



Workshop Report

Challenge the Change

Berlin, 28 - 30 November 2018





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Opening Address

Dear friends,

It was a great pleasure to work and ideate with all of you in an intensive workshop on Berlin's Schwanenwerder Island in November 2018.

Processing all the fascinating stories, facts, and ideas and developing them into meaningful outcomes for our further conservation work took its time. While we were certainly tempted to quickly integrate all results and to finalize this document earlier, we decided to keep all contributions and to use them for this report. Whether you want to get a quick overview over the key results or wish to dive deeper into certain issues – the different levels of the report along with the additional links providing further background and results will enable you to do both. Below you will find success factors and patterns, all identified challenges, as well as the generated ideas to address them. All information was kept and processed by clustering. This enabled us to identify your focus of attention, which we plan to use for pushing conservation.

I promised to help with and invest in the most important challenge, and we are just now engineering further steps to lead conservation strategies to successful implementation.

Sincerely,

Christoph Heinrich

Chief Conservation Officer, WWF Germany



1. Introduction

“We live in a very complex and connected world; biodiversity is not any longer a silo [...] We need to understand behaviour, we need to actively seek collaboration, we need to look for governance solutions, technical solutions [...] and we need to understand our own blind spots [...] to [enable the] systemic changes that we seek.”

– Pavan Sukhdev, President and Board Chair of WWF International

[Click here](#) for his short video message. In case your software does not support to view it online, please download it (button on the upper right of the screen).

Over the last decades, conservation efforts by WWF and other organisations have had remarkably positive impacts. Still, major challenges like climate change, biodiversity loss, or overconsumption remain unsolved. It is therefore of utmost importance to evaluate our present approaches in order to identify the most important success factors and levers for success. Furthermore, we need to identify clearly global unsolved challenges as well as our own blind spots to generate new ideas and innovative concepts to address them.

To work on these issues, we had the pleasure of hosting a two-day workshop in Berlin in November 2018, aiming to share knowledge and to seek innovative solutions together with over 40 internal and external experts.

[Click here](#) for a video clip from the workshop.

This report presents the outcomes of the workshop. We are convinced that they will contribute to taking our conservation impact to a higher level. We also hope that they might inspire your personal critical thinking as well as the work in your department.



2. Workshop

The workshop's design intended to stimulate innovation capacities by using a considerable input of knowledge from scientific studies, success stories from different fields, a survey, and the analysis of our WWF Practice strategies. Suitable tools such as liberating structures were applied to free the brains of the participants in order to generate knowledge and ideas.

This created a large amount of data. The results include success factors and patterns of success at different temporal and spatial scales, the identification of conservation challenges at the global level, and WWF blind spots which might hinder the implementation of effective solutions.

In addition, a large number of ideas were generated. Four ideas were prioritized as potential starting points, while others were developed into provisional offers to address the identified challenges.

2.1 Goals, Contents and Processes

The workshop aimed to generate results for four successive goals:

1. Identifying success factors and potential patterns of success for conservation and sustainability projects as well as programmes
2. Defining overarching global key challenges regarding conservation and sustainability impacts
3. Identifying blind spots with respect to WWF's conservation strategies, drivers, and levers for change
4. Developing and engineering three to five conservation and sustainability approaches to tackle the most important global challenges identified

The two central questions which guided the workshop were:

- A) **When have you been particularly successful** – what could be patterns for successful nature conservation and sustainability strategies?
- B) **Are there particularly complex unsolved global problems** for which we have not yet been able to develop meaningful strategies in order to solve?

The central search fields or **core themes** for thematic containment and focussing were the four current “key drivers of change”: technology, behaviour, governance, and cooperation.

The selection of the core themes was based on a review of scientific literature. An overview and a short introduction into each theme were provided for the participants in advance (see links in Chapter 4 below).



In addition, **a systemic approach regarding socio-ecological system analysis**, innovation processes, as well as a structured quantitative ideating methodology was introduced.

The workshop was structured alongside the central questions and the chosen creative process and tools.

Part 1 (days 1 & 2)

1. Get to know each other's success-stories
2. Evaluate patterns of success in conservation and sustainability programmes
3. Assess current trends of successful conservation and sustainability programmes
4. Identify gaps in addressing root causes for biodiversity loss and destructive development as well as identify overarching challenges for conservation & sustainability

Outcome 1: key patterns of success and guidance to reach conservation and sustainable use

Part 2 (days 2 & 3)

1. Ideate and combine drafts of inspiring new suitable programmes
2. Integrate success criteria and overarching challenges we aim to tackle
3. Engineer ideas for appropriate conservation and sustainability approaches
4. Vote on first suitable and promising ideas
5. Develop first innovative concepts and re-design existing current approaches

Outcome 2: 2-4 well defined key conservation and sustainability challenges and ideated roadmaps for respective innovative strategies and solutions



2.2 Methods

Innovation is the successful implementation of a solution, which offers a particular benefit.

