Policy Learning in REDD+ Donor Countries: Norway, Germany and the UK

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Highlights

- Norway, Germany and the UK have increased their spending, institutionalization and coordination efforts on REDD+.
- Their approaches vary in crucial ways and have generated different kinds of lessons.
- Funding objectives and approaches have shifted to land-use, co-benefits and global efforts of transformation.
- Norway's strongest contribution is financial and political at political/social and institutional/structural levels.
- Germany's strongest contribution is systematic and technical at cognitive/technical and social/political levels.
- The UK's strongest contribution is pragmatic and analytical at cognitive/technical and social/political levels.
- Merely adjusting the system in incremental ways will likely not solve the problems at hand.
- Instead, novel modes of learning to facilitate such a transition are needed.

Abstract

REDD+ has been evolving since 2005, yet its outcomes and effectiveness in reducing deforestation and/or achieving co-benefits are still unclear. The academic literature has focused a great deal on the politics and performance of REDD+ recipient countries and on-the-ground implementation, but less so on REDD+ donor countries and not on the question of how REDD+ donor countries learn in the process of implementing REDD+. We examine the three major REDD+ donors Norway, Germany and the UK and find that their funding objectives and approaches have broadened from the original simple and focused idea of financially rewarding tropical forest countries to keep forests standing and carbon stored to land-use, co-benefits and global efforts of transformation. Modalities of learning have not kept up with the rapid changes in terms of problem definition and characterization (as 'super wicked'),

let alone the transformative organizational or even paradigmatic changes identified as needed. The experience with REDD+ is demonstrating that merely adjusting the system in incremental ways will likely not solve the problems at hand. Instead, novel modes of learning to facilitate such a transition are needed.

1. Introduction

Almost 15 years have passed since the idea of REDD+ (Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) was adopted by the United Nations Framework Convention on Climate Change (UNFCCC) and local, regional, national, bilateral, transnational and international policies, programmes and projects emerged under the banner of REDD+ (Corbera and Schroeder 2011; Agrawal et al. 2011; Lederer 2012). In recognition of the role forests play in climate change, major donor countries around the world, in particular the top five of Norway, Germany, the US, Japan and the UK, have increased their spending and institutionalization efforts on REDD+ (Dooley and Parker 2015). In 2015, the Paris Agreement sent a strong signal in favor of REDD+ in dedicating one whole article (Article 5) to the role of forests in addressing climate change (Korhonen-Kurki et al. 2018).

REDD+ has led to some significant changes in discourses, practices, policies and legal frameworks across tropical forest countries since its inception in 2005 (Angelsen et al. 2012; Mulyani and Jepson 2013; Luttrell et al. 2014) and reshaped non-governmental engagement in the forest sector (Brockhaus et al. 2014a; Gupta et al. 2016; Betts and Schroeder 2015). It has expanded from an initial idea of focusing on the carbon in the forest to realizing co-benefits (Schroeder and McDermott 2014; Di Gregorio et al. 2013), recognizing the need to address deforestation drivers outside the forest (Curtis et al. 2018; van Hecken et al. 2019) and mitigating against justice-related pitfalls arising from REDD+ projects, such as displacement, marginalisation and loss of identity (Marion Suiseeya 2017).

On the other hand, the largely neoliberal nature of REDD+ and its commodification of forest carbon have been critiqued repeatedly (McAfee 2016; Martin et al. 2019; Dunlap and Sullivan 2019; Fletcher et al 2016; Osborne 2015) and have not been able to mitigate resource limitations, political instability, lack of political will, conflict over tenure rights and weak local governance and law enforcement (Lund et al. 2017; Dawson et al. 2018; Korhonen-Kurki 2019; Brockhaus et al. 2017). The significant dominance of donor countries in the process (Dooley and Parker 2015) and their reliance on development assistance goals and national interest (Gulrajani 2017) have led to repeated cases of oversimplified and generalized understanding of local level dynamics and complexities, leading to adverse outcomes and a tendency to not align project goals with local needs and relationships with their territory (Corbera and Schroeder 2017; Gebara and Agrawal 2017; Trædal and Vedeld 2017). Recognition of the ecological knowledge and practices of inhabitants of forests that have historically maintained the balance and wellbeing of these ecosystems remains insufficient (Schroeder and Gonzalez 2019).

Thus impacts from REDD+ vary greatly across geographies and scales (Angelsen et al. 2012; Mulyani and Jepson 2013; Luttrell et al. 2014) as well as on the evaluation or impact assessment method used (Bos et al. 2017). Studies touching on the performance of results-

based approaches have emerged in recent years (Arts et al. 2019; Wong et al. 2019; Angelsen et al. 2018; Duchelle et al. 2018; Chiroleu-Assouline et al. 2018). In-depth studies on the major REDD+ donor countries are especially scarce or now dated, although a few reports, articles and working papers exist (Westholm et al. 2011; Streck 2012; Pistorius and Kiff 2014; Dooley and Parker 2015; Norman and Nakhooda 2014; Well and Carrapatoso 2017). Yet, none of the studies has focused on processes and outcomes of policy learning within REDD+ decision making, despite the recognition of its importance for improving REDD+ outcomes and needing reflexive responses, rather than blueprint solutions. Hence, we ask: *How do policymakers in REDD+ donor countries learn? and sub-questions of (1) What modes and types of learning are used? (2) What are the roles of scales of individual to institutional, generalist to specialist and incremental to transformative learning? (3) How deep is the learning?* We examine the three major REDD+ donors Norway, Germany and the UK, which have jointly pledged USD 5 billion for 2015-2020 (for funding volumes see Atmadja et al 2018).

The paper is structured as follows. We begin with summarizing how learning is conceptualized in the global governance literature. Next, we explore learning for REDD+ and the REDD+ funding landscapes in Norway, Germany and the UK. We then introduce our conceptual framework and methods before analyzing the types, modes, scales and depth through which learning is practiced in the three countries. We end with a discussion and concluding remarks.

2. Policy Learning

It has long been acknowledged that learning matters in policymaking (e.g. Nye 1987; Haas and Haas 1995), in particular for tackling problems that are described as 'super-wicked', being highly urgent, uncertain, non-linear, untested, symptomatic of other problems, novel, ever evolving and lacking a central authority (Levin et al. 2012). Where problems are characterized in this way, as is the case with climate change and accelerating deforestation, special attention to learning about how to improve institutional configurations, intersections and instrument mixes (Cashore and Galloway 2010) and what types and modes of learning - or unlearning - are needed, is particularly vital. Whilst the policy learning literature has looked into various types of learning (Hall 1993; Zito and Schout 2009; Cashore et al. 2011; Heikkila and Gerlak 2013), how exactly learning can help mitigate such intractable problems has remained vague.

Throughout the literature, policy learning is referred to as a continuous response to feedback in a complex system, as acquisition of skills and knowledge, as the result of analysis and/or social interaction, or as detecting and correcting errors (Rietig 2019; Cashore et al. 2011; Radaelli 2009; Zito and Schout 2009). Dunlop and Radaelli describe policy learning as "the updating of beliefs based on lived or witnessed experiences, analysis or social interaction" (2013, 599). Others see learning as 'meaning making', i.e., the process by which people understand, construe or make sense of situations, events, objects, discourses, relationships or the self. People thus make sense of a given situation based on their history of similar situations, available cultural references or resources as well as identities and emotions (e.g. Bruner 1990; Kegan 1980).

