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Promoting Environmental Communication and Policy Formation: A Utilization-Focused Evaluation Approach

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ABSTRACT

Environmental communication and policy formation must address complex challenges as society faces unprecedented environmental issues. Program evaluation is one method for mobilizing support for new policies; however, evaluation often does not focus on the intended users thereby decreasing the value of evaluation findings. A utilization-focused approach increases evaluation effectiveness for intended users by highlighting the cultural contexts where findings will be implemented. Utilization-focused evaluation prioritizes the use of findings by working with intended users of the evaluation through all stages of the evaluation to promote the use of evaluation findings that are often overlooked when implementing environmental policy. From a utilization-focused approach, communication is the vital connection between evaluation and evidence-based environmental policy-making. This review article offers practice-based recommendations for the intersection of utilization-focused evaluation, environmental policy, and environmental communication to promote increased use of evidence-based findings to inform policy within a highly politicized environment.

Introduction

Environmental communication and policy formation must engage policy-makers and the public in a meaningful and practical manner in order to elicit change (Sager et al., 2020). Program evaluation can be an effective mechanism for mobilizing support for new policy ideas (Cabatoff, 2000). However, scientific findings of natural resource conservation and sustainability are often poorly communicated and therefore ignored with policy-makers subsequently failing to implement evidence-based policy (Bickford et al., 2012; Cabatoff, 2000). Effective environmental communication and policy formation requires a participatory approach, where a variety of intended users have an open dialog with multiple perspectives included (Bubela et al., 2009). Participatory approaches, which involve becoming familiar and working with specific stakeholders or intended users in an organization or community where data collection occurs, allow evaluators to understand and account for the cultural context in which a program or policy is situated (Fine, 2018). Patton (2008) conceptualizes intended users as the primary stakeholders who "have responsibility to apply evaluation findings and implement recommendations" (p. 37). Communicating and strategizing with the primary intended users in a relevant and understandable way is a key element of utilization-focused evaluation (UFE; Patton, 2008). UFE emerged as a framework for evaluation in the 1970s through the work of Michael Quinn Patton (Lamm & Lamm, 2018; Patton, 1997, 2008). The foundational premise of UFE is focusing on the intended use of evaluation findings

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by specific intended users. Determining intended use involves strategizing with primary intended users of the evaluation, throughout the entire process, to determine the information needs and intended uses of the findings (Patton, 2008). Today, UFE is considered one of the leading evaluation approaches used by evaluation professionals (Patton, 2015). The purpose of this study was to review previous uses of UFE and discuss the role UFE can play on environmental communication and policy formation.

A key objective of the evaluation is influencing policy (Teirlinck et al., 2013). Scientific, or evidence-based, program evaluation uses empirical evidence to appeal broadly to the policy-making community (Cabatoff, 2000) as well as individuals in the general public (Kahan, 2015). There are links between evaluative thinking, environmental policy, and environmental communication the UFE approach helps elucidate. Crafting effective communication messages to enhance science-based environmental policy initiatives requires a focus on intended users in both the public and political arena (Bickford et al., 2012; Cabatoff, 2000). The intersection of environmental communication and policy requires information users to engage in evaluative thinking, as they must contend with the potentially opposing forces of the consensus of the scientific community, as with climate change, and how their personal or political stance toward environmental issues and policies affects their sense of identity within a community (Kahan, 2015). Thus, maintaining a targeted focus on communicating evidence-based results to the specific end-user(s) through the evaluation process can enhance both the use of evidence-based findings as well as encourage evaluative thinking among intended users (Patton, 2008). The high-level, research-focused findings of UFE have the potential to address policy and communication challenges that indirectly and directly affect natural resource conservation and sustainability efforts.

Background and context

UFE is an applied sociological approach (Patton, 2015). The guiding premise of UFE is that evaluations should be judged by utility and use, concerning how people apply evaluation findings and experience the evaluation process (Patton, 2015). The evaluator works collaboratively with intended users to develop the evaluation by offering them a menu of evaluation options within the UFE framework and established evaluation standards. Sociology of use undergirds the UFE framework, in which intended users are more likely to use evaluation findings if they feel ownership of the process and are more likely to understand the implications of the findings through their involvement (Patton, 2015).

Dimensions of UFE

Identifying the primary intended users of an evaluation is the first step in UFE (Patton, 2008). An intended user of an evaluation often referred to as a stakeholder, is an individual who has a deep-rooted interest in the findings of the evaluation. The multitude of interests surrounding a program being evaluated must be considered when identifying primary intended users, which is frequently a political and ethical process. According to Patton (2008), "the focus in utilization-focused evaluation is on *intended use by intended user*" (p. 37). Evaluators must commit to the intended user of the evaluation, ensuring intended users are "the driving force in an evaluation" (Patton, 2008, p. 570). Primary intended users then work with the evaluator to plan the intended use, or the real-world application, of the evaluation findings. The intended use should be planned for from beginning to end of the evaluation. Primary intended users work with the evaluator to identify the research design for the evaluation. Patton (2008) stated, "skilled evaluation facilitators can help nonscientists understand methodological issues so that they can judge for themselves the trade-offs involved in choosing among the strengths and weaknesses of design options and methods alternatives" (p. 572). Finally, following data collection, intended users and the evaluator work together to interpret evaluation findings and their broader recommendations for use.

Historical perspective

Patton (2012) traces his development of the pragmatic UFE approach back to his time serving in the Peace Corps in the 1960s in Burkina Faso. During this time, he learned how to facilitate decision-making for intended users through understanding what they cared about, identifying shared interests, and matching initiatives and resources to these interests. Patton (2012) learned how to ground "change efforts in the perspectives, values, and interests of those with whom I worked, the indigenous people who were there before I came and would be there after I left" (p. 294). Through his Peace Corps experience and early fieldwork and teaching for his doctorate in sociology, he learned to appreciate different perspectives and values that bring people together and construct our interpretations of lived experiences (Patton, 2016). Additionally, he learned how to "invit[e] people to […] look at the disparate nature of what they're doing compared to what they believe, and do reality testing about whether they're doing the things they believe and […] accomplishing the things they want to accomplish" (Patton, 2016, p. 74).