As a first step, being innovative requires the generating of numerous ideas, a procedure also known as ideation. The methodology that we used for ideation was a so-called "systematic creative thinking process", which was quantitatively enhanced and adapted for this workshop. This process consists of seven steps: (1) formulating a goal or a challenge, (2) investigating its background and any potentially related data, (3) identifying central questions, (4) selecting specific methods, (5) exploring existing ideas and relevant trends, (6) developing, combining, and adapting (new) solutions, (7) exploring their potential acceptance and the implementation possibilities in order to choose ideas, and (8) conceptualising the implementation of the selected ideas or solutions. The qualitative enhancement of this process was accomplished through a combination of several methods, which led to the generation of a large number of raw ideas or potential options.

The ideas were elaborated and better defined by applying methods from the following approaches:

- (a) creative problem solving,
- (b) liberating structures
- (c) agile retrospective

Each method possesses its own tools, although it is common practise to apply tools from one method in the frame of another. It is important to understand that the tools themselves can be differentiated into generic groups, namely: lateral tools to enable lateral thinking especially important for people with considerable insider knowledge, convergent tools to arrange and classify the created ideas, systemic tools to take a holistic perspective, and playful tools to create a pleasant environment by stimulating motivation and fun.

3. Excursion: Systemic View

Linear thinking in cause and effect patterns has been found inappropriate to understand and responsibly manage social and ecological systems. Recent science suggests "systemic approaches" for such complex systems and a management using precautionary buffers regarding expected tipping points in socio-ecological systems.

A good starting point working with socio-ecological systems is analysing the different levels of systems, the relations and feedback loops between these levels and within each level. Furthermore, the multi-level perspective is an analytical approach to describe processes of innovation and transitions in socio-ecological and technical systems. It can be used to better understand the relevant context of system-innovation approaches. For socio-ecological systems it has been established to differentiate three levels: the micro-, meso-, and macro-level.

It is important to keep in mind that directly impacting the **macro-level** (long-term trends and crises like climate change or overarching paradigms like neoliberalism) is inherently not possible.



The **meso-level** might be influenced by movements for change and represents established regimes, such as mainstream practices, structures, and culture of the current socio-economic system. The co-evolution of this regime is affected by feedback loops from the macro-level (exogenous forces) and grassroots innovation on the micro-level, resulting in different potential trajectories.

The **micro-level** embodies incubation niches for (radical and disruptive) innovations deviant from business-as-usual or mainstream. Thus, it can be seen as the origin of radical changes and alternatives for the dominant system which needs to be changed. For us as conservationists, the main implication of the systemic approach is to focus on identifying meso-level barriers that inhibit solutions, or positive trends changing meso- and macro-levels and tackle them preferably through innovation from the micro-level aiming for regional and global sustainability.

Macro-level: Landscapes. Exogenous, autonomous, long-term trends and crises (demographic, environmental, macro-economic, macro-political, ...)



Meso-level: Regimes. Established, mainstream practices, structures and culture (rules and regulation, infrastructure, economic structures, technological lock-ins, incumbent stakeholders, behaviour, ...)



Micro-level: Niches. The 'incubation rooms' for radical innovations, shielding them from the mainstream. Niches could take the form of innovation projects or experiments in small-scale 'places' that are deviant from business as usual...