A policy learning process is thus shaped by the capacity of the organization or individual to assess the contribution of policies to desired outcomes and to organize feedback from these

achievements into the policy system. Such an assessment could be based on modes of learning of: (1) experience (learning by doing and learning by using); (2) observation of others (learning by observing); (3) systematic study (learning by studying or learning); and (4) interaction (learning by interacting) (Kemp and Weehuizen 2005). Howlett et al. (2017) identifies three types of learning: *cognitive/technical* – instrumental learning about the nature of the problem, the assumptions on the causal relationships involved and the pros and cons of measures aimed to address the problem; *social/political* – actors learning about how to operate within a network setting and apply strategies aimed at collaboration and negotiation; and *structural/institutional* – development of shared and lasting arrangements, procedures, rules, norms, values and trust that reduces the risks and costs of interactions and supports negotiations and collaboration (Howlett et al. 2017).

Whether learning processes can tackle 'super-wicked' problems will also depend on the depth in which learning takes place. Van der Steen and Groenewegen (2008) distinguish between first and second-order learning. First-order learning is one of 'lesson drawing' at a technical level targeting policy instruments and leading to incremental changes. It may include internal learning, address processes within governmental organizations and lead to organizational changes. It would likely take place more frequently in well-defined institutional frameworks and stable environments with clearly defined, transparent and stable rules and procedures and shared understanding of the actors involved. Second-order learning contributes to paradigmatic or transformative change at the level of the organization or system (Brockhaus et al. 2014b). Such *deep learning* addresses goals, strategies and policy approaches and can lead to (radical) changes in policy paradigms. It thus touches on the core beliefs, fundamental designs, goals and activities of a system. This type of learning tends to involve a wider set of actors and is more likely to occur when there is a degree of instability in structures and tension or conflict between competing objectives, approaches or rules. Critical external events, scarcity of resources and emerging new fields or demands can provide the conditions that facilitate second-order learning. Hybrid variants are also quite common, such as what is understood as 'step by step acceleration' or 'progressive incrementalism' (e.g. Geels and Schot 2007). Thus, deep or transformative learning is needed for REDD+ because, first, climate action should be transformative in nature if it is going to be effective and, second, REDD+ faces substantial trade-offs, including conflicts between competing objectives as mentioned earlier, which makes deep learning necessary (Nair and Howlett 2017).

Pahl-Wostl identifies multi-level learning processes as "social and societal learning that proceeds in a stepwise fashion moving from single to double to triple-loop learning" (Pahl-Wostl 2009, 354). These three loops of learning, borrowed from organisational theory, represent distinct stages of effecting change. *Single-loop learning* represents a refining of actions to improve performance, but without changing guiding assumptions or calling into question established routines (doing things right). *Double-loop learning* represents a change in the frame of reference and/or the calling into question of guiding assumptions (doing the right thing). *Triple-loop learning* represents a transformation of the structural context and/or factors that determine the frame of reference (Pahl-Wostl 2009; Flood and Romm 1996). In other words, when characterizing the problem as structured ("high scientific and normative consensus"), a technological solution is sufficient (single loop). When it is characterized as moderately structured ("with creeping doubts about the science and norms needed to deal with it"), the solution is to question the underlying assumptions (double loop). When it is

characterized as unstructured ("where there is a breakdown in normative consensus") and as ideological or systemic, then what is needed is transformative learning or, indeed, "unlearning" (triple loop) (Gupta 2016: 192).

That said, some suggest learning is in the 'eye of the beholder', in which case it is also not neutral, but is politically shaped (Radaelli 2009). Asymmetrical power, frictions, contestations, weakness in institutional resources and fights for control of resources have all been cited as sources of failure to learn in policy processes (Dunlop 2017). Finally, learning is not always a 'good' thing, as indicated by the concept of dysfunctional learning (Dunlop and Radaelli 2016).

3. Research Design and Methods

To examine what is learned and how learning takes place in REDD+ donor countries to reach stated objectives on REDD+, we analyze primary/secondary literature and expert interview data. We then apply key learning frameworks discussed above and a learning matrix to the latter question to identify patterns that can be generalized and compared with other issue domains to facilitate future learning. Borrowing from Howlett et al. (2017) and Kemp and Weehuizen (2005), the learning matrix combines three levels with four modes of learning. The three levels of learning include: (1) *cognitive/technical* – about the technical nature of the problem, the assumptions on the causal relationships involved and the pros and cons of measures aimed to address the problem; (2) *social/political* – about the stakeholders, how to operate within a network setting and what collaboration and negotiation strategies work or not; and (3) *structural/institutional* – about the development of shared and lasting arrangements, procedures, rules, norms, values and trust that reduce the risks and costs of interactions and support negotiations and collaboration. The four modes of learning include: (1) *study* (learning); (2) *observation* (watching); (3) *experience* (doing); and (4) *interaction* (exchanging). Through this we derive insights into three scales of learning - *individual* to *institutional*, *generalist* to *specialist* and *incremental* to *transformative*. Finally, we link this approach to learning to notions of deep learning, including the *three loops of learning* (Pahl-Wostl 2009) and learning as *meaning making* (Kegan 1980) through a process through which actors jointly develop meanings for critical ideas, and emerge as communities of purpose (Sato et al. 2018). This ensemble will help address the paper's overall research question of *How do policymakers in REDD+ donor countries learn? and sub-questions of (1) What modes and types of learning are used? (2) What are the roles of scales of individual to institutional, generalist to specialist and incremental to transformative learning? (3) How deep is the learning?*

This research involved 18 semi-structured, expert interviews to find out if and how policy learning on REDD+ design and implementation has taken place through *study, observation, experience and interactions* internally and externally to undertake or impact shifts *cognitively, politically and institutionally* deeply and meaningfully. Expert interviews were conducted over Skype or telephone during 2018-19. The experts were from the three donor country ministries and implementing agencies in-country and overseas (14), outside government (4), with one having moved from practice to academia, one from practice to the private sector and one academic having had experience being on a government delegation for UNFCCC meetings for several years. Interviewees were chosen through snowball sampling and recommendations until the most relevant experts had been identified, contacted and interviewed if a response

was received (up to 50% in certain countries). Interviewees all have knowledge of and experience with the international REDD+ negotiation process, bilateral relations and/or implementation of REDD+-related policies and measures in recipient countries. Many have been involved with REDD+ and previous forest-related activities for a decade or longer, and have, over time, moved across ministries, agencies and embassies of their respective countries as well as international organizations.

The qualitative data collection method based on small-n is preferred when significant research-based knowledge on the area in focus is weak and only a few people have expertise, experience and insights regarding the problem at hand. It allows the researcher to adapt new knowledge and encourage thick descriptions (Kvellheim 2017), i.e., descriptions that are not merely descriptive but also interpretive, not merely capturing detail but also context, therefore containing layers of subtle and rich meaning (Thompson 2001). Expert interviews allow for a documentation of knowledge that is otherwise not readily available. Interviews are continued until new arguments or insights cease to emerge, following the principle of saturation (Mason 2010).

The interviews were based on a semi-structured interview guide with mainly open-ended questions, with follow-up questions evolving throughout the interview process and depending on the expertise and experience of the interviewee. Questions addressed REDD+ finance (approach to REDD+ funding, objectives of funding, changes in objectives and approaches, reasons for these changes, challenges with results-based finance) and learning (how does learning take place - referring to levels, modes, scales and depth of learning, lessons easy to learn or not, lessons leading to changes in policy or funding or not). We settled on these partly inductively and partly deductively, starting with more general questions and in later interviews probing more with regard to the levels, modes, scales and depth of learning. Each interview lasted between 20 and 50 minutes and was either recorded and transcribed or written up during the interview. Interview partners are anonymized to enable confidentiality and avoid being able to trace any quote to a specific policymaker, practitioner or researcher interviewed. After the interviews were transcribed, they were analyzed using manual, open-ended coding around the themes from the interview guide mentioned above and focused on finding patterns within or across (Corbin and Strauss 2014) and distilling information on shifting objectives and approaches as well as levels, modes, scales and depth of learning. The interviewees are referenced in the paper using a system of coding that conveys the country the respondent associates with (I-N for Norway; I-G for Germany; I-U for the UK), followed by a number that marks the order of interviews conducted, but does not convey the interviewee's organization or identity (I-N1; I-N2; etc.). They were sent a draft version of this paper for comment before submission to this journal, which three of them took up.

