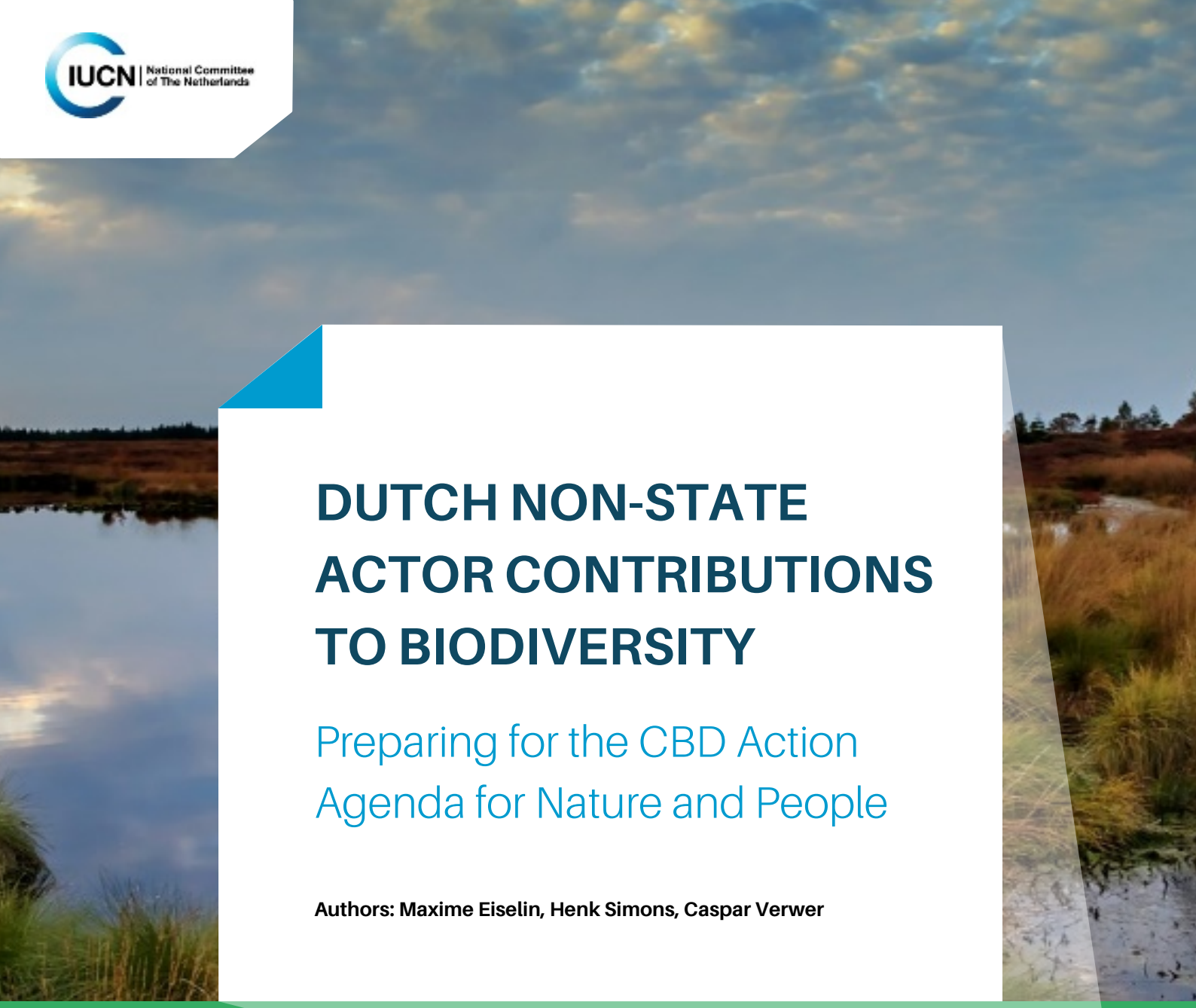

DUTCH NON-STATE ACTOR CONTRIBUTIONS TO BIODIVERSITY

Preparing for the CBD Action Agenda for Nature and People

Authors: Maxime Eiselin, Henk Simons, Caspar Verwer

A just world that values and conserves nature.

2020

Photo © Herman Aust

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Summary

The post-2020 Global Biodiversity Framework provides an opportunity to strengthen biodiversity governance. Despite efforts at international and national levels, biodiversity continues to decline, calling for an ambitious, widely supported 2030 action agenda for nature and people. It is broadly recognized, also by the Convention on Biological Diversity (CBD) Secretariat, that a 'whole of society approach' is required to bend the curve, with a strong involvement of non-state and sub-national actors (local and indigenous communities, companies, civil society, citizens, cities, regions).
The Dutch government also acknowledges the importance of strengthening biodiversity governance in the Netherlands, in Europe and globally and commissioned IUCN NL to catalyse and compile a Dutch action agenda, as a contribution to the CBD 2030 global action agenda for nature and people.
This report provides an overview and analysis of Dutch non-state actor biodiversity initiatives over the period 2010 – 2020, focusing on their relation and contribution to the CBD 2020 Aichi targets. The findings provide a basis for the 2030 Dutch action agenda, as many of those initiatives still continue beyond 2020.
We identified 337 initiatives through stakeholder meetings and online queries using a set of biodiversity related search terms.
The study addressed three research questions:

1. Which non-state biodiversity initiatives have been set up in the Netherlands between 2010 and 2020?
2. How do these initiatives contribute to achieving the Aichi biodiversity targets?
3. What are the gaps and needs to improve the Dutch contribution to achieving these biodiversity targets?

The report finds that Dutch non-state actors are increasingly involved in biodiversity initiatives, and that those initiatives are well aligned with the CBD strategic goals and the Aichi targets. The governance structures between the initiatives are diverse, but multi-stakeholder collaborations are common. Many of the non-state actor initiatives do (partly) depend on government support, for example through green subsidies and green deals. The analysis indicates that a large proportion of non-state actor initiatives aim to improve and restore biodiversity through area-based interventions. These interventions take place in nature areas, agricultural production systems, and urban areas. They take different forms, ranging from relatively large scale 'creation of new nature' to small-scale initiatives to recover insect and meadow bird populations.
The report finds that non-state initiatives contribute to improvements in biodiversity at the local level, but their aggregated impact at national level is hard to establish due to monitoring weaknesses. In addition to directly contributing to biodiversity improvements, non-state initiatives catalyse awareness, innovative approaches, and participation and support from citizens and companies for nature conservation. These lead to the development of other initiatives, and they might help to enforce more ambitious nature policy responses at both the provincial and national level.
A broader societal participation, or 'whole of Dutch society approach' needs to go hand in hand with a regulating and directing role of the government - state and provinces - to effectively manage nature, a public good. Coherent policies must be in place, for instance to motivate businesses and organizations managing land to integrate biodiversity conservation. Ideally, attempts to do so also need to be rewarded financially.
The report indicates gaps and needs in the biodiversity initiatives. These are inherent to the initiatives, and/or in the enabling (policy) environment. The former include: the small-scale, lack of clear biodiversity

targets which limits (steering on) biodiversity improvements, lack of a longer-term financing window which also limits the sustainability of the interventions, weaknesses in monitoring, reporting and verification (MRV) systems, and insufficient coordination, exchange, showcase and learning mechanisms in place for non-state actor initiatives. Main needs and gaps in the enabling environment are: lack of incentives and rewards; lack of long-term subsidies (for initiatives that strongly depend on those); and incoherent (spatial) policies, both between provinces and between national, provincial and local governments.

In order to establish an effective global action agenda with strong participation of non-state actors, it is important that the CBD (parties) put supportive mechanisms in place. It is recommended that the EU takes the lead in this respect, as expressed in the EC 2030 biodiversity strategy. Measures could include strengthening the position of non-state actors in the CBD negotiation and decision-making process, providing enabling policies that support implementation (of non-state actor pledges), fostering innovative multi-stakeholder partnerships, and providing a platform to showcase non-state actor and sub-national biodiversity actions, and to establish an accountability mechanism. Such a platform is now being developed by UNEP-WCMC.

To stimulate a Dutch 'whole society approach', contributions of non-state actors need to be made more visible, better acknowledged, better rewarded and supported by government and society at large. The Dutch biodiversity action agenda currently being compiled by IUCN NL and other partners (e.g. MVO Nederland) with support from the Ministry of Agriculture, Nature and Food Quality (LNV), could help in achieving this. Clarity on the added value of making a biodiversity commitment as contribution to the action agenda, could help to tempt organisations to submit a pledge and strengthen the agenda.

Further systematic mapping and analysis of Dutch non-state actor initiatives will be necessary to assess for instance the complementary roles and added value of non-state actor initiatives vis a vis state efforts, the concrete impacts of the initiatives and hence also in analyzing where more efforts will be needed. It is recommended to develop and apply a consistent 'minimum level' monitoring and reporting system for non-state actor initiatives, compatible with the CBD reporting system. Linking the Dutch action agenda to the UNEP –WCMC platform that is now under development can ensure this compatibility and could also facilitate international exposure, learning and exchange, and provide guidance for implementation and monitoring.

Samenvatting

Het post 2020 Global Biodiversity Framework van de Conventie inzake Biodiversiteit (CBD) biedt kansen om het beheer van biodiversiteit te versterken. Ondanks inspanningen op internationaal en nationaal niveau blijft de biodiversiteit achteruitgaan, wat vraagt om een ambitieuze, breed gedragen 2030 actieagenda voor 'nature and people'. Het wordt algemeen erkend, ook door het secretariaat van de CBD, dat inspanningen van de hele samenleving nodig zijn om het biodiversiteitverlies te keren, met een sterke betrokkenheid van niet-statelijke en sub-nationale actoren (lokale en inheemse gemeenschappen, bedrijven, het maatschappelijk middenveld, burgers, steden, regio's).

De Nederlandse regering onderschrijft de noodzaak om biodiversiteit in Nederland, Europa en wereldwijd te verbeteren en heeft IUCN NL gevraagd om een Nederlandse actieagenda voor biodiversiteit te mobiliseren als bijdrage aan de wereldwijde CBD 2030 actieagenda.

Dit rapport geeft een overzicht en analyse van biodiversiteitinitiatieven van Nederlandse niet-statelijke actoren in de periode 2010-2020, met de nadruk op hun bijdrage aan de CBD 2020 Aichi biodiversiteitdoelen. De bevindingen vormen een basis voor de Nederlandse 2030 actieagenda, aangezien veel van die initiatieven ook na 2020 nog doorlopen.

We identificeerden 337 initiatieven via bijeenkomsten met betrokkenen en een online search. De studie had drie onderzoeksvragen:

1. Welke niet-statelijke biodiversiteitsinitiatieven liepen er tussen 2010 en 2020 in Nederland?
2. Hoe dragen deze initiatieven bij aan het behalen van de 2020 Aichi biodiversiteitdoelen?
3. Wat zijn de hiaten en behoeften om de Nederlandse bijdrage aan het behalen van biodiversiteitdoelen te verbeteren?

Het rapport stelt vast dat Nederlandse niet-statelijke actoren in toenemende mate betrokken zijn bij initiatieven om biodiversiteit te verbeteren, en dat die initiatieven goed aansluiten bij de strategische doelen van het CBD en de Aichi-doelen. De beheerstructuren van de initiatieven zijn divers, maar samenwerking tussen meerdere belanghebbenden zijn gebruikelijk. Veel van de initiatieven van niet-statelijke actoren zijn (deels) afhankelijk van overheidssteun, bijvoorbeeld via groene subsidies en groene deals. Uit de analyse blijkt dat veel niet-statelijke actor initiatieven gericht zijn op het verbeteren en herstellen van de biodiversiteit door gebiedsgerichte inspanningen. Deze inspanningen vinden plaats in natuurgebieden, landbouwproductiesystemen en stedelijke gebieden. Ze nemen verschillende vormen aan, variërend van relatief grootschalige 'creatie van nieuwe natuur' tot kleinschalige initiatieven om insecten- en weidevogelpopulaties te herstellen.

De studie stelt verder vast dat niet-statelijke initiatieven bijdragen aan verbeteringen van de biodiversiteit op lokaal niveau, maar dat hun totale impact op nationaal niveau moeilijk vast te stellen is vanwege gebrekkige monitoring. Niet-statelijke initiatieven dragen niet alleen direct bij aan de verbetering van de biodiversiteit, maar zorgen ook voor bewustwording, innovatieve benaderingen en participatie en steun van burgers en bedrijven voor natuurbehoud. Ze leiden ook tot de ontwikkeling van andere initiatieven en kunnen helpen om ambitieus nationaal en provinciaal natuurbeleid af te dwingen.