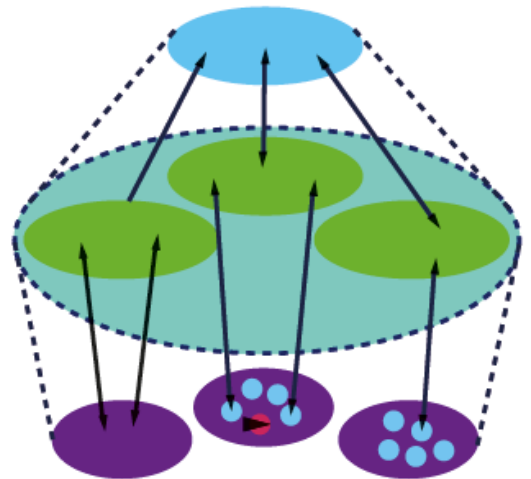
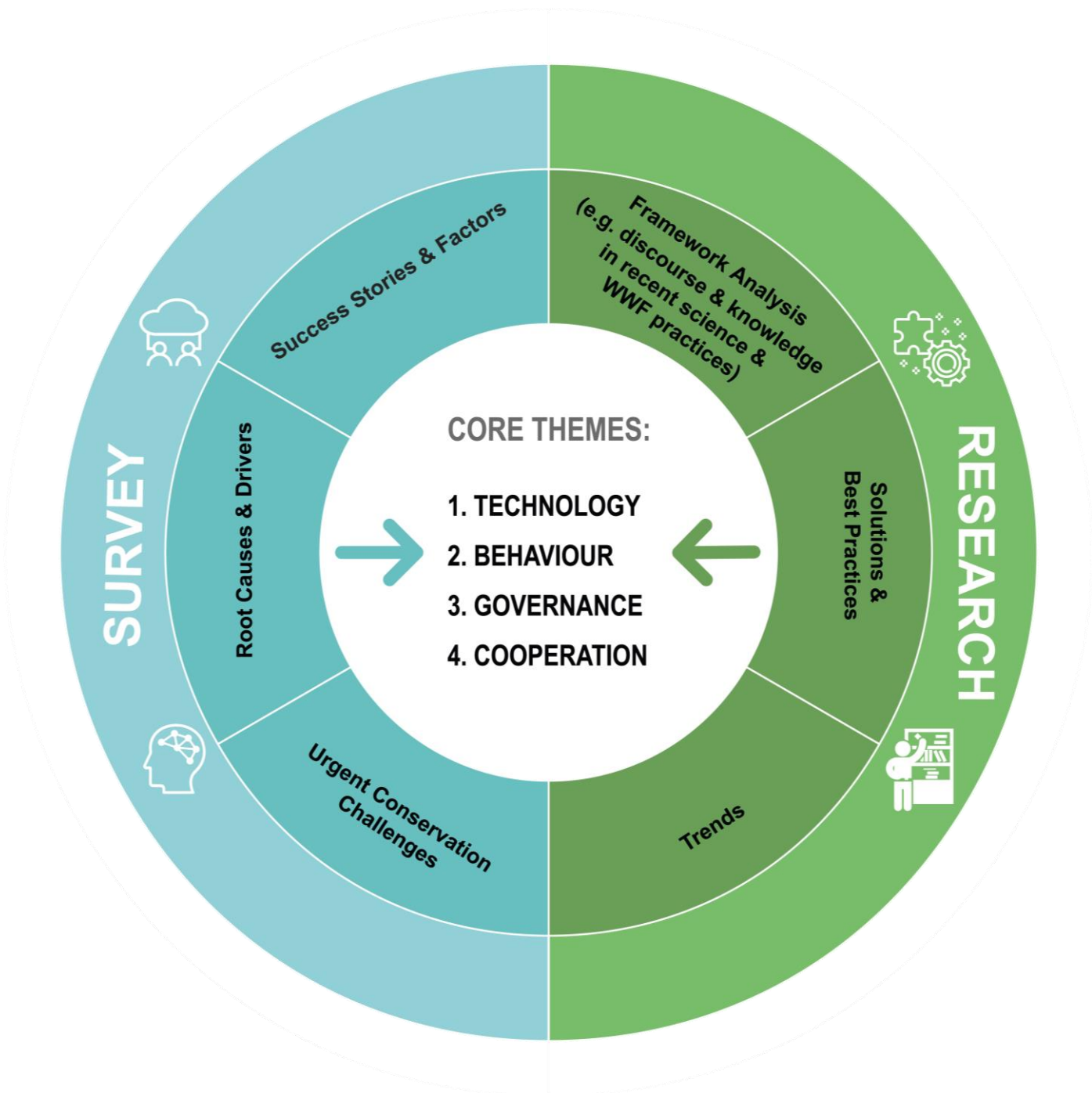


Figure: Multiple levels as a nested hierarchy. Adapted from Rip and Kemp, 1998 and Geels, 2002.

4. Four Core Themes

As a result of the preparatory research across WWF Practices and recent scientific literature, as well as based on the results of a pre-workshop survey with experts (both WWF and external; [click here](#) for the questions), four core themes had been identified. These themes are of paramount importance, both with respect to main conservation challenges and potential solutions. They also largely define the space for further development and implementation. The four core themes are: technology, behaviour, governance and cooperation.





These core themes represent, on the one hand, recent highly relevant global trends impacting nature and people: digitalisation and artificial intelligence, nationalist movements, business impacts on global commons or public-private partnerships where all the business risk lies with the public, etc. On the other hand, the core themes mirror the big opportunities for conservation in the twenty-first century: appropriate earth observation, social movements for nature, transparency and democratisation, or powerful global cooperation to implement the Sustainable Development Goals (SDGs).

In the following chapters, you will find the results of our workshop elaborating on the challenges for conservation related to the four core themes. Each chapter ends with a link to an introduction and a generic overview about the specific core theme.

4.1 Technology

Work in the core theme technology started with a focus on the problems to be solved. Two problem fields were identified: challenges requiring new technological solutions, and existing technologies potentially contributing to additional challenges. Three result clusters were found:

- a) communication/ information
- b) consumer behaviour
- c) surveillance

a) Communication via social networks, global interaction, and transparent information exchange were thought to be adequate technological ways to solve global challenges. This includes an exchange through networks, between experts, as well as external exchange within larger societal contexts, such as citizen science.

