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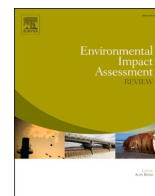
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## The evolution of environmental assessment through storytelling – Stories from five decades of experience

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### ABSTRACT

This paper aims to explore the evolution of EA as a concept and as a tool through the thoughts, perspectives and reflections of those who have lived-through 50 years of EA practice. It presents findings from research informed by interviews through storytelling with 12 longstanding practitioners and scholars who have engaged with EA over five decades. The narratives collected and the emerging discourses provide useful insight into the “story” of the evolution of EA thus far, reflecting on the internal and external motivations driving EA’s evolution, and looking to where EA might go next, and how it might continue to evolve. The findings call for a return to more holistic conversations about the environment, and for greater advocacy at the heart of decision-making and institutional structures to enhance the influence of EA.

### 1. Introduction

Environmental Assessment was first formally introduced in the US through the National Environmental Policy Act (NEPA) in 1969, and since then, its practice developed rapidly all over the world growing in both popularity and strength (Morgan, 2012), with EA becoming “the world’s most widespread environmental policy tool” (Fonseca et al., 2017, p.90). The evolution of EA has been characterised by processes of review (Gibson and Hanna, 2015) and incremental process adjustments to ensure responsiveness to system changes. Questions about how EA might continue to evolve in the future (Bice and Fischer, 2020), what the 21st century challenges might be and what shape might the next generation of EA have (e.g. Sinclair et al., 2018; Chanchitpricha and Bond, 2020; Bond and Dusik, 2020), are being asked, and suggestions for further reform are being proposed. These range from the need to accommodate new understandings about sustainability and complexity through meaningful public participation and inter-jurisdictional cooperation (Sinclair et al., 2018), to enhanced legal enforceability of recommendations (Therivel, 2020) and strategicness in EA (Stoeglehner, 2020), to thinking about more creative governance solutions (Bice, 2020; Jones and Morrison-Saunders, 2020). Most of this thinking is underpinned by the ever-growing basis of experiential evidence and reflective exercises that look at the successes and failures of EA practice (Sinclair et al., 2021; Fonseca, 2022a); and by the increasing recognition

that the practice of EA will be key in aiding policy- and decision-making in support of climate change mitigation and sustainability (Morgan, 2012; Cashmore et al., 2010). Preparing for the future of EA also means making sense of the past and of 50 years of experience of EA built from events involving people in different time and space settings; and recognising that the practice of and expectations for everyday EA may have been (re)framed through time with new understandings or changes in understandings emerging along the way (van Hurst, 2012). In this paper, we suggest that a useful way to explore further the evolution of EA and make sense of what happened and of what might or should happen next, is to capture these accounts through the stories and experiences of those who lived through five decades of EA practice.

Following Schön (1993, p.144), peoples’ experiences and stories about everyday practice set “out a view of what is wrong and needs fixing”; they “have the ability not just to talk about what is, but also about what ought to be” (van Hurst, 2012, p.300 based on Rein and Schön, 1977). Their stories do not just depict an event, they “connect story elements” to form a “coherent whole” (ibid). According to Throgmorton (2007), stories also reflect practice of a specific setting or situation, using imagery and language that goes beyond an individual’s account of an event or experience of EA for example, to reflect more broadly the wider context, including the social and professional networks, physical settings and administrative and policy processes that define for example, the institutional set up in which EA is practiced. For

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Forester (1993), stories about practice in particular, capture the messiness of the elements that make up a story, including issues of morality, politics, power, and the underpinning values at play; whilst giving insight into practitioners' moral stance and values too. Though specifically in relation to planning practice, Sandercock (2003) highlights the performative nature of storytelling as narrative lenses are used when analysing a development activity. This could be likened to participatory or consultation activities in an EA process for a development proposal, whereby spaces for storytelling are offered to develop a community's or a public's narrative about an environment which in turn informs the co-creation of (other or new) stories, including practice stories about EA.

Within this context, this paper aims to provide an account of the evolution of EA through storytelling, by sharing the practice stories of those who have experienced 50 years of EA. In doing so, it acknowledges the "messiness" of the context in which EA is applied, including the internal factors that over time defined the development and reform of EA through process and procedural adjustments (Hilding-Rydevik and Bjarnadottir, 2007; Gazzola et al., 2011; Bond et al., 2022); whilst also recognising that the evolution of EA is shaped by external factors too, including socio-economic pressures, environmental challenges and crises, or the role that international organisations play in promoting and expanding EA practice (Bond and Pope, 2012; Bond and Dusik, 2020; Koivurova et al., 2022). Within this "messiness", practitioners and scholars have the potential to be facilitators of stories about EA and of stories of policy proposals through the EA process. Through practice stories, they reflect on lessons learned, including where unlearning might be occurring (Retief, 2010) or where relearning might be necessary to help set the foundations for future improvements (Zhao et al., 2013; Jha-Thakur et al., 2009), or serve change (Sandercock, 2003), co-creating in turn the next chapter(s) of the story of EA.

This paper is structured into five main sections. In the next section the use of storytelling as a method underpinning the research and the approach to data collection and analysis, is explained. The findings are subsequently presented and discussed. The conclusions summarise the practice stories about EA by providing a shared (core) narrative, and reflect on how storytelling can be instrumental in informing discussions about where EA might go next.

## 2. Methodology – Storytelling

Storytelling as an idea and as a method has been explored in different fields. In environmental and sustainability research, storytelling can encapsulate the relationships between humans and the natural and built environment through personal experiences (Marshall, 2019). In evaluation, Salm and Stevens (2021) suggest that the practice of storytelling can help make sense of the past, whilst enhancing understanding of possible futures. It has proven to be an effective method in capturing participatory change processes, and received attention in public policy and planning (Hajer et al., 1993; Forester, 1999; Davidson, 2017; Sandercock, 2003; van Hurst, 2012; Wehn et al., 2021), with Throgmorton (1992, 2003) arguing that planning is performative persuasive storytelling. Following Forester (1999), storytelling can give insight into EA practice, as a "field of constant innovation" (Kågström and Richardson, 2015, p.110), within a "dynamic and increasingly diverse context" (Fonseca, 2022b, p.3).