Een bredere maatschappelijke participatie van de Nederlandse samenleving moet hand in hand gaan met een sturende en regulerende rol van de overheid - rijk en provincies - om biodiversiteit, een publiek goed, effectief te beheren. Er moet samenhangend beleid zijn, bijvoorbeeld om bedrijven en organisaties die land beheren te motiveren om biodiversiteit te verbeteren. Idealiter moeten pogingen om dat te doen ook financieel worden beloond.

De studie identificeert hiaten en behoeften in de biodiversiteitinitiatieven. Deze kunnen inherent zijn aan de initiatieven zelf, of aan de beleidsomgeving. De eerste omvatten: de kleinschaligheid, gebrek aan duidelijke biodiversiteitsdoelen, het ontbreken van lange-termijn financiering die de duurzaamheid van de interventies beperkt, gebrekkige monitoring, rapportage en verificatie (MRV) systemen en onvoldoende coördinatie-, uitwisselings-, showcase- en leermechanismen voor initiatieven van niet-overheidsactoren. Belangrijke hiaten en behoeften in de beleidsomgeving zijn: gebrek aan prikkels en beloningen; gebrek aan subsidies op lange termijn (voor initiatieven die daar sterk van afhankelijk zijn); en onsamenhangend (ruimtelijk) beleid, zowel tussen provincies als tussen landelijke, provinciale en lokale overheden.
Om een ambitieuze mondiale actieagenda vast te stellen met participatie van niet-statelijke actoren, is het belangrijk dat de CBD ondersteunende mechanismen ontwikkelt. De EU kan hierin het voortouw nemen, zoals verwoord in de EC 2030 biodiversiteitsstrategie. Mogelijkheden zijn het versterken van de positie van niet-statelijke actoren in het onderhandelings- en besluitvormingsproces van de CBD, het ontwikkelen van beleid dat de uitvoering van de actieagenda ondersteunt, het stimuleren van innovatieve partnerschappen en het instellen van een platform om niet-statelijke actor initiatieven te promoten, uitwisseling en leren te bevorderen, en monitoring te faciliteren. Zo'n platform wordt nu ontwikkeld door UNEP-WCMC.
Om een Nederlandse 'whole society approach' te stimuleren, moeten bijdragen van niet-statelijke actoren zichtbaarder, beter erkend, beter beloond en ondersteund worden door de overheid en de samenleving. De Nederlandse actieagenda biodiversiteit die momenteel wordt opgesteld door IUCN NL en andere partners (bijvoorbeeld MVO Nederland) met steun van het ministerie van Landbouw, Natuur en Voedselkwaliteit (LNV) kan hierbij helpen. Duidelijkheid over de meerwaarde om bij te dragen aan de actieagenda kan organisaties helpen verleiden om een toezegging in te dienen en de agenda te versterken.
Verder onderzoek van Nederlandse non-state actorinitiatieven is nodig om de complementariteit en toegevoegde waarde van deze initiatieven ten opzichte van overheidsinspanningen scherper te krijgen, de concrete effecten van de initiatieven op biodiversiteit inzichtelijk te maken, en dus ook om te analyseren waar meer inspanningen nodig zijn. Het is aan te bevelen om een monitoring- en rapportagesysteem te ontwikkelen en toe te passen voor initiatieven van niet-statelijke actoren, consistent met het CBD-rapportagesysteem. Door de Nederlandse actieagenda te koppelen aan het UNEP-WCMC-platform dat nu in ontwikkeling is, kan dit worden gewaarborgd. Verder biedt aansluiting bij dit platform kansen voor internationale bekendheid, en uitwisseling en leren.

1. INTRODUCTION

1.1 POLICY BACKGROUND

The Convention on Biological Diversity (CBD), which entered into force in 1993 is the international treaty aiming to safeguard global biodiversity. For the CBD strategic plan 2011 – 2020, twenty Aichi biodiversity targets were set for 2020. A new post-2020 framework and action agenda with new targets needs to be established at the next CBD COP15 in Kunming, China. .

Despite efforts at international and national levels, biodiversity continues to decline. The Netherlands' sixth National Inventory Report to the CBD (Sanders, Henkens, & Slijkerman, 2019) concludes that progress towards achieving the Aichi biodiversity targets is insufficient. It shows negative trends of biodiversity in the Kingdom of The Netherlands and in the Caribbean part of our Kingdom. In the Netherlands only four of twenty Aichi Targets are likely to be achieved (Figure 1). Out of the 52 ecosystem types that the Netherlands is supposed to protect under the European Natura 2000 legislation, 46 are in a moderate to poor state. For over half of the protected plant and animal species, population trends are decreasing (EC, 2019). Also population trends of common species are increasingly negative. These findings were confirmed by the recent WWF Living Planet Report for the Netherlands (WWF NL, 2020).

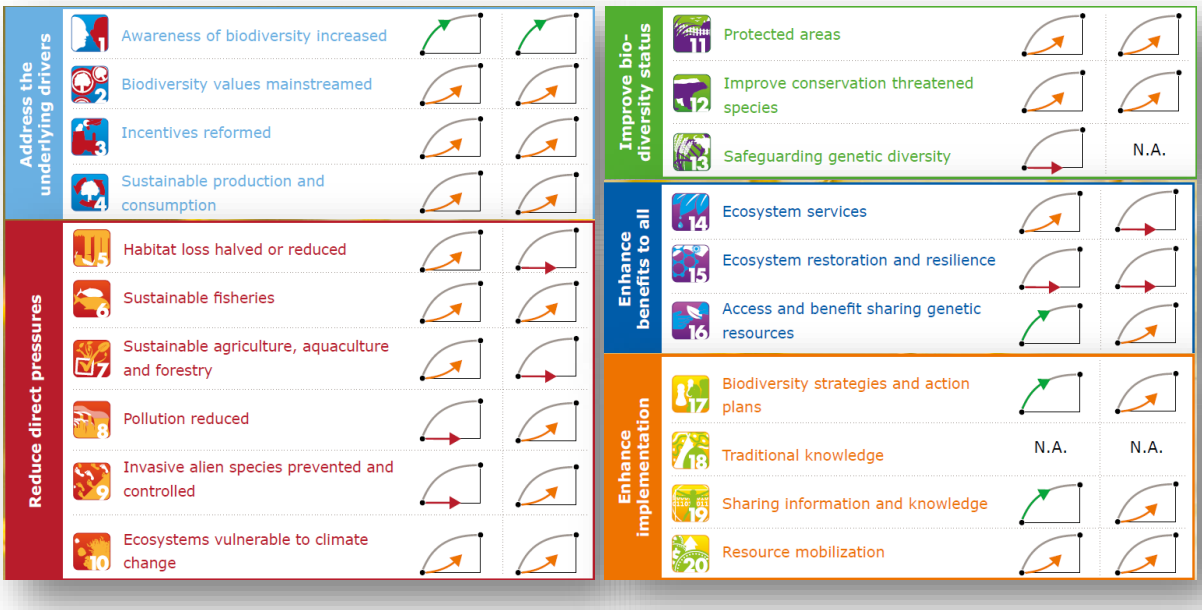


Figure 1. Progress in the Netherlands and Dutch Caribbean towards achieving the Aichi biodiversity targets according to the 6th National Inventory Report. For each target the first graph represents the Netherlands and the second one represents the Dutch Caribbean. Green arrows: on track to achieve the target, orange arrows: progress but at an insufficient rate, red arrows: no significant change or moving away from the target (Sanders, Henkens, & Slijkerman, 2019).

The IPBES report on the status of global biodiversity (IPBES, 2019) has shown that findings for the Netherlands are in line with trends across the globe. The report states that 'significant recovery of biodiversity can only be achieved through real transformational change of economies and society'. Hence, an effective post-2020 CBD framework must adequately address fundamental economic and societal challenges.

At the 14th Conference of Parties to the CBD in November 2018, countries agreed to encourage state and non-state actors to develop biodiversity commitments that contribute to the achievement of CBD's objectives and the development of the post-2020 biodiversity framework. Furthermore, the "Sharm El-Sheik to Kunming Action Agenda for Nature and People" (hereafter referred to as "global action agenda") was launched, with the aim to encourage indigenous peoples and local communities and all relevant organizations and stakeholders including the private sector to consider developing, prior to the fifteenth meeting of the Conference of the Parties, biodiversity commitments that may contribute to an effective post-2020 global biodiversity framework. The global action agenda aims to promote and showcase a groundswell of commitments from non-state actors to safeguard and reverse biodiversity loss, to provide momentum towards the Post-2020 Global Biodiversity Framework, to be adopted at COP 15 in Kunming, China, and contribute towards its implementation. As an engagement platform, the global action agenda helps to raise awareness on the urgent need to halt the loss of biodiversity and restore healthy ecosystems and it will reinforce existing non-state actor commitments and inspire further commitments, (CBD, 2020).

The Dutch government has acknowledged the urgency of the biodiversity crisis and in 2019 the Minister for Agriculture, Nature and Food Quality (LNV) presented the ambition for a joint strategy to conserve and restore nature in the Netherlands, with the publication 'Nederland Natuurpositief' (Ministerie van LNV & IPO, 2019). As a signatory to the CBD, The Netherlands also supports the development of the global action agenda. The Dutch Government actively seeks the collaboration and contributions from non-state actors. LNV has asked IUCN NL to mobilize and compile a 'Dutch Action Agenda for Nature and People' (in brief: 'Dutch Action Agenda'), which will be an integral part of the global action agenda.

1.2 NON-STATE ACTIONS IN THE NETHERLANDS

Motivated by an increasing societal awareness on the scale and pace of biodiversity loss and its impact on society, non-state actors in the Netherlands increasingly initiate activities that aim to reduce further loss of biodiversity or to restore biodiversity. This includes work on biodiversity within the country, as well as abroad, for example, efforts to reduce the Dutch environmental footprint in international value chains. A compilation and analysis of past and on-going non-state initiatives in relation to the Aichi biodiversity targets will be an important basis to establish the 'Dutch Action Agenda'. This context indicates the need for advanced insights in the efforts of non-state actor initiatives on the conservation and restoration of biodiversity in the Netherlands.

1.3 OBJECTIVE AND STRUCTURE OF THIS REPORT

This report contributes to the development of an inclusive Dutch post-2020 Action Agenda by informing policy makers and other relevant stakeholders (nature organisations, companies, knowledge institutions) about 1) existing non-state actor initiatives in the Netherlands that contribute to achieving the CBD Aichi targets, and 2) possible ways forward to unlock potential intentions of Dutch actors to enrich the new Action Agenda. Biodiversity related non-state actor initiatives between 2010 and 2020 have been reviewed in order to address three main questions:

1. Which non-state biodiversity initiatives have been set up in the Netherlands between 2010 and 2020?
2. How do these initiatives contribute to achieving the Aichi biodiversity targets?
3. What are the gaps and needs to improve the Dutch contribution to achieving biodiversity targets?

Chapter 2 of this report outlines the approach and methodology of the analysis. Chapter 3 presents the main results of the analysis of the initiatives. In Chapter 4 results are discussed and Chapter 5 provides recommendations for follow-up.

2. APPROACH

The landscape of Dutch biodiversity initiatives is becoming increasingly crowded and diverse. This report presents an overview of initiatives that directly contribute significantly to one or more of the CBD Aichi targets is presented. To select the initiatives, the following four-step approach was adopted:

Step 1: Review of existing literature (analysis and research) about non-state biodiversity initiatives**.**

Step 2: Search, selection and compilation of existing Dutch non-state biodiversity initiatives. Source data for this was provided by an online query using a set of biodiversity related search terms[1] in combination with existing literature and interviews with Dutch non-state actors that are undertaking biodiversity initiatives.

The results of the initiatives mapping were compiled into an Excel database. The following four criteria were applied for inclusion in the database:

1. The initiative is led by a Dutch non-state actor (e.g. companies, citizen groups/initiatives, NGOs, knowledge institutions)
2. The initiative can consist of non-state actors and sub-national (state) actors – provinces, cities - working together in various constellations that are either public, private, non-profit or hybrid. To be counted as a member of an initiative, an organization should have the potential to influence the rules and direction of the initiative. For this reason, individual citizens were excluded in the mapping.
3. The initiative is operational and/or has started within the timeframe of the Aichi targets (2010 – 2020).
4. The initiative aims to contribute to achieving one or more Aichi targets.

Step 3: Analysis of the initiatives selected in step 2.
For each initiative, information was collected and analysed on the following parameters:

- start and end date, implementation status;
- governance: the organization(s) or institution(s) involved (public, private or civil society organizations, multi-stakeholder);
- strategic goals of the CBD the initiative contributes to;
- primary and significant Aichi target the initiative contributes to (judged on basis of description of initiative);
- biodiversity threats addressed;
- sector (e.g. agriculture, infrastructure, nature management);
- geographic scope / coverage;
- availability of monitoring and reporting processes.