Discussed was also an inclusion of the “community” for the development of solutions (“open innovation”, “co-creation”, “crowd-wisdom/-sourcing”...), a transparent way of dealing with knowledge (“open-source”), the evaluation of monitoring data, and the spreading of “un-faked” data. Participants pointed out that the participation and involvement of the general public will contribute to the development of a long-term interest in certain topics. This might induce behavioural changes of others (“Influencer”), and, in the long-term, development to a change of norms and values within the society at large.

- b) The consumer behaviour cluster partly overlaps with communication and information. Participants highlighted specific solutions such as applications for sustainable consumption. These could support and spread new consumption practises as part of a “shared economy”.
- c) Satellite-based surveillance technologies – especially for oceans, coasts, forests, freshwater, agricultural land and species – were considered as promising. Specific measures for certain sectors were not mentioned.

Potential solutions for how to raise the acceptance for existing technologies were seen either on an individual basis (“either ‘love it’ as a person”, “do not fear to innovate”), through the use of role models (“make use of influencers as pioneers of change”), or within groups, based on cooperation (“co-create solutions or innovations, show results in a non-competitive way”) and transparency (“encourage ‘open source’ for beneficial solutions”).



In addition, the following unsolved challenges for the core theme “technology” were identified:

- d) The possessing of appropriate and convenient technologies by large market-dominating enterprises. A possible solution was seen in educating and in enabling local people to use and build appropriate technologies by themselves (“make solar panels”). Over the long-term, these technologies could also be further developed.
- e) The development of potentially positive technologies (conservation-oriented, sustainable), which are presently mostly used in products with a negative environmental impact as a way to reach short-term economic gain (such as cars with hybrid technology).
- f) The phenomenon that technologies are often used to create individual exclusivity, but not to enhance their use value.
- g) The development of a technological elite and the change of the job market towards digitalisation as an increasing contribution to economic inequality.

Certification was perceived as an existing “technical” solution which often did not manage to prevail and keep the sustainability rigour. And finally, the possibility of customizing approaches, and the adaptation of ideas as well as their tailored development was mentioned several times.

To zoom into the detailed list of unsolved technological challenges [click here](#).

[Click here](#) for the background paper on technology.

4.2 Behaviour

Aspects of behavioural change and how to accelerate changes towards sustainability played a major role during the workshop. Clustered results were assigned to four different categories or “levels”, leading to a simple model of behavioural change for WWF.

- a) In relation to the individual level, participants pointed out the importance of “emotions”, and the “belief of having an impact”, “cognitive dissonance”, a “structural change in behavioural options”, as well as the role of “risks and uncertainties” in changing the behaviour of individuals were also highlighted.
- b) In relation to the societal level — that is, upscaling from the individual level in order to increase impact on society at large — the importance of “existing traits, habits, customs, and traditions”, as well as the relevance of “trends and fashions” were mentioned. “Peer-group behavior”, “pro-social orientation” and the feeling of “being part of a movement” (e.g. the Fridays for Future effect) were also found to be important. In addition, the significance of “role models” and “forerunners” was acknowledged (e.g. Greta Thunberg). “Crisis” was thought to be a major factor for accelerating changes on the societal level.
- c) The analysis level refers to the category which contains issues that require an extended analysis in order to support behavioural change. It includes the “identification of individual values”, “including hidden ones” (which according to a recent study are of utmost importance when it comes to finding and promoting the “right” values), the “identification of shared norms and values”,



and the finding of “key factors, stakeholders, audiences, and the linkages between them”.

- d) Most statements belong to the so-called action level. This category summarizes statements suggesting concrete steps forward, such as “evoking emotions”, the “creation of incentives, benefits, and awards”, “the linking of benefits to sustainable use”, and the importance of “repetition and long-term investments”. Also highlighted in the workshop was: “movement building”, “resonance” between individuals, within groups and between people and nature”, the “alignment of a collective vision”, the “communication of new norms and values”, and “appealing to selfish reasons”. Participants felt that science has much to offer, for example in “identifying new approaches”. Finding “models of good behavior”, “key influencers”, “supporting peer to peer learning” and “good education”, as well as using “campaign and movement building approaches” was thought to be important. In addition, it was clearly stated that “policy changes” (laws etc.) are needed to support behavioural change.

To zoom into the detailed list of unsolved behavioural challenges, [click here](#).

[Click here](#) for the background paper on behaviour.

4.3 Governance

Governance-related results from the workshop were discussed and clustered. We agreed that “governance” includes all processes of governing and the governing structures of communities, businesses, markets, national and international entities, and networks. Governance is executed by laws, norms, power of governments, administration, jurisdiction and other organized structures of a society. Many statements of the participants referred to good governance (i.e. implementation of democratic ideals, participation, transparency, reliability, joint decision-making, inclusion and empowerment (e.g. of indigenous people, local communities, and co-operatives)). Issues such as the own inertia, the aversion of trying something new, and disability for a quick adaptation to the fast-changing world were common criticisms during the discussions. In addition to more pro-activeness, the importance of using moments of change (the so-called window of opportunity) or a crisis was pointed out.