Placing UFE within a historical context makes explicit its connections with policy. A historical perspective of evaluation provides evidence for the centrality of evaluative and critical thinking in human inquiry, tracing its Western roots back to Socrates in Ancient Greece (Patton, 2018). Hannah Arendt extended the concept of critical thinking as foundational to the democratic process (Arendt, 1968). Thus, evaluative thinking and reasoning have a more profound impact than simply preparing and disseminating evaluation reports. The roots of participatory evaluation and evaluative thinking are foundational to the democratic process (Arendt, 1968; Patton, 2018).

Despite the presence of evaluative thinking throughout human history, the development of evaluation as professional practice is relatively recent (Patton, 2008). Evaluation research emerged in the U.S. in the 1960s under the assumption that it would be used by policy-makers for problem-solving (Albaek, 1989). This assumption was attributed to massive federal expenditures on government programs and rising demand for accountability (Patton, 2008). A desire for accountability transformed into a systemic empirical evaluation process, rather than relying solely on financial audits and political headcounts as indicators for programmatic success (Aucoin & Heinzman, 2000; House, 1993; Shadish & Lullen, 2005; Wye & Sonnichsen, 1992).

Program evaluation, as a field of professional practice, emerged from the large-scale social experimentation and government intervention in the U.S. during the late 1960s (House, 1993; Weiss, 2004). Realizations from this period heavily influenced the development of evaluation as a field, the first being there is not enough money to do everything that needs to be done, and the second being it takes more than money to solve complex social problems. Thus, evaluation emerged as a mechanism for determining what was worth doing with the resources available (Patton, 2008). Applied social sciences, such as evaluation, became the method through which knowledge could be rationally used for social betterment, or to yield practical knowledge (Stehr, 1992). During the Kennedy administration in the U.S., scientific perspectives began to underlie the writing of new social legislation (Patton, 2008). The desire for scientific rationality ushered in the evaluation as practice, and as evaluations were implemented, they began to not only yield judgments on programs, but also feedback to help improve programs as they were implemented (now known as formative evaluation; Newcomer et al., 2015).

The 1970s were known as the formative period for evaluation, characterized by the emergence of large-scale evaluation programs (Altschuld & Engle, 2015). Despite the hope of rationality and evidence-based practice projected on the field of evaluation, by the end of the 1960s, it became clear that evaluation findings for political programs were either ignored or politicized (Patton, 2008). This led many scholars to point to a gap between evaluation findings and findings use, especially in the policy realm (Koretz, 1982). Williams and Evans (1969) found evaluation findings were not impacting implemented policy, indicating a failure in evaluation effectiveness. The underuse of social science research became a concern (Weiss, 1977); however, nonuse was an issue for evaluation practice specifically (House, 1972).

In the 1990s, U.S. public concern over budget deficits created a debate about the effectiveness of government programs, leading to a call for greater accountability (Chelimsky, 2006; Mohan & Sullivan, 2007). Little data were available on programmatic outcomes; the use of audits, licensing, and service contracts increased in an effort to achieve greater accountability (Patton, 2008). This led to service providers becoming more compliance-oriented rather than results-focused.

This historical perspective provides a political origin for the need for UFE. As expectations for evaluation moved away from results-focused programming, evaluation practice became a process of complying with arbitrary reporting standards to achieve compliance-oriented accountability (Patton, 2008). The challenge of making government accountability meaningful, credible, and useful remains today for all modern democracies (Chelimsky, 2006). UFE emerged as an approach in response to this historical legacy.

Utilization-focused evaluation in action

UFE is individualized, personal, and situational (Patton, 2015). The UFE approach is methodologically neutral; meaning data collection methods are implemented based on identified evaluation needs and questions (Patton, 2008; Ramírez et al., 2017). Cases and examples help enhance understanding of how UFE occurs in practice.

Flowers (2010) describes a mixed-method, quasi-experimental participatory UFE process to evaluate a conservation education program aimed at providing science-based, outdoor experiences for students. The evaluators specifically focused on evaluating students' knowledge, skills, attitudes, and intended behavioral outcomes related to fishing and aquatic habitats in Montana. The evaluator worked with primary intended users through every step of the evaluation process to ensure evaluation results would be used for program improvement and decisions about future programming. Several changes were immediately implemented as a result of this evaluation, such as increasing student time outdoors for experiential education, allocation of funding for instructor materials and travel costs, and increased time for instructors to prepare for and conduct programming. To begin, the evaluator discussed the program with intended users and determined how to design and proceed in the evaluation process. They collaboratively developed the instruments used in the evaluation and determined how participants would engage in the evaluation. They also determined foci for project activities, outputs, and outcomes. Once outcomes were determined, they collectively drafted evaluation questions, from which the evaluator and program coordinator selected relevant questions as a foundation for the evaluation instruments. Once data were collected, the evaluator confirmed with the intended users that the data was important and useful for them. Subsequent data analysis yielded a discussion among program staff about potential interpretations from the evaluation findings. Through this reflective process, intended users were able to reconsider what they wanted from the evaluation and whether program inputs and outputs were producing anticipated outcomes. According to Flowers (2010), "the user-focused approach was discovered to be personal and situational [and] allowed the facilitation of the evaluation process with consideration for increased application of evaluation findings and implementation of recommendations from beginning to end" (p. 165).