This information was labelled and stored in the Excel database, which enabled a meta-analysis of the initiatives. The formulation of the research questions and the parameters were based on research on international biodiversity initiatives that has been published by Kok, M. et al. (2019).

[1] A combination of the search terms: biodiversiteit, natuur, bescherming, beheer, biodiversiteitsverlies, Nederland, CBD, soorten, diversiteit, ecosysteem, habitat, restoratie, flora, fauna, invasief, natuurlijk kapitaal, ecosysteemdienst, duurzaam, landdegradatie, bos, esg, biodynamisch, landbouw, aarde, planeet, vee, monocultuur, vis, wild, initiatief, connectiviteit, fragmentatie, gebied.

Important to stress is that in this analysis, existing initiatives were categorized according to their intended contribution to the Aichi targets. Their success or failure was not assessed. Hence this analysis cannot be used to determine to what extent non-state initiatives were successful in contributing to the Aichi targets.

Step 4: Discussion and conclusions.

Step 5: Identification of existing gaps and needs
Based on the information resulting from steps 1-3, existing gaps and weaknesses were identified that limit the effectiveness and impact of non-state actor initiatives, as well as ways forward to improve those weaknesses. An attempt was also made to pinpoint further needs to comply with the Aichi (and post 2020) biodiversity targets.

3. RESULTS

3.1 RESULTS STEP 1: REVIEW OF EXISTING LITERATURE ON NON-STATE INITIATIVES

There is a large and growing number of Dutch non-state initiatives that contribute to conservation and sustainable use of biodiversity. Non-state actors are increasingly involved in the governance of landscapes, nature areas and public green spaces, and in other actions, e.g. greening value chains, which contribute to a better state of biodiversity (De Wilde et al., 2014; Matthijssen et al., 2015; PBL, 2019; Bredenoord et al., 2020; Van Oorschot, Kok, Van Tulder, 2020). Motivated by the increasing sense of urgency, and partly facilitated by availability of government subsidies for non-state action, more and more citizen groups, local NGOs and companies take an active role in biodiversity initiatives. Some of the key findings and conclusions from earlier research are presented here.

A survey of green non-state actor initiatives, focusing on citizen initiatives, has been published by Matthijssen et al. (2015). It included a database of 264 (mostly local) initiatives and revealed that green self-governance strongly depends on well-established networks and on external sources of finance. Governments play a role in this as they are the main source of finance for most initiatives. They are often the owner of land and are important for formal procedures. This dependency entails a vulnerability of green self-governance to changes in policy, which may form a threat to their continuity. Matthijssen et al. (2015) concluded that the 264 initiatives found at the time seemed to be a fraction of the existing green citizen initiatives in our country. A proposal for a systematic research methodology of non-state initiatives was piloted by Vullings et al. (2018).

An extensive survey was recently done by Sanders et al. (2018). This study gives an overview of the diversity of green non-state initiatives (number and diversity of social actors involved, their level of engagement, diversity of activities, contributions to biodiversity conservation etc.). The analysis confirms an increasing engagement of individuals, civil society and businesses with nature. Also, there still seems to be a high potential for further engagement of non-state actors with nature related initiatives. The initiatives and activities that are taking place are very diverse, varying in objectives, activities, level of organization and scale. Most of the existing green non-state initiatives, Sanders et al. (2018) conclude, may stimulate an increase in biodiversity on the local level but have limited impact at the national scale. Citizen initiatives for example tend to focus on 'perceptible' nature rather than on biodiversity as such. An interesting finding is also that non-state initiatives can increase the link between nature and economy.

A PBL policy brief on business for biodiversity (Van Oorschot, Kok, Van Tulder, 2020), based on research of Dutch business and financial institutions, found that Dutch companies employ a variety of nature inclusive activities. The measures that companies take, are determined by their position in supply chains, and include, for example, reducing environmental pressures of their production process, the circular use of resources, sustainable exploitation of ecosystems, restoration measures, use of compensation schemes for negative impacts or for creating positive impacts. Willingness and ability to act is promoted through networking and cooperation with other companies and other actors including civil society and knowledge institutions. The research also showed that until now most companies treat biodiversity issues in a reactive way, as a defensive response to external triggers coming from actors such as NGOs, consumers and finance. There are no signs yet of mainstreaming biodiversity in their business models. To achieve this,

different incentives and triggers are needed, provided by government and other societal actors. So far, the role of the Dutch government in the past decade can be characterized as a mostly facilitating and endorsing one, for instance by supporting Green Deals. To stimulate companies beyond the committed and visible frontrunners, more diverse government roles are required, using different type of instruments including regulation and financial rewards.

Another PBL publication found that public, private and civil society actors already engage in a plethora of international cooperative initiatives for biodiversity (Kok et al., 2019). They identified 331 international cooperative initiatives in the period 1950-2015 and among others analysed their contribution to the Aichi biodiversity targets including public, hybrid and private organizational forms of collaboration.
The picture that emerges from this analysis suggests that there are thousands of public, private and civil society actors collaborating in hundreds of cooperative initiatives on various biodiversity related topics. PBL concludes that International cooperative initiatives for biodiversity are pervasive and cover public, hybrid and private organisational forms of collaboration. A transnational regime complex for global biodiversity governance has emerged and will likely continue to develop 'beyond the CBD', involving thousands of non-state and sub-national actors in the quest for halting biodiversity loss, but retaining the strong role of states. Regarding the governance structure, business appears more likely to collaborate with CSOs directly or with public actors and CSOs in multi-stakeholder partnerships than with the public sector only. Also, when compared to the climate domain, companies seem not to operate much on their own, suggesting they need collaboration with other partners to be seen as a credible partner in the biodiversity domain. Thematically, initiatives are predominantly focusing on information sharing and networking (60%) followed by operational, on the ground, activities (33%) and third, standards and commitments (26%). The least common function is financing. Initiatives are active in areas with high biodiversity values, managed landscapes and urban areas, focusing both on conservation as well as on sustainable use in relevant production sectors and reflecting activities on the multiple values of nature. The most popular sectors, in terms of number of initiatives, are agriculture and forestry. Finally, although some kind of monitoring and reporting is in place, many initiatives lack quantitative targets, making evaluation efforts challenging.

3.2 RESULTS STEP 2 AND 3: SEARCH, SELECTION AND ANALYSIS OF NON-STATE INITIATIVES

3.2.1 Summary of the main findings

Our search and selection yielded a total of 337 initiatives. These initiatives vary widely in their objectives, scale and governance, and can be categorized in different ways. Further analysis of these initiatives provided the following results:

Governance structure may take several forms

Non-state biodiversity initiatives are typically governed by various types of actors. For the purpose of our analysis we distinguish four major actor types:

- CSOs (NGOs, non-profits, cooperatives and citizen initiatives).
- Public sector (national, provincial governments and cities / municipalities).
- Private sector (companies, including the financial sector).
- Hybrid forms: CSOs-companies, CSOs-public actors, companies-public actors and multi-stakeholder (public, companies, CSOs).

The majority of initiatives take a hybrid form (figure 3.1). Government actors often play a role in non-state initiatives either as donor or as catalyser, also when they are not the initiator. The Green Deals developed over the past years and the variety of government subsidy schemes that exist at national, provincial and municipal levels have motivated non-state actors to organize joint action. Also, the implementation of government policies regarding biodiversity conservation in many cases takes place via none-state actors, like NGOs, often through collaboration with local provincial governments, cities and municipalities, and semi-government bodies like water Authorities. In this context it is relevant to note that since 2014 the implementation of nature policy has been delegated to the provinces.

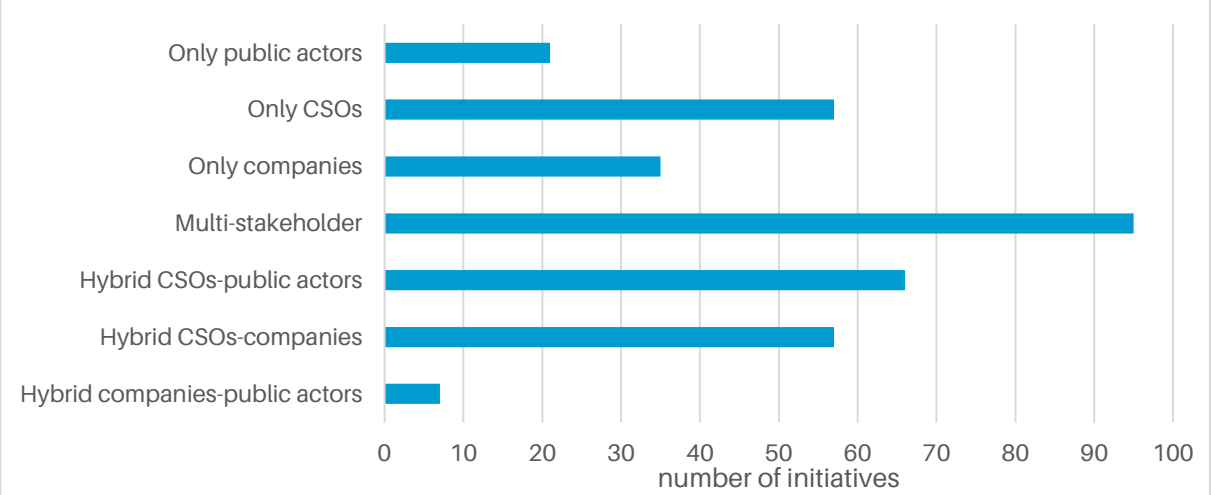


Figure 3.1 Different forms of organizational governance observed in 337 Dutch non-state actor initiatives.

A lot of large Dutch companies are active in the international context with CSR programs to reduce their carbon footprint (e.g. ABN AMRO, ING, Shell, etc.), and some also start to explicitly focus on reducing biodiversity impacts or even strive for net biodiversity gain (ASN Bank). In recent years many large

companies, such as Unilever, have pledged to work towards deforestation free value chains. Apart from whether these are effective, it indicates increasing private sector commitment towards climate and biodiversity objectives. In most cases, these businesses work together with the NGO sector to arrive at effective and practical measures (see for example the 'biodiversiteitsmonitor akkerbouw').

Objectives and strategies widely vary

Existing initiatives vary widely in their objectives and approaches. From area-based conservation and restoration activities, including, for example, connectivity measures and species conservation, to the development of agro ecology initiatives, including, for example, organic agriculture, agroforestry and food forests, and nature inclusive construction. Although not mutually exclusive, the analysis has used the five strategic goals outlined by the CBD as a high-level categorization. Biodiversity conservation is not always a main objective for green non-state initiatives. Often initiatives contribute to several goals apart from biodiversity conservation, such as climate change mitigation and adaptation, restoration of water systems, improving soil and air quality, sustainable food production systems, eradication of invasive species. Also social objectives have been key to start biodiversity-related initiatives, like recreation, education of children and general quality of the living environment. With the increasing attention for global climate change, there has been a steep increase in tree planting campaigns. Not only within our country (see for example Plan Boom, initiated by LandschappenNL) but also by Dutch actors abroad (e.g. Trees for All, LandLife Company and JustDiggit).

Over a third of the initiatives (114 out of 337) found in our search is specifically addressing habitat change (figure 3.2). This is much more than the number of initiatives specifically targeting pollution, invasive species, overexploitation or climate change. 98 Of the initiatives address various threats at the same time and 84 did not particularly address specific threats.

Next to the wide variation in objectives, there is a varying set of strategies used by non-state actor initiatives. This ranges from (political) lobby to public campaigns, legal actions and concrete field based measures to conserve or restore biodiversity or restore basic environmental quality. Also, land purchase followed by sustainable management is adopted by some non-state actors as a strategy to conserve and restore biodiversity. Recently for example, the initiative "Land van Ons" launched a campaign to purchase 300.000 hectares of agricultural land and manage it to increase biodiversity values.