To reach sustainable growth, supply-chain responsibility and regulatory boundaries for the global finance system and economy need to be set, and an alternative definition of basic human needs (e.g. “from GDP to social wellbeing”) is required. Furthermore, being part of a bigger movement than just WWF and mobilising the public can help to back up the own positions and to overcome the current social bubble. Reaching governmental actors with a language they understand, with insider knowledge and good solutions, was the consensus concerning our ability to change (high-level) policy.

It was argued for the economic sector, that cooperation and recruitment of “titans of industry” are important levers to directly influence markets. Also, public pressure and transparency (e.g. monitoring systems) will lead to success. Lastly, although difficult to capture and transform into our environmental and sustainability projects and programmes, the growing populism and nationalism, global inequality, and poverty were seen as major challenges by the participants.

To zoom into the detailed list of unsolved governance challenges [click here](#).

[Click here](#) for the background paper on governance.



4.4 Cooperation

Solving problems of collective action such as conservation issues, requires cooperation. Cooperation refers to individuals organizing and governing themselves to obtain mutual benefits, and covers a broad spectrum of behaviours. This is the reason why the results from this core theme are very diverse. In the discussions during the workshop we differentiated between the individual and the organisational level.

For WWF, various aspects seem to be important: handing over responsibility, the institutionalisation of cooperation, and the anticipation of conflicts of interest. Incidentally, the significance of communication and mutual benefits were highlighted; these can be supplemented by defining clear roles and responsibilities, while having an exit strategy.

For individuals, fair and open communication, sharing successes, and mutual benefits play a crucial role, as well as building trust and personal relationships. Furthermore, transparency, shared values, and simply investing time into the relationship will increase the prosperity of interpersonal collaboration.

Barriers for cooperation can be found on three levels: external factors (e.g. resources, time and further transaction cost vs. benefits), human factors (e.g. desire of control, lack of trust, hidden interests, miscommunication), and organisational factors (e.g. competition for money or fame, organisational culture, and unwillingness to share success).

To overcome those barriers and succeed, participants pointed out the importance of appropriate structures, overcoming of differences, demonstrating the do-ability, incentive-based organisational policies, and the equal share of success and failure.

As a last topic, levers to move partners were discussed. The hard levers are money, division of labour, and collecting information or data, whereas the soft ones are understanding each other's needs, shared interest in results, bigger impact, and reputational gain.

To zoom into the detailed list of unsolved cooperation challenges [click here](#).

[Click here](#) for the background paper on cooperation.



5. Striving for Success in Conservation

The analysis of when and how we had been particularly successful has been a key aspect of the workshop. Our intent was to identify the specific factors that made the success of a project or an intervention possible and to establish change for conservation and sustainable use if they were re-occurring. Success was understood very broadly in this respect, and applied to both successful implementations as well as to the creation of long-lasting results, for example in terms of behavioural changes. While the term “success factors” refers to a specific, mostly individual aspect, “patterns of success” refers to recurring success factors and combinations of them. Workshop participants were asked to send success stories in advance, which were used to clarify the following questions during the workshop: In what other contexts, niches or domains could the project be repeated? What is the radically new way of thinking, doing, and/or organising that triggered success in the project? What can be learned from the specific local context? How does the local context make the project distinctive? What possible connections does the specific project have in common with other transformational approaches? What changes are necessary in the wider system to move the project into mainstream?

5.1 Success-Factors / Key patterns of success

The workshop revealed a large number of success factors. Some of them are relevant for most, if not all, projects and interventions; others are rather case-specific. Based on the success stories of the workshop participants, the working group results at the workshop and the evaluation of projects elaborated in the Panorama database – a joint project of UNDP, UNEP, GIZ and Rare – we identified round about 400 success factors. These factors were grouped into 23 clusters, in which each factor could be part of up to three different clusters. The first or primary cluster is considered as the most relevant one.

The results were visualized using Gephi, a software which allows the user to present a simple overview as well as a detailed presentation of all data. Clusters associated with more success factors are considered to be more important for conservation and sustainability success than clusters with fewer factors. Most important clusters for conservation success are: working in partnerships (102 factors), enabling behavioural change (98 factors), good governance (73 factors), and innovative approaches including disruption (70 factors).