Another example encapsulates the importance of negotiating the evaluation process with intended users (Kong et al., 2015). While not explicitly labeled as UFE, this participatory evaluation focused on collaboration with intended users and the integration of local knowledge, culture, and values into the evaluation of land management and restoration within the South African Kalahari. The two sites within the evaluation were chosen for the participatory evaluation due to the various land management methods used by individual farmers to combat vegetation degradation (Kong et al., 2015; Vallejo et al., 2008). Kong et al. (2015) conducted semi-structured interviews followed by photo-elicitation and photovoice methods with focus groups. The authors specifically described their participants, the local stakeholders (intended users), as evaluators in the process and designed the evaluation collaboratively with these participants. Through the data collection process,

participants were asked to photograph not only objects and processes related to land management, but also use photography to capture evaluation criteria for land management. In this way, the intended users were involved in developing evaluation criteria in accordance with Patton's (2008) recommendations. Additionally, the evaluators conducted photovoice discussion groups to promote mutual learning about land management perspectives and concerns. As the main objective of the study was to study the land management concerns of the participants, without the mutual learning that occurred through the discussions, evaluation results and emerging perspectives would have only been captured in the report. By fostering a dialog around this data, the evaluators encouraged the increased use of evaluation findings through this mutual learning process. Patton (2008) encourages sharing evaluation data in this way to increase its use among intended users. The photovoice method described in Kong et al. (2015) was originally designed to engage policy-makers in public forums aimed to highlight issues captured in the photographs (Wang & Burris, 1997). This method would help increase awareness and potential use of evaluation findings among policy-makers as intended users; however, Kong et al. (2015) modified their approach and eliminated the public forum. This indicates a potential gap between participatory evaluation approaches, such as UFE, and intentional application and dissemination of findings within a wider environmental policy audience.

In a hybrid monitoring and evaluation and developmental evaluation process, Fisher et al. (2020) designed, implemented, and evaluated a project aimed at improving the capacity of stakeholders to manage and mitigate conservation-related conflicts. The practice-based case study focused on conflict management within the Amarakaeri Communal Reserve in the Peruvian Amazon, specifically related to natural resource governance institutions and conflict resolution among stakeholders. The evaluators maintained contact and collaboration with intended users throughout the design, implementation, and evaluation process, emulating Patton's (2008) UFE framework without explicitly conducting a UFE. Throughout the process, Fisher et al. (2020) facilitated opportunities for communication to promote and encourage effective problem-solving. The evaluators were able to recognize stakeholder needs, collaboratively define evaluation outcomes, and maintain buy-in from intended users (Fisher et al., 2020; Thomas & Allegretti, 2020), a primary component of the UFE framework (Patton, 2008).

In the above examples, the UFE framework provided a helpful platform for natural resource and environmentally-related evaluations. However, the connection between the use of these evaluation findings and their relevance within the policy realm is limited. Only one of the above articles mentioned how the findings could be used to attract the attention of policy-makers, but they did not follow through with the recommendations of Wang and Burris (1997) which would have included communicating the findings to policy-makers (Kong et al., 2015). Thus, there remains the unexplored potential of the relevance of using the UFE framework, which emerged from practice-based evidence from working within the policy realm (Patton, 2008), to increase the use of evaluation findings in the creation of environmental policy.

Strengths and challenges of UFE

The dimensions and processes within the UFE framework provide an approach for engaging with intended users throughout the evaluation process. The purpose of UFE is to increase the use and utility of evaluation findings (Patton, 2008), which has relevance for environmental communication and policy. However, it is important to situate UFE through a discussion of its relative strengths and weaknesses, so potential evaluators can assess its relevance for their environmental policy and communication work.

Strengths

The main strength of UFE is its commitment to *intended use by intended users*, in which evaluators purposefully design evaluations for use rather than complying with arbitrary reporting standards.

Standard evaluation approaches will not work for every evaluation, but UFE is flexible due to its personal and situational approach (Patton, 2008). Since evaluations vary depending on the situation, the design and continuous adaptation of a UFE depends on the context of where the findings will be used or implemented. Additionally, UFE consistently involves intended users throughout the evaluation and decision-making process, increasing their ownership of the evaluation and ultimately influencing the use of evaluation results (Patton, 2008). For example, allowing intended users to be involved in the methodological steps of the evaluation benefits the usefulness of the results for decision-makers (Patton, 2008). Moreover, UFE extends beyond the evaluation itself, creating a culture of evaluation with the intended users of the program or agency (Patton, 2008). In doing so, intended users "build evaluation capacity, enhance evaluative thinking, reinforce evaluation as a high-level, transdisciplinary cognitive process, and deepen the commitment of those involved for the future" (Patton, 2008, p. 572). Although intended use by the intended user is the primary goal of UFE, greater commitment to evaluation use in the short- and long-term is an important byproduct of the approach (Patton, 2008).

Challenges

Intended use can be both a strength and a challenge in UFE. Many organizations have a turnover of intended users throughout the duration of evaluation projects (Patton, 2008, p. 567). For example, the National Park Service and other environmental organizations have numerous seasonal employees (Powell et al., 2018). Whether the turnover is due to job transitions or reassignments, the turnover ultimately affects the new intended users' relationship with the evaluation process. Additionally, the new intended user may not have the same goals and agenda as previous intended users, which may cause a shift in the original timeline, especially if the intended use of the evaluation must be changed. The evaluator and team of intended users must spend additional time forging a relationship with this new individual (Patton, 2008). Although turnover of primary intended users is a weakness of UFE, it does not undermine the strengths of UFE (Franke et al., 2003).