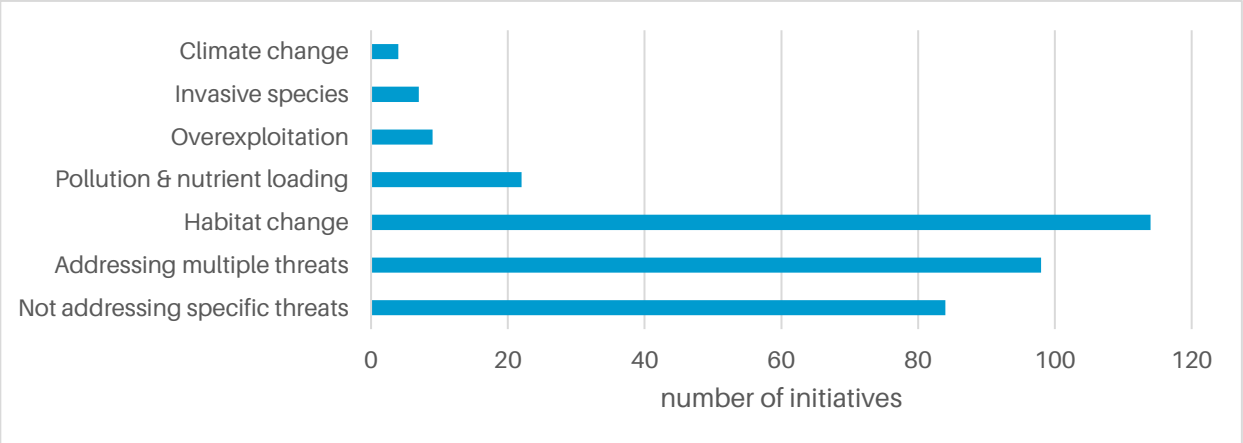


Figure 3.2 Number of non-state initiatives focusing on specific threats (n=337).

Broad scope of Aichi targets covered with differentiated focus

Initiatives may not be specifically bound to a single Aichi target but rather contribute to a range of targets. For example, area-based conservation initiatives in The Netherlands often contribute to a number of Aichi targets, but most notably to target 11: '17 percent of terrestrial and inland water and 10% of coastal and marine areas are protected'. These areas contribute to safeguarding and restoring essential ecosystem services (target 14), preventing species extinctions (target 12) and preventing the breakdown of genetic diversity (target 13) and increasing ecosystem resilience (target 15). Also, the existing protected areas play a role in raising public awareness (target 1) and in gathering knowledge of the status and trends of biodiversity (target 19).

Initiatives related to greening urban areas and nature inclusive building, apart from contributing directly by realizing new habitat in urban environments, play a role in raising awareness and often have great inspirational value.

For practical reasons we tried to indicate a principle and a significant Aichi target for each of the initiatives in our database. Our results show that Dutch non-state initiatives contribute particularly to Aichi targets 1, 4, 7, 11, 12, 14 and 19 (figure 3.3). Contributions to other targets, like 13, 16 and 18 were limited. Our search did not yield any initiative with a significant contribution to targets 10 and 17. A more elaborate presentation of initiatives for each Aichi target is provided in section 3.2.2.

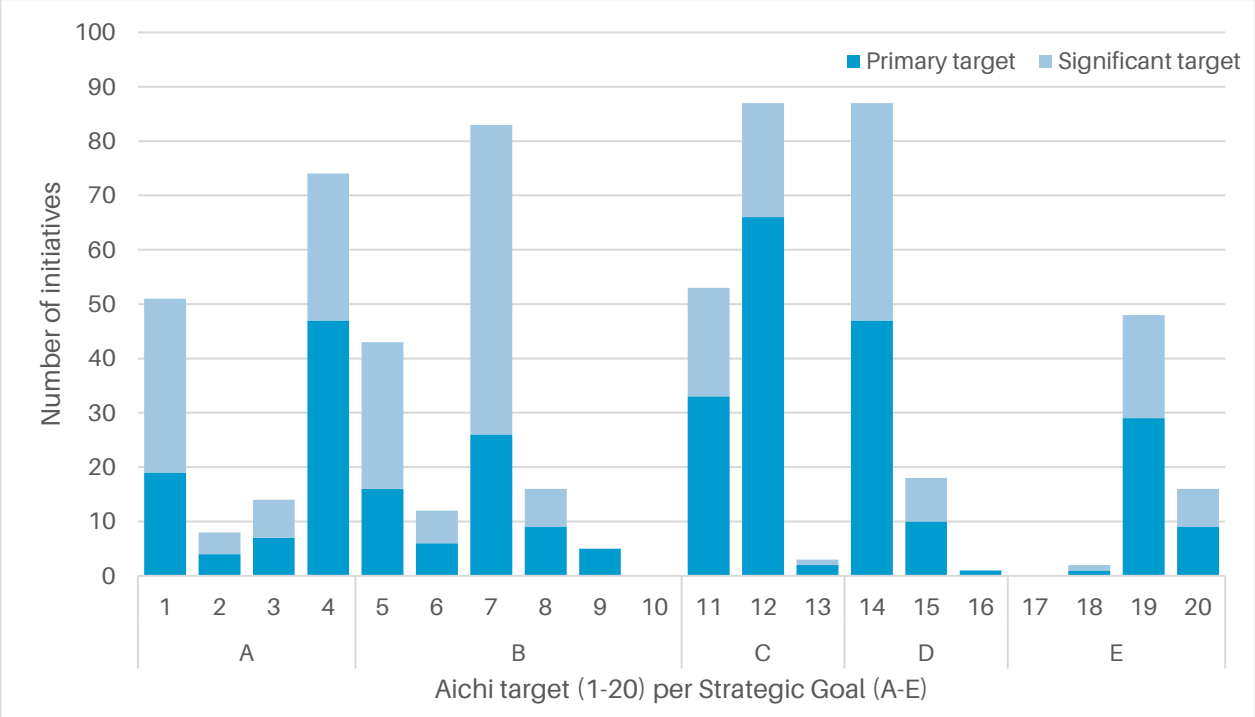


Figure 3.3 Bar chart showing the contribution of 337 Dutch non-state initiatives to the Aichi biodiversity targets. For each initiative, only the two most significant Aichi targets have been documented.

Large involvement of agriculture and nature management sectors

Most of the non-state biodiversity initiatives over the past years seem to have emerged in the agricultural sector and the conservation sector. Both accounting for half of the total documented initiatives (Figure 3.4).

A substantial number of initiatives emerged from the collaboration of actors from multiple sectors. Interesting to note is the increasing interest to restore biodiversity from actors involved in infrastructure development such as highways, canals and railway. In contrast, our search did hardly obtain any biodiversity initiatives in the extractives sector.

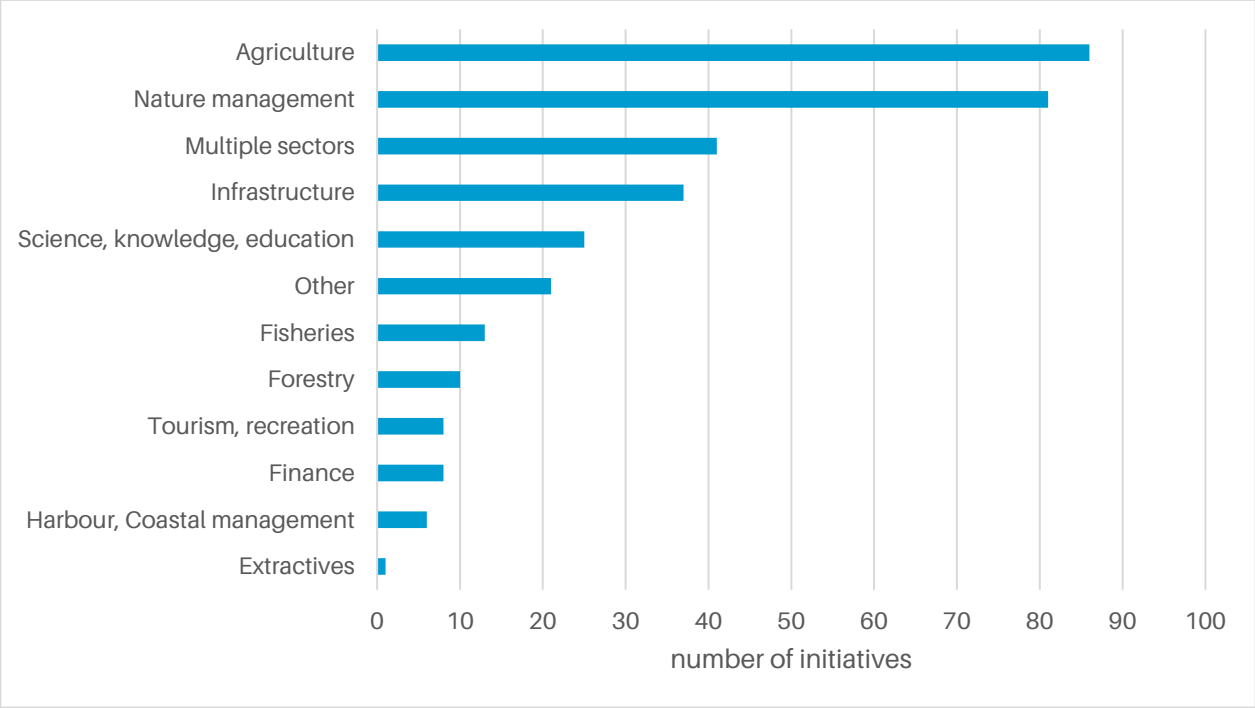


Figure 3.4 Number of Dutch non-state initiatives (n=337) categorized per sector.

Geographical scale differs

Initiatives range from local scale and regional to national and international scale. Although our search yielded a number of local initiatives we did not specifically focus on initiatives at the local level, like 'natuurwerkgroepen', 'agrarische natuurverenigingen' or local animal welfare initiatives. Matthijsen et al. (2015) revealed a great number of local initiatives across the country. Initiatives with a landscape or regional focus seem to become more frequent. A recent one has been the successful establishment of the Marker Wadden, a new archipelago in the Markermeer. Non-state initiatives with a national focus have also become more common. Examples include the Deltaplan Biodiversiteitsherstel and the National Strategy on Bees, which bundles a large number of non-state initiatives aimed at the protection of wild bees and honeybees. Lastly, a number of Dutch non-state initiatives operating internationally was also documented in our database. For example efforts by Dutch NGOs that involve greening commodity value chains and investments, the establishment of new protected areas or increasing enforcement of illegal wildlife trade. Dutch actors that aim to protect and restore nature outside the Netherlands include larger conservation NGOs like WWF Netherlands, IUCN NL and Rewilding Europe as well as a whole range of small and medium foundations such as Black Jaguar Foundation, Stichting Trésor, Stichting Leo, Stichting Oasebos, Bears in Mind and many others. The same holds for organisations with a primary focus on increasing sustainability of business operations, including agricultural transition and circular economy, with potentially large impact on biodiversity, albeit indirectly. Figure 3.5 shows the distribution of geographical focus for the 337 non-state actor initiatives in our database. The largest group of initiatives had a regional, provincial or local

focus. There was also a large group with a national level focus. The smallest group of initiatives was aiming to achieve biodiversity results at the international level or in specific countries outside The Netherlands. The databased includes a single non-state actor initiative from the Dutch Caribbean.

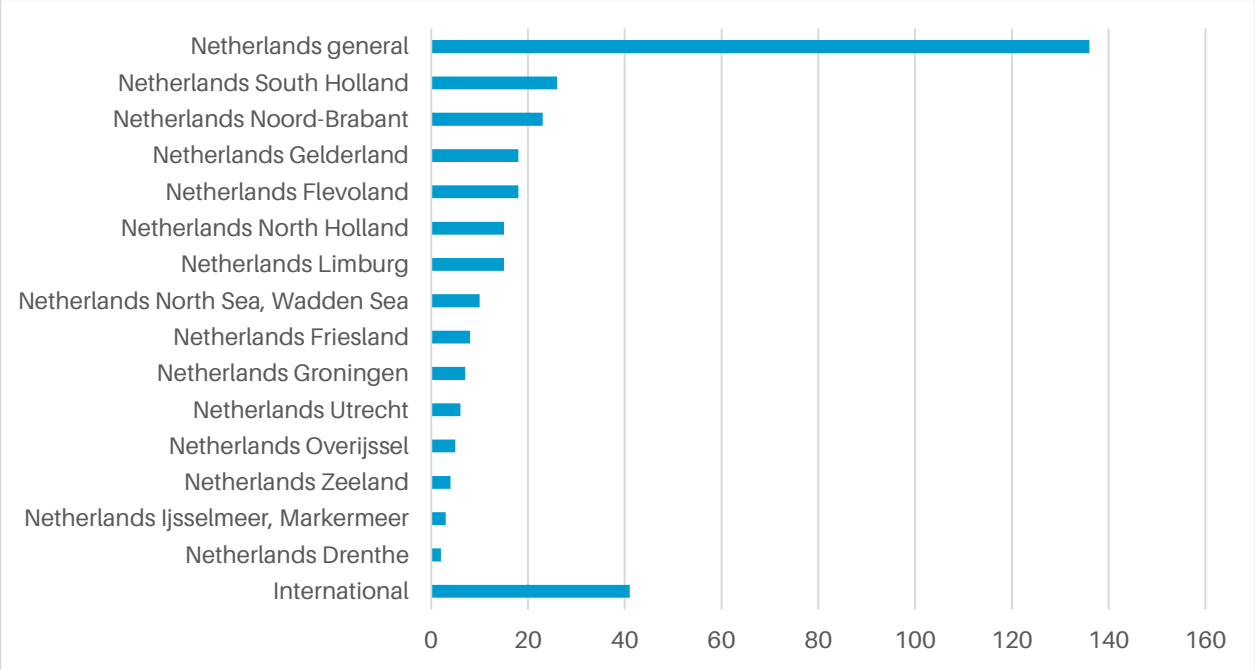


Figure 3.5 Geographic distribution of 337 Dutch non-state actor initiatives that aim to contribute to reaching the Aichi biodiversity targets.

