program and mentoring program (aim 3 and aim 1)**: For the “Youth in GLF” program, all session organisers were approached and encouraged to provide youth participants with leadership roles in the GLF (e.g. moderating and rapporteuring sessions, MC-ing high level plenaries). For the mentoring program,

a subset of youth masterclass participants was selected and partnered with senior GLF delegates as part of a pilot mentoring program to promote learning and networking opportunities throughout the forum.

An overview of the masterclass and Youth Session agendas is included in Appendix S1.

2.1.1 Program coordination and authors’ roles

The 2014 Youth in Landscapes Initiative program was designed and implemented by a large team of youth and senior volunteers, comprising the following roles:

1. Ten members of the organising committee, who designed and led the youth program and participated in its evaluation and analysis. The second author coordinated the program and committees while other authors were members of the organising and steering committees;
2. Eight youth facilitators and four pitchers (“youth leaders”), who were selected from over 750 applicants to design and facilitate the GLF Youth Session discussions and pitch ideas to a Dragon’s Den panel. They were given a two month period and extensive mentoring to prepare for these roles;
3. 115 youth delegates who participated in one or more of the three components of the youth program; and
4. 34 senior professionals who interacted with youth in a one-time capacity either as mentors, session organisers (“Discussion Forum hosts”) or Dragon’s Den panelists.

As members of the steering and organising committees, the first three authors were involved in leading the co-design of the program, including selection of youth facilitators, pitchers, and masterclass participants; identifying additional youth and senior volunteers to be members of the organising committee; identifying trainers to design and lead the masterclass streams; and connecting youth leaders with senior mentors. The first author coordinated and co-designed the masterclass networking session and designed and implemented the mentoring program (it should be noted that the first author did not attend the forum, and had only virtual interaction with participants and other committee members). The third author coordinated the masterclass facilitation session and co-lead the pre-masterclass facilitation webinar. As program coordinator, the second author liaised with GLF coordinators and Youth in Landscapes Initiative participants. Further details regarding our roles in data collection and analysis are presented in Section 5.1 at the end of this paper.

2.2 Methodology

2.2.1 Surveys

An online questionnaire was conducted for all masterclass participants, both before and after participating in the webinars and workshop (pre- and post-evaluation).

The fourth author contributed to survey design, and conducted the analysis presented in this paper. The survey first asked questions to assess skill-building in one of the three masterclass streams, then followed with questions to assess skill building in networking, as all masterclass participants attended this stream. In the post-evaluation questionnaire, we asked questions focusing on the outcomes of the event, including what participants found most and least valuable, and recommendations for improvement. Given the small sample size, we focused on descriptive rather than inferential analysis. We plotted the pre- and post-evaluation responses together to compare overall skill levels between categories, as well as any changes in responses from before and after the survey.

The survey was sent to all masterclass participants, with a reminder for those who had not completed it after seven days. There were 60 participants, and 50 responded before participating (response rate 83%). For the post-evaluation, all participants were sent an online survey immediately after the event on December 8, 2018 in both Spanish and English. There were 43 responses to the post-evaluation (response rate 72%). Due to the anonymous nature of the survey it was not possible to track responses from individual participants, so the responses are presented in aggregate form.

Text frequency in open answer responses to all post-evaluation surveys was further analysed and visually represented using Tagul software. Common words (e.g. “the”, “and”) and stems were removed. The 45 most frequently cited words (frequency ≥ 3) were used to create the resulting wordcloud.

2.2.2 Qualitative interviews

Structured interviews were conducted by the third author with Youth Session facilitators and pitchers; these interviews averaged 30 minutes in duration. Detailed field notes were taken during these interviews. In addition, five Youth Session participants (both young and “senior” or more experienced participants) took part in brief (up to 10 minute) interviews conducted by a youth volunteer; these interviews were digitally recorded and transcribed verbatim by an independent volunteer research assistant following the completion of the GLF. These transcriptions and field notes formed the data for analysis.

Data were coded with the assistance of NVivo 10 qualitative data analysis software. Thematic analysis was undertaken through an iterative, inductive and deductive process, which involved detailed and repeated reading of the data. Data were coded with *a priori* codes developed based on the three aims of the Youth in Landscapes initiative (refer to Section 2.1 above), in combination with themes and patterns that emerged during the coding process. Codes and analytic memos were then systematically attached (Rubin and Rubin 2005). To ensure consistency of interpretation, all data were analysed by the same researcher (first author).

Qualitative analysis of interviews was supplemented with additional thematic analysis of open answer

responses to masterclass participant surveys, as well as of open answer surveys of Discussion Forum hosts ($n = 7$; anonymous responses) and mentors ($n = 9$).

3 Results

Amongst GLF participants there was a high level of interest in youth activities, as demonstrated by the 34% of 2014 GLF participants registering their interest in taking part in the Youth Session; approximately three times the capacity of the session itself. This reflects a growing demand for these activities since the initial Youth Session at the 2013 GLF.

There was a strong demand for participation in both the masterclasses and Youth Session: 114 applications were received for the masterclasses (capped at 60) and over 600 GLF participants registered to attend the Youth Session (205 capacity). Masterclass participants were selected based on an assessment of responses to application questions against following criteria: 1) registered participant in the GLF, aged 18–30 years old; 2) demonstrated understanding of the concepts and skills to be taught; 3) demonstrated consideration of how participation would benefit them in their current/future role; and 4) demonstrated thinking of how they would apply skills at the GLF and beyond, and to what outcome. The final selection took regard to diversity (geographic, gender and sector) to the greatest extent possible, as well as participants' preferred masterclass stream. While the masterclasses were not open to senior professionals, the Youth Session, which had an open registration, had a high level of involvement of senior professionals, with approximately 30% of the participants over 30 years old.