As a multidisciplinary decision-making support tool, the practice of EA has relied on, and benefitted from, the cross-fertilisation between disciplines and close collaborations between different practice traditions and professional communities (Gazzola, 2011; Morgan et al., 2012), often enhanced by professional and transdisciplinary crossovers and collaborations (Fonseca, 2022b; Kørnøvn et al., 2022). These encounters, collaborations and crossovers between scholars and practitioners have contributed to the development of an established international EA community and in turn to developing narratives about the story of EA thus far. Through the narration of scholars and practitioners as teller(s), insights into the "messiness" of EA can be shared, including EA's ability

to evolve and adapt to the changing needs of decision-makers (Morgan, 2012; Fundingsland Tetlow and Hanusch, 2012), reform its processes (Fonseca et al., 2017; Gibson and Hanna, 2015), respond to developing experiences and innovations from practice (Kågström and Richardson, 2015) and address important and increasingly recognised environmental challenges (Sinclair et al., 2018; Retief et al., 2016). Storytelling as a method is therefore used in this paper to provide an account of the stories and reflexive practices spanning over five decades shared by longstanding practitioners and scholars of this international EA community, with the emergent narratives providing a reconstruction of EA's evolution whilst also highlighting how EA might continue to evolve into the future through the co-creation of stories, shaping new directions or "new imagination of alternatives" for EA (Sandercock, 2003, p.9).

To identify longstanding EA practitioners and scholars to participate in this study, a sampling approach based on inclusion criteria was followed. The inclusion criteria specified the attributes that the participants needed to meet (Patton, 1990; Robinson, 2014), i.e. the participants needed to be (1) EA practitioners and/or scholars; and (2) they needed to have been continuously involved with EA through either practice and/or scholarly work, over the last 50 years. To enhance the homogeneity and commonality of the sample (Robinson, 2014), affiliation to the International Association for Impact Assessment (IAIA) was also considered<sup>1</sup>. This was done to capture reflections and perspectives about EA as a concept and as a practice beyond country- or jurisdiction-specific practices, reflecting international debates and understandings about EA.

A desk-based scoping exercise of the international academic, professional and grey literatures, including reports, conference and seminar proceedings, published from the 1970s onwards and publicly accessible, was subsequently conducted; and an initial list of EA practitioners and scholars was compiled. The contributions and dissemination activities of the identified practitioners and scholars through different platforms and their engagement with the IAIA were then tracked through time, to monitor their continuous involvement with EA over five decades. In this study, continuous involvement was determined through participation of EA events, such as conferences, workshops and seminars, including those of the IAIA but not only; and/or authorship of published outputs, both academic and professional, available in the English language. This led to a list of 23 longstanding practitioners and scholars who met the criteria of the research, further refined by the accuracy of contact details, still active, accessible and/or in the public domain. A total of 14 EA practitioners and scholars were contacted and approached for an interview by the researcher, of which 12 agreed to participate in the research. In this study, interviews were chosen as an effective method for collecting the participants' personal stories and experiences. The narratives collected about EA, represent perspectives from, and for some crossovers between, academia, practice and government, capturing a range of stories of EA, e.g. environmental law, project-level and strategic level EA and other forms of EA, within a national and international context; and reflections on the evolution of EA as a concept and practice (see Table 1).

Throughout Spring 2021, 12 semi-structured interviews were conducted, and then analysed to understand the meanings and themes emerging from the participants' recounted experiences of EA over the last 50 years. Because of the Covid 19 global health pandemic and ongoing travel and lockdown restrictions in different parts of the world, the interviews were conducted online using Teams and Zoom platforms, videorecorded and transcribed verbatim with participants' consent,

<sup>1</sup> The IAIA is "the leading global network" on EA, "bringing together researchers, practitioners, and users of various types of impact assessment from all parts of the world" (IAIA, 2023). Further, it provides an international forum within which members of the established EA community share and debate about the theory and practice of EA, including how it might continue to evolve and expand.

**Table 1**  
Profile of participants to the research

**Table 1. Storytellers**

Participant 1 has worked in academia, providing expert advice to government(s) and non-governmental organisations. Their main country of practice is Canada, but they have collaborated with international development agencies and worked in other countries too.
Participant 2 has worked in academia and practice, providing expert advice to government(s). Their main country of practice is the UK, though they have collaborated with other organisations too, mainly the EU
Participant 3 has worked in practice, government and international organisations, including development agencies and banks. Their practice is predominantly international, including developed and developing countries
Participant 4 has predominantly worked in academia, providing expert advice to government(s). Their scholarship has a UK and wider EU focus
Participant 5 has worked predominantly worked in academia, providing expert advice to governments. Their scholarship has a focus on Australia
Participant 6 has worked in practice, providing expert advice to governments. Their main country of practice is Mexico
Participant 7 has worked in practice and international organisations, including development agencies, providing expert advice to government(s). Their practice is international, particularly in developing countries.
Participant 8 has worked in academia, providing expert advice to government. Their scholarship has a focus on Canada.
Participant 9 has worked in practice. Their practice is predominantly international, particularly in developing countries
Participant 10 has worked in government and international organisations, including development banks. Their practice is predominantly international.
Participant 11 has worked in academia, providing expert advice to government and European organisations. Their scholarship has a focus on the UK
Participant 12 has worked in academia. Their scholarship focuses on the UK, Canada and Australia

following the author's institutional ethical guidelines. Copy of the recordings and transcripts were offered to the participants involved in the research. The interviews followed a process of "storytelling", whereby the participants were able to construct and share stories that reflect on their personal experiences and thoughts on the incremental changes in EA over time, rather than "objective truths or universal laws" (Methodologists, 2023). To enhance trust, cooperation in the interview and to protect the participants' integrity and privacy, anonymity was offered to all participants. Within the context of the research and of the methodology adopted, ensuring that participants could speak candidly was deemed essential (Wiles et al., 2008). Beyond ethical justifications, and as argued by Vainio (2013), anonymity can enhance the quality of the research by turning what someone has said into data; by turning the participants into examples of understandings and as such, part of the data analysis; and finally, by increasing the researcher's autonomy in the interpretation of the data.