Durations of the initiatives are variable

We observed a wide variation in the duration of non-state biodiversity initiatives, from one year or even less to initiatives that may last for decades (Figure 3.6). The largest number of initiatives in our database of which the duration is known, has a time span between one to five years.

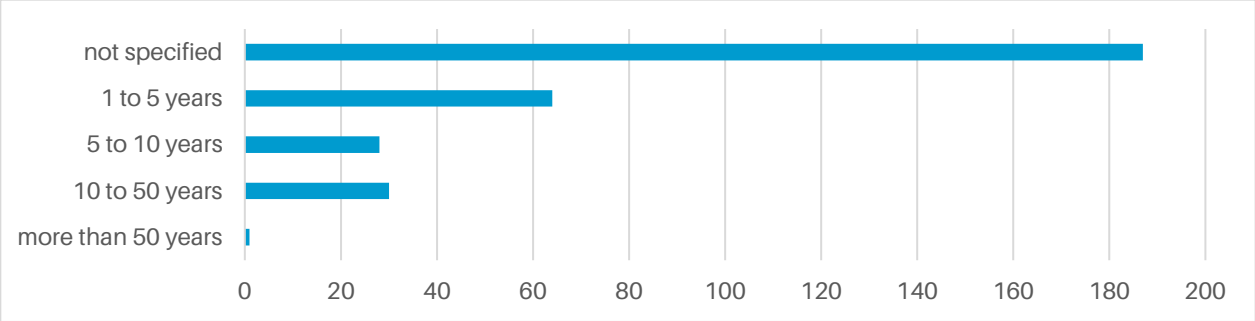


Figure 3.6 Duration of 337 Dutch non-state actor initiatives that aim to contribute to reaching the Aichi biodiversity targets.

Monitoring, reporting and verification

Monitoring and reporting of the actual impact on biodiversity is crucial to track progress. We observed that the majority of non-state initiatives in our database have some sort of MRV system in place. There is little

specification of the system and data and information that comes out of this MRV is not always publically available. 90 Initiatives did not or not yet have an MRV system in place.

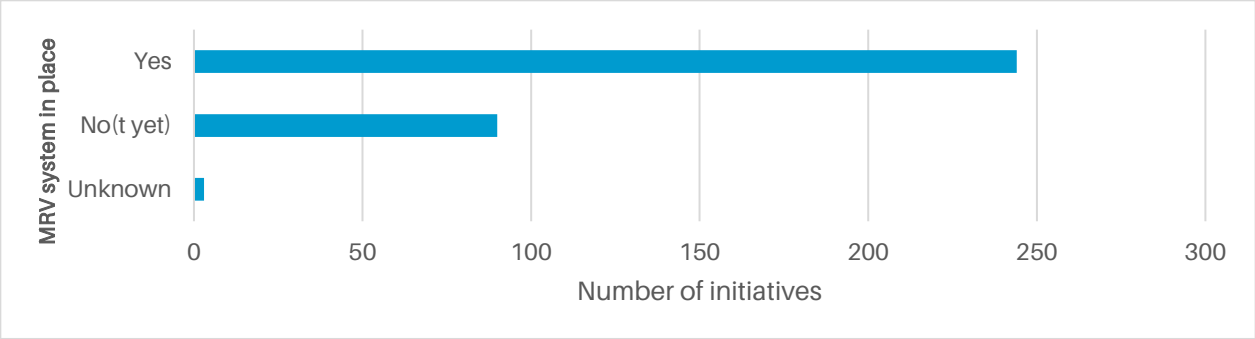


Figure 3.7 Number of non-state actor initiatives (n=337) with a monitoring, reporting and verification system in place.

3.2.2 Findings per Aichi target

To assess how non-state initiatives have contributed or still are contributing to achieving the Aichi targets this section provides a summary of our findings, including examples of initiatives, per Aichi target (and strategic goals A-E).

Strategic Goal A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.

★ ***Target 1. By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.***

Our analysis of non-state biodiversity initiatives revealed that awareness raising is often among the objectives but not the primary goal. We found 51 initiatives that primarily (19) or significantly (32) aim to contribute to Aichi target 1. Most of these were targeted at increasing awareness about practical measures for species recovery. Examples of such initiatives include the joint campaign of the Dutch Beekeepers Associations and 'Nederland Zoemt' to motivate municipalities in The Netherlands to conserve and restore wild bee populations (see box 1), the initiative by the Garden Branch organization to motivate citizens to design and manage their private gardens in ways that benefit insect populations, and several education initiatives for school children such as the Green Deal Groene Schoolpleinen. Also some companies or private sector coalitions are raising awareness among their partners for measures that benefit biodiversity like the Southern farmers association ZLTO. The entrepreneurs network 'WAD500' is sharing knowledge and experience about how entrepreneurs could benefit from the Waddensea's listing as World Heritage Site.

Two of the few initiatives geared towards mobilizing the general public on biodiversity issues are Extinction Rebellion, a growing group of concerned citizens that is actively campaigning and protesting in public spaces, and #MijnNatuurBlijft, a recent initiative that aimed to counterbalance the protest voice of farmers in reaction to proposed measures to reduce nitrogen emissions.

Box 1. Nederland Zoemt

Logo of the initiative: 'Nederland Zoemt'

Nederland Zoemt is a non-state initiative initiated by IVN, LandschappenNL, Naturalis and Natuur & Milieu, made possible by an additional contribution from the National Postcode Lottery. The project aims to structurally increase the food supply and nesting facilities for wild bees in the Netherlands.

More than half of all 358 bee species in The Netherlands are endangered. Bees are extremely important for our food supply: 80% of our edible crops depend on pollination by bees and other insects. The greatest threat to the wild bee is the lack of food and nesting facilities, as a consequence of intensive large-scale agriculture, urbanization and the management of green areas. Hedges, bushes and wooded banks have largely disappeared, and with it many bee nesting sites.

'Nederland Zoemt' wants to improve the living conditions of wild bees throughout the country. The project focuses on municipalities to become bee-friendly, but is actually calling on all residents of the Netherlands - young to old, volunteer to professional, layperson to specialist - to take action for the wild bee. Among the objectives are: bee-friendly management of green spaces by 150 municipalities, public actions for the wild bee during the National Bee Count in April and the Bee Work Day in November, education for green workers in training as well as elementary school students.

See for more information: https://www.nederlandzoemt.nl

★***Target 2. By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.***

Our search yielded eight initiatives with this Aichi target as principle focus (4) or significantly contributing to it (4). One example is the landscape scale collaboration between farmers and the State Forest Service ('Producerend Landschap'), to develop joint strategies of land use and management beneficial to biodiversity whilst balancing ecology and economy. Another interesting initiative, Gebiedslabel NL, offers a practical methodology to measure biodiversity impacts (among others) of spatial planning of particular areas, in many cases urban.

There is a number of citizen initiatives that actively lobby for changes in regulations and policies to improve management of vulnerable landscapes. One such is De Kwade Zwaan, an initiative that aims to protect the natural values of freshwater areas including IJmeer and Markermeer. Not documented in our database are initiatives of local groups such as Natuur & Milieufederaties that advocate for inclusion of environmental objectives into spatial planning policies and other relevant policies at local and regional levels.

★***Target 3. By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.***

The state is the principal actor for achieving this target, tasked with designing and implementing tax policies and subsidy systems. The role of non-state actors is to lobby, to provide knowledge, and to pilot best practices. Our search yielded 14 non-state initiatives that primarily (7) or significantly (7) contribute to Aichi target 3. Most of these were about establishing positive incentives for biodiversity conservation and few aimed to phasing out existing incentives that are harmful to biodiversity. The court case against the Dutch state that resulted in the elimination of the government's programmatic approach to nitrogen (the PAS) is the most relevant to mention here, for its strong societal impact and potential long-term impact on nature. This initiative was led by the environmental NGO Mobilization for the Environment, without the support of bigger area-based NGOs.

Positive incentives in the database include a prize for best management practices for road verge vegetation (e.g. the Pro Flora et Securitate prize), a certification scheme for the ecological quality of road verges ('Kleurkeur label') and a label for agricultural products with a positive impact on biodiversity ('Biodiversiteit+'). The latter is initiated by the Kruideniergoep BV, who collaborates with its members for the development and launch of the label. Similarly, the abovementioned GebiedslabelNL may also provide a positive incentive that promotes nature-inclusive planning of public spaces.

★ ***Target 4. By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.***

A growing number or civil society and private sector initiatives aims to transform conventional production systems, notably in the agri-food sector but also in other sectors, towards higher levels of environmental sustainability. Our search yielded over 76 (primary: 48, significant: 28) such initiatives, ranging from regional or provincial to national and international levels. Inherent to the broad formulation of this Aichi target (from the first plans to achieve sustainable production to concrete steps taken) it includes a wide array of initiatives with varying levels of ambition. Many of them are about promoting the exchange of knowledge and expertise among business and societal actors. Examples include Maatschappelijk Progamma Natuurlijk Kapitaal, the Foqus Planet programme by Friesland Campina, GreenBASE and different existing GreenDeals. The Deltaplan Biodiversiteitsherstel may contribute significantly to this Aichi target. It facilitates learning, exchange and collaboration among the many existing initiatives related to increasing sustainability of agricultural production (among others) and at the same time motivates actors to develop new initiatives. Examples of international initiatives directly or indirectly linking to biodiversity include (Dutch partners between brackets): the Sustainable agriculture Initiative Platform (Unilever, Agrifirm, Stichting Veldleeuwerik, Suikerunie), Sustainable Food Initiative (DSM, WUR, Unilever), UN Global Compact, UNEP FI (Rabobank, Achmea, Aegon, ABN AMRO, ASN Bank, ASR Netherlands, ING, FMO, NN Group, Triodos Bank), Natural Capital Coalition and the Lisbon Declaration initiated by WBCSD. Those initiatives aim to set up international commitments to reverse biodiversity loss, calling on companies to take bold action. Similarly, the DGIS funded partnerships Fair Green and Global Alliance and Shared Resources Joint Solutions program aim to contribute among others to Aichi Target 4.

Box 2. Deltaplan Biodiversiteitshers

Logo of the initiative: 'Deltaplan Biodiversiteitsherstel'

The Deltaplan Biodiversiteitsherstel is a non-state initiative that aims for wide scale recovery of biodiversity in The Netherlands. It is built on the idea to reward land users, such as nature managers, farmers, governments and private individuals, for their contribution to restore biodiversity. Unambiguous measurement of their performances makes it possible to accumulate payments for ecosystem services and to see how these performances add up to real biodiversity gains. Good monitoring is indispensable and is also part of the approach, as is cooperation between various areas in the Netherlands.

The Deltaplan Biodiversitietsherstel focuses on natural areas, agricultural areas and public space, which together cover 90 percent of the country. It aims to motivate land users to start working together in order to create suitable habitat for wild plants and animals. The Delta Plan was made possible thanks to many people and organizations involved. The number of formal partners of the initiative is increasing, involving national to local governments, policy makers, companies, interest groups and private individuals.

See for more information: https://www.samenvoorbiodiversiteit.nl

Strategic goal B. Reduce the direct pressures on biodiversity and promote sustainable use.

★***Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.***

43 Initiatives have been found in our search, of which 20 are on the national level. There are specific examples of citizen action groups, but these are often adhoc, local and poorly documented on the internet. Examples include organized citizen protest against the broadening of the A27 for which part of Amelisweerd, a historical estate near Utrecht would be partly deforested ('Ik ga de boom in'), or a successful campaign against sand mining in the Ijsselmeer (not included in our database). Similarly, the 'Bomenridders' is a citizen initiative aiming to reduce tree loss at municipal level. They advocate the conservation and active planting of trees.
Area based NGOs are continuously trying to address loss and degradation of biodiversity. They take measures to conserve threatened habitats for example the regular mowing of native grasslands, regulating hydrology of sensitive peat areas and managing forests to increase structural diversity. These activities take place as the daily management of nature areas but were hardly found as separate initiatives in our (online) search.