Norway, Germany and the UK were chosen as case study countries given their status as the three largest REDD+ funders, with Norway in the lead, and because of their alliance as GNU (short for Germany, Norway and the UK), meaning that exchange between them is frequent and institutionalized. They thus lend themselves well to tracing what levels and modes of learning are particularly common in the process of policy learning that results in an "updating of beliefs based on lived or witnessed experiences, analysis or social interaction" (Dunlop and Radaelli 2013, 599).

4. The REDD+ Funding Landscape

The original idea of REDD+ was that developed countries would financially incentivize developing countries with substantial forest cover to measurably reduce deforestation and thus forest carbon emissions beyond what would have occurred in its absence (UNFCCC 2011). Backed by scientific estimations that deforestation was accounting for some 17-20 percent of global greenhouse gas emissions (IPCC 2007) and economic projections that reducing deforestation was a cheap and effective mitigation option (Stern 2006; Eliasch 2008), REDD+ as a financial mechanism was included in the 2007 Bali Action Plan. The idea that public and private investors would fund REDD+ as an opportune form of climate mitigation and that REDD+ would respect sovereign authority by channeling payments through national governments was born (McDermott et al. 2012).

Options for REDD+ incentives from the start included multilateral and bilateral public funding which could be linked to carbon markets and/or involve of the private sector (Reed 2010). In 2008, the World Bank set up its Forest Carbon Partnership Facility (FCPF) and the UN established its UN-REDD programme. Between them they have helped some 64 countries with funding to develop capacity and get 'ready' for REDD+. Norway, Germany and the UK established funding programmes to help developing countries set up reference levels and Measuring, Reporting and Verification (MRV) systems and design REDD+ national strategies. In addition, many conservation and development-oriented NGOs, alongside other proponents, have created REDD+ projects (or rebranded existing projects to fit with the REDD+ discourse) on the ground in many countries. Some developing countries have formulated their own approaches to REDD+, for example, Bolsa Floresta in Brazil and the Indigenous REDD Programme in Bolivia, and others have established their own funds, such as the Amazon Fund in Brazil (Well and Carrapatoso 2017; Sills et al. 2014).

Multiple challenges facing REDD+ broadened its remit to miscellaneously addressing additional objectives, including poverty reduction, livelihood improvement, biodiversity conservation, adaptation, indigenous rights and good governance (Vijge et al. 2016). This has greatly impacted the evolving funding landscape. The domestic policy focus has shifted from payments for environmental services (PES) to broader policy realignments and shifts in incentive structures, suggesting change of a transformational nature is required (Brockhaus et al. 2017; Mulyani and Jepson 2013). Large-scale market funding has not materialized due to the failure to establish a global carbon market that integrates REDD+ credits (Angelsen 2017).

To operationalise the evolving REDD+ mechanism and results-based payments, the 2010 UNFCCC Cancun Agreement (UNFCCC 2010) adopted a phased approach with distinct but overlapping phases: (1) readiness and capacity building; (2) policy reforms and national REDD+ strategies; and (3) payments based on verified/certified emission reductions. The feasibility of a Phase 3 is controversial; on the one hand, its underlying idea and desirability are questioned, on the other, there is concern that many countries might never graduate to Phase 3 (Angelsen 2017). Indeed, it comes with increasingly ambitious and "transparent" conditions, including having an ambitious national REDD+ strategy to demonstrate their "long-term perspectives or goals" and an MRV system in place. Countries now also increasingly "have to provide

quantifiable targets for forests in their NDCs to be able to receive funds" (I-G2). Countries are thus unlikely to receive funds for 'accidental' deforestation rate reductions, such as resulting from a recession.

In an attempt to work together to strengthen coordination among major donors to achieve the goals set in the 2014 New York Declaration on Forests and the 2015 Paris Agreement, Germany, Norway and the UK formed a partnership in 2014, named 'GNU'. In joint statements they have expressed strong support for ambitious, credible action to address deforestation and promote forest restoration, including through providing results-based finance for REDD+ (Stumpf et al. 2018). This would be achieved through scaled up finance (aiming for over USD 5 billion in the period 2015-2020), a focus on strengthening existing and creating new partnerships with tropical forest countries such as Colombia, supporting civil society and indigenous peoples and working with the private and financial sectors to transform supply chains. The partnership is institutionally supported by a secretariat located in the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU) and holds meetings of the directors several times a year. 'Sherpas' in each country advise the directors (I-U2). Whilst this has facilitated a great amount of exchange among the three countries, they have to work within their respective accountability frameworks and budgets that differ from one another. They each have their budgets and annual spending commitments and finance targets that they need to fulfill. Those obligations mean that "it is not always easy to align everything that the three donors do". But over time they have "acquired a volume of knowledge and experience about what works" (I-U1). This is where learning that involves finding common meaning to accomplish joint purpose(s) can become crucial despite differences.

4.1 Norway

Norway emerged as a major donor for REDD+ through Prime Minister Stoltenberg's pledge in 2007 of some 3 billion USD annually to the global deforestation effort. Norway pledged up to 1 billion USD to Brazil in 2008 and to Indonesia in 2010, if results in reducing emissions from deforestation and forest degradation were achieved, following Indonesia's announcement of its willingness to make substantial cuts to its deforestation rate. Some commentators see an opportunity to further cement its role as a major aid donor, promoter of global peace and prosperity and a 'moral superpower' behind Norway's move to become the largest REDD+ donor country. REDD+ seemed like an attractive opportunity to contribute to solving a global problem with moderate financial input, which other countries would match or exceed (McNeill 2015; Hermansen 2015). Support has been strong from most political parties in Norway's parliament to commit a total of one billion US dollars a year to REDD+ (Hermansen and Kasa 2014).

The primary agent behind Norway's commitment to reducing deforestation is the Ministry of Climate and Environment. However, policy and operational responsibility for international aid and development is consolidated in the Ministry of Foreign Affairs (MFA). Most Norwegian development cooperation is administered through the MFA and its embassies. The MFA oversees three agencies that also administer Norwegian ODA, including the Norwegian Agency for Development Cooperation (NORAD) (Gulrajani 2017). The Norwegian International Climate and Forest Initiative (NICFI), created in 2007-08, is a section in the Climate

Department of the Ministry of Climate and Environment and, with a staff of about 20, holds technical responsibility for its international REDD+ engagement.

Several members of the NICFI team are stationed in embassies in key REDD+ partner countries (Indonesia, Brazil, Congo, Ethiopia, Colombia and Peru). Norway has established results-based partnerships with Brazil, Indonesia, Tanzania, Guyana, Colombia, Peru, Liberia, Congo and Ethiopia and may have contributed to 20 million tons of emissions reductions overseas by 2016, equaling 40 percent of Norway's annual emissions (Hein et al. 2018). Norway's funding commitment was extended in 2015 through to 2030.