To support the storytelling process an interview guide was used with questions framed to be conversational (Clandinin, 2006, 2007). This included prompts such as "Tell me about ..." or "What are your thoughts about ..." e.g. EA's evolutionary direction, or the demands or pressures for evolution, including those that are internal to EA or those that are external to EA, and future directions and learning needs. The stories were then analysed using a thematic approach, whereby patterns of meaning or themes within the participants' narratives were identified, analysed and interpreted (Clarke and Braun, 2017; Boyatzis (1998). Thematic analysis is widely used in qualitative research for its flexibility in application (Herzog et al., 2019), and particularly in "experiential research which seeks to understand what participants' think, feel and do" (Clarke and Braun, 2017, p.297). Though different versions of thematic analysis exist, this study draws principally on the widely cited six-step approach developed by Braun and Clarke (2006), which include: (1) familiarisation of the data; (2) coding of the data; (3) generating themes; (4) reviewing themes; (4) defining and naming themes; and (6) writing up. To support the thematic analysis, a memo writing approach was followed by the researcher during the transcription of the interview data, taking notes on ideas; and then, when identifying patterns of themes or narratives emerging from the data itself by ascertaining "codes" to words, sentences, or phrases that are relevant to the ideas and have meaning within the context of the research (see e.g. Batra, 2021). Repeatedly reading, re-examining and organising of the patterns of data, supported the analytical process and helped affirm the codes as building blocks of the research and the identification of themes formed by grouping related codes. The themes were then reviewed, and used to structure the presentation of the findings and of the participants' stories.

There is no doubt that the interpretative and flexible nature of this analytical process, and more broadly of the methodology adopted, places the researcher in a space where their own positionality can be called into question, including their background and ideological assumptions

(Bishop and Shepherd, 2011), and thoughts, feelings and experiences (Collins and Cooper, 2014). The authors of this study are experienced academics in both, EA research and qualitative methods. They are also familiar with the wider international EA community, having been affiliated to the IAIA, and contribute to ongoing debates about EA and its theory and practice in different contexts through dissemination of their work. The vulnerability of storytelling as a method and the need to embrace the subjectivity, interpretation and co-construction of narratives inherent in this type of research further contributes to unearthing the researcher's own positionality, shedding light on how the research was framed, the participants were interacted with, and how the findings and discussion were shaped (Carter et al., 2014; Malterud, 2001). Whilst for some, this might prompt the need or requirement for a positionality or reflexivity statement (e.g. Morton et al., 2022), for others the usefulness of such statements is being called into question (e.g. Folkes, 2022). According to Savolainen et al. (2023, p.1331), positionality statements are "constrained by the very positionality that they seek to express", and can undermine "the norms and practices that safeguard the integrity of scientific research" and of open inquiry. Within the context of this paper, recognising the role that reflexivity can play in understanding positionality and enhancing research quality was deemed important, and informed the approach taken to the research. Whilst the primary author led and conducted the research, the second author played a key role in peer debriefing, as a way of critically examining and mitigating potential biases and assumptions in the interpretation of the data, strengthening in turn the rigour of the research and the representation of the participants' stories.

### 3. Findings

The 12 interviews, and the thoughts shared, revealed rich stories, perspectives and personal insights about the evolution of EA through the participants' lived experiences. They encapsulate stories of hope, transition through change and reform, and resilience in EA as a tool and as an institution that can deal with future and next generation challenges, though they also reveal frustrations, particularly in relation to implementation. This section provides an overview of these stories and a synthesis of the emerging narratives, using the themes of the interview guide as a framework. These include EA's evolution thus far; the internal and external motivations driving EA's evolution, and looking to the future of EA and where it might go next.

#### 3.1. EA's evolution, the story thus far ...

The 12 participants to the research provided similar accounts of the origins of EA, tracing it back to the US and to the National Environmental Policy Act (NEPA), but emphasised different aspects of its early practice. The participants reflected on the extent of improvements to

professional practice since they started their careers in the early 1970s, with most participants describing those early years as “not very good” and limited in scope; “people knew about biology ... so they went out in the field and did biology” (participants 1, 3, 6). EA was also described as not being broad enough, but there was a recognition that despite its limitations, it was appropriate for the conditions of that time and responsive to the sociocultural context of that space (participants 9, 11); 21<sup>st</sup> century environmental challenges were not well understood then (participant 7). The formal introduction of EA was developed based on the understanding that the conventional system neglected the incorporation of environmental considerations, and that the force of law was needed to impose a set of considerations that otherwise proponents would not have been inclined to include (participant 8). Overall, when reflecting on EA’s origins, there was general consensus that NEPA set the scene for systematic and coordinated EA, and for a legitimate and legal process for considering environmental impacts (participants 3, 6, 11) and informing decisions (participants 2, 5, 4, 10, 12). It is these qualities that prompted other countries to set up something similar (participant 11), though with regional/geographical differences in transposition into law and practice (participant 10), either highly regulated (e.g. the EU) or principled-based (e.g. Canada).

According to most participants, if NEPA set the scene, the development of EA into a globally applied environmental policy tool was predominantly driven by the business or the commercialisation of EA, which marked the beginnings of what is now referred to as environmental consultancy, of various kinds (participants 1, 10, 11). The 1970s and 1980s in particular saw the “spawning” of many consultancies whose *raison d’être* was EA (participants 6, 11). The realisation that EA for ports, airports and pipelines for example, were applicable to various parts of the world, made it an international matter (participants 3, 6, 11), and one that generated good revenue (participant 7). This meant working against a budget, with obvious implications on the scope, coverage, and resources in support of EA (participants 1, 6, 10). The 1990s saw the further consolidation of EA as a profitable business and the institutionalisation of the consultancy world (participant 8), driven by three interacting phenomena: the growth in consultancies focused on doing EA; the growth in consultancies providing training on EA; and a fundamental reappraisal of how to make EA sustainability-driven and come up with something that is environmentally, socially and economically sound (participant 11), whilst working to a budget in terms of time and resources (participants 1, 3, 6, 8, 9, 12). Whilst this led to improvements in EA practice, to a more professional and efficient approach to EA (participants 2, 4, 8, 9, 10), it is also said to have contributed to the internationalisation and standardisation of EA and the drive towards streamlining (participant 3, 4, 9). According to the participants, when looking back, if taken together one should not underestimate the impact that the commercialisation, internationalisation and standardisation of EA had on influencing the story of EA’s evolution thus far, including the shape and form of its evolutionary path as defined by incremental changes to improve EA.