Additionally, policy-makers ignoring scientific findings and failing to implement evidence-based policy may contribute to the difficulty of implementing environmental policies and limit the use of UFE. For example, the public or policy-makers may not be motivated to engage in environmentally friendly behavior, possibly because it would be an inconvenience to do so. Using UFE in this setting may not be entirely appropriate, as the user-focused orientation may contradict scientific evidence and limit the potential of realizing environmental policy changes required for sustainable change. However, by focusing on the end-user and understanding them as a policy audience, one may be able to configure policy responses that incorporate scientific evidence while being advantageous for the target audience. Implementing UFE in this way may require a balance between convenience and evidence and would need to include two-way communication where the exchange informs practice.

By nature, evaluations feed political discourse with findings often resulting in supporting or refuting perspectives across the political spectrum (Weiss, 1993). The challenge is exacerbated when using UFE to evaluate environmental issues, where the intended users of an evaluation may not be the ones who will be affected most by the policy decision. Therefore, using UFE while navigating tricky political and ethical policy processes has its challenges. Patton (2008) therefore differentiates between stakeholders by identifying those who have a vested interest in the evaluation and the end-users of the evaluation. The primary intended users in this case are a small sub-set of the larger pool of stakeholders and have a principal role in decision-making and thus the potential to utilize results (Franke et al., 2003). While evaluators cannot implement policies themselves, they have the responsibility to recognize issues of power that may arise as a result of decision-making in the user-focused process, especially those relating to the allocation of resources (Patton, 2008).

UFE does, however, provide evaluators with unique positionality when working with primary intended users. Through UFE, evaluators can help primary intended users clarify their theory of action to focus an evaluation on important issues, establish common goals, and improve program or policy implementation (Horton, 1999). Part of this process can include "stakeholder mapping" (Patton, 2008, p. 526) in which the evaluator maps the various stakeholders involved in a decision-making process and identifies their various interests including the degree to which they are invested in the evaluation's outcome. UFE provides a framework in which an evaluator can attend to and incorporate "diverse stakeholder interests and perspectives, and its emphasis on a negotiated approach to evaluation questions, design, and uses offers a strategy for making evaluation meaningful and useful in a *shared power world*" (Patton, 2008, p. 533, emphasis original).

Evaluators can use UFE to sensitize participants to diverse perspectives that exist around a policy or program, increasing the chances of conducting an evaluation that is responsive to divergent interests and values (Patton, 2008). Additionally, evaluators have the responsibility to ensure intended users recruited for the process are representative of the groups which will be impacted by the findings or policy. Evaluators have the discretion to include constituents who may not have explicit decision-making power but may be impacted by the outcome of a policy. These considerations are situationally specific and particularly important for environmental policies related to increased sustainability and environmental justice, to ensure policies are designed to improve sustainability rather than allowing for the appearance of sustainability (Alba-Hidalgo et al., 2018).

Ultimately, evaluators may not have the positionality needed to address the complex political and ethical issues related to power, even if they have a definitive understanding of power relations in context. The decision remains then if UFE is the most appropriate method for a situation when context, resources, power dynamics, and political complexities are considered; especially as environmental policy evaluation users may not always be true environmentalists. Thus, evaluators must reflect on who the intended users are and/or ought to be, wrestle with the intended user's preferred uses, and factor these considerations into evaluation design decisions. While Patton (2008) reflects on the political nature of UFE, these specific considerations about who intended users ought to be and the potential disconnect between evidence-based science and intended user preferences merits increased research within the realm of environmental policy and communication.

Additional challenges worth mentioning are the time and financial commitment required for UFE. Aside from a turnover of intended users impacting time commitments, building relationships with intended users at the start of the evaluation also takes a considerable amount of time (Intrac, 2017). Evaluators must be skilled at facilitating evaluations that foster high-quality participation during meetings, resulting in high-quality evaluations. Furthermore, reciprocity between evaluators and intended users must be present for relationship building and learning as well as an effort toward the evaluation. If not, the added challenges will further increase the time commitment to the evaluation (Intrac, 2017). Moreover, UFE goes beyond reporting and dissemination of evaluation findings. Evaluation use includes "making decisions, improving programs, changing thinking, empowering participants, and generating knowledge" (Patton, 2008, p. 573), ultimately adding to the time and financial commitments of the evaluation process.

Application to environmental policy and communication

Although scientific evidence may be clear and robust, it often does not easily translate into the effective environmental policy (Sager et al., 2020) or actions targeted at solving specific problems (Teirlinck et al., 2013). For example, one obstacle to effective policy formation via evaluation is due to groups of polarized policy coalitions, who only use policy research that benefits their particular cause in some way (Cabatoff, 2000). Another obstacle to effective policy formation via evaluation is caused by the manipulation of scientific evidence (Specter, 2006). Patton (2008) suggested evaluation findings are currently and have always been suppressed for political reasons via manipulation, suppression, delays, omission, and other means. Moreover, credible evaluations within the natural

resource conservation discipline are lacking and there is an overwhelming need to determine the effectiveness of policies that intend to protect biodiversity (Miteva et al., 2012).

Political factors, directly and indirectly, influence evaluations. Patton (2008) outlines six factors that demonstrate the political nature of evaluations. The first factor is the involvement of people in an evaluation, including evaluators, stakeholders, and all other individuals, because people have their own perceptions and politics that influence the evaluation process. The second factor is classifications and categories that evaluations form because they filter the data that is collected. The third factor is that all evaluation data requires interpretation and, although interpretation is a logical process, it is also perspective-dependent, making it political. The fourth factor is the utilization of the evaluation results because the extent that the information is used, or which information is used, is a political action or decision. The action or decisions made from the information affects the resources used and allocated, largely influencing power distributions in a program or organization. The fifth factor making evaluation political is that the organization or program being evaluated is involved in the evaluation and they decide where to allocate resources. Again, resource allocation affects power distributions. Lastly, the information involved in evaluations is political because knowledge on a subject influences action, ultimately influencing power (Patton, 2008).