Both the masterclasses ($n = 60$) and Youth Session ($n = 205$) saw diverse participation: a reasonably even gender balance (56% women) in the Youth Session, with substantially more women (70%) participating in the masterclasses (**Figure 2**). Given the event was held in Peru, we saw a strong Latin American representation (52% of masterclass participants and 43% of Youth Session participants)

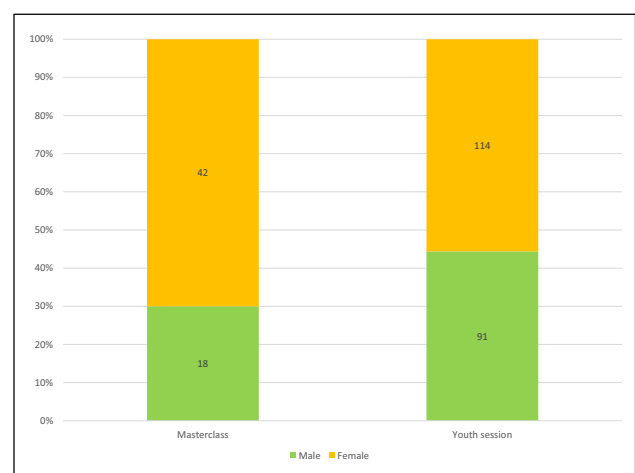


Figure 2: Gender diversity of masterclass and Youth Session participants. DOI: <https://doi.org/10.1525/elementa.327.f2>

and reasonable geographic diversity, with representation from Africa, Asia, the Caribbean, Middle East, Europe, North America in addition to the Latin American participants (Figure 3).

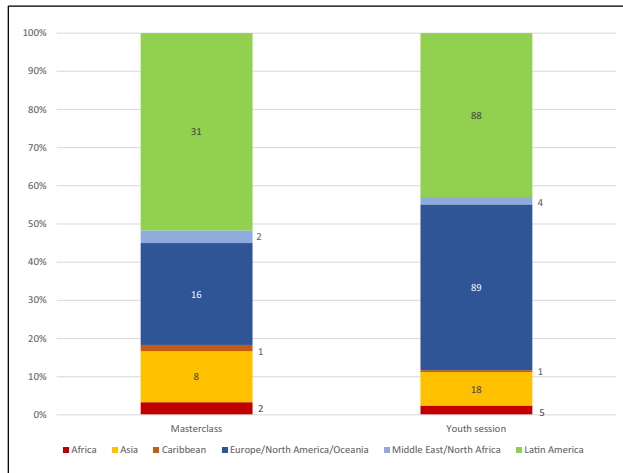


Figure 3: Geographical diversity of masterclass and Youth Session participants. DOI: <https://doi.org/10.1525/elementa.327.f3>

3.1 Building knowledge and practical skills of youth delegates

All masterclass participants self-reported increased confidence in the five skill areas following masterclasses (Figure 4). There were relatively large increases (up to 1.5 points on the 5-point scale) in understanding of landscape approaches and analysing landscape processes, as well as communicating a clear ask, asking questions, presenting clearly, and keeping on track. After the masterclass, participants self-reported the greatest confidence in their interpersonal skills related to listening and asking questions, and the least confidence in skills requiring more complex interpersonal interactions such as managing conflict. A few areas showed little or no increase, including knowledge of the green economy or the post-2015 agenda.

Youth session facilitators and pitchers, who also took part in the facilitating and pitching masterclasses (respectively), were given the opportunity to put these skills into practice during the Youth Session the following day. Data from interviews with these youth leaders supported the results outlined above, with one Youth Facilitator stating:

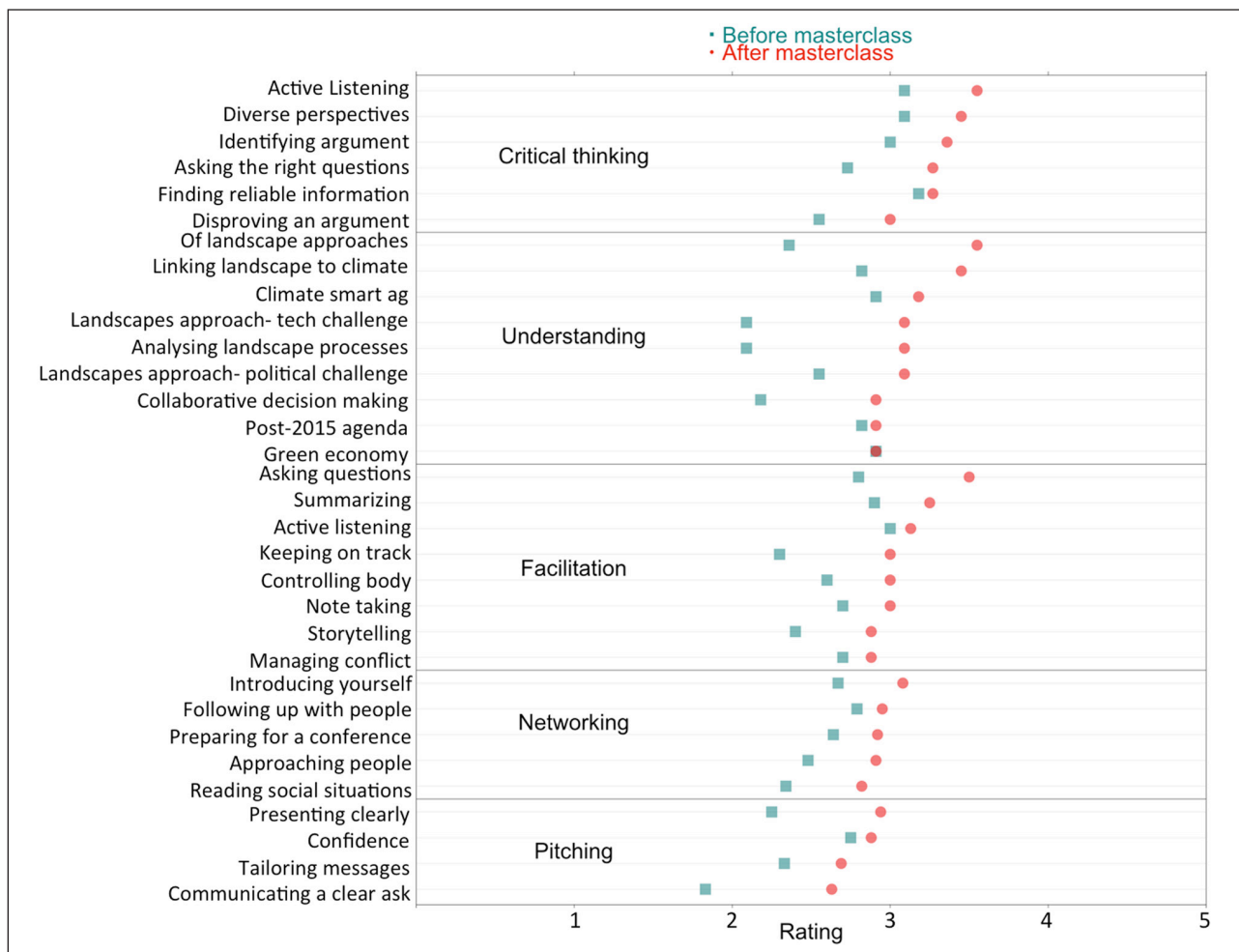


Figure 4: Results from survey of participants in the youth masterclasses at the GLF in 2014 across knowledge (n = 16) and skill-building (N varied from 11 to 35). The average knowledge response increased from 2.53 before to 3.13 after the masterclass, and from 2.66 to 3.06 in skill-building. Data are presented within each category from highest to lowest value after the masterclass. DOI: <https://doi.org/10.1525/elementa.327.f4>

"I feel more confident in my facilitator skills now. It was awesome to show my performance to experts and to receive a positive feedback."

In particular, a number of the youth pitchers highlighted the relevance of these new skills to their current or future professional lives. One identified the fact that "you pitch all the time. Pitching helps to open doors", while others spoke of how they could use these skills in job interviews, or apply their new knowledge to the issues and projects they were currently working on.

3.2 Facilitating substantial youth contribution to discussions

Facilitation of youth contributions to GLF discussions began before the conference itself, through the process of youth program organisers and mentors supporting youth leaders to develop their own discussion topics for the Youth Session. This session was widely advertised through both the GLF and youth-specific newsletters and featured prominently on the forum's website. Through this website, youth leaders also facilitated online discussions; the purpose of these was not only to begin building the facilitation skills of youth facilitators, but also to encourage youth from all over the world to actively contribute to GLF Youth Session topic development and to engage young people in complex challenges relating to sustainability.

During the GLF itself, the youth program created multiple platforms and processes for youth to contribute and build their understanding of key discussions relating to the forum's themes. One youth leader explained the importance of these more informal, youth-focussed spaces for enabling in-depth discussions and personal, ethical reflections by stating:

"What I liked at the Youth Session is that we created a space here at this conference, a cozy place, a comfortable place, where we can engage with each other and really talk about fundamental questions. ...We are able to speak here from our heart and from our beliefs directly because we are not – we don't feel we are being tested or anything. It is a really good platform to get down to the bottom line that concerns us, to the bottom line of what we think is really important in life." (Youth in Landscapes Initiative volunteer)

Another youth leader, who had the opportunity to pitch her group's discussion outcomes to the experts in the Dragon's Den, indicated that through this role she was able to contribute in a considerable way, and that her voice was heard. These leadership roles taken by various youth during this session – from facilitators and pitchers, to the opening speaker and MC – and the emphasis on encouraging active and equitable participation by both youth and senior participants, resulted in many youth feeling more empowered about their role and potential contributions:

"[At the Youth Session] we have shown that as youth we can do more than what is expected of us. We

don't have to wait until we're experts and we can start by just collaborating with each other." (Youth Facilitator)

The Youth Program also promoted the contributions and active role of youth to the core conference agenda beyond the specific Youth Session. Of all the formal Discussion Forums held during GLF, 22% agreed to involve youth in an active role; we consider this a positive response given the pilot nature of this initiative. The majority of selected youth were involved as moderators of discussions or facilitators of a "share fair" (exhibition) evening and, in one case, as a guest speaker in a panel discussion. Surveys of Discussion Forum hosts (n = 7) reflect a variety of motivations for supporting this process, with a number citing a previous motivation for engaging with youth, or, in two cases, knowledge of the background of the youth suggested as a session leader by the conference organisers.

In these latter cases, the relevant Discussion Forum hosts highlighted how having this prior understanding of their moderator's background and finding the "right role for the right person" was key to the initiative's success. Conversely, one host of a share fair pavilion said that, while their youth facilitator was "good", they (the host) felt that adding in another role to a session that was "already short in time" was a challenge and had little value. This challenge of bringing in a youth program participant to a lead role in a core conference session was similarly highlighted by one other host, who stated that while they had a good experience overall:

"It does take a bit more of an effort to include someone new when organising the session, if they are not involved in the topic already".

However, feedback from the majority of Discussion Forum hosts further support the results outlined above regarding the mutual value and collaborative processes of these initiatives:

"When the offer came along of engaging a young professional we were immediately positive, seeing mutual benefits, both for ourselves and for the young professional...in fact, we did not see it as 'having a young professional taking a leadership role', but rather a young professional being part of the team". (Discussion Forum Host)

This echoes the view of the senior participant stated further above, of youth being acknowledged outside of their role as just 'youth'. One youth leader similarly spoke of how she felt empowered by being given this active role in a Discussion Forum, and that through this role she was no longer seen 'as youth only'.