When reflecting on five decades of EA, most participants described EA’s evolution as a progression of incremental improvements, though its evolutionary path was not necessarily linear and it did not follow a preferred direction (participants 3, 8, 11). There were changes in emphasis (participant 10); when informing decision making EA’s role went from one of compliance with requirements relating to report making (i.e. the EA product), to one of process focused on the integration of environmental and social considerations into policy- and project making. Though the focus on process improved and allowed for better engagement of environmental and social issues through tools such as ESIA (Environmental and Social Impact Assessment), the emphasis still heavily remains on product (participants 7, 4). There were changing needs for an EA, largely brought about by legislation, sharpened by court case after court case (participant 11), which allowed EA to be a useful tool for environmental watchdogs and/or NGOs, particularly during the 1980s (participants 5, 9, 11), and one of the very few tools

that allowed the public direct access and involvement in the heart of decision-making (participants 7, 8, 12). Participant 3 in particular, highlighted the impact and influence of lawsuits in the evolution of EA, in shaping how EA was practiced and in defining core procedural requirements, with “many of the outcomes of lawsuits eventually becoming written into procedures over time” and adopted by different countries all over the world. According to the participants, having a common understanding of EA and of its core elements was important, as it facilitated learning between systems whilst also strengthening individual EA systems by preventing divergence from international standards. Court cases and the subsequent reforms of EA legislation coupled with “growing pressures to cut corners and do less”, led to increasingly sophisticated EA (participant 4) and changing expectations. The challenge of trying to find the right level of prescription to ensure the elimination of worst practices and worst impacts so that “EA is taken seriously”, whilst also avoiding becoming counterproductive by constraining the development system and “dictating exactly what must happen”, has characterised the evolution of EA over five decades (participants 1, 4, 5, 10, 11). Reflecting back at when EA was first introduced, the theory or early expectations and aspirations shared by the participants was that in decades-time environmental considerations would be completely internalised without the need for a formal process (participant 4); it would become “habitual and culturally embedded” and legal requirements would become less necessary (participant 8). Yet, for most participants looking at EA today, this has not happened; and some questioned whether it will ever happen (participants 1, 3, 4, 5, 6, 8, 11).

### 3.2. External motivations influencing EA’s evolution

It was quite clear from the participants’ stories, that the institution of EA itself first emerged in response to the social, economic and political challenges of that time, and in response to rising scientific and public concerns about the environment. When recounting their experiences of the evolution of EA, participants often drew on particular landmark projects such as the Trans-Alaska pipeline (participants 2, 3, 11), or on particular endangered species, such as the story of the “snail darter controversy” related to the construction of the Tellico Dam on Little Tennessee River (participant 9), or the extinction in the wild of the Kihansi Spray Toad in Tanzania as a result of the Kihansi Dam (participant 3). But they also drew on projects that reflected the context of their national EA institution (participants 2, 6, 11, 12). The common thread and moral of their stories, was that within five decades of EA and overall linear progression, various interests including environmental ones, get more powerful and less powerful, they become more important for immediate political purposes, and then they drift away (participant 8). It is quite clear from the participants thoughts, that though there are all sorts of drivers for change, the main ones driving this rise and fall in interests are external.

Some participants reflected on the role that the governance set up of the EA institution, including that of the consultancy world, plays in influencing and shaping EA’s evolution, particularly where the driver for change is efficiency. This was illustrated in different ways. For participant 8, the back and forth in improvements or setbacks in EA can be largely explained by the basic contest between what decision-makers in the private and public sectors want to address within “their box of considerations” and what the law requires to be considered, further frustrated in practice by institutional structures and administrations devoted to “making things routinised” or simplifying complex issues into “boxes that can be checked off” (*ibid*; also participant 11). The participants were critical of progressive and incremental efforts to simplify and/or streamline EA, with some suggesting that it was “code for weakening” (participants 1, 5, 8, 11), resulting in faster approvals for politically attractive projects and in the translation of ambitious objectives into routinised processes and in turn, increased bureaucracy for proponents. For participant 5, it was also code for “dilution” of the level of assessment applied, based on the claim that because of experiential

gains, it becomes easier to assess “the next development for mineral sands or the next harbour development”; and therefore, a full EA is not required; “you can just sort of pull off the shelf standard ...” conditions, criteria or guidelines (also participants 6, 12). In addition to the dilution or dropping of the level of assessment, participant 5 also expressed concerns about the horizontal dilution or delegation of competency that has progressively occurred since EA was first introduced (also participant 7). In some jurisdictions different government arms are being called upon to do EA in addition to their other tasks and are delegated the EA competent authority role with, for example, water authorities being the competent authority for water development projects or the department of mines being responsible for mineral sands mining development”, raising questions about whether they have the know-how to deal with and take into account environmental aspects in addition to water and minerals (participants 5, 6).

In addition to questions about competence, the participants also raised questions about competency of the governance and institutional set up of EA, with its political and administrative implementation features (participants 7, 8) and priorities (participant 4). Whilst over 50 years of practice EA has evolved and is still evolving to be more strategic and responsive to megatrends and challenges of the complex world that we live in, the governance and institutional systems within which EA and other areas of public policy operate in, have not experienced a similar shift, or at least not one of transformational significance. They struggle “to act differently, to consider more things, to look further ahead and understand the need for transformation”, because their capacities are short-term, and their setups “are designed for 19<sup>th</sup> century questions” (participant 8). There is a conflict between the need for transformational change in the pursuit of sustainability and the driving and politically attractive incentives for growth and profit, which are short-term (participants 4, 7, 8, 6, 12). Thus, between the complexity of the world and the simplicity of our governance approaches, with its “structural simplicity”, “routinisation of processes and administrative boxes”, and “simplistic measures of success” (ibid), suggesting that EA’s evolutionary direction may have been frustrated by the wider institution in which it operates.