Despite evaluation's inherent connection to politics and policy, many evaluators ignore or fail to pay attention to the political consequences of their evaluations (Patton, 2008). Sager et al. (2020) found "natural, social and policy scientists must team up to provide policy advice that is not only evidence-based but also utilization-focused" (p. 3). UFE recognizes politics and policy influence evaluations throughout the entire process "with its sensitivity to diverse stakeholder interests and perspectives, and its emphasis on a negotiated approach to evaluation questions, design, and use offers a strategy and process for making evaluation meaningful and useful in a shared-power world" (Patton, 2008, p. 533). Teirlinck et al. (2013) found that few evaluations involve intended users from the beginning of the evaluation process in a systematic way, which revealed a lack of intended user involvement, specifically from policy-makers, which negatively affected the utilization of findings. Therefore, UFE lends the opportunity to combat environmental policy-related issues that may inhibit important policy formation.

Political obstacles are a challenge for natural resource management and conservation (Potts et al., 2016). Richmond (2013) evaluated the effectiveness of two policies intended to benefit indigenous groups' fishing rights in Alaska and Hawaii and found the policies were largely ineffective. Effective environmental policy, in this case, required full financial and institutional commitment from natural resource organizations, indigenous groups who were committed to organization and development, and greater consideration for the cultural factors in policy design. Rands et al. (2010) conducted a review of worldwide biodiversity conservation efforts and found radical changes are needed, namely "recogniz[ing] biodiversity as a global public good, that integrate[s] biodiversity conservation into policies and decision frameworks for resource production and consumption, and that focus[es] on wider institutional and societal changes to enable more effective implementation of policy" (p. 1298). Miteva et al. (2012) reviewed biodiversity policy instruments and found additional literature was needed on conservation evaluation, namely, literature that incorporated more rigorous studies and improved theory, methods, and data. Thus, overcoming political and policy-based obstacles to natural resource management and conservation requires strategic solutions that are supported by credible, relevant information.

Patton (2008) outlined four political maxims for UFE: "not all information is useful, not all people are information users, information targeted at use is more likely to hit the target, [and] only credible information is ultimately powerful" (pp. 535–536). The first maxim, not all information is useful, indicates an abundance of irrelevant information is useless if the information is not accurate and not relevant for the intended users. Information that is timely and accurate, however, can increase control and power (Patton, 2008). The second maxim, not all people are information users, indicates that information is only valuable when individuals who have that

information are capable of acting on it. UFE strategically targets the right individuals who are capable of acting on specific information, often through the allocation of decision-making power. If the individual is unlikely to act on the information, UFE strategizes opportunities to train them to act. The third political maxim, information targeted at use is more likely to hit the target, indicates UFE targets real-world issues that are currently happening rather than issues that may become apparent in the future. Targeting real-world issues involves evaluators working with an *intended use by intended users.* The fourth political maxim, only credible information is ultimately powerful, indicates UFE must produce credible information, throughout the entire evaluation process, in order for it to be useful in a political realm (Patton, 2008).

Several limitations exist with the utilization-focused approach in the policy realm. For large-scale policy-making, the explicit dialog with intended users conducted through UFE may underestimate the scale and complexity of decision-making processes within the policy community (Cabatoff, 2000). Additionally, concerns in the greater policy community may transcend the concerns of specific intended users. Generally, policy decisions tend to seek adequate solutions for a broad range of stakeholders, rather than the best solutions for a small number of intended users (Cabatoff, 2000). While UFE can account for various intended users (Patton, 2008), it is important when using UFE in environmental policy that evaluators understand the scope of stakeholder needs at the forefront of the evaluation process.

The UFE framework has historical antecedents in policy, but UFE could not occur without effective communication. Communication is integral to any evaluation activity (Alkin et al., 2006; Patton, 2008). An evaluator must consider program contexts and alternative forms of communication to navigate the needs of various intended users (Alkin et al., 2006). According to Patton (2008), "the burden for clear communications rests on the evaluator" (p. 53). From a utilization-focused approach, communication is the vital connection between evaluation and environmental policy, especially for natural resource conservation and sustainability (Bickford et al., 2012; Patton, 2008). However, translating scientific research and science-based evaluation findings into policy recommendations is a challenging task (Sager et al., 2020). It requires great attention to the context of information exchange and the relevance of the science to current events and issues (Bielak et al., 2008). Specific, targeted communication strategies that are well adapted to the local cultural context of the audience are critical (Bickford et al., 2012), including communications related to the dissemination of evaluation findings (Patton, 2008). The challenge then is finding ways to communicate to the public what is already known by scientists and evaluators (Cabatoff, 2000).

Environmental communication fundamentally concerns communication between scientists, interest groups, policy-makers, and the public (Trench & Bucchi, 2010). Because scientific communication methods must adapt to peoples' mindsets, world views, and belief systems, engagement with the intended user is critical to understand how to strategically communicate evaluation and science-based evidence for policy change (Bickford et al., 2012). Similarly, to the political nature of evaluation, environmental communication is a political effort because people choose to believe in what reinforces their personal and social values over empirical, scientific evidence (Bickford et al., 2012). Cultural values, belief systems, and social networks affect the public's perception of scientific information (Bickford et al., 2012; Kahan, 2010). Individuals' beliefs about certain societal risks, such as climate change, are reflective of two competing sensibilities – the collective, public knowledge from scientific research, and an individual's sense of social identity from being a member of a specific cultural community (Kahan, 2015). Traditional communication approaches that rely on disseminating factual, scientific projections fail to galvanize the public's response as these approaches fail to account for the different social and cultural contexts that exist between various information consumers (Badullovich et al., in press; Munshi et al., 2020). Thus, translating scientific knowledge into effective policy interventions remains difficult due to the various influences, identities, and perceptions within the public and political sector (Sager et al., 2020). Effective translation of evaluation findings into policy requires awareness of culture, background, and traditions within the targeted policy communities, as well as the individuals most involved in the decision-making

process (Cabatoff, 2000). UFE, and its process for connecting with intended users, provide a framework for understanding the context of intended users, and combining UFE with environmental communication strategies may have a beneficial effect for translating evaluation findings into the policy realm.