Dutch initiatives related to international activities include The Amsterdam Declarations (AD) Partnership towards deforestation-free sustainable commodities, the goals of which are in line with the New York Declaration on Forests. The partnership facilitates cooperation with private sector, actors in producer countries and AD country governments to stimulate markets for sustainable deforestation-free commodities and support production side measures in source countries. Related to zero net deforestation initiatives are the Banking Environment Initiative (BEI) and Consumer Goods Forum around mobilizing resources for reducing deforestation. The zero-deforestation commitments mentioned as steps by the private sector towards more sustainable value chains, ideally lead to significant achievements under Aichi target 5. However, limited progress has been made in meeting these commitments over the past five years.

The Green Livelihoods Alliance, an international consortium led by Milieudefensie, IUCN NL and Tropenbos and funded by the Ministry of Foreign Affairs, aims to halt forest loss in tropical countries by influencing policies related to land use, halting direct drivers of deforestation and promoting good governance of forested landscapes.

★***Target 6. By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.***

For a large part this target refers to the management of marine ecosystems. Our search yielded 12 non-state initiatives that contribute primarily (6) or significantly (6) to the management of aquatic (both marine and freshwater) biodiversity. Examples include De Rijke Noordzee, Expeditie Doggersbank, See ranger Service and Swimway Waddenzee. Although these initiatives did not directly target overfishing, involved NGOs like Waddenvereniging, Stichting De Noordzee and WWF NL also advocate improved fisheries practices for example in shrimp fisheries and other overexploited species. These activities as such were not included in

our database as they form part of regular NGO strategies (rather than being marked as separate initiatives). Furthermore, non-state actors including the private sector and NGOs (in the Coalitie Wadden Natuurlijk) closely cooperate with the national and provincial governments in the implementation of the program 'Naar een Rijke Waddenzee'. This state-initiated program aims to improve the management of fish stocks to enhance sustainability in fisheries.

★***Target 7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.***

Our search yielded 83 initiatives that aimed to primarily (26) or significantly (57) contribute to Aichi target 7. Most of these initiatives are promoting sustainable land use practices in the agricultural sector. This can be either at the national level (e.g. Red de Rijke Weide, Project Heideboerderij, On the Way to Planet Proof), the provincial level (e.g. Kening fan 'e Greide (Friesland), Actieplan Natuurinclusieve landbouw (Gelderland), Agenda Boer Burger en Biodiversiteit (Drenthe)), or at a landscape level (Amsterdam Wetlands, Buijtenland van Rhoon, and several others). Also a variety of initiatives was found that act at the local level. One such example is 'Boeren in het Bos', which aims to achieve sustainable meat production by holding cattle in forest areas of the Drents Friese Wold.

Attention for the environmental impact of flower bulb production – a sector with intensive use of chemical pesticides – is gaining more attention. We found some initiatives promoting organically grown bulbs. Another recent development is the increased interest in food forests and agroforestry systems. Such forms of sustainable agriculture models are gradually expanding, facilitated among others by foundations like Stichting Voedselbosbouw and Vereniging Toekomstboeren, and by available subsidy schemes.

Innovative research into sustainable aquaculture/agriculture in coastal areas is being conducted in the 30 hectares 'Kustlaboratorium' (Box 3). Sustainable business models originating here may offer potential for adoption in larger areas along the coast, and possibly also abroad. Kustlaboratorium is a CSO-public actor initiative of Landschappen NL, Het Zeeuws Landschap and the Province of Zeeland.

International initiatives that aim to contribute to Aichi target 7 include the work by the Dutch Trade Initiative (IDH) on scaling up certified commodity production of a wide range of commodities and for example the Green Deal on Sustainable Forest Management.

Box 3. Kustlab

Artist impression of a multi-use landscape in Breskens, Zeeland, as part of the Kustlab initiative.

Kustlab is a coastal laboratory with an area of 30 hectares, which is part of Waterdunen, located near Breskens. It is a testing ground for the production of saline crops where innovations are tested that combine nature, economic activities, recreation and coastal safety whilst providing an attractive landscape.

The initiative is built on the notion that coastal areas in Zeeland and many other places in Europe are increasingly phasing salinization due to land subsidence, rising sea levels and changing precipitation patterns. As a consequence salty soils will increasingly occur in coastal areas. This forms a significant threat to present day agriculture in these areas. With subsiding soils the pressure from salt water is increasing and it requires difficult and expensive efforts to prevent salinization. Instead, the Kustlab is trying to see if there is any benefit from this salinization: why not replacing the sugar beets and potatoes, directly behind the seawall by salt-tolerant crops?

Kustlab is a non-state initiative by Het Zeeuwse Landschap with financial support from EU, national and provincial government, LandschappenNL and the National Postcode Lottery. See for more information: https://www.kustlaboratorium.nl

★ ***Target 8. By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.***

In our search we found 15 initiatives that had a primary (9) or significant (7) contribution to Aichi target 8. The level of habitat degradation in the Netherlands is very high, mainly due to nitrogen deposition and water withdrawal. Many of the nature restoration measures over the past years initiated by Dutch nature NGOs were compensation measures for excess nitrogen emissions. These include hydrological restoration of peat bogs, heath lands and also creeks and streams. In itself these measures, often proposed and implemented by area-based nature organizations (e.g. Natuurmonumenten, Staatsbosbeheer, Provinciale Landschappen), and in collaboration with local actors and provincial governments, have had positive

impacts. In many cases such activities are financially supported by the government or EU funds, since they form the implementation of existing national and/or EU policies (like PAS, Wet Natuurbescherming and EU Kaderrichtlijn Water). However, as long as nitrogen emissions are not reduced the positive effects may rapidly be nullified again. Hence, effective policies to reduce nitrogen emissions will be a key ingredient to prevent further declines and restore biodiversity in The Netherlands.

Widespread pollution by chemical pesticides has been identified as a major cause of declining insect populations. Data seems to indicate that limiting the accumulation of pesticides in ecosystems is indispensable for the recovery of species and general improvement of ecosystem health. Nevertheless, so far progress towards stringent regulation has been slow. A number of NGO campaigning initiatives like *2020 pesticidevrij* by VELT call for stronger legislation to ban the use of chemical pesticides both at EU level as well as national level.

Plastic pollution is gaining more and more attention by concerned citizens. Our database includes the Green Deals Schone Stranden and Visserij voor een Schone Zee, supported by a wide variety of CSO, public and private sector stakeholders, and initiatives like the annual Boskalis Beach Cleanup by Stichting De Noordzee, in which volunteers clean up the entire coastline. The Dutch NGO 'The Ocean Cleanup' has so far yielded promising results in its mission to cleanup 90% of the world's ocean plastic. It has piloted technologies to catch plastics at sea and in rivers. The initiative receives support by a wide group of non-state (private) actors as well as the Dutch Government. All these initiatives significantly contribute to address plastic pollution.

Various non-state initiatives address climate change, which is an increasing and prominent threat to biodiversity. The NGO Urgenda is one of these initiatives. Urgenda successfully lobbied for higher national climate ambitions and in 2019 won a historic court case against the state to enforce additional climate measures. Although the positive impact of this achievement on biodiversity will be rather indirect, Urgenda's initiative can be considered as a milestone for meeting Aichi target 8 and has set a precedent.

★***Target 9. By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.***

Increased international transport of live and dead organic materials, and increased introductions of exotic ornamental species, invasive species are rapidly gaining ground and becoming a significant threat for biodiversity conservation. Nevertheless, our search revealed very little non-state initiatives related to invasive species management. The formal responsibility for this lies at provincial level governments since 2018.

Management of invasive species is among the core activities of area-based nature organizations such as Natuurmonumenten, Staatsbosbeheer and Landschappen. They have specific policies for dealing with these species, involving a series of measures including active eradication. These organizations also conduct or support research to effective management of invasive species. These activities were not included in our database as they are often poorly documented online.

★***Target 10. By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.***

Although our search did not yield any specific initiative under this Aichi target, various non-state actors are dealing with threats to coral reefs. Scientific institutes such as CARMABI and Wageningen Marine Research for example, study the effectiveness of measures to reduce threats to coral reefs; knowledge which can be applied by local authorities as well as NGOs. WWF Netherlands conducts a series of activities and campaigns on Bonaire aimed at reef protection, and Stichting De Noordzee actively advocates the establishment of Marine Protected Areas and the sustainable management of marine resources including temperate corals that occur in the North Sea. Non-state actors have also played a crucial role in the establishment of the Yarari Sanctuary for the conservation of sharks and rays, the largest marine protected area in the Kingdom of The Netherlands, and in gaining legal protection of coastal waters surrounding the BES islands. Furthermore, the Dutch Caribbean Nature Alliance, a non-state actor, is operating a revolving fund for the management of national parks on all five Dutch Caribbean islands. None of these efforts are included in our database as they include several initiatives that are not documented on the internet.

The recently launched Nature Policy Plan for the Dutch Caribbean, which includes an action agenda for coral reefs, could potentially catalyze a series of state and non-state interventions to improve reef conservation and restoration. The plan was drafted in close collaboration with non-state actors in the Dutch Caribbean and The Netherlands but as it was initiated by the Government, it is not taken up in our database.

Strategic goal C. To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.

★***Target 11. By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.***

This Aichi target involves the expansion and management of (legally) protected areas and improvements in ecological connectivity, including the extension of existing nature areas. The broad nature of this target makes that there is quite some overlap with other Aichi targets. Hence we found a wide variation in the types of non-state actor initiatives under this target. Our search yielded 53 initiatives with a principle (33) or significant (20) contribution to this Aichi target.

Following their formal responsibility for realizing the NEN, several provinces have started initiatives related to nature conservation and restoration. Implementation is often done in close collaboration with non-state actors. Also, in some cases, the provincial government opens subsidies for non-state actors aimed at the realization of new nature areas or improving ecological connectivity (for example 'Programma Nieuwe Natuur' in Flevoland). Similarly, a lot of efforts regarding the European legislation to clean surface waters and at the same time realization of the NEN is done by the Dutch water Authorities (Waterschappen), of which some have been serious frontrunners on the ecological restoration of streams and creeks. At the same time fish migration infrastructure has been realized over the past years. These projects generally

receive funding from various sources: EU, National government (Ministry I&W), Rijkswaterstaat, Staatsbosbeheer, Provincial governments, water Authorities, municipalities and NGOs. Together with the government programme to increase space for rivers ('Ruimte voor de Rivier') and legislation related to improving the quality of surface water, these efforts have significantly payed off and resulted in the recolonization by species that have earlier disappeared from these areas.

Worth mentioning in terms of connectivity, is the 'Greendeal Infranatuur', which has brought together many players (state and non-state) to improve biodiversity value near important infrastructure. This has had successful spinoffs such as the improvement of grassland management to favour insect populations by TenneT in collaboration with the Dutch butterfly association (Vlinderstichting). The local initiative by a.o. Kenniscentrum Akkervogels to adjust the management of remnant dykes ('slaperdijken') in Groningen Province in favour of biodiversity. Another interesting non-state initiative is the realization of a fish migration infrastructure in the Afsluitdijk: 'Vismigratierivier', providing ecological connectivity between the Waddensea and Ijsselmeer – a project of critical importance for species like European eel, which is Critically Endangered on the IUCN Red List. Similarly the citizen initiative 'Holwerd aan Zee' and the 'Lauwerskustmanifest' also aim to realize a connectivity of the Waddensea and inland freshwater systems.

At the local level we found multiple initiatives to create new reserves that can function as stepping stones for threatened species (e.g. Marke Gorselse Heide, Mooi Binnenveld) or that in itself function as ecological corridor (like the Lizard Lane, a multi actor project to realize a heathland corridor for threatened species). Larger, landscape scale initiatives include for example the Amsterdam Wetlands, which also involves a multi-actor collaboration to create a robust and resilient wetland of 12.000 hectares north to Amsterdam. Of a different nature is 'Land van Ons', a recent initiative with the aim to purchase 300.000 hectares of agricultural land and manage it to improve biodiversity, in particular creating habitat for species bound to traditional small-scale agricultural landscapes.

★***Target 12. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.***

Species-based conservation initiatives may include breeding programmes of threatened species and the reintroduction of species that were locally extinct. Dutch examples of the past decades include the successful reintroduction of European bison, otter and black grouse but also several butterfly species. Lots of effort is being put into the conservation of meadow birds but despite these, the decline of meadow birds is still significant. In total, 85 initiatives in the database have a principle (65) or significant (20) contribution to Aichi target 12. Among these is a large number of civil society initiatives that aim to recover populations of wild bees and honeybees (Bee Deals, Groene Cirkels Bijenlandschap, Nederland Zoemt, Honey Highway, Bijenoase, Wilde Bijenlinie, de Pollinators etc). Recent media attention for the dramatic decline in pollinator species has been picked up widely by groups and individuals in society and translated into actions at different scales. Many of these are bundled into a national strategy for the conservation of bees (Nationale Bijenstrategie), which is supported by the Dutch Ministry of Agriculture, Nature and Food quality.