This is presented by the participants as a question of institutional competency, as it relates to institutional behaviours. According to participant 5, when EA was first formally introduced, the composition of environmental agencies, boards, departments or committees in government was completely different. The “long-term veterans of the field” who had the environmental and institutional know-how to move EA forward, “overcome institutional barriers and implement something that is profoundly difficult” yet nevertheless necessary have now gone (participant 8), are remaining silent (participant 6) or have been “trained out” (participants 10) or “de-skilled” (participants 10, 11). Overtime, environmental expertise has decreased (participant 5), and so has advocacy (participant 8). They have been replaced by managers, who have the skills to operate any department, i.e. transport, environment or justice (participant 8). Complicit to the decrease in environmental expertise in the institutions of governance and public service, was said to be the introduction of sustainable development. From the 1990s and 2000s when sustainable development was the buzzword, the business of EA changed to incorporate the social environment as well as the biophysical environment, with the distinction between the two becoming more and more a matter of judgement (participants 5, 4, 11, 12). The implication was that governments were appointed more to the social, resulting in more weight given to the social environment than originally intended (participants 4, 5), or to sustainability, and with that came the discourse of “balancing or trading everything off” and a different set of skills to what was the case decades ago (participant 5). Further, with that came the lack of confidence to take the bold steps that are needed to give serious attention to the biophysical environment, to look at systems interactions, at the full life cycle and legacies of policies and to the future; and pursue an agenda that is revolutionary (participants 7, 8, 12) and transformative (participant 4).

Reflecting on their respective practice experiences in different parts of the world, overall the participants noted that steps towards making EA more streamlined have impacted the relevance of EA (participants 7, 11) and how seriously it is taken (participant 1), using language that is innocent, politically effective and not offensive to the industry (participant 1, 4, 6, 8); yet is nevertheless symbolic of the pursuit of “something that is less” (participant 8), with implications on the government’s capacity to set, monitor and apply environmental conditions, criteria or guidelines (participant 5). For participant 11, in recent decades EA has lost its status as a rigorous evidence-based process and has become “a Cinderella piece; it’s a skirt you put around the waistline to give an assemblance or resemblance of respectability”.

### 3.3. Internal motivations influencing EA’s evolution

Pressures and drivers for change in EA also occurred from within the EA system and community itself, whereby as an institutionalised practice, efforts are made to find solutions to issues or problems or improve the way in which the environment is taken into account in policy and decision-making. According to participant 4, these were largely driven by efforts to refine EA and get it to work better, rather than by taking a step back and reflecting on what it was and is trying to achieve and how it could respond to rising scientific and public concerns about the environment. They go on to say that this raises the question of whether “EA has become a sort of exercise in itself”, whereby going through the process and getting the “paperwork done” has become more important than the actual assessment and what feeds into the assessment (participant 4). Over the past 50 years, the practice of EA has been continuously debated for being too complicated, taking too long and delaying decision-making, resulting in calls for EA to be faster, more compact and streamlined (participants 1, 3, 4, 5, 6, 8, 9), or “ironically less rigorous at a time of biodiversity and climate crisis” (participant 7). For participant 1, the pursuit of faster decisions has particularly impacted the quality of scoping, in terms of its rigour and its ability to deal with the views of the public “fairly and properly” (also participant 5). Cumulative effects assessment was also described as having been significantly affected by the shift to faster EA (participants 1, 6). Participant 6 recounted how there were times where the expectations and requirements for doing the EA were said “to be too much”, that their work was about trying to protect the environment to the extent possible, “without rejecting development projects”. Stories of the EA system being “fixed” in response to regulator and industry relationships aimed at ensuring “the project goes ahead – whatever that project is”, were shared by participants 1 and 7. Stories about the size and shape of the EA being fee-driven were also reported (participants 6, 12), with participant 3 noticing in their experience, a worsening of this tendency, “it’s a combination of not wanting to spend a lot of money, of wanting to check the box figuring out it didn’t matter because the project was going to be built anyway” (participant 3). For participant 5, this marked a significant departure from when EA first started, “... it was a process that informed decisions and you knew that that decision factored in environmental considerations; it’s [now] become a process that you go through with the outcome foretold at the beginning ...”.

Working out more efficient ways to do EA, was also said to have facilitated the standardisation of its practice, whereby “documents can be submitted over 50 times by simply changing the name of the project” (participant 8), with one participant sharing the story of how in the mid-1990s when reviewing an EA document relating to Mali, they found text written for a document relating to the US state of Arizona (participant 3). The majority of participants expressed concern over the standardisation and drive for efficiency in EA (participants 4, 5, 6, 12), reporting how the “copy and paste practice” (participants 3, 6) or the “template approach” (participant 9) had become more “established, entrenched and resilient” in recent decades (participant 8), affecting innovation and the move towards more creative and systems-driven understandings embedded into EA processes (participants 7, 8, 11). In

the drive for efficiency, in addition to questioning the move to standardisation, the participants also questioned the move to digitalisation and use of technologies. Benefits such as the reduced size of documents, improved presentation and management of data, and accessibility to data or issues of interest through a simple click, have been mentioned as positive improvements (participants 9, 10). The benefits of using technologies such as drones, were also mentioned, particularly where field work was not possible because of health, safety or security concerns (participants 6, 9). However, where the move to digitisation meant smart and remote practice of EA, some concerns were raised. Participants 3, 6 and 9 shared stories of parts of EA documents written without site visits having been undertaken, partly for constraints on budget or on project deadlines, resulting in their view, in weaker EAs. Participant 9 described this as a “derogation of responsibility”, while participant 7 as “the missed opportunity to tell the stories of landscapes and of relationships with the environment”, taking stock of what can be seen and heard, developing organically a sense of space and place (participants 7, 8, 11). The missed opportunity also relates to EA’s potential to reduce species extinctions, with participant 3 telling the story of two dam projects, one where the project lost a species of frog and one where endemic species were almost lost, because the sites were not visited.