4.2 Germany

Germany has a long history of engagement in forestry science and silviculture, having also been active in various forms of international cooperation on forests and supporting developing countries in protecting forest resources for many decades. German scholarship in plantation and production forestry has been exported globally over centuries and influences till today economic ambitions and understandings of rentability in forest plantations, e.g. based on mono-cultures and clearcutting, not always at ease with ecological objectives. Its own land use change experience as a densely populated country, its success in reversing detrimental land use practices and its high level of awareness around the importance of healthy forests have also shaped its long-lasting commitment to international forest conservation and sustainable management (Pistorius and Kiff 2014).

The main ministries that deal with REDD+ are the BMU and the Federal Ministry for Economic Cooperation and Development (BMZ). They are assisted by two implementing bodies, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (technical advice and expertise) and the KfW Development Bank (financial advice and expertise). The BMU houses the German International Climate Initiative (ICI), set up in 2008 to support a variety of activities and research, including on global forest governance.

REDD+ fits well into the emerging sustainable development paradigm (I-G3), as some would argue, with performance-based payments giving recipient countries more responsibility and thus move beyond traditional ex-ante conditionality (Birdsall et al. 2014). Others fear Germany's REDD+ investments have been distracting finance from other more effective forest protection approaches, reason for a number of parliamentary 'requests' ('kleine Anfragen') for clarification. Overall, Germany has pursued a broader agenda that includes related aspects of development and both a more holistic, long-term perspective and a narrower focus on mitigation and emphasis on results with more short-term outputs. Elements of its approach include increased traditional bilateral development cooperation in the land sector, the Bonn Challenge as a global effort in forest landscape restoration, multilateral support and the REDD+ Early Movers Programme (REM) established in 2012 as an interim mechanism to test the results-based payments approach to reduce deforestation during Phase 3. REM has been a key element of Germany's bilateral approach. Implemented jointly by KfW and GIZ and commissioned by BMZ, REM rewards pioneers of forest protection and then provides payments conditional upon verified emission reductions (Pistorius and Kiff 2014).

4.3 UK

The UK's approach to REDD+ is broader than that of Norway or Germany, and activities have traditionally focused on governance and legality, in particular through FLEGT (Dooley and Parker 2015). Climate finance is shared across the Department for International Development (DfID), the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (DEFRA). Each of their mandates in relation to international forest finance is based on their different experiences. The inter-departmental International Climate Fund (ICF), created in 2010, is the UK's primary vehicle for forest finance. One specific priority is to drive innovation and new ideas for action and to create partnerships with the private sector. It has a strong evaluation and learning team involved in all its activities (I-U2). As the host of the next climate talks in Glasgow, the UK aims to position itself further as a leader in a coalition of nations supporting action against illegal timber trade and deforestation (Harvey 2020).

In terms of specific priorities across the main departments, DfID promotes sustainable development including poverty alleviation, governance reforms and economic growth. It has been the sole department historically in this area and thus has the most expertise in project implementation. DfID's focus is on funding countries with weak institutions needing capacity and governance reform, which often coincides with increases of forest loss over time (Dooley and Parker 2015). DEFRA has significant experience in national forest and biodiversity conservation, though not in the tropics. Its focus is on addressing "structural problems and through that change the underlying governance" to influence and measure forest outcomes (I-U4). BEIS focuses on climate mitigation impacts and reduced carbon emissions, including from forests/land use. It has had a lot of experience in the international climate change and REDD+ negotiations, but less experience with tropical forest conservation. It mainly targets middle-income countries with more robust governance structures in place and thus a greater chance of reducing deforestation in the short term (Dooley and Parker 2015). It also runs Partnerships for Forests, which is a business incubation programme working with sustainable forest enterprises and is initially operational in Brazil and Colombia (I-U2).

5. What is Learned: Shifting Objectives and Approaches to REDD+ Funding

Across the landscape of key European donors, a general policy shift from narrow to broad, from focused to multiple and from directed to interactive has gradually emerged in response to challenges with regard to governing and implementing REDD+ (Corbera and Schroeder 2011). REDD+ "has become a shorthand for a more expanded version of what it was meant to be" (I-N5). This shift includes the broadening from forests to land use, from carbon to co-benefits and from focusing on forests and forest lands to engaging with the whole economy and country, including with multiple forest stakeholders and actors in the supply chain. This repositioning is also better in line with aid based funding, which has to fulfill ODA priorities. This broadening of scope is subsequently making it harder for donor countries to demonstrate results and impacts from investments (I-U5).

5.1 Shifting Objectives

Whilst donor countries remain committed to the preservation of natural forests, emissions reductions and REDD+, there is a shift in emphasis on these being long-term goals, perhaps aspirations, in many tropical forest countries. Given that the kind of transformation required to reduce deforestation is taking so much longer, and is so much more complex than originally anticipated, the evolved objective has become to support a "transition of the economy" through a broader approach that focuses not just on forests but also on land use given that agriculture is the main driver of deforestation (I-N4). In other words, "what it would take to arrest deforestation has remained more or less the same but the emphasis has changed over time" (I-N2). REDD+ is now "one of several tools in the toolbox" (I-N3).

REDD+ has thus, for the most part, merged back from being singled out "as its own thing" into the broader development aid agenda around forest and biodiversity governance transformation (I-U3), and from exclusive emission reduction goals to pursuing co-benefits. Enhanced donor coordination has also become more crucial in the process and the learning arising from it, in particular through GNU in this case (Well and Carrapatoso 2017; Gupta et al. 2016; Westholm et al. 2011; Davis and Daviet 2010). A subtle shift has been noted from viewing transformation of the economy as an approach to achieving reduced deforestation to it becoming a policy objective in its own right within a broader set of international development objectives (I-N4; I-U2; I-G2). The contextual shift is that many major deforestation countries such as Brazil and Indonesia have seen - "the REDD+ process as a way to bring forward also domestic or national aspirations", having committed their NDCs and now using "these REDD+ discussions to support their climate change goals in all their complexity and difficulty" (I-G6).

5.2 Shifting Approaches

There is growing recognition of the evolving ***multi-level*** REDD+ governance setting. At the *international* level, in addition to the multilateral funding approaches, including the WB-FCPF and the GCF, there are now the Paris Agreement and NDCs as well as Agenda 2030 and its Sustainable Development Goals (SDGs) to also report on, so policies and approaches need to reflect a broader set of objectives (I-N3). *Transnationally*, there are engagements with big business, global supply chains and big finance, for example around sustainable investments, including sustainable agriculture. *Nationally*, there are investments in diplomacy and bilateral partnerships. *Sub-nationally*, there is engagement with communities, civil society, public opinion and indigenous groups. Also, there is a widening from a results-based payment focus to employing multiple approaches and working with multiple stakeholders (Corbera and Schroeder 2017).

Results-based payments have been, to varying degrees across countries, placed alongside other approaches to achieving the broader objective of forest and biodiversity governance transformation. It remains particularly key in Norway, fairly key in Germany and somewhat key in the UK. The reasons lie in the different institutional and political setups of the three countries. Norway emphasizes the "unique situation that we had a dedicated mandate and focus with significant budget that allowed us to … think a little bit from scratch and have a long-term view on how we would operate with countries" (I-N2). Yet, at the same time, Norway has been broadening its approach to identifying "who can make the transformational change in the country and then support those forces" (I-N3). This holds true also for Germany

which continues to support results-based payments, whilst also finding "other ways to support countries, like helping them implement activities, build capacity" and supporting supply chains, indigenous peoples as landowners and procurement policies (I-G2). And the UK has also learned and adapted their approach along the way and increased their capacity to engage with more initiatives, acknowledging the "need to test a number of things" (I-U2).