International initiatives include for example IUCN NLs land acquisition fund to save threatened species and ecosystems, 'Save our Sharks' of the Dutch Caribbean Nature Alliance and many other initiatives by Dutch conservation NGOs in collaboration with international partners. Most of these projects are not documented

in our database. A more elaborate search strategy will be needed to represent these international efforts by Dutch non-state actors.

★***Target 13. By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.***

Two initiatives in our database primarily contribute to this target: the national gene bank 'Roggebotzand', which aims to conserve genetic strings of native plants and tree species, and the recently established NGO 'Levend Archief' with the goal to conserve seeds of native wild plants. Due to the large scale application of imported commercial trees and plant species, native genetic material for many common species in The Netherlands is under threat. The loss of native genetic material may lead to reduced resilience of ecosystems to climate change and pests / diseases. Hence, the value of native genetic material deserves more attention. One other initiative in our database contributes to Aichi target 13: 'Reclaim the Seeds' which aims to prevent domesticated crop varieties to become patented by a handful of powerful multinationals.

Strategic goal D. Enhance the benefits to all from biodiversity and ecosystem services

★***Target 14. By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.***

Target 14 includes the conservation and restoration of ecosystems with important societal benefits such as securing freshwater sources, peatlands and nursing grounds for marine life that replete commercial fish stocks. Nature based solutions across different sectors, like Zandmotor (replacing regular sand suppletion to the coast), Marker Wadden (improving water quality of the Markermeer), and nature inclusive construction projects (e.g. Handreiking natuurdaken, groene schoolpleinen, development of ecovillages, etc) may significantly contribute to Aichi target 14. The majority of the 87 initiatives that we categorized under Aichi target 14 also contribute to a wide range of other targets, notably 7, 11, 12 and 15.

Restoration of degraded nature areas and the realization of new nature contribute directly to Aichi targets 11 and 14. Both may have significant positive impact locally on the recovery of birds and insect populations (Aichi target 12). We documented several local to regional initiatives to restore existing nature areas that suffered degradation due to droughts and excess nutrient deposition. These type of measures are often part of regular activities of the area-based nature organizations like Natuurmonumenten, Staatsbosbeheer and Provinciale Landschappen. These activities are of tremendous importance to conserve biodiversity but our search method did not allow for a representative overview of these activities. It is likely that our search only shows a small fraction of the projects out there.

A successful example of a non-state led initiative in terms of realizing new nature has been the development of the Marker Wadden, where the number of bird species using this new habitat has sharply increased since its establishment and is still growing (see box 4). Other examples include realization of new nature in Haringvliet and the project 'Holwerd aan Zee' (mentioned under Aichi target 11).

Importantly, the realization of the NEN includes the establishment of new nature areas and ecological corridors. Although a provincial responsibility, there is collaboration with a variety of civic actors including CSOs. Sometimes provinces take the lead and sometimes CSO do. Such projects are relevant for biodiversity but only a small fraction of existing projects were included in our database. One example that has been included is the provincial initiative 'Landschappen van Allure' in Noord Brabant, which successfully improved habitat connectivity, landscape quality and resilience in 3 major nature areas: Groene Woud, Maashorst and Brabantse Wal. The programme involved a wide range of non-state and state actors. Noord-Brabant province provided a 52 million euro subsidy for the 128 million euro programme.

Box 4. Marker Wadden

Common tern, one of the many breeding birds on the Marker Wadden (photo: Wikimedia commons)

Marker Wadden is a non-state initiative led by Natuurmonumenten and supported by a wide array of public and private actors. Its aim is to restore nature in the Markermeer by creating a large archipelago of 10,000 hectares, using sand, clay and silt from the lake. The archipelago will bring back flora and fauna as a nature based solution to improve the water quality of the lake. Creation of the islands started in 2016 and many plants and animals have already occupied the islands, the banks and surrounding waters.

Marker Wadden is one of the largest nature restoration projects in Western Europe. Research has shown that the area is especially important for birds of open pioneer biotopes such as pygmy tern, common tern, avocet, Kentish plover and ringed plover. Nationally relevant populations of these species occur in the area. The area was colonized from 2018 and especially in 2019 by marsh birds such as greylag goose, pochard, teal, redshank, coot, water rail and small reed warbler. Due to the variation in construction periods of the compartments, there has been a varying supply of biotopes. At the moment, most species breed in highest densities on the main island. Nationally scarce or rare bird species have started breeding on the islands, such as Kentish plover, little gull, red-crested duck, variegated sandpiper and long-tailed duck.

Due to the availability of new shallow biotopes with a high primary production of invertebrates (invertebrates), such as water fleas and dance mosquitoes, the Marker Wadden offers food to many migrants in high numbers, including at peak times: 20,000 sand martins, 1,000 clams, 4,000 shoveler, 1,000 black terns and hundreds of little gulls. The shallow channels and banks provide space for fish eaters such as spoonbills and grebe. The archipelago is an important place to stay for many thousands of black terns and common terns that seek food on the Markermeer and IJsselmeer during the migration period. The lee of the islands is exploited by resting waterfowl such as hundreds of tufted ducks and thousands of pochard ducks.

See for more information: https://www.natuurmonumenten.nl/projecten/marker-wadden/projectbeschrijving

★ ***Target 15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.***

Enhancing climate change resilience is becoming a key challenge for the management of Dutch nature areas. This challenge is addressed for example in Grenspark Kempen-Broek, where the core nature area is extended to reduce habitat fragmentation and increase water storage for dry periods. Several initiatives have been starting in recent years with the aim to increase carbon storage for example through tree planting, water management or other (restoration) measures. Also in marine environment, a number of ecosystem restoration initiatives exist, for example for coral reefs or oyster beds. Our search yielded 18 initiatives that had a primary (10) or significant (8) contribution to Aichi target 15.

Plan Boom, initiated in 2019, is a non-state initiative to increase tree cover in the Netherlands that aims to plant 10 million trees in the period 2020-2024 in public spaces like roadsides, and parks, industrial terrains, nature areas and gardens. Several non-state actors have also engaged in tree planting as a means to offset carbon emissions. Royal Dutch Shell is partnering with Dutch forestry service Staatsbosbeheer to plant more than five million trees over 12 years. In northern Spain, the company will work with Land Life Company on a 300 hectare reforestation project with a goal of planting 300,000 trees by the end of 2020. Shell has also established an 800-hectare forest regeneration project in Queensland, Australia, and is jointly studying projects with the Sarawak state government in Malaysia.

Another example includes the Dutch NGO JustDiggit which adopts rainwater harvesting techniques in Africa to increase soil health and plant cover, thereby improving resilience, food production and biodiversity values.

Our database also includes three initiatives for coral reef restoration: 'Coral Restoration Bonaire', which actively implements reef restoration around the island, CoralGardening, a small scale reef restoration project in Thailand, and 'ReefGuard', a consortium of Van Oord, TU Delft and CSIRO, which aims to develop effective reef restoration technologies at scale ('Recruit') in The Great Barrier Reef. The latter is made possible among others by a subsidy of the Government of Queensland, Australia.

★***Target 16. By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.***

Our search yielded one initiative specifically related to this target: 'Reclaim the Seeds', a citizen initiative aiming to avoid that crop varieties are being patented by big seed companies. However, we acknowledge that existing international non-state initiatives funded by DGIS, such as the earlier mentioned Fair Green and Global Alliance advocate for equitable sharing of benefits of nature's products and services. Our search method did however not allow for a full representation of these.

Strategic goal E. Enhance implementation through participatory planning, knowledge management and capacity building.

★ ***Target 17. By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.***

This is a state responsibility and the Dutch government considers the existing nature policy plan ('Natuurbeleidsplan') as the national biodiversity strategy and action plan.

★ ***Target 18. By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.***

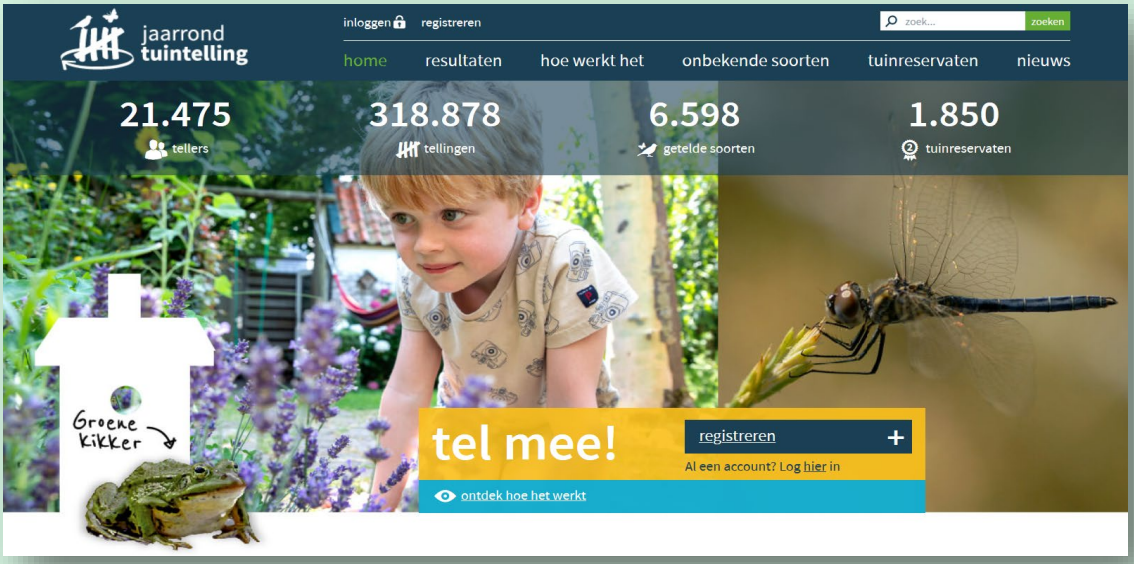
Two initiatives in the database contribute primarily (1) or significantly (1) to Aichi target 18.
The most direct example is the Green Livelihood Alliance (mentioned before) with its active support to local and indigenous groups as stewards of forest and forested landscapes. The alliance adopts dialogue and dissent strategies to influence policies (local-to-global) to enhance management of forested landscapes in the tropics.

★ ***Target 19. By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.***

In fact, the exchange of knowledge plays a role in most of the initiatives as a side goal. Our search yielded 48 initiatives that contribute to Aichi target 19, either as a principle target (29) or as significant target (19). Among these is a large number of monitoring initiatives including citizen science (e.g. Netwerk Ecologische Monitoring, Natuurkalender, GrowApp, Jaarrond tuintelling (see box 5), Mijn Berm Bloeit, Bodemdierendagen, Waddenzeevismonitor, Biodiversiteitsmonitoring Akkerbouw, and many others). The Netherlands Biodiversity Information Facility (NL BIF) provides open access to international biodiversity data. In addition, there are several knowledge exchange initiatives like 'Grip op Biodiversiteit', Bayer's Forward Farming initiative, and educational initiatives such as IVN's tiny forests programme.

Among the initiatives are also tools and knowledge exchange platforms related to measuring the biodiversity impact of financial investments (e.g. BioScope tool, Platform Biodiversity Accounting Financials, Dutch Sustainable Growth Coalition, the Biodiversity Working Group of the Sustainable Finance Platform of 'De Nederlandse Bank' (see Box 6)).

Box 5. Jaarrond Tuintelling



Homepage of the initiative: 'Jaarrond Tuintelling'

Gardens cover a large part of the Netherlands, about 30.000 hectares, but we hardly know which birds, butterflies, mammals, amphibians and insects live in them. The Jaarrond Tuintelling (year-round garden count) adopts citizen science to get a better understanding of this. This non-state initiative is the result of collaboration between specialized species research and conservation NGOs and is partnering with several other organizations including media channels.

As of August 2020, five years after its launch, the initiative has over 21 thousand individuals uploading inventory data from their gardens and close to 320 thousand registered counts. Participants together counted 6,598 species. The database has labelled 11 species groups (birds, mammals, diurnal butterflies, nocturnal butterflies, dragonflies, amphibians, insects, fishes, mollusks, spiders, and plants) and a category for all other species, includes reptiles, arthropods and earthworms.