EA practice has also evolved in response to different needs, and since it was first introduced, a family of EA tools has now emerged. For participant 9, diversity in EA occurred from the need to be pragmatic and practical; and apply what is appropriate in response to the needs of the development, of the environment and of the affected communities (participant 10). Some participants viewed this as an “evolutionary progression”, particularly in the case of ESIA, as the scope of traditional EA was not broad enough to look at the linkages between environmental and social change in social cultural contexts that were different from where EA first originated, such as in Africa (participants 3, 9). For others, EA proliferated into a range of tools because it had to, as it never really came to terms with the fundamentals of sustainability, thus of long-term environmental safeguards and long-term social justice (participants 11, 12). Whilst acknowledging that diversity in EA tools was beneficial, there was also recognition that at times their use was driven by active lobbying rather than governance policies, leading to their inclusion into legislation and to the formulation of guidance in some parts of the world (participants 1, 10), at times complicating implementation (participant 8). Further, bolting new and emerging issues onto EA, whether that is health, social, climate for example, encourages the compartmentalisation of issues that “does not allow to see and have the larger, big picture conversation” (participants 7, 9), at a time where key problems are global and holistic integrated transformative conversations based on systems thinking are needed (participants 5, 7, 8, 11).

Overall, according to the participants, the internal incremental changes that have occurred throughout five decades of EA practice, have not led to fundamental changes. Though there is recognition of learning and of some advancements (participants, 1, 3, 5, 7, 11), they have been mainly around the edges (participants 3, 7), without leading to changes of positive significance. For some, whether EA has improved or not over 50 years of practice, is not what is important. What matters is what is EA doing and is expected to do (participants 4, 7), and “whether it [still] has relevance” (participants 5, 11).

### 3.4. Looking to the future

Reflecting on the 50 years of EA practice, there was general consensus among the participants that EA lacked a sense of direction, or better, a preferred direction or end goal, beyond “the broad one of capturing environmental impacts before decisions are made” (participant 4). Steps forward were countered by steps backwards through a process driven by revisions and reforms in the hope that, over time, environmental considerations would become internalised in a culture of decision-making (participants 1, 2, 5, 8, 9, 11). Yet, reflecting on current practice, for most participants, this has not happened; and EA is “still a

process that is meant to give the required attention to things that would otherwise be neglected” (participant 8). Within this context, there have been gains and EA as a system has made efforts to become a learning system (participants 5, 7, 10), but there are also areas where, as an institutionalised practice, EA has “settled” and “people have just accepted that poor scoping will continue to be done” for example (participants 1 and 6), until the next “tide” or government will have turned (participant 1). But the participants have also reported losses, in terms of untapped learning potential and of substantive and fundamental learning, with participant 5 indicating that the capacity for the EA institution to learn from itself has not been enabled, with political and administrative features frustrating the system (participant 8).

Central to the participants’ reflections was the meaning of and purpose for EA and the role that advocacy played in the development of what has been described as the most successful policy innovation of the 20th Century. When EA was first introduced, its purpose was to “force” decision-makers to take into account the environment, and “be seen to be taking into account the environment” (participants 2, 9). Overtime, because it is a legislative process and a public one, EA proved to be a useful advocacy tool. By drawing light onto development projects, it amplified and gave a platform to the issues that people were learning about, particularly those relating to the links between health, livelihoods and stable ecosystems (participant 7). However, for most participants, EA has lost that focus and thrive (participants 1, 3, 5, 6, 8, 11, 12). Since the mid/end-1990s, EA is no longer tackling the “right issues” (participant 7) or the “urgent issues” (participants 3, 6); and because of this, it is losing its relevance and influence. According to participant 11, what has become important are the procedures that give rise to enterprise development and economic transformation, whereby a development is likely to be approved, provided that “lip service is paid to some elements of safeguarding ... and minimum standards are met”. Moreover, the increasing emphasis on faster and more compact EA, particularly following the Covid 19 global health pandemic, is said to be worsening perceptions about EA and its influence (participants 3, 5, 7, 8), with practice “specialised to the point of sufficiency but not to the point of judgement” (participant 11). As long as EA strives to meet basic minimum standards, its impact is unlikely to be influential or credible and its practice taken seriously (participants 5, 8, 11).

When reflecting on why EA was perceived to have lost that focus, thrive and advocacy role that characterised practice up to the mid-1980s early 1990s, a number of participants pointed to institutional and governance reasons, and to the inability to deal with the increasing complexity of the world that we live in. For participant 8, steps taken over the past few years to pursue the goal of efficiency under the disguise of streamlining, have led to the routinisation of EA and in turn, to its weakening. The focus on issues is reduced “to what is available within the box of considerations and what the law imposes” (ibid), with EA becoming an exercise in itself (participants 4, 8), rather than a process that can be instrumental in facilitating change that is significant, stronger and more demanding (participants 1, 3, 5, 10). Comments relating to the structural simplicity of the administration of EA practice, with boxes of considerations and corresponding sections in the report (participants 3, 5, 11); somewhat mirrored the comments about the structure of the institutions that deliver or conduct EA, with their “social, economic and biophysical assessment people ... stapling issues of a variety of kinds” into a document (participant 8). Whilst the participants recognised a shift from the “telephone book” approach to efforts to better integrate issues (participants 1, 3, 8, 10), they also described the need to embed a more systems’ understanding into the EA process as an “uphill struggle” (participant 8, 11). The driving incentives for growth, for profit and for immediate and attractive political interests, are said to have affected the full understanding of the wider implications of development because the EA institution or system within which EA operates, has removed that “sense of social and moral responsibility and integrity for the long-term consequences of development”, and muting in turn EA (participant 11). The bottom line or the “product”, thus

whether a development is going to be approved or rejected (participant 10), has become more important than the process for achieving social and environmental sustainability (participants 10, 11). Where practice becomes a matter of routine or “a necessary business process that developers have to go through where developers can be confident of the outcome” (participant 5), then it is unlikely that the bigger questions about future generations and sustainability are raised. For participant 11, this is because the institution and the system administering the implementation of EA have become complacent and unwilling to change, with EA paying lip-service to some elements of safeguard and “becoming almost inconsequential” (participant 3).