However, neither the youth perspectives presented at the Youth Session, nor the contributions of the youth program more broadly to the GLF proceedings, were explicitly recognised in either the closing plenary or the GLF outcome statement (GLF 2014). This contrasts to the 2013

they were able to apply these new skills to network during the GLF itself, such as approaching presenters, interacting with professionals during coffee breaks, and seeking advice or mentoring opportunities. However, despite the self-reported increases in confidence in networking skills such as introducing yourself and reading social situations (**Figure 4**), multiple participants reported that they would have benefited further from more “structured” networking. A number of participants suggested that additional resources and more time spent on practical activities focused on initiating and sustaining discussions with senior professionals who you “are dying to meet, but don’t know what to say” would have been preferred in place of what was seen by some as “redundant” theory already covered in the online materials.

The mentoring program provided further opportunities for a more structured and supported form of networking for a subset of masterclass participants. Mentees spoke of the value of being partnered with a senior professional who shared their knowledge, offered advice, and facilitated networking. Many youth said that they felt that learning was a mutual process across generations; as one youth pitcher put it:

“I think in term[s] of intergenerational learning, it should be a two way...what experts can give us is in term[s] of skills development...but also on the other side of youth, because they have a lot of innovative ideas and interesting perspectives and creativity in the way they deal with things, that’s why, that’s the thing they can contribute most... they directly like to take action. That’s the thing that can foster intergenerational learning.”

This active exchange of knowledge and ideas between generations was identified by one youth leader as being particularly important in the context of climate change discussions:

“I think the whole issue of climate change of course is something that is intergenerational...it is important to have a space where young people can participate and learn especially because this is an extremely complex process. So I think the important thing is to give the opportunity for young people to act and participate.” (Youth Pitcher)

One mentor echoed this view, highlighting the opportunity for mutual learning as a motivation for taking part in this program:

“Mentoring and coaching is a two-way street. I believed I could learn and be inspired by my mentee as much as I could do that for them. I also love helping guide young people and connecting them to ideas.”

This motivation to build upon the dialogue and collaborative approaches of the GLF youth program was also shared by senior participants, with another mentor stating that his experience guiding a youth participant during the GLF:

“...guided me to think about my own career and consider eventually launching some sort of idea incubator or social impact lab modeled after some of my own experiences”.

More generally, senior participants acknowledged the importance of engaging with youth as “the next generation of leaders” (as one senior participant at the Youth Session put it). However, as one Discussion Forum host highlighted, youth engagement should also occur “in the field”; that is, through ongoing professional collaboration and mentoring. Two Discussion Forum hosts also recommended incorporating youth even more fully into the sessions, for example as panelists invited to “share their understandings and concerns”.

Similarly, one senior participant spoke of how his involvement in this session made him realise the “tremendous diversity” of youth and acknowledge that youth are not only ‘students’ or ‘young professionals’ but also play roles as consumers, farmers, migrants, and other stakeholders of interest to the GLF.

3.3.3 Building ongoing connections

Youth spoke of the importance of building upon the connections made during the GLF and creating a platform for ongoing knowledge sharing and collaboration:

“We need to keep connected and to keep the momentum going. Maybe establishing a network where we can all keep providing feedback into each other and share future ideas and projects”. (Youth Pitcher)

A number of participants gave tangible examples of how their involvement in the Youth in Landscapes Initiative had encouraged them to reflect on their own role as professionals or leaders, and how they felt inspired to take further action, as highlighted in a subsequent blog post (GLF 2015) about one of the youth facilitators, in which she was quoted as saying:

“The boundless energy of young leaders [and] innovators from all over the world was the spark that I was missing to start the fire of my own social venture called Growing Empowerment. During the youth masterclasses I developed key skills which strengthened me: 1. to create a pitch capable to involve a multidisciplinary team of young urban professionals to work as a volunteers by developing a project in rural education. 2. to facilitate the discussion of this team which includes anthropologists, sociologists, educators, engineers, communicators, managers and psychologists in order to build the project. 3. to coordinate the activities to make [sure] this project happened.”

This participant’s discussion of how she applied her skills learned through her participation in the masterclass and Youth Session to coordinating a multi-stakeholder, grassroots sustainability initiative is one example of how the Youth in Landscapes Initiative supported some partici-

pants to actively work towards sustainability change at a grass-roots level, beyond the conference itself. Another youth facilitator subsequently joined the organising team for the 2015 Youth in Landscapes Initiative, applying her facilitation skills in co-designing and co-leading a four day 'Youth Innovator Workshop' that partnered teams of youth with international organisations to develop solutions to real world 'landscape challenges'. In 2016, this same participant was involved in establishing a Youth in Landscapes Initiative Alumni Stories map (Youth in Landscapes Initiative 2016), to which participants from the 2014, 2015 and 2016 Youth in Landscapes Initiative programs (**Figure 6**) can submit their "stories" since participating in the youth program. In one story, a 2014 Youth Session and masterclass participant states that:

"Learning to think in landscapes imparted on me how important it is to involve all stakeholders in governance processes. This change in my ethos inspired me to push to become a member of a research team studying how our connections across all groups in society, communities, NGOs, international agencies, industry, and government, could facilitate or hin-

der action on climate change...I've leveraged these community building skills to facilitate and design workshops aimed at engaging individuals across all groups to participate in different levels of climate action." (Youth in Landscapes Initiative 2016)

These stories, and the ongoing involvement of many youth program participants – often as organising committee members – in subsequent programs, indicate that the 2014 Youth in Landscapes Initiative provided a foundation for certain participants to continue to develop and apply their skills across diverse areas of sustainability action.