Getting to Phase 3 of results is indeed challenging for countries as they often have difficulties to implement policies and measures (Phase 2). But even if they deliver verifiable results, it can be difficult to receive payments without being able to "demonstrate their ambition and long-term perspectives or goals" and "to provide quantifiable targets for forests in their NDCs" (I-G2). In early 2019, Brazil was the first country to receive approval for results-based payments from the Green Climate Fund (GCF). This is somewhat curious given that since 2015 emissions have increased again, which begs the question of how the GCF treats permanence. In Indonesia, 'readiness' under the GCF was postponed several times, being only the latest of a number of readiness projections Indonesia has not achieved. It may be ready to receive payments by 2023 (I-G6).

Bilateral collaborations have been more difficult to carry out than anticipated, both for political and technical reasons. *Politically*, REDD+ has been going "very deep into the structure of the economy and going against traditional ways of managing the land. And there are always forces siding against it, even if the government is willing" (I-N4). There has been a decisive focus on quality of engagements after realizing that "it needs a deeper and longer and more sustainable kind of engagement … on the ground" (I-N4) and that "it is a trust process" (I-G6). This has led all three countries to increase presence by deploying additional staff in key forest countries, so there is "not just an email but an actual person" (I-N1; I-G1; I-U2). This proved effective in strengthening day-to-day exchange and better mutual understanding of expectations and challenges, even if staff leaving the embassy again after 3-4 years makes it difficult for them "to get a grasp on what's been happening in the REDD+ sphere" in country (I-U6). Communication and trust needs to be reestablished with every change in government or senior personnel (I-N4). *Technically*, challenges have occurred around reference levels, inflated baselines, MRV and the realization that performance-based approaches do not work in all countries (I-N1; I-U3), given the need to tick all boxes of capacity and readiness. Such challenges in donor-recipient country relations and dynamics (for detailed examples, see Bulkan 2014 and Laing 2018) have led to a relationship characterized as "we trust but verify" (I-N4).

Alongside the various bilateral engagements, all three donor countries also invest into a number of ***multilateral funds***, including the WB-FCPF as the primary fund for results-based payments, the BioCarbon Fund and its Initiatives for Sustainable Forest Landscapes (I-G2). The REDD+ Early Movers scheme might be a way of breaking out of the "REDD+ fatigue" by mitigating the over-bureaucratization of the aid process, for example (I-G5).

In all three countries, there has been a shift toward working a lot more closely with ***non-state and private actors***. For example, in Norway there has been a move away from a purely REDD+ focus to one on "more direct collaboration with the business sector to adopt zero deforestation commitments" alongside "bilateral partnerships that reward countries for results" (I-N2). Norway "knew that the funding we have available was not enough to pay for

the opportunity costs" given "there wouldn't be more international funding forthcoming. So, we have to be more strategic and we need to identify who can make the transformational changes in the country and then support those forces" (I-N3). Norway now focuses on more direct collaboration with the business sector to put pressure on companies to adopt zero deforestation commitments and help transform global supply chains (I-N2). Norway now also pursues a green economy approach, environmental crime through INTERPOL and supports indigenous communities (I-N5; I-N2). Similar engagement is carried out through ICI, BMZ and German aid in general in Germany and the ICF in the UK.

6. How it is Learned: Underlying Levels and Modes of Learning

The broadening of REDD+ from a rather simple and focused idea to including additional elements, such as safeguards, co-benefits and Indigenous Peoples rights (McDermott et al. 2012), has slowed down progress and made it harder to demonstrate results (I-U5), putting it "in the category of very hard to assess" (I-N2). Curiously, whilst "our means of electronically recording and storing information is easier today than ever before, analyzing and learning from it and identifying essences and key learnings is as difficult as it has always been" (I-U5). Learning is made even more difficult by the structural challenges of ever-changing political priorities and ever-changing civil service staff (I-U5), as well as the generally "busy schedules, vested interests" and that "everyone is always more interested in the next project than the last one", thus "learning is always subordinated to new work" (I-U5). And the learning that is achieved at closer-to-the-ground levels and subsequently fed up in the bureaucratic system is often diluted at higher political levels. There, it depends on whatever party, minister, political leadership is there at a specific time and how they wish to process this information" (I-N6). Learning is thus riddled with difficulties, and interviewees acknowledge that "donors don't have a good record of learning" (I-U5) and that "learning is slow" (I-G5) and "not very rigorous" (I-N1). Given these challenges, what modes of learning work best and at what level does learning take place? We examine here the modes of study, observation, experience and interaction and cognitive/technical, social/political and structural/institutional levels.

All three countries emphasize the value of interaction facilitated by the GNU partnership between Germany, Norway and the UK. The dynamic of alignment and differentiation across the three countries is an opportunity for trying out different approaches to this 'super-wicked' novel challenge. Norway benefits from a "tightly knit" and "agile" team at NICFI focused solely on climate and forests, where "thinking happens collectively" and where decisions can at times be taken quickly given their "bigger freedom and less bureaucracy above" and "very good access to" their minister, but where there is also a greater risk of "tunnel vision" (I-N6). The learning that the Norwegians have achieved through their results-based payments approach embedded in its much larger financial support, has benefitted Germany and the UK through observation of how it has unfolded. Whilst describing it as a "courageous and bold approach" (I-G3), Germany sees its own role more in a broader approach, stemming from its long-standing engagement in international forest cooperation that is supported by the expertise of its two implementing agencies – GIZ and KfW – to offer not primarily financial support but to give political and technical support, strengthen macroeconomic conditions and civil society engagement (I-G3). But this setup can also result in difficulty to present a unified front to GNU partners. Norway and Germany have budgets and annual spending

commitments, whilst the UK has an international climate finance target (I-U1). The UK also brings "evidence-based approaches" (I-G4) and "knowledge, a business case approach and aid effectiveness" through their particular institutional, administrative and political approach to REDD+ finance. But it has suffered the most from lack of continuity and gives REDD+ a lower place in its overall agenda. In all, "GNU has benefitted from our differences" (I-G3) and been "a really powerful learning place" (I-U2).

Norway has had a number of assessments of its bilateral partnerships. Also, each project that is approved by Norway has to put forward its results framework of indicators, outputs and outcomes. It also commissions real-time evaluations of NICFI, which periodically offers overall feedback on the work it does. Some projects have a goal not just to deliver impact, but to learn (I-N2). However, most learning is informal, and "by the time we get the evaluations, sometimes you learn something new, otherwise it confirms what you already know" (I-N2). However, the evaluations are also used "in strategic ways when we know something is not going exactly the way we wanted it to go". This can then justify a change in direction (I-N3). When acting on what needs changing is difficult, "then we need to work with more actors who can bring that change about" (I-N3). In general, "a lot of the policy learning is from the less academic, less rigorous experiences that you do in working with partners" (I-N2) as well as "learning through dialogue, learning by doing" (I-N4). Norway has "a lot of radar functions through our networks and various partnerships and programmes. It gives us a continuous feed of input" for annual strategy review (I-N4).

Experience is a key mode of learning for Germany's implementing agencies in the sense that much learning is about how to operationalize goals and approaches, focusing on the instrumental mechanisms that will be most effective, efficient and equitable (I-G4). In the BMU, learning and evaluation happens through systems of biannual reports and knowledge management. Feedback from the implementing organization and their on-the-ground links is fed in and systematized for learning. Exchange is deemed crucial and happens both individually and organizationally through UNFCCC conferences, other international conferences and targeted support through science institutions like CIFOR. The BMU has also made attempts to have a monitoring system in place to allow for a more systematic approach to aggregate information from a project. This comes with trade-offs between depth of information and systematization and practicability of inputting and using that amount of information for meaningful evaluations. The BMU has had two evaluation cycles, evaluating at project, sectoral and overall funding structure levels, and when deciding on a new funding cycle this type of information is considered (I-G3). ICI is used to fill gaps on what has not been done yet and support innovative approaches (I-G3).