When reflecting on issues of complacency and unwillingness to change, and the possible underlying causes, some of the participants alluded to a decrease in thoughtfulness and care since the end of the 1990s, and a need to relearn or to care more about the environment. According to participant 7, what has been lost over the last 50 years “is that kind of organic conversation that came out of the ‘60s - that we’re doing something bad to the environment”; that sense of social and moral responsibility for long term consequences (participants 8, 11). The consideration of the loss of a bat colony which accounted for 60% of all bats in their country (participant 11) or of other impacts centred around big infrastructure decisions (participants 3, 4, 5, 6, 8) as pieces of information rather than matters of concern, were some of the stories that the participants referred to when reflecting on the bigger moral questions of safeguarding of the planet, and the role that EA is now playing. According to the participants, we have evolved into a society where “habitat destruction, climate change issues, 10 million people dying a year because of air pollution” has become normalised (participant 7), and the moral challenge that EA sought to address when it was first introduced, has become muted by the wider institution in which it sits (participant 11). EA is no longer tackling the right issues, with participant 3 asking “what’s the purpose of EIA anymore, if it’s not going to reduce extinctions?”. Routinisation of practice and within the EA institution was raised by some, as a major concern, frustrating practice and leading to a shift in emphasis from those moral, social and environmental challenges to the bottom line. Thus, whether a project was going to be approved or rejected; if approved with what conditions (participants 8, 11) and the extent to which adverse effects would be minimised or avoided (participant 3). What might be the implication of this, is that EA is working, the process is improving through subsequent incremental reforms and EA “[is] still playing, but it’s making no sound” (participant 11); it is not being listened to and/or is being resisted (participants 3, 8).

The participants argued a need to “go back to that honest caring for the environment that was exhibited in the ‘60s ... to conversations about ourselves and our relationship with the land” (participant 7), to a system that has both moral and social integrity (participants 3, 5, 8, 11), and for these conversations to happen as close as possible to the seat of government power (participants, 5, 6, 7), facilitating a return of [or stronger] advocacy at the heart of the EA institution and of its institutionalised practices. For participant 5, caring for the environment should be an ethical requirement likened to the “Hippocratic Oath” - an oath of ethics historically taken by physicians - and EA practice (and practitioners) should be improved to be more “truthful and accountable” to this requirement.

#### 4. Discussion

This paper presented the practice stories about the evolution of EA as told by 12 longstanding EA practitioners and scholars. The stories provide insights into the participants’ lived-in experiences that would not be accessible via more conventional research methods (see McCall et al., 2019). Through the participants’ personal accounts (Hartling et al., 2013) and reflexive thoughts (Richardson, 2002), the practice stories share insights on the internal motivations perceived to be influencing EA’s evolution, whilst also acknowledging the messiness of the “wider social, political, technical or cultural system” within which EA is

practiced (Gazzola, 2022, p.5). Following Richardson (2002), recognising this messiness and the interplay of what happens *in* and *around* everyday EA practice activities and the complexity of motivations can help uncover assumptions or the effects of choices, interests or actions that can solve present problems and/or shape alternative trajectories or imaginations for the future (Lissandrello and Grin, 2011; Sandercock, 2003). Setting the practice stories within the context of five decades of EA practice and scholarship allowed for the broader socio-political and institutional dynamics and motivations within which EA practice is embedded to be acknowledged through time, providing in turn a useful basis for reflecting on how EA evolved, and on how it might continue to evolve.

One of the key findings emerging from the research and from the stories presented, is a clear plea to return to those early conversations about human-environment interactions that marked the origins of EA practice, and to emphasise the role that EA can play in telling the stories of landscapes and of relationships with the environment beyond fulfilling process and procedural requirements (Cashmore, 2004). The accelerated changes and impacts on ecosystem processes and services (Steffen et al., 2004; Ruokamo et al., 2023) are no longer as distant as they were in the 1960s, when EA was first introduced and then reformed over time in response to political imperatives and evaluations of practice (Lawrence, 1997, 2013). They are much closer, and as EA continues to evolve, it should play a key role in aiding policy- and decision-making (Morgan, 2012; Cashmore et al., 2010) whilst also supporting and facilitating those conversations about the environment. As argued by the participants, they should reflect connected, holistic and more integrated understandings about the environment, as environmental issues have evolved to encompass many others (see e.g. MacDonald, 2003; Trombetta, 2009); rather than reflecting the practice of “bolting issues” onto EA (participant 9), of incremental procedural reforms in the quest for efficiency gains and standardisation of practice but also in response to pragmatic needs. According to the findings presented, this has not proved to be effective in providing a platform for having those holistic conversations about the environment and about the substance of EA (e.g. Sinclair et al., 2018; Chanchitpricha and Bond, 2020; Bond and Dusik, 2020). The proliferation of EA tools and acronyms, referred to as “the alphabet soup” by participant 9, coupled with simplifications, streamlining or sidestepping efforts (Pope et al., 2013; Bond et al., 2014; Bragagnolo et al., 2017) is further reported as having affected the consistency and uniformity of understanding of what EA is fundamentally for and what it should aim to achieve and do to be effective (Lawrence, 2013) – or in the words of participant 11, to “be heard”. This call to return to conversations about the environment and to a greater focus on more substantive purposes and outcomes of EA could be interpreted as an indication of EA’s evolving maturity (Sayer, 2000). If so, and based on Cashmore (2004), it could be conceived as a timely call to reorient thinking from process and procedural reforms to providing a comprehensive definition of the “exact purposes” of EA (p.415), opening up opportunities for more radical improvements or for new imaginations of alternatives based on defined theoretical premises.

Structural issues were also described as affecting EA reform, including the extent to which EA can be impactful or “influential” (participant 5) and can “move in the right direction ahead of the decisions” as reflected in the published literature overtime (Mayda, 1996, p.94; Pope et al., 2013; Fonseca et al., 2017; Bond et al., 2020; Fonseca, 2022a). Overall, there was general consensus among the research participants that the governance systems in which EA operates and the structural simplicity of policy-making infrastructures are inadequate, leading to the compartmentalisation of issues, expertise and interests rather than opening up opportunities for having those bigger picture conversations needed to address complex environmental challenges, and prevent for example, the extinction of species as noted by participant 3. As summarised by participant 8, they are “still set up to deal with 19th century questions”, raising questions about whether the wider institution of EA has evolved on par or in synergy with the



institutionalised practice of EA, and whether it is equipped to help EA fulfil its advocacy potential.