UFE not only allows evaluators to facilitate communication with intended users throughout the entire evaluation process, but it also offers a framework for strategically targeting the individuals who are capable of acting on specific information. A public engagement approach to science policy has emerged in the last two decades, which emphasizes the participation of a variety of stakeholders in dialog to include a plurality of views (Bubela et al., 2009). With the UFE approach, facilitating engagement by intended users, or stakeholders, is critical to facilitate knowledge use (Patton, 2008). While many policies reach beyond a few primary users, understanding the impact of policies on the public from a UFE framework is helpful to facilitate evaluative thinking in the public. By viewing environmental science and policy as a product, individuals affected can interact with one another communally as evaluators and decision-makers. A participatory approach to policy, requiring effective communication and facilitation, can enhance how public feedback influences environmental policy-making decisions (Bubela et al., 2009).

According to Patton (2008), "communicating and reporting should be strategic, which means honed and adapted to achieving use by targeted users" (p. 507). The UFE approach posits that there are no standard reporting formats for evaluation findings, rather, the results of UFE are communicated with intended users based on their interests and needs. Thus, a UFE report should be designed based on the needs of the specific intended users about the specific situation. A dominant theme of UFE is its focus on intended users; therefore, results may need to be presented in multiple formats to effectively communicate with larger audiences of intended users.

Patton (2008) argued that knowledge utilization was dependent on the form of communication (Sager et al., 2020). The translation of scientific evidence into communication for knowledge utilization depends on the engagement of the target audience or intended users (Davison, 2009). This engagement consists of complex interactions between stakeholders in both the production and use of knowledge, as in the UFE framework. Interactive dialog and communication, within the UFE framework, is necessary not only at the interpersonal level, but also at the local, state, national, and international level (Patton, 2008). Using relevant examples helps communicate the evaluative process to the intended users, as they want to know what the problem is, what caused it, and how it can be solved. A key to achieving a dialogic interaction is by spending time with intended users and asking them what they need to know. An evaluator cannot find the best source of information for them without knowing what they need to know and how they want to receive that information. The job of the evaluator then is to communicate with users in a relevant and understandable way (Patton, 2008).

Opportunities/Realizing the potential

Patton's (2008) UFE framework promotes the concept of enhancing evaluative thinking among intended users, believing "systems thinking involves new reflective skills that are essential in modern society for both professional competence and effective citizenship" (Patton, 2008, p. 369). The UFE framework may help promote evaluative thinking to guard against public distribution and acceptance of false information. Environmental communicators have an opportunity to use the UFE approach to be proactive in enhancing evaluative thinking among the public to achieve beneficial environmental policy change. According to Patton (2008), "every utilization-focused evaluation is an opportunity […] to build evaluation capacity, enhance evaluative thinking, […] and deepen the commitment of those involved for the future" (p. 573).

Evaluation has been framed as a communicative practice by several scholars (Alkin et al., 2006; Patton, 2008). In order for an evaluator to be an effective communicator, they must draw on all available resources to understand context, strive to animate reporting for intended users, and

consider alternative forms of communication that may increase the likelihood that a larger audience will be reached (Alkin et al., 2006). Communication also enables transparency, a critical component involved in increasing public capacity for evaluative thinking (Patton, 2008). Effective communication also allows for increased evidence-based policy, from an evaluation perspective (Cabatoff, 2000). Program evaluators can bridge the gap between ideological arguments in the political realm and the widely shared values within a community (Cabatoff, 2000) by using empirical evidence as well as the nuanced understanding of the context that the UFE approach allows but may require some flexibility on behalf of the evaluator, and possibly a change in perspective (Sager et al., 2020). For policy-makers to consider evidence-based findings in their decisions, evaluations must be politically relevant and provide evidence that addresses practical concerns (Sager et al., 2020). Evaluation findings must pass both a truth test and a utility test, and evaluators working in the realm of environmental policy would benefit from implementing a utilization-focused approach. Evaluations should also promote an ongoing process of policy learning (Cabatoff, 2000).

Conclusions

One of the greatest challenges facing environmental communicators trying to influence environmental policy is ensuring the use of evidence-based evaluation results rather than merely complying with arbitrary reporting standards. As the problem usually lies in bringing evaluation results to the stage when policy decisions are made (Cabatoff, 2000), capitalizing on the role of communication in connecting environmental policy and evaluation findings is critical. Communication efforts can be enhanced by a focus on the end-user. UFE provides the opportunity to actively engage intended users in the evaluation process, in order to promote environmental communication and policy formation that is supported by clear and robust science. Society's unprecedented natural resource and conservation issues must be strategically targeted via evidence-based findings to inform policy, with both members of the public and policy-makers facilitating change. Legislators and scientists need to have an open dialog about conservation and sustainability issues because changes in policy that benefit the environment will have significant impacts (Bickford et al., 2012). UFE offers an opportunity to actively address environmental communication and policy that indirectly and directly affects natural resources through high-level, research-focused findings. Although barriers to natural resource protection will continue to persist, UFE provides a viable approach to ensure evidence-based evaluation results are used for communicating about and informing environmental policy in the future.