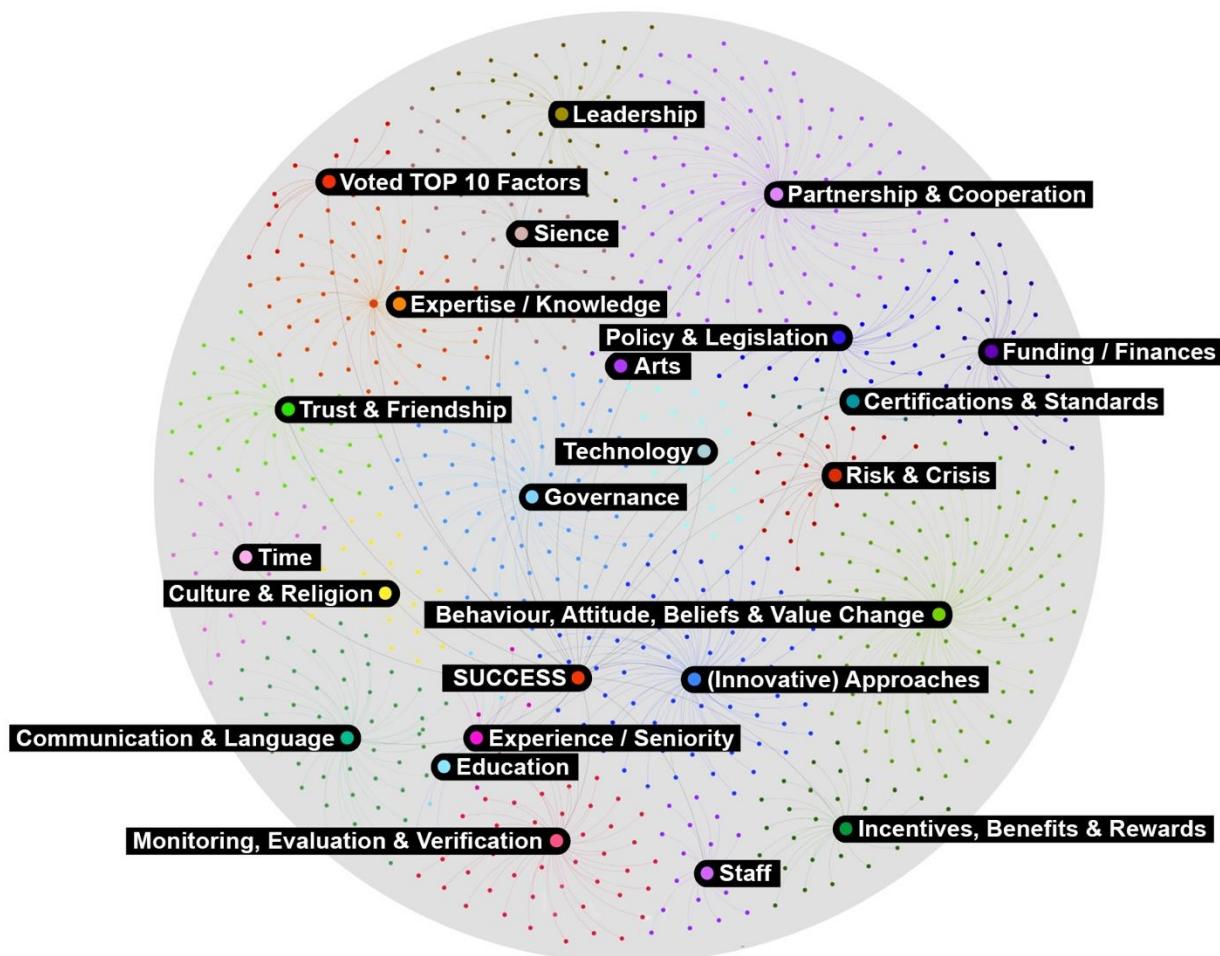
Top 10 Success Factors

The top 10 success factors listed here reflect an early digital vote by participants (Pigeonhole and Mentimeter) at the beginning of the workshop.

1. Cooperation & co-creation
2. Early stakeholder engagement
3. Intrinsic motivation is important
4. It's not all about money - but without money it's all about nothing
5. Long term action, funding, commitments
6. Mutual trust
7. Have a clear target - systemic approach
8. Powerful leadership, champions & role models
9. Track and maintain pressure
10. Crisis can drive behaviour change



Explanation: The hoop shows all clusters, with the size of each cluster corresponding to the amount of success factors within the cluster.



Explanation: This figure presents a simple overview of the success factors, which are displayed with respect to the primary cluster.

To use this interactive graphic, [click here](#) and open the **i short user guide** in the box on the left side.

[Click here](#) to see the clustering list for all success factors from the workshop (each factor is part of up to three clusters).

Hereafter we focus on the success factors with generic relevance, as these are of most interest in terms of replicability.

The time aspect is clearly important. Successful projects are usually long-term, have sufficient funding, and are implemented at the right moment, using a window of opportunity. Such windows of opportunity differ, ranging from an actual crisis (which may increase the awareness for a specific issue, or make people desperately look for solutions) to favourable political constellations that can support an intervention. Good planning is essential, and while it certainly benefits from a science-based approach, it is of paramount importance that local needs, values, and perceptions are included for developing a shared vision of what the project shall achieve. That will not only ensure a better acceptance, but also contribute to reaching long-term impacts beyond the lifetime of the project. A comprehensive understanding of the situation in which the intervention shall take place may include learning local languages, analysing local/regional/global market structures, and identifying the relevant actors in the field.