4 Discussion

Our results suggest that the 2014 Youth in Landscapes Initiative was effective in building participants' confidence in key skills and landscape-related knowledge, while also supporting peer-to-peer and intergenerational discussions and networking (research question 1). Through this focus on building practical skills and knowledge of youth, creating designated spaces for youth to discuss and share their ideas, and facilitating collaborative and intergenerational learning and dialogue, the youth pro-



Figure 6: Youth in Landscapes Initiative alumni stories map (Youth in Landscapes Initiative 2016). Interactive map showing locations of a subset of Youth in Landscapes Initiative alumni, from the 2014, 2015 and 2016 programs. Each pin represents one alumni; clicking the pin brings up a tab showing a photo and "story" submitted by that alumni, in which they discuss their participation in the initiative and how this may have impacted their subsequent work/approach. DOI: <https://doi.org/10.1525/elementa.327.f6>

gram supported a more active contribution of youth in the GLF, with many senior participants acknowledging their value as key stakeholders. However, there is limited evidence that youth perspectives were considered in the 2014 conference outcomes, or that the youth program had a substantive impact on associated policy debates. Nonetheless, our data, and the stories presented in the alumni map, suggest that participation in the youth program empowered young people to establish connections and to continue to apply their new skills and knowledge across a diversity of actions in their own work and communities. Furthermore, the 2014 program appears to have acted as a strong foundation on which subsequent youth programs at the GLF could build, which in turn promoted a more high profile and meaningful contribution of youth to conference processes and proceedings, including outcome statements and plenary discussions.

The masterclasses resulted in youth participants reporting an increase in confidence in their knowledge and skills directly relevant to GLF themes and activities. Participants were then given the opportunity to put these skills into practice through actively engaging and participating in networking, open discussions, and pitching ideas throughout the forum. By creating a dedicated space for youth to take on leadership roles and to share ideas with peers and senior professionals, the Youth Session gave youth the opportunity to develop and contribute their voice and to actively contribute to subsequent GLF discussions. Peer-to-peer and intergenerational networking and connections were further fostered through collaborative learning environments, formalised networking sessions, and the mentoring program. Dedicated skills and community building programs, combined with provision of and training for youth leadership roles, mentoring, and a facilitated youth session, are considered key success factors for meaningful youth participation in conferences and associated science-policy processes.

4.1 Building the capacity of youth through knowledge and skill development

The masterclasses were designed to equip youth with the knowledge and skills to effectively contribute to discussions at the GLF itself, as reflected in aim 1 of the program. However, we view these skills, and a critical understanding of key concepts and issues, as also being required to support civic and policy literacy and the capacity to meaningfully participate in science-policy processes more broadly. At the same time, while the focus on critical thinking and communication skills such as pitching ideas was based on supporting more informed and articulate contributions to GLF discussions, these skills are also key in enabling youth to actively challenge existing sustainability assumptions and narratives and to confidently shift the debate with new ideas; something that will be critical in achieving sustainability change.

The 2014 Youth in Landscapes Initiative was intentionally designed to facilitate experiential and collaborative learning, and our analysis suggests that this program was successful in building the confidence and capacities of youth participants at the GLF. Our results (Section 3.1, **Figure 4**)

indicate that participation in the masterclasses resulted in participants reporting a higher level of confidence in their skills and knowledge; this served as a foundation for them to more confidently and actively engage in the subsequent GLF discussions and activities. The focus on teaching key skills and knowledge that were directly relevant to participation in the forum and in broader science-policy processes (critical thinking, communication, decision-making and leadership competencies) offered participants the opportunity to apply these newly learned skills at the GLF, to receive feedback and support from peer and professional mentors, and to be recognised as legitimate stakeholders and participants by many senior participants (Riemer et al. 2014; El Zoghbi 2015). While this in itself is not reflective of a substantive youth influence in science-policy change or immediate conference outcomes, the skills and knowledge built through participation in the Youth in Landscapes Initiative are seen as a foundation not only for participation in conferences, but for future and ongoing meaningful engagement in science-policy processes.

The greatest learning seemed to come in the 'understanding of landscapes' masterclass. This masterclass was designed and delivered by lecturers from Wageningen University and was intended to be a condensed version of an annual Landscape Leadership course. The pedagogical knowledge of the trainers, combined with a previously tested curriculum, may have contributed to the high level of learning that occurred in this particular stream. This masterclass stream was also more theoretical than the other streams and may reflect participants' (particularly university students') familiarity and experiences of particular learning processes. While the importance of gaining an in depth understanding of the diversity and complexity of a conference's subject matter (in this case landscapes) should not be underestimated, we believe that our approach of complementing these theoretical components with practical skills building activities is critical for enabling translation of this new knowledge into meaningful and active participation in conference and broader science-policy proceedings.

Many youth participants reported in the post-surveys that they had identified ways to use their newfound skills in job interviews, or apply their new knowledge to the issues and projects they are working on. This suggests that the program has the potential for impacts beyond the conference walls. The youth participants came from a diversity of backgrounds – from university students to young professionals working in civil society, development organisations, research institutes and government bodies. This diversity reflects the many and diverse platforms through which science-policy change may occur, and the many forums in which youth participants may have the opportunity to apply their new-found skills and confidence in working towards sustainability. A limitation of this study is that we did not include a follow up survey (e.g. 6–12 months) following the 2014 GLF, and therefore it is not possible to know if and to what extent participants continued to build their confidence in, and apply, these skills and knowledge. However, the ongoing involvement of a number of participants in subsequent youth program

coordination, and the stories presented in blog posts and the Alumni Story Map, indicate that some participants did feel lasting impacts from their participation.