For the UK, first-hand experience and direct interaction are the most common ways of learning, whilst study and observation are secondary (I-U1). Formal learning is embedded in requirements for specific monitoring, evaluating and learning with mid-term and final evaluations as part of any investment. Impact studies and baselining at the beginning of an initiative with a view to being able "to really measure" are also common (I-U2). It is noted that in formal evaluation "they tell you things you already know. We need more real time learning, as things progress". Learning takes place through individuals and teams involved in programmes, which can be "hard to capture and share with the wider organization. It is attempted through mechanisms such as seminars, professional retreats, professionals

meetings once a year to exchange learning" (I-U5). Practical field experiences have slowly eroded over the past ten years as "increasingly they outsource". And "when they don't do the work themselves the opportunities for learning are lost. It is the case in DfID and more so in DEFRA and DECC that people are taken on on a 3-year basis" (I-U5).

The level of individual learning is often high. Bureaucrats "obtain knowledge and have our finger on the pulse of what is going on in the forests space through research and dialogue and day to day work" (I-N6). Organizational/institutional learning is to some extent at least dependent on whether or not there is a lot of turn-over in the ministries and agencies. In the case of Norway and Germany in particular there is a good level of institutional memory, with many key people having worked in the sector (including in forest management or land use change before REDD+ emerged) for a long time. In those cases, a key element of learning occurs at the individual level, as "a lot of it is also tacit knowledge that people like me generate over the years by working in this sector for quite some time" (I-G3).

Study, i.e. the use of written documentation, tends to be less common. This is, at least to some extent, because of lack of time - "as a team in our day-to-day lives we don't have the bandwidth to monitor everything that comes out" (I-N2). Studies are at times used as formal evidence for justifying a policy change. For example, interviewees report that the findings from meta-studies on the effectiveness of Indigenous research have strengthened their "ability to promote that" (I-N2).

Learning about the nature of the problem, the assumptions on the causal relationships involved and the pros and cons of measures aimed to address the problem, i.e. the cognitive/technical level, happens for all three countries through UNFCCC and other such meetings, but also reports and, to some extent, academic literature. Science institutions such as CIFOR and the Centre for Global Development (CGD) are mentioned as go-to places. The UK mentions observation as a key mode of cognitive/technical learning, whilst the learning mode of experience is key for Germany and Norway; this is through long-term experience in the forestry sector and implementing agencies in the case of Germany and through learning by trial and error in the case of Norway. All countries report that they benefit from interaction through ongoing in-person exchange.

Learning about how to operate within a network setting and apply strategies aimed at collaboration and negotiation, i.e. the social/political level, happens primarily through observation, experience and interaction. Whilst the UNFCCC and GNU meetings are key moments of interaction and observation for all three countries, the radar function that networks, partnerships and programmes offer serve to feed directly into annual strategy reviews and decisions in Norway in particular. Tacit knowledge gained from years of experience is particularly important for Germany and Norway (I-G3, I-N5). Study occurs in the UK also through requirements set for monitoring, evaluation and learning through mid-term and final evaluations (I-U2).

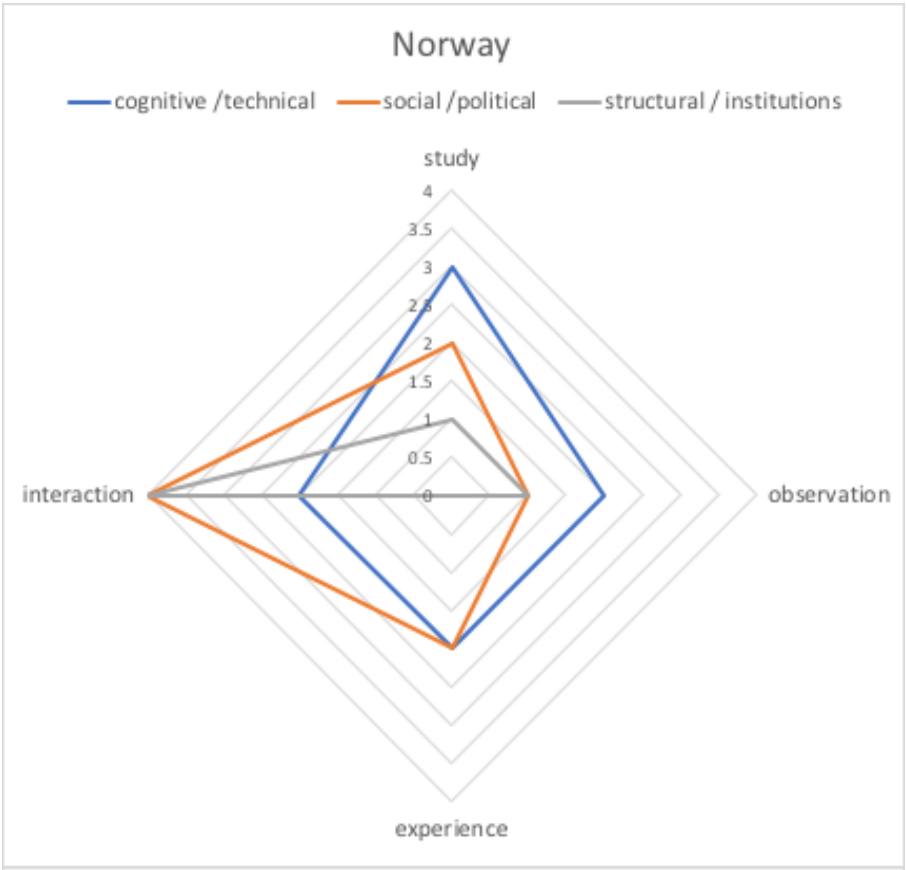
Learning about the development of shared and lasting arrangements, procedures, rules, norms, values and trust that reduces the risks and costs of interactions and supports negotiations and collaboration, i.e. structural/institutional learning, features study more so than learning at other levels (Di Gregorio et al. 2017). Here, assessments of bilateral partnerships (Norway) and systems of biannual reports and knowledge management

(Germany) function as key modalities of learning. GNU members play specific and complementary roles within the partnership, which allows for learning through observation and interaction. How to operationalize goals and approaches in the context of REDD+, on the other hand, happens primarily through on-the-ground, face-to-face experience (Mawdsley et al. 2005), highlighted in particular by Germany. Table 1 and Figure 1 below provide an overview of the underlying modes and levels of learning.

Table 1: *What* and *how* learning takes place in Norway (N), Germany (G) and the UK (U), indicating whether relevant (++), somewhat relevant (+) and not relevant (no mention) for each country

MODES **LEVELS**	**Study (systematic learning)**	**Observation (watching)**	**Experience (doing)**	**Interaction (exchanging)**
Cognitive/ technical	Technical/ academic literature (All+); evaluations and reports (N+, G++); UNFCCC, other conferences and science institutions like CIFOR (All+); Systematic approach to aggregate information from projects (G+);	In-country presence through reps in embassies (N++, U+); Learning from Norway about RBF (G+, U+);	Staff with long-term experience (G++); Through implementing agencies GIZ and KfW (G++); Learning by doing/trial and error approach for REDD+ as new approach (N++);	Ongoing in-person exchange (All++);
Social/ political	Real-time evaluations (N+); Requirements for specific monitoring, evaluating and learning with mid-term and final evaluations (U+, N+); Evaluations (U+);	Learning from each other; adapting to reality (All+);	Tacit knowledge that comes with years of experience (N++, G++. U+);	UNFCCC and GNU meetings (All++); Radar functions through networks and partnerships and continuous feed of input (N++);
Structural /institutional	Biannual reports and knowledge mgmt system (G+); Assessments of bilateral partnerships (N+);	Complementarity of individual country institutions across GNU countries allows for learning from one another but also makes it more difficult to align approaches and strategies (All+);	How to operationalize goals and approaches (G+);	GNU Partnership with regular meetings, 'sherpas' and a secretariat in Germany (All++); Building trust relations through staff deployed in forest countries (All++).