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References

Alba-Hidalgo, D., Benayas del Álamo, J., & Gutiérrez-Pérez, J. (2018). Towards a definition of environmental sustainability evaluation in higher education. *Higher Education Policy*, *31*(4), 447–470. https://doi.org/10.1057/s41307-018-0106-8
Albaek, E. (1989). Policy evaluation: Design and utilization. *Knowledge in Society*, *2*, 6–19. https://doi.org/10.1007/BF02687230.

Alkin, M., Christie, C., & Rose, M. (2006). Communicating evaluation. In I. Shaw, J. Greene, & M. Mark (Eds.), *Handbook of evaluation: Policies, programs and practices* (pp. 384–403). Sage.

Altschuld, J. W., & Engle, M. (2015). The inexorable historical press of the developing evaluation profession. *New Directions for Evaluation*, *145*(145), 5–19. https://doi.org/10.1002/ev.20108

Arendt, H. (1968). *Between past and future: Six exercises in political thought*. Meridian Books.

Aucoin, P., & Heinzman, R. (2000). The dialectics of accountability for performance in public management reform. *International Review of Administrative Sciences*, *66*(1), 45–55. https://doi.org/10.1177/0020852300661005

Badullovich, N., Grant, W. J., & Colvin, R. M. (in press). Framing climate change for effective communication: A systematic map. *Environmental Research Letters*. https://doi.org/10.1088/1748-9326/aba4c7.

Bickford, D., Posa, M. R. C., Qie, L., Campos-Arceiz, A., & Kudavidanage, E. P. (2012). Science communication for biodiversity conservation. *Biological Conservation*, *151*(1), 74–76. https://doi.org/10.1016/j.biocon.2011.12.016

Bielak, A. T., Campbell, A., Pope, S., Shaefer, K., & Shaxson, L. (2008). From science communication to knowledge brokering: The shift from 'science push' to 'policy pull'. In D. Cheng, M. Claessens, T. Gascoigne, J. Metcalfe, B. Schiele, & S. Shi (Eds.), *Communicating science in social contexts* (pp. 201–226). https://doi.org/10.1007/978-1-4020-8598-7_12

Bubela, T., Nisbet, M. C., Borchelt, R., Brunger, F., Critchley, C., Einsiedel, E., Geller, G., Gupta, A., Hampel, J., Hyde-Lay, R., Jandciu, E. W., Jones, S. A., Kolopack, P., Lane, S., Lougheed, T., Nerlich, B., Ogbogu, U., O'Riordan, K., Ouellette, C., … Caulfied, T. (2009). Science communication reconsidered. *Nature Biotechnology*, *27*(6), 514–518. https://doi.org/10.1038/nbt0609-514

Cabatoff, K. (2000). Translating evaluation findings into "policy language". *New Directions for Evaluation*, *86*(86), 43–54. https://doi.org/10.1002/ev.1171

Chelimsky, E. (2006). The purposes of evaluation in a democratic society. In I. F. Shaw, J. C. Greene, & M. M. Mark (Eds.), *The Sage handbook of evaluation: Policies, programs, and practices* (pp. 33–55). Sage.

Davison, C. M. (2009). Knowledge translation: Implications for evaluation. *New Directions for Evaluation*, *124*(124), 75–87. https://doi.org/10.1002/ev.315

Fine, M. (2018). *Just research in contentious times: Widening the methodological imagination*. Teachers College Press.

Fisher, J., Stutzman, H., Vedoveto, M., Delgado, D., Rivero, R., Dariquebe, W. Q., Contreras, L. S., Souto, T., Harden, A., & Rhee, S. (2020). Collaborative governance and conflict management: Lessons learned and good practices from a case study in the Amazon basin. *Society & Natural Resources*, *33*(4), 538. https://doi.org/10.1080/08941920.2019.1620389

Flowers, A. B. (2010). Blazing an evaluation pathway: Lessons learned from applying utilization-focused evaluation to a conservation education program. *Evaluation and Program Planning*, *33*(2), 165–171. https://doi.org/10.1016/j.evalprogplan.2009.07.006

Franke, T. M., Christie, C. A., & Parra, M. T. (2003). Transforming a utilization focused evaluation (UFE) gone awry: A case of intended use by unintended users. *Studies in Educational Evaluation*, *29*, 13–21.

Horton, D. (1999). Book review: Utilization-focused evaluation (third edition). *American Journal of Evaluation*, *20*(2), 399–401. https://doi.org/10.1177%2F109821409902000225.

House, E. (1972). The conscious of educational evaluation. *Teachers College Record*, *73*(3), 405–414.

House, E. (1993). *Professional evaluation: Social impact and political consequences*. Sage.

INTRAC. (2017). Utilization-focused evaluation. https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Utilisation-focused-evaluation.pdf.

Kahan, D. (2010). Fixing the communications failure. *Nature*, *463*(7279), 296–297. https://doi.org/10.1038/463296a

Kahan, D. M. (2015). Climate-science communication and the measurement problem. *Advances in Political Psychology*, *36*, 1. https://doi.org/10.1111/pops.12244

Kong, T. M., Kellner, K., Austin, D. E., Els, Y., & Orr, B. J. (2015). Enhancing participatory evaluation of land management through photo elicitation and photovoice. *Society & Natural Resources*, *28*(2), 212–229. https://doi.org/10.1080/08941920.2014.941448

Koretz, D. (1982). Developing useful evaluations: A case history and some practical guidelines. *New Directions for Program Evaluation*, *14*(14), 25–50. https://doi.org/10.1002/ev.1302

Lamm, A. J., & Lamm, K. W. (2018). Considering an appreciative approach to international extension evaluation. *Journal of International Agricultural and Extension Education*, *25*(4), 74–82. https://doi.org/10.5191/jiaee.2018.25406

Miteva, D. A., Pattanayak, S. K., & Ferraro, P. J. (2012). Evaluation of biodiversity policy instruments: What works and what doesn't? *Oxford Review of Economic Policy*, *28*(1), 69–92. https://doi.org/10.1093/oxrep/grs009

Mohan, R., & Sullivan, K. (2007). Promoting the use of government evaluations in policymaking. New Directions for Evaluation, 113.