When confronted with the global environmental, socio-economic and political problems of today, looking at the wider institution of EA and at the paradigms, values and drivers for profit and growth that define the system within which it operates become key (Gazzola, 2022; Bond et al., 2020). This includes reflecting on the extent to which EA can go beyond lip service operations and support putting in place the safeguards for survival that sustainability demands and the moral responsibilities and/or ethical requirements that the participants to the research are calling for – a requirement that participant 5 has likened to an oath of ethics, recognising the presence of value-judgements and of ethical questions that infiltrate everyday EA practice (Richardson, 2005). Reforming EA and the regulatory environment through internal incremental changes to EA in separation from the wider system in which EA is implemented would arguably, not be sufficient – a view articulated by Rees in 1988 (Rees, 1988). Though the participants highlighted improvements in EA, particularly in terms of greater professionalism, enhanced capacities in the preparation of documents and technical content, including examples of innovation such as building-in elements of complex systems theory into EA processes (e.g. see Martínez et al., 2019), they shared the view that the level of change delivered has been gradual and slower than the pace needed, and that the hopes and aspirations that they had at the beginning of their professional careers five decades ago had in their view, not materialised.

The wider institution in which EA is set has become fatigued and routinised; and within this context, EA as an institutionalised practice is being silenced. It is “playing, but it’s making no sound (participant 11). What might be the implication of this, is that the “sound” or the relevance of EA can only be enhanced, if the “messiness” or better, the internal and external motivations and factors are taken into account (Hilding-Rydevik and Bjarnadóttir, 2007; Gazzola et al., 2011; Bond et al., 2022); and EA evolves with the cultural or social expectations of society and its implementation is responsive to those expectations and concerns for the environment. Key to this, will be the determination of what those expectations of EA or from EA practitioners might be. The suggestion of an ethical code of conduct, such as the “do no harm” principle embedded in the Hippocratic Oath of physicians, is interesting; and proposed by participant 5 as helpful in raising awareness about professional and social responsibilities among EA practitioners, and in ensuring that “no harm” is done to the environment and that care for the environment is both advocated and practiced. Parallels between ethical responsibilities of physicians and of environmental practitioners are increasingly being drawn (see e.g. Matteucci et al., 2012; Minteer and Collins, 2005), with some calling for a *Planetary Hippocratic Oath* (DellaSala, 2021), and Attfield (2001) highlighting how it could complement or better supplement, the precautionary principle with ethical and moral presuppositions and values.

As noted by Bice and Fischer (2020), understanding EA’s future evolutionary direction and the next chapter of EA’s story is likely to require a comprehensive approach; one that recognises the importance of retrospective analysis in understanding the dynamic nature and complexities of the institutionalisation of EA as a basis for future planning, whilst appreciating that as with any process of evolutionary change, knowledge and skills are gained as well as lost (Gazzola, 2022). Within this “messy” process, lessons are learned (Jha-Thakur et al., 2009), sometimes unlearned (Retief, 2010); and relearning may also be needed (Zhao et al., 2013), and ideally embedded within a reflective and reflexive learning process (Richardson, 2002). Questions about what the focus of the next chapter of the story of EA should be, may include therefore looking at how, as a factor of institutionalisation, EA and its community of scholars and practitioners can help understand the interplay of what happens *in* and *around* everyday EA. This would include understanding the assumption, moral and value judgments informing expectations of, and from, EA and EA practitioners which in turn, could contribute to “the framing, values, conventions and codes of

conduct that shape actions and behaviours” in support of reform or transformational changes for sustainable development (Gazzola, 2022., p.5).

## 5. Conclusions

Reflecting on the stories of those who lived through 50 years of EA and have witnessed its evolution through first-hand experience, the findings suggest a renewed call “to do something about the environment” (Caldwell and Shrader-Frechette, 1993, p.146 in Jay et al., 2007, p.289). This means introducing and practicing greater advocacy at the heart of decision-making and institutional structures. It also means a return to larger, big picture conversations about the environment, where the EA community comprising of representatives from practice, government and academia can go beyond the piecemeal approach of incremental process improvements to, and reforms of, EA; and channel their collective energies and practice care in a more cohesive, substantive, holistic and integrated way, with clarity of definition of purpose(s) and expectations underpinned by a clearer theoretical basis and by moral and ethical values. Though the participants recognised improvements in EA practice, most thought that the anticipated internalisation of a culture of decision-making based on care for the environment as the “new normal” (participant 11), has not materialised and is still resisted, perhaps a reflection of “institutional inertia” (Munck af Rosenschöld et al., 2014). What might be the implication of this, is that the practice of, and motive for EA has to (continue to) be about advocacy and “do no harm”, drawing on an inherently interdependent survival strategy that allows and empowers EA to put the safeguards and practice the moral and ethical values that sustainability demands (e.g. see Mayda, 1996; O’Riordan and Lenton, 2013; Woodly et al., 2021), so that EA can be heard, listened to and be visibly influential.

Finally, though storytelling as a method is often viewed as being less valuable or trustworthy, unconventional and generating less credible evidence (Lowther, 2022), as shown in this paper stories can nevertheless be useful in providing a basis for reflecting on system changes and the underpinning values and beliefs through lived-in experiences and for capturing the sensitivities of time and space. Whilst the views of the 12 longstanding EA practitioners and scholars that participated in this research might be “just stories”, the emerging narratives and discourses support the need for more research on the impact of incremental processes of adjustment (including maladjustments) and reform on EA’s evolutionary path, trajectories of change and institutional behaviours, and on EA’s aspiration to be than a “Cinderella piece”.

## Author statement

The corresponding author, Dr Paola Gazzola, and Dr Vincent Onyango are the sole contributors to this paper and to the research underpinning this paper.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The authors are unable or have chosen not to specify which data has been used.

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