Figure 1: Radar diagrammes on modes and levels of learning for Norway, Germany and the UK


Norway
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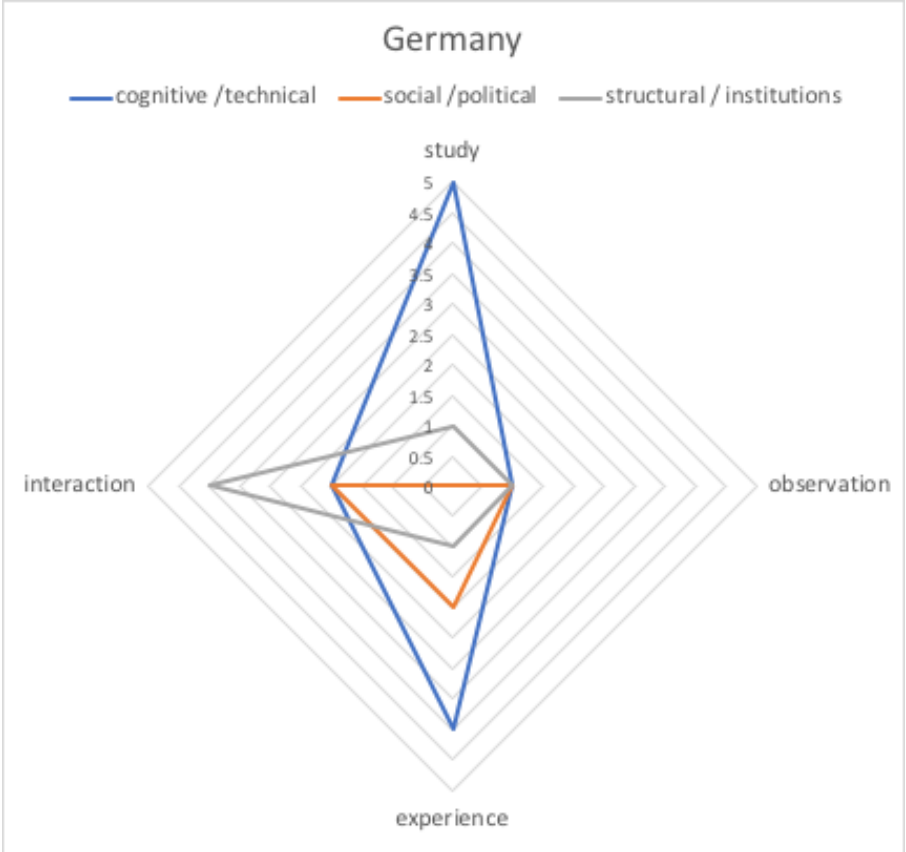
Germany
cognitive /technical
social /political
structural / institutions
study
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5
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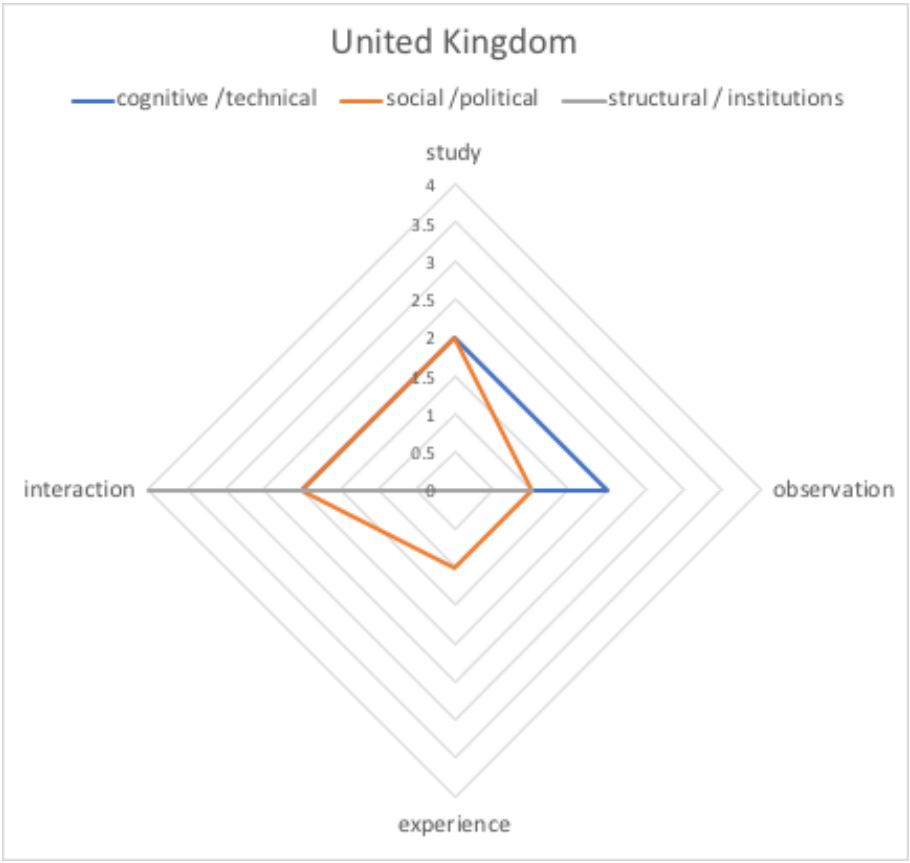

7. Discussion: Modes, types and resulting scales and depth of learning

In terms of *modes and types* of learning, the analysis above shows that learning in REDD+ donor countries takes place primarily through experience and interaction, somewhat through observation and less so through study. Whilst learning happens to a large extent in an informal manner, the formalized and intermittent processes of evaluation and reporting are not deemed quite as useful in all cases. On-the-ground learning in recipient countries is obviously useful, and all countries have some provisions for this, with Germany in the form of specialized implementing agencies (GIZ and KfW) and Norway and the UK with staff in key forest country embassies. Learning is made even more difficult, of course, in a context of changing political priorities and vested interests, and especially given the often highly political nature of the process (I-G6). This is where tacit knowledge acquired over time (Polanyi 1967) has played a key, perhaps underappreciated, role.

In terms of the *scale* of *individual to institutional learning*, one interviewee suggested that barriers in the REDD+ process might have been identified sooner had there been more rigorous monitoring and evaluation from the get-go to facilitate learning (I-U5). Some interviewees report that there is a need to facilitate translating individual learning into institutional learning and on-the-ground learning into learning at the political level, perhaps through more frequent high-level learning events (I-U5, I-G4). What is needed is finding better avenues for communicating or sharing experience. And, given the nature of 'super-wicked' problems, 'deeper' approaches to learning such as (self-)reflection and future visioning explorations are needed. Learning as both process and outcome, thus going beyond technical

measuring and evaluation checklists, could be much more explicitly budgeted for in any project or programme. Also, if individual learning is more wide-spread and institutional memory thus weaker, collecting feedback from outcomes on the ground could be collected more systematically and fed more formally into decision-making processes at a higher level to effect change more quickly, rather than wait until a mid-term or end point of a funding cycle or when preparing a new one. Yet, there is a risk that formalisation of knowledge might degrade the quality and value of the tacit learning.