Munshi, D., Kurian, P., Cretney, R., Morrison, S. L., & Kathlene, L. (2020). Centering culture in public engagement on climate change. *Environmental Communication*, *14*(5), 573–581. https://doi.org/10.1080/17524032.2020.1746680

Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (2015). *Handbook of practical program evaluation* (4th ed.). John Wiley and Sons, Inc.

Patton, M. Q. (1997). *Utilization-focused evaluation: The new century text* (3rd ed.). Sage.

Patton, M. Q. (2008). *Utilization-focused evaluation* (4th ed.). Sage.

Patton, M. Q. (2012). The roots of utilization-focused evaluation. In M. C. Alkin (Ed.), *Evaluation roots: A wider perspective of theorists' views and influences* (2nd ed., 293–303). Sage.

Patton, M. Q. (2015). The sociological roots of utilization-focused evaluation. *The American Sociologist*, *46*(4), 457–462. doi: 10.1007/s12108-015-9275-8. https://doi.org/10.1007/s12108-015-9275-8

Patton, M. Q. (2016). From evangelist to utilization-focused evaluator. *New Directions for Evaluation*, *150*(150), 69–76. doi: 10.1002/ev.20191 https://doi.org/10.1002/ev.20191

Patton, M. Q. (2018). A historical perspective on the evolution of evaluative thinking. *New Directions for Evaluation*, *158*(158), 11–28. https://doi.org/10.1002/ev.20325

Potts, R., Vella, K., Dale, A., & Sipe, N. (2016). Evaluating governance arrangements and decision making for natural resource management planning: An empirical application of the governance systems analysis framework. *Society & Natural Resources*, *29*(11), 1325–1341. https://doi.org/10.1080/08941920.2016.1185557

Powell, R. B., Depper, G. L., & Wright, B. A. (2018). Interpretation training needs in the 21st century: A needs assessment of interpreters in the National Park service. *Journal of Interpretation Research*, *22*(2), 20–34.

Ramírez, R., Kora, G., & Brodhead, D. (2017). Translating project achievements into strategic plans: A case study in utilization-focused evaluation. *Journal of MultiDisciplinary Evaluation*, *13*(28), 1–23.

Rands, M. R. W., Adams, W. M., Bennun, L., Butchart, S. H. M., Clements, A., Coomes, D., Entwistle, A., Hodge, I., Kapos, V., Scharlemann, J. P. W., Sutherland, W. J., & Vira, B. (2010). Biodiversity conservation: Challenges beyond 2010. *Science*, *329*(5997), 1298–1303. https://doi.org/10.1126/science.1189138

Richmond, L. (2013). Incorporating indigenous rights and environmental justice into fishery management: Comparing policy challenges and potentials from Alaska and Hawaiʻi. *Environmental Management*, *52*(5), 1071–1084. https://doi.org/10.1007/s00267-013-0021-0

Sager, F., C. Mavrot, M. Hinterleitner, D. Kaufmann, M. Grosjean, and T. F. Stocker. 2020. Utilization-focused scientific policy advice: A six-point checklist. *Climate Policy*. https://doi.org/10.1080/14693062.2020.1757399

Shadish, W. R., & Lullen, J. (2005). History of evaluation. In S. Mathison (Ed.), *Encyclopedia of evaluation* (pp. 183–186). Sage.

Specter, M. (2006, March 13). Political science: The Bush administration's war on the laboratory. *The New Yorker*, *LXXXII*(4), 58–69.

Stehr, N. (1992). *Practical knowledge*. Sage.

Teirlinck, P., Delanghe, H., Padilla, P., & Verbeek, A. (2013). Closing the policy cycle: Increasing the utilization of evaluation findings in research, technological development and innovation policy design. *Science and Public Policy*, *40*(3), 366–377. https://doi.org/10.1093/scipol/scs123

Thomas, R. E. W., & Allegretti, A. M. (2020). Evaluating the process and outcomes of collaborative conservation: Tools, techniques, and strategies. *Society & Natural Resources*, *33*(4), 433–441. https://doi.org/10.1080/08941920.2019.1692116

Trench, B., & Bucchi, M. (2010). Science communication, an emerging discipline. *Journal of Science Communication*, *9*(03|3), 3. https://doi.org/10.22323/2.09030303

Vallejo, V. R., Bautista, S., Orr, B. J., Zucca, C., Hill, J., & Röder, A. (2008). *Prevention and restoration actions to combat desertification: An integrated assessment* (Report No. FP7-ENV-2008-1). European Commission. https://cordis.europa.eu/project/id/226818/reporting

Wang, C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education Behavior*, *24*(3), 369–387. https://doi.org/10.1177/109019819702400309

Weiss, C. (1977). Introduction. In C. Weiss (Ed.), *Using social research in Public Policy making* (pp. 1–22). D. C. Heath.

Weiss, C. (1993). Where politics and evaluation research meet. *American Journal of Evaluation*, *14*(1), 93–106. https://doi.org/10.1177%2F109821409301400119.

Weiss, C. (2004). Theory-based evaluation: A cliff notes version of my work. In M. C. Alkin (Ed.), *Evaluation roots: Tracing theorists' views and influences* (pp. 153–168). Sage.

Williams, W., & Evans, J. W. (1969). The politics of evaluation: The case of head start. *Annals of the American Academy of Political and Social Science*, *385*(1), 118–132. https://doi.org/10.1177/000271626938500111

Wye, C. G., & Sonnichsen, R. C. (1992). Evaluation in the federal government: Changes, trends, and opportunities. New Directions for Evaluation, 55.