Such a project design is holistic and interdisciplinary, and it also leaves room for necessary adaptations during its lifetime. It has the right team, and is governed by a strong leader.

Clear communication about the project is a powerful success factor. It is also important to demonstrate early which benefits it may bring to those involved and/or being targeted. Given that most interventions aim at behavioural changes, showing respect and gaining trust are other important factors of success.

In terms of long-term impacts, the establishment of co-management schemes is often a factor of success. Giving people the opportunity to be involved in decision-making empowers them to become active in matters they care about. In that way, they have a stronger personal interest to make the system work. Legislative support in terms of guaranteeing rights to those people and ensuring that their management is considered to be legally mandated is another success factor.

Projects, programmes and interventions that aim at behavioural changes often benefit from campaigning pressure. Especially when the targeted issues are relevant at larger geographical levels, public attention is a powerful tool for success.

New technologies are also often important. They can increase the effectiveness of projects/ programmes, lower their costs, or simply contribute to a better understanding and acceptance by making information, processes, impacts, activities, or facts available and transparent.

If the right stakeholders are involved, successful model approaches can be up-scaled. Upscaling has the potential to be very powerful, as it uses concepts and processes that are known to be working.

Finally, one working group elaborated on the question of whether there are identifiable patterns of success:



Governance: Policy and legal frameworks and their implementation are necessary to create enabling conditions for good governance. Tools are e.g. incentivising, controlling and sanctioning.

Management: The quality of management strongly contributes to success by applying good leadership, building teams of well-selected people capable to plan and implement well and making sure the efforts as well as the impact will be monitored, verified, and evaluated.

Motivation: There is no success without motivation. This requires mutual understanding, shared beliefs and values, a sense of ownership among stakeholders, and systems to reward appropriate behaviour.

Partnerships: Through partnerships, we can multiply or complement our own capacities in order to leverage conservation success at scale.

Key for any success in conservation are the vertical patterns “governance” and “motivation” mutually supporting each other (a subgroup of success factors related to the motivation patterns are listed in the “behavioural change” cluster). Without a strong and good governance, conservation will not be successful over time. The same is valid for “motivation”. When stakeholders are motivated for conservation and change, this will create a strong support, or even a movement, for nature and sustainable use.

The horizontal patterns “partnerships” and “management” are important to enable successful processes and implementation, as well as to create powerful levers and multiplication for a change on meso- and macro-levels of socio-ecological systems.



6. WWF's Blind Spots

Identifying WWF's blind spots is important in order to overcome the professional bias of the organisation and to enable WWF to become an innovative, learning, more impactful, and – where necessary – changing conservation NGO. Identifying our own blind spots needs an external view and help. This support was available at the workshop and crucial for success ([click here](#) to see the list of WWF blind spots).

The blind spots identified in the workshop were clustered, discussed, and combined with the findings of our survey and literature research. These are the two overarching integrated clusters:

Systemic thinking:

- a) “The inconvenient alliance of the political and economic system” (the “rotating door effect” in political and economic elites) is often neglected when we plan and implement partnerships, lobby-campaigns, or when we should understand and push for a balance of conflicts of interests.
- b) A public affairs approach integrating conservation, education, communication, campaigning, promotion and marketing is not yet mainstream in WWF.
- c) We often lack the understanding of social movements, "pressure- and tipping-points", or epidemic mechanisms.

Relevant science for conservation-success:

- d) Poor understanding of social sciences (sociology, political science, economics and anthropology), arts and philosophy relevant for conservation.
- e) The growth paradigm as an unsuitable assumption is not yet challenged.
- f) We still lack the in-depth knowledge and understanding of good commons governance.

Overcoming blind spots will enable WWF to choose and understand key integrated conservation challenges and to successfully engineer relevant programmes and projects for change towards sustainable use and conservation of biodiversity.



7. Challenges for Conservation

The identification of 2-3 novel global conservation challenges had been one of the major goals of our department since its establishment in 2017. Addressing these challenges through innovative strategies implies that WWF moves from reacting to current issues to proactively developing solutions for upcoming issues. The workshop has been one crucial step in the “challenge identification process”. In complementing our past findings from previous work, the results can now be used to guide WWF’s future conservation planning.

We used a two-step approach for identifying novel global challenges:

1. As part of a qualitative pre-workshop survey, we asked thirty-four WWF leaders and external experts the following question: “What are the three most urgent conservation challenges?” [Click here](#) to open a mind map with the detailed results of the survey, including root causes, drivers and potential solutions for the challenges identified. The clusters are biodiversity loss, climate change, resource and land use, marine biomes, pollution, and governance. For a detailed view, you have to download the file, open it with a PDF reader and zoom in. For easier navigation please press the hand symbol in the menu bar on the top.