4.2 Empowering youth to have a voice

According to Cockburn et al. (2000), meaningful youth participation means empowering young people and facilitating their active involvement in decision-making. The Youth in Landscapes Initiative focussed on promoting what Checkoway and Aldana (2013: 1896) refer to as “intergroup dialogue”, with an emphasis on building “coalitions across boundaries for a common purpose” and “facilitate critical discussions...and create change”. As such, capacity building programs such as this have the potential to support a community of youth in their current and potential future work across and within both existing structures and more local or innovative initiatives.

Youth participants who took part in the Youth Program reported that they felt empowered to contribute their voice and to affect change, both within their peer communities as well as with senior professionals and ‘experts’. The Youth Session provided a dedicated time and space to allow youth and senior participants to engage in these in-depth, critical discussions, while emphasising the value and importance of youth contributions. Feedback from senior participants indicates that these perspectives were valued. Providing youth with active, visible leadership roles within the conference itself, for example as discussion forum panelists as well as session moderators, not only builds the leadership capacity of the youth taking on these roles, but also encourages youth participants to contribute by clearly acknowledging the important and core role of youth in conference proceedings.

However, the lack of evidence of youth perspectives impacting formal conference outcomes in 2014 suggests that the 2014 Youth in Landscapes Initiative may have still been seen as a separate “youth” program, the outcomes of which were similarly kept distinct from the conference outcomes as a whole. On the other hand, the impacts of this program – both in terms of the benefits to youth as presented in this paper, and the increased prominence of and demand for youth activities – may have contributed to the ongoing support for this program over subsequent years, as mentioned for the 2015 GLF. This is reflected in the recognition in this 2015 forum of youth as key stakeholders in and contributors to these policy dialogues and was enabled by both the higher profile of the initiative, as well as the focus on capacity building and leadership skills.

4.3 Creating collaborative learning environments between generations

The 2010 *World Programme of Action on Youth* (United Nations 2010: 60) highlights ‘Intergenerational Issues’ as a priority area, and ‘strengthening intergenerational solidarity’ as a key proposal for action, stating that all sectors of society should be encouraged to “develop reciprocity in learning, which provides older persons with opportunities to learn from younger generations”. The Youth in Land-

scapes Initiative created the space for youth to develop, trial and engage with new participatory approaches for addressing complex intergenerational issues, while also facilitating this key process of intergenerational learning and knowledge exchange.

The mentoring program and Youth Session were able to nurture opportunities for youth to connect with senior professionals interested in youth issues in a way that was perceived by both parties to be equitable. While mentoring is perhaps more commonly viewed as a one-on-one relationship in which a senior mentor imparts experience and advice to the more junior mentee, feedback from mentors clearly demonstrates that mentoring is a “two-way street”, providing opportunities for mutual learning and knowledge exchange. Results from both masterclass and mentoring program surveys, and feedback from Youth Session participants, demonstrate that mentorship by and support of senior professionals can lead to mutual benefits. At the same time, our evaluation of the Youth Session shows the importance placed on peer-to-peer connections and collaboration. Building the capacity of youth is therefore not only about building concrete skills and knowledge, but also about building a community of young leaders who can share ideas and inspiration for sustainability change.

However, there are many barriers to involving senior professionals in mentoring youth, such as lack of time and capacity. According to one Discussion Forum host “*With more time, we would likely have been able to share with [our youth moderator] the thinking behind the session and get her involved in thinking through questions and mentor her a bit...without enough lead time it is hard to fit this all in.*” Similarly, the youth facilitator and pitcher roles required extensive preparation prior to the GLF. Because of this, selection of both mentors and youth leaders can favor those with established capacity. Ensuring adequate time and resources are provided for training in these roles, combined with formal recognition of and clear outcomes associated with these roles, will be important for future youth programs that aim to provide equitable opportunities to a broad spectrum of participants. Furthermore, while conferences themselves provide extensive opportunities for networking, our results of the masterclass surveys clearly demonstrate that youth value the opportunity to network, in a smaller environment, with a range of senior professionals who are interested in meeting with and supporting youth.

4.4 From conference participation to science-policy and sustainability change: towards a framework for meaningful youth participation

International science-policy conferences such as the GLF provide an opportunity for youth (and delegates more broadly) to share knowledge, build and apply critical interpersonal and communication skills, and develop networks and partnerships. While the immediate focus of the Youth in Landscapes Initiative, and this research, was on youth participation at the forum itself, the skills, knowledge, and connections that this program supported are seen as

foundational for enabling youth to contribute to sustainability and science-policy change across multiple scales. Such change will require the ability to communicate and collaborate across multiple sectors and worldviews, and, in our view, a highly engaged, articulate and empowered network of youth.

Our results go some way toward answering calls in the literature for more innovative, action orientated youth programs (El Zhogbi 2015). Based on our evaluation of the design and outcomes of the 2014 Youth in Landscapes Initiative, we present a number of key recommendations for conference-based youth programs that seek to empower and build the capacity of youth to not only meaningfully contribute to science-policy processes, but to be positive agents of sustainability change. A summary of the factors that we consider key to the success of meaningful youth participation in conferences presented in **Table 1**. These factors are not considered to be sector-specific, but could be viewed as providing a guiding framework for any science-policy process or conference that intends to meaningfully engage with and facilitate the active participation of young people.

Youth ownership of processes and programs is important for legitimacy (Forbrig et al. 2005). Many conferences still retain a highly structured and conventional format of plenaries and discussion sessions, which may limit opportunities for innovation and collaborative action. Therefore, supporting independent youth-led initiatives may go some way in promoting these alternative approaches. Furthermore, encouraging youth to lead these initiatives further builds the capacities of youth to collaborate and self-mobilise for collective action (Pretty 1995). In this sense, active youth participation in the program coordination itself may act as a “training ground” for these youth to develop skills and partnerships that could subsequently be leveraged in a diversity of actions at both grass-roots and international policy levels. As such, to the greatest extent possible, the first recommendation presented above is that the organisation of youth programs should be led by, or strongly informed by, youth groups with background in the conference/science-policy subject matter and with established networks or partnerships with relevant youth and

professional organisers and audiences. Collaborating or working within external conference structures or policy processes can pose certain challenges – from logistical questions as to how to best integrate youth program applications and session times into the conference registration process and structure, to issues of power and autonomy when working with more established high level organisations. In these situations, it is important to build strong relationships with key personnel within partner organisations, and to ensure that expectations are clearly stated from the outset.