In terms of the scale of *generalists to specialist learning,* specialists are deeply engaged and do not easily see the bigger picture and connections with other issues, whilst generalists lack the understanding and longitudinal engagement to identify key policy implications (I-U5). Germany is perhaps closest to the specialist model given its implementing agencies' significant on-the-ground expertise and experience, whilst the UK approach is the most generalist of the three given its broader engagement that includes governance and legality angles and more frequent turn-over. The latter makes learning based on personal experience more difficult, and thus "the UK has much more systematic criteria of making sure that lessons learned are collected" (I-G4).

In terms of the scale of *incremental to transformative learning,* when to adjust by increment and when to abort a process completely, knowing that "it takes quite a lot to get it operating? Making changes may change the mandate of the fund and the governance around it, making it more difficult to implement learning" (I-U1). Is the learning apparatus able to make such a call when needed? Our research suggests that the REDD+ donor learning apparatus is not entirely prepared, which means that there are limits in all countries, despite their different strengths and weaknesses at individual country and domain levels due to the diverse structures, experiences and criteria applied. That said, efforts are made, such as through DEVAL, a new research centre in Germany that is currently preparing an evaluation of Germany REDD+ funding (for which two of us have been interviewed). Furthermore, despite efforts in collaborative learning through GNU, the way they complement each other and their efforts in advancing learning as a group, REDD+ would still require learning at the level of transformational change needed to halt deforestation.

In term of *depth of learning* (Kemp and Weehuizen 2005; van der Steen and Groenewegen 2008; Pahl-Wostl 2009), it can be argued that whilst 'lesson drawing' at a technical level and internal learning resulting in organizational changes (first-order learning) has certainly been achieved, learning leading to paradigmatic or transformative change at the level of the organization or system (second-order learning) has not. Likewise, refining of actions to improve performance (single-loop learning) has been achieved, such as a gradual shift to broader sets of objectives and approaches. Calling into question guiding assumptions (double-loop learning), or transforming the structural context (triple-loop learning), have perhaps not (yet) been outrightly achieved, as otherwise ongoing challenges referred to earlier would have been solved. That said, the broadening of REDD+ and putting it into a more holistic policy context, rather than treating forests as an isolated policy arena is an example of some more meta-cognitive change, even if it might have been more of an evolution than a decision. One can argue that a sustainable world already exists underneath the superficial consumerism and ego-centrism that has resulted in the rampant deforestation REDD+ is trying to address, such as in some indigenous communities. Moreover, given the evidence from the literature that major concerns with local-level outcomes from REDD+ projects persist and resemble closely

the difficulties identified in earlier decades with conservation and development projects in forested landscapes (Chomba et al. 2016, Lund et al. 2017, Redford 2013), there seems to be major barriers to transformative learning.

Thus, for super-wicked problems such as deforestation, where these deep underlying causes and contexts have to be taken into account, solutions will need to incorporate elements of relearning and unlearning. This should start in the donor countries themselves, where underlying ideologies, lifestyles and production and consumption patterns need to be questioned, including whether the growth paradigm and its continual demand for more goods and services, free trade and investment patterns are consistent with addressing super-wicked problems (Gupta 2016). Thus, a problem seen as a low-hanging fruit some 15 years ago actually fits with the definitions of super-wicked. It is time to call out this cognitive dissonance, to develop matching learning approaches and policy responses, in particular at the political level, and to uphold a common purpose (Sato et al. 2018) around preserving the world's forests for current and future generations whilst transcending vested interest conflicts.

8. Conclusion

The historical, institutional, organizational, operational and political approaches of Norway, Germany and the UK vary in crucial ways and have generated different kinds of lessons over the past 10+ years. Whilst experience with the forest and land use sectors more broadly is longer standing in Germany and the UK, Norway entered with the emergence of REDD+. Norway's financial commitment has been higher from the get-go and focused more squarely on carbon emission reductions than the other two countries, where REDD+ fits within a wider portfolio of activities related to the forestry sector. Germany brings on-the-ground political and technical knowledge, whilst the UK brings the highest level of pragmatism through aid effectiveness and a business case approach to the GNU partnership. Individual level learning takes place with certain individuals either having worked in the same position for a long time or moved across different organizations working on REDD+. The UK has seen a little more cross-fertilization with a mix of long-standing and newer people working on REDD+. Study and experience feature more strongly in Norway and Germany than the UK, the latter working off of observation and exchange more readily. The differences can be distilled as Norway making the strongest financial and political contribution to REDD+ at political/social and institutional/structural levels, Germany the strongest systematic and technical contributions at cognitive/technical and social/political levels and the UK the strongest pragmatic and analytical contributions at cognitive/technical and social/political levels.

The dominant role of results-based finance has given way to a more pluralistic and versatile approach, and tropical forest countries have, since the 2015 Paris Agreement, to varying degrees, incorporated their own approaches into their NDCs. This certainly offers the opportunity to focus more on the changing forest and land-use dynamics and the broader global discourses and agendas around sustainable development in which to embed more holistic, integrated sustainable forest and land use management approaches. It is clear now that financial incentives alone will not suffice; rather, what is needed much more are interventions and investments in private and societal actors' capability and legitimacy to be change agents within a broader societal transformative process toward sustainability (Stumpf

et al. 2018), and learning modalities that are more transformative than those based on study, observation, experience and interaction. Hence, in order to reduce emissions from deforestation and forest degradation, we need to overcome their drivers, and they may well not only lie in what we consume, but also in how we, or donor countries here, are willing to learn. Whilst established learning techniques such as study, observation, experience and interaction can be put to revolutionary use, as REDD+ in the early days has perhaps done, revolutionizing learning by acquiring new techniques would be another way forward, and as the current reality of ongoing deforestation indicates, a revolution is needed. Just like REDD+ and results-based payments were "an experiment … a new approach … trial and error" (I-G5), we could dare to be more revolutionary with regard to learning as well.

The experience with REDD+ is demonstrating that merely adjusting the system in incremental ways will likely not solve the problem at hand. Instead, we may come to a point where we accept that the system will have to drastically change. Some more conventional alternative approaches already exist, such as the green economy, inclusive growth and inclusive development, integrating elements of social wellbeing, environmental protection and countering power politics (Gupta 2016). In addition, some more radical ones are also being discussed, such as degrowth and the steady state economy (Kerschner 2010). But we may need to go further to employ novel modes of learning to facilitate such a transition. These might include learning through engaging with emotions such as grief, self-reflection, active listening, mindfulness, deconditioning, deep enquiry into why we consume and eat the way we do, transpersonal experiences and immersion into nature (Durnová 2019; Durnová 2018; Ahall 2018). They may sound radical, perhaps even disruptive, and if so, they are likely the right avenue to be explored further, if we truly wish to save the world's forests.

Acknowledgement

A special thank you goes to all interview partners from Norway, Germany and the UK who generously offered their time to participate in this research. We also thank some interview partners as well as Sabine Reinecke (Freiburg University) and Ilan Chabay (IASS) for the substantive comments on earlier drafts of this manuscript and their corrections of factual information. This research is part of CIFOR's Global Comparative Study on REDD+ (www.cifor.org/gcs). It was funded by the International Climate Initiative (ICI or IKI in German) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMU; grant no. 15_III_075) (all authors), the Norwegian Agency for Development Cooperation (Norad; grant no. QZA-16/0110 nr 1500551) (Brockhaus, Di Gregorio, Pham), the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA) with financial support from the CGIAR Fund Donors (Pham) as well as the Centre for Climate Change Economics and Policy (CCCEP) (ESRC grant number ES/K006576/1) (Di Gregorio).

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