See for more information: https://www.tuintelling.nl

★ ***Target 20. By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.***

Our search yielded 16 initiatives with a primary (9) or significant (7) contribution to Aichi target 20. These include a number of company led initiatives that aim to mobilize finance for agricultural transformation, deforestation free commodity production and forest restoration. Good examples are the AGRI3 Fund initiated by UNEP and Rabobank and 'Soft Commodities' Compact initiated by the Banking Environment Initiative and Consumer Goods Forum, which works with the banking industry towards deforestation free supply chains for their clients (companies). ASN Bank has launched its initiative to achieve net positive

impact on biodiversity by 2030 through its finance and investment strategy. DNB started the Sustainable Finance platform to catalyse sustainability initiatives in the financial sector, also specifically on biodiversity (see box 6).

Land van Waarde is a regional initiative that aims to create multiple financial incentives for farmers to integrate biodiversity conservation in their operations. This is also key principle of the Deltaplan Biodiversiteitsherstel. Alternatively, Land van Ons, mentioned earlier in this report, aims to mobilize private donors to purchase agricultural land and convert it to nature.

Box 6. Biodiversity working group of the Sustainable Finance Platform

In 2019, De Nederlandse Bank (DNB) established the Working Group Biodiversity in the Sustainable Finance Platform (Platform voor Duurzame Financiering). It was set up to explore biodiversity risks for the Dutch financial sector.

A joint study by (DNB) and PBL Netherlands Environmental Assessment Agency (van Toor et al, 2020) showed that the Dutch financial institutions worldwide have EUR 510 billion in exposure to companies with high or very high dependency on one or more ecosystem services. The report recommends that financial institutions must ensure they identify the exposure of their portfolios to biodiversity risks in a timely manner, since in-depth understanding of these risks informs adequate risk management. The report could also help to boost investments by the Dutch financial sector for conservation and restoration of biodiversity.

See for more information: https://www.dnb.nl/en/about-dnb/co-operation/platform-voor-duurzame-financiering/biodiversiteit/index.jsp

4. DISCUSSION

This chapter reflects on the results of our analysis and discusses the relevance of non-state actor biodiversity initiatives for achieving the Aichi targets.

Salient features of non-state actor initiatives

The following salient features of non-state actor initiatives emerge from our analysis.

Strong focus on area-based interventions. The analysis indicates that most non-state actor initiatives aim to improve and restore biodiversity through on the ground, area-based interventions. These interventions take place in nature areas, agricultural production systems, and urban areas. They take many different forms, ranging from relatively large-scale 'creation of new nature' to small-scale initiatives to recover insect and meadow bird populations. The ecological impact of these initiatives can significantly increase when scaled-up geographically. One way to scale up such efforts is through involving and engaging more stakeholders in the landscape. An example is the Groene Cirkel programme in Zuid-Holland, initiated by the province of Zuid-Holland and with support of civic actors, companies and municipalities. The wide support has enabled strategic interventions at a larger scale and has already resulted in an increase in rare species of bees and the return of species of natural grasslands that disappeared before (Reemer, Kost & Slikboer, 2018). The various initiatives to integrate nature's services and biodiversity in agricultural production systems often have immediate positive effects on biodiversity. Nevertheless, up-scaling of such nature-based approaches runs into serious limitations of existing policies or the lack of policy enforcement, as has been the case with excess nitrogen emissions.

Stakeholder collaboration is common. Two-thirds of the initiatives are led by a combination of different stakeholders, and in different compositions of government agencies, private sector, NGOs, knowledge institutions and citizens. Particularly in the area-based initiatives, a multi-stakeholder setting predominates, and it is also common in initiatives to green value chains. The specific and complementary roles and competencies of different stakeholders provide an important added value.

Government support is essential. Our findings confirm the conclusion by Matthijssen et al. (2015) that many of the non-state actor initiatives do (partly) depend on government funding, for example through green subsidies and green deals. Through the latter, innovative societal initiatives are supported and since 2011, 42 biodiversity green deals have been made. The extent to which regional and local governments support green initiatives differs widely between provinces and municipalities. Our findings also reaffirm that governments, although not being a lead partner, still have a crucial role to play in enabling civil actors to develop green initiatives. Beside their financing role, governments, i.e. state and provinces, are able to steer towards a programmatic approach that helps to scale up local initiatives and increase the positive impact on nature.

Contribution to achieving the Achi targets

Growing involvement of non-state actors, but the impact on biodiversity is not obvious. This analysis, as well as similar earlier research (Van Oorschot, Kok, Van Tulder, 2020; Vullings et al., 2018; Sanders et al., 2018; Buijs et al., 2016; Mathijsen et al., 2015) confirms an increasing dynamics and involvement of non-

state actors to contribute to biodiversity conservation and restoration in the Netherlands. By linking initiatives to the Aichi targets, more insight has been obtained on their potential contribution to achieve those targets. However, the actual contribution and impact on biodiversity of those hundreds of initiatives is not transparent. From the 244 initiatives that are monitoring and reporting progress, only six have published results on their biodiversity goals. In addition, most initiatives lack quantitative targets which limits an adequate evaluation and learning.

What we do know is that the combined efforts of state - and non-state actors has not yet led to bending the 'biodiversity loss curve' in the Netherlands over the past decade (see 1.1. Introduction). In addition to directly contributing to biodiversity improvements, non-state initiatives catalyse awareness, innovative approaches, and participation and support from citizens and companies for nature conservation. They catalyse other initiatives, and they might help to enforce more ambitious nature policies and incentives at both provincial and national level. The increase of non-state actor initiatives, particularly those of local citizen groups, has been stimulated and supported by a 'withdrawing government' and the call for a participation society (Mathijsen et al, 2015). We support the view that a broader societal participation, or 'whole of Dutch society approach' is required, which needs to go hand in hand with a regulating and directing role of the government - state and provinces - to effectively manage nature as a public good. Coherent policies must be in place, for instance to motivate businesses and organizations managing land to indeed integrate biodiversity conservation. Ideally, attempts to do so also need to be rewarded financially.

Nature Network Netherlands (NNN), including 161 EU Natura 2000 sites and other areas with some protection status, forms the cornerstone of Dutch biodiversity policy. Responsibility for realization of the NNN, a national policy ambition, has been delegated to the provinces. The level of ambition in this respect differs between provinces. Some have been very active and some have been reluctant (Bastmeijer &.Kreveld, 2019). Increasing this ambition and speeding up the realization is one of the most direct and promising ways to achieve several of the Aichi targets. This requires much more efforts and collaboration between provinces and also central coordination at the national level in comparison to today's efforts. A growing number of area-based initiatives of non-state actors could make an important contribution to establish NNN, i.e. 'other effective area-based conservation measures' (OECM) complementing and or buffering the Natura 2000 sites.

Gaps and weaknesses

Our analysis and other research on Dutch non-state actor contributions (e.g. Matthijssen et al., 2015; Sanders et al, 2019, van Oorschot et al, 2020; see 3.1) indicate a number of weaknesses and gaps. Both 'internal' weaknesses inherent to the initiatives, and weaknesses in the enabling (policy) environment do occur. The former include the often small scale, lack of clear biodiversity targets which limits (steering on) achieving biodiversity improvements, lack of a longer term financing window which also limits the sustainability of the interventions, and weaknesses in MRV systems. Insufficient coordination, exchange, showcase and learning mechanisms also limit the combined impact of non-state actor initiatives. Main shortcomings in the enabling environment are: lack of incentives and rewards; lack of long-term subsidies (for initiatives that strongly depend on those); insufficient environmental regulations and norms, and incoherent (spatial) policies, both between provinces and between national, provincial and local governments.

Limitations of our dataset and analysis

A biased cross-section. Given the multitude of Dutch non-state actor initiatives and the limited amount of research time, our database is only a sample of what is out there. This is indicated by the little overlap between the 337 initiatives in our database and the 264 initiatives surveyed by Matthijsen et al. (2015). The latter survey was focusing on citizen initiatives at the local, municipality level. Our method was limited to online search queries and therefore may not represent the full array of existing non-state actor initiatives: on the one hand because not all initiatives are documented on the internet and on the other hand because of the search-terms used. Due to the search-terms used it may be biased towards certain area-based activities and underrepresent for example initiatives by private sector players, knowledge institutes or local government actors (e.g. cities, municipalities). Also, initiatives by provinces, in strict sense a 'non-state actor' but with a main government role for implementation of Dutch nature policy, are underrepresented in our database and analysis.

Similarly, we noted that much of the ongoing field initiatives or rather regular interventions by organizations managing nature areas are not well documented or accessible online, but their importance shouldn't be underestimated. For instance, Natuurmonumenten and Stichting LandschappenNL each manage more than 100.000 hectares of nature areas, which is a considerable portion of the NNN. Many initiatives are common practice in certain areas, such as nature restoration to compensate excessive nitrogen deposition, and eradication of invasive species. Detailed information about these 'initiatives' would require much more effort to compile and the question is whether those should be classified as state, non-state or a typical hybrid.

Linkage with Aichi targets not straightforward. Not all initiatives have a clear focus and some were difficult to categorize according to the Aichi biodiversity targets. Also, inherent to the broad formulation of the Aichi targets, initiatives may be categorized under different targets. Furthermore, for each initiative in the database we assessed two Aichi targets to which we thought it contributes. However, it became clear that most of the initiatives may contribute to more than just two targets.

5. Recommendations

International – CBD

Key question is how the parties through the CBD, through the post-2020 biodiversity action agenda, can best capture the benefits from non-state biodiversity initiatives already happening, as well as further catalyse a 'whole of society approach'. It is broadly recognised that efforts of all actors – governments (national, sub-national), businesses, civil society, citizens - are required to turn the tide of biodiversity loss. PBL stated that non-state and sub-national actors outside the formal negotiations can exert pressure on international processes and contribute to a strong post-2020 global biodiversity framework to be adopted by countries in Kunming. Providing non-state and sub-national actors with an equal opportunity to pledge their commitment and establishing a truly inclusive action agenda will be a potentially powerful vehicle for increasing the ambition level of global biodiversity policy and move towards rapid and scalable implementation (Kok et al., 2019). This could further mature into a 'national determined contribution' (NDC) approach, similar to the climate convention (UNFCCC).

In order to establish an effective joint agenda, it is important that the CBD (parties) put adequate supportive mechanisms in place. It is recommended that the EU takes the lead in this respect, as expressed in the EC 2030 biodiversity strategy (EC, 2020). Specific measures could include strengthening the position of non-state actors in the CBD negotiation and decision making process, providing enabling policies that support implementation (of non-state actor pledges), fostering innovative multi-stakeholder partnerships, and providing a platform to showcase non-state actor and sub-national biodiversity actions. Such a platform is now being developed by UNEP-WCMC in collaboration with EarthMind, with support from Dutch Ministry of Infrastructure and Water Management, and limited initially to area-based commitments. As main functions, the platform could inspire and catalyse more actions, provide guidance, stimulate learning and exchange, and help to understand and monitor how non-state actor initiatives contribute to biodiversity goals. Decisions at the CBD CoP15 to put adequate accountability mechanisms in place will strengthen the role of the platform.

The Netherlands

In the Netherlands, the large and increasing number of citizen, CSO and company initiatives needs to be strengthened and scaled-up. This needs to go hand in hand with ambitious public policies at different levels – state, province, municipalities – and stronger implementation and enforcement of environmental legislation as proposed in the EU biodiversity strategy for 2030 (EC 2020). This particularly relates to environmental preconditions that require a well-coordinated and ambitious approach at national or even international level. The current targets regarding nitrogen emissions are illustrative. More in general, the transition of the agricultural sector towards circularity, sustainability and nature inclusiveness requires government regulations and incentives, which will stimulate farmers to actively engage in this transition. The IPBES stated that bending the curve of biodiversity loss would require transformative change in society. As a crucial step, policies across sectors and across levels (local to national) must become coherent, which would require cross departmental collaboration. For instance policies and legislation on climate, water, nature, soil, agriculture, spatial planning and other sectors must strengthen each other rather than deterring each other.

To stimulate a Dutch 'whole society approach', contributions of non-state actors need to be better acknowledged, made more visible, better rewarded and supported. The latter could involve financial rewards / incentives, knowledge support and exchange, and societal appreciation. The Dutch biodiversity action agenda now being compiled by IUCN NL and other partners (e.g. MVO Nederland) with support from the Ministry of LNV, could help in achieving this. Making the added value of becoming part of the action agenda more explicit could help to tempt organisations to submit a pledge and strengthen the agenda.

Further mapping and analysis of Dutch non-state actor initiatives will be necessary to assess for instance the complementary roles and added value of non-state actor initiatives vis a vis state efforts, the concrete impacts of the initiatives and hence also in analyzing where more efforts will be needed. It is recommended to develop and apply a consistent 'minimum level' monitoring and reporting system for non-state actor initiatives, compatible with the CBD reporting system. Linking the Dutch action agenda to the UNEP – WCMC platform, which is now under development, can ensure this compatibility and could also facilitate international exposure, learning and exchange, and provide guidance for implementation and monitoring.

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