Skill building sessions should be held before the conference (particularly important for large conferences where an intimate atmosphere and community connection may be more difficult to foster) or during the conference if the conference size and structure allows it. Holding these sessions before may help overcome one of the limitations of conferences, which is the limited time and multiple and conflicting draws on attention that participants have during the conference itself. This requires clear and timely announcement of the activities, and communication with participants, to ensure that they can plan ahead and ensure they have the additional time to participate. If the conference venue is not available prior to the main event, such pre-conference activities may also require additional fundraising or resources. Dedicated time and space to discuss youth issues should be paired with opportunities to hear from youth throughout the conference program. While the “Youth in GLF” component of the 2014 Youth in Landscapes Initiative suggests that many session coordinators are receptive to the idea of youth moderators, feedback highlights the challenges, in terms of time and resources, required to ensure this is effective. Furthermore, incorporating youth as panellists in relevant discussion fora would encourage youths’ voices to be more strongly considered. One potential approach is requesting session applicants identify, in their application, whether they would be willing to mentor a youth moderator, and/or to indicate the age (as well as gender/geographic) diversity of proposed speakers and include this diverse representation as one selection criterion. This would encourage hosts to initiate this inclusion of youth and ensure adequate time to prepare.

Table 1: Recommended elements for meaningful youth participation in conferences. DOI: <https://doi.org/10.1525/elementa.327.t1>

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- A youth program committee and/or youth conference organizer responsible for youth engagement
 - Dedicated skill and confidence building opportunities (e.g. a minimum one day-long masterclass program/workshop held immediately before the conference), combined with formal opportunities for youth to apply these skills during the conference (e.g. session moderators)
 - Dedicated space and time for 1) youth and senior participant networking and 2) youth and senior participants to discuss youth perspectives on conferences issues
 - Provision of youth leadership opportunities within the core conference agenda (e.g. session panelists), and formal recognition of youth as a key stakeholder group
 - Two-way mentoring between senior and younger delegates to facilitate intergenerational understanding and networking
 - A high-level youth plenary speaker who can bring forward youth-specific issues to the wider conference
-

More attention needs to be paid to post-conference outputs and support, however this requires some longevity in the program and concerted effort to develop structures or partnerships that can provide ongoing support (e.g. funding for implementation of ideas generated from Youth Session discussions, stronger organisational partnerships, a long-term mentoring program).

Following from these recommended elements and key success factors, we recommend the following broad framework for a conference-based youth program:

- **Pre-conference (face to face and virtual)** – master-classes and Youth Session discussions
- **During conference** – Dragon's Den to pitch ideas from discussions; mentoring program; youth involved in core conference proceedings in active leadership roles (e.g. plenary MC, Discussion Forum speaker)
- **Following conference** – implementation of ideas/project pitches; mentoring program

Based on our experiences coordinating the 2014 Youth in Landscapes Initiative, we believe that identifying Youth Session themes through collaboration with conference organisers and implementing partners, prior to recruiting youth facilitators and pitchers, would be more effective in ensuring that discussions result in relevant and applied outcomes. Topics should be real life initiatives, projects or needs that youth could meaningfully and substantively contribute to and engage with. This would not only allow for more concrete, implementable outcomes, but would also encourage institutions and policy makers to systematically start considering and introducing youth perspectives and issues into their core business, projects and processes.

While the 2014 Youth in Landscapes Initiative mentoring program was effective in facilitating intergenerational networking and learning at the conference itself, a more formalised long-term approach to mentoring, with ongoing skills building and facilitation by program organisers, could potentially enable more meaningful outcomes and impacts to be achieved. Building on the learnings from the monitoring and evaluation of the mentoring program at the 2014 GLF, in 2015 the Youth in Landscapes Initiative and YPARD both implemented trials of longer term approaches (at the 2015 GLF, and as a country-based face to face program in Kenya, respectively). More recently, the YPARD-GFAR Young Agripreneurs Project provided six young agripreneurs not only with 12 months of business, leadership and technical mentoring and coaching, but also with seed funding to facilitate the start up of their agriculture/agribusiness project. For conference-based mentoring programs, complementing the conference-only mentoring initiative with a longer-term approach involving a 12-month (for example) youth fellowship program linked to the conference would encourage more sustainable investment in youth leadership and capacity building. A longer term program would also enable these activities to move beyond the conference setting and into areas (for example focused project work or policy advocacy) in which change may occur. Additional activities such as a pre-conference online program and a face to face workshop during the conference may create stronger and

more long lasting connections and sense of community between participants, while a formalised long-term framework, including ongoing coaching and support following the conference, would support leadership capability and the implementation of real-world projects in partnership with mentors and sponsoring organisations. This long-term approach could also be self-reinforcing, with past youth leaders mentoring future youth leaders and a formal alumni network helping peers formally connect and collaborate. We believe that supporting these diverse approaches including peer-to-peer and team-based mentoring will add value to more conventional one-on-one youth-senior mentoring programs.

Bringing youth and senior professionals together for collaboration, dialogue or mentoring initiatives at an international scale demands extensive resources. Furthermore, many people – particularly in the climate field – are increasingly questioning the value of high-carbon travel to attend conferences and meetings when it is possible to connect virtually. It is therefore increasingly important that conference organisers consider ways to optimise the time that delegates spend at their events. Directly linking broader initiatives, such as youth mentoring and capacity building, to existing conferences is not only highly cost- and emissions-effective, but also anchors the goals of promoting knowledge exchange and inter-generational partnerships and dialogue in the defined science-policy themes and goals of the conference. By providing opportunities for intensive, participatory and 'face-to-face' connections and collaboration, conferences can be an incredibly powerful way to catalyse and solidify partnerships between youth and senior professionals and organisations. At the same time, youth program organisers should consider innovative ways to support meaningful youth participation and mentoring that minimise high-emissions travel, such as regional or virtual conferences, or combining virtual learning and collaboration tools with international conferences.

Conference organisers are also increasingly aware of the need to ensure gender and regional diversity amongst speakers (avoiding the travesty of #allmalepanels). Given the high level of interest in youth activities, and the value of providing youth with leadership roles (as discussed above), we would argue that ensuring age diversity should be given the same consideration. Young and senior people alike need to advocate for the explicit inclusion and discussion of youth issues and youth perspectives during conferences; not only through designated 'youth' programs, but also in core conference proceedings such as plenaries and discussion forums in which stakeholder representation and youth perspectives can add value.

5 Conclusion

The 2014 Youth in Landscapes Initiative aimed to facilitate the active and meaningful contributions of youth to the processes and discussions at the Global Landscapes Forum, an international science-policy conference focused on building partnerships and facilitating dialogue around cross-sectoral landscape sustainability. Through its emphasis on skill building, fostering collaborative learning environments and both peer-to-peer and intergenerational networking, the

Youth in Landscapes Initiative not only supported youth in actively contributing to the GLF, but also built connections and capacities that have the potential to result in longer lasting impacts on the lives of youth participants beyond the conference. A number of examples of longer lasting impacts have been seen amongst the alumni of this program; these examples indicate that impacts resulting in part from youth leadership and capacity building initiatives can also occur at a local or grass-roots level, rather than (just) within the existing structures (such as conferences and associated science-policy processes) in which these initiatives occurred. Additional research into the mechanisms and enabling factors that support the translation of capacity building and leadership outcomes into meaningful, youth-led change for sustainability is recommended.

Based on our evaluation of this program and the key lessons learned we have identified a number of success factors and a framework for supporting meaningful youth participation at conferences. This could be expanded for conference organisers in sectors beyond land use, and, perhaps more importantly, could be translated into promoting youth leadership, capacity building and contributions in broader science-policy processes. Meaningful participation at conferences will not only require youth having the opportunity to “have a voice”, but for these perspectives to be fully integrated into conference proceedings and outcome statements that are directed at policy change. Skill development, critical thinking and reflection, and peer-to-peer collaboration are also seen as enabling factors in youth taking the lead in designing and implementing programs and activities both within and outside of these existing processes and structures. Empowering young people to play an active role in development processes and to meaningfully engage with environmental and sustainability issues at local, national and international levels will be crucial to realising the just and climate-safe world implied by the Sustainable Development Goals.

5.1 Positionality of authors

At the time of coordinating the 2014 Youth in Landscapes Initiative youth program and conducting this research, the first three authors of this paper were actively working to promote youth engagement and capacity building in landscapes sectors. As such, we (the first three authors) approached this research with the view that young people should be recognised as critical stakeholders in sustainability discussions and associated policy processes, and a belief in the importance of equipping young people with the skills and capacities to enable them to actively and effectively contribute to these processes. Furthermore, as “youth” ourselves at the time of the 2014 Youth in Landscapes Initiative (i.e. between 18–30 years old), we were personally motivated to support collaborative, youth-led initiatives that could both enable and advocate for sustainability change.

We were aware that our roles in the steering and organising committees may have created a sense of power imbalance between us and the program participants. However, our mutual identification as “youth” in landscapes, as well as the relationships established with youth facilitators and pitchers over the months preceding the

GLF, helped in creating a sense of trust and openness. Our motivations in training a youth volunteer to conduct the interviews with youth session participants was not only motivated by our capacity building emphasis, but also by a sense that participants may have felt less inclined to speak openly and honestly in front of an unfamiliar person in a position of presumed authority. A similar rationale informed the anonymity of survey responses. The fourth author was invited to join the research team based on having previously worked with the second author at an international science policy conference to initially provide high level input regarding the design, and subsequently provided intellectual leadership of this research and oversaw the evaluation of this program. Furthermore, the initial program evaluation (representing high level, preliminary findings from this research) was shared with all participants, with any subsequent informal feedback incorporated into future program design.

The three authors continued in steering and organising committee roles, and the fourth author contributed to the monitoring and evaluation program, for the 2015 Youth in Landscapes Initiative. Since 2016 the first three authors have been involved only in minimal advisory roles with the Youth in Landscapes Initiative, with the program being led by a collaborative and constantly evolving team of youth, many of whom are alumni of the 2014 and 2015 programs. As such, throughout the process of this research we have constantly been reflecting on and reflexive of changing and overlapping roles as youth program coordinators, more removed program observers, and researchers. Throughout the process of conducting this research we have therefore been continually feeding back our learnings into our practice as youth coordinators and advocates and building on the lessons learned (as discussed in this paper) to promote the continual development of these youth initiatives. Our multiple and evolving roles give us a richer understanding not only of the views of our fellow youth, but also of the opportunities and challenges associated with achieving meaningful and long-lasting change.

Supplemental file

The supplemental file for this article can be found as follows:

- **Appendix S1.** Agenda for youth in landscapes program. DOI: <https://doi.org/10.1525/elementa.327.s1>

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Author contributions

- Substantial contribution to research design: SDH, MC, MK, KAN
- Analysis and interpretation of data: SDH, KAN
- Data acquisition: MC
- Drafting the article: SDH, KAN, MK
- Critical revision of article: KAN, MC
- Final article approval: SDH, MC, MK, KAN

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