2. As part of the workshop, one of our two leading questions was: “Are there particularly complex unsolved global problems where we have not yet been able to develop meaningful strategies in order to solve them?”

Several exercises with different creative tools were specifically designed to (a) lead to a list of presently perceived challenges, (b) identify additional new or potential upcoming challenges, and (c) work on solutions.

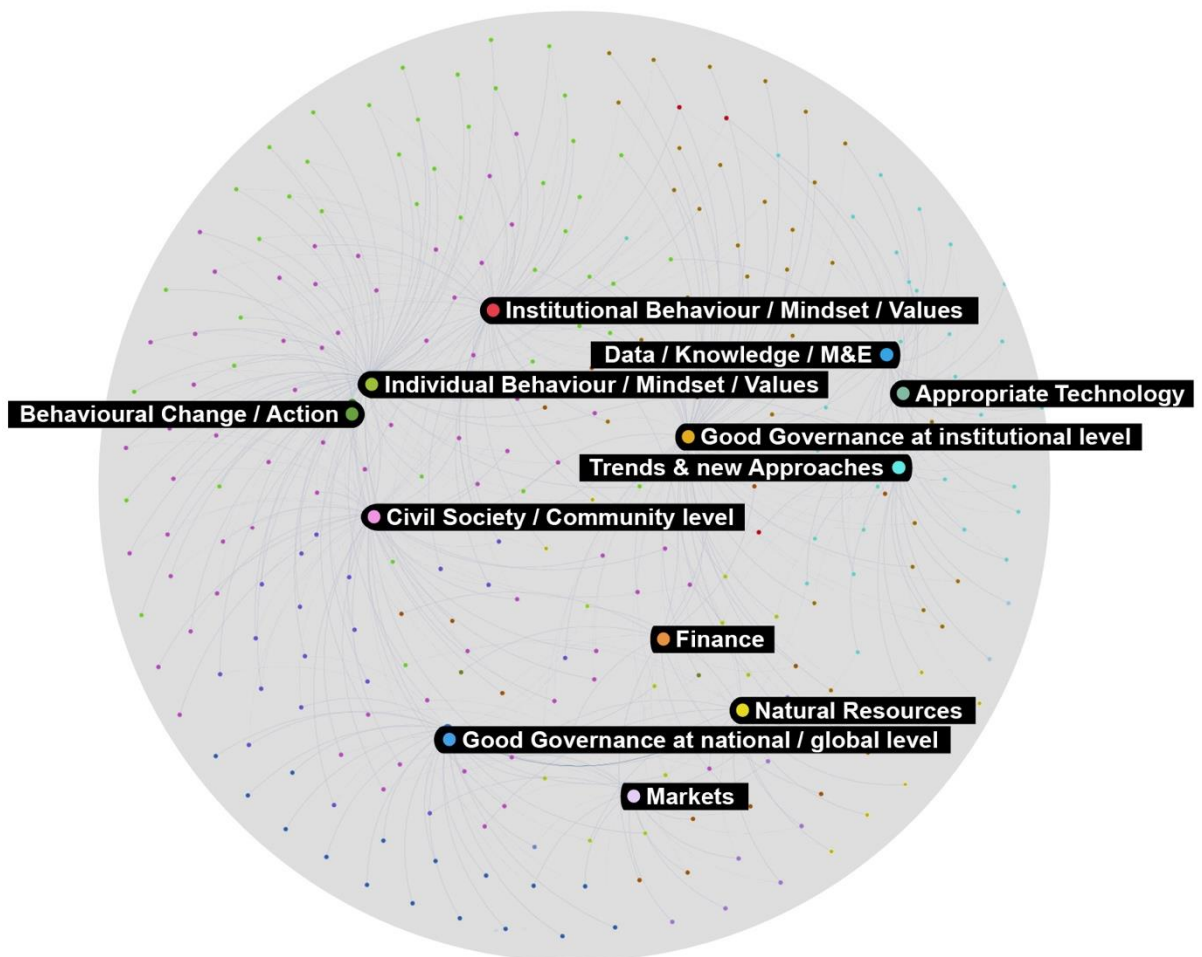
The four core themes of the workshop (technology, behaviour, governance, cooperation) were used to frame the search for challenges. Participants were also asked to change their perspective by thinking like a specific actor (e.g. Senegalese fisherman), or by putting themselves into the perspective of an endangered species. A retrospective method was used allowing participants to start with future solutions in order to better frame upcoming problems. Challenges were clustered into four categories: simple, complicated, complex, and chaotic. This systemic approach requires a deep understanding of problems and how they are connected. Participants were inspired to understand the underlying complexities of dilemmas, and to clearly define the issues at stake: What exactly is the nature of a problem? Who is involved? What symptoms does it show, i.e. how do we know when a specific problem is present? How is it related to other problems, which drivers are behind it, are there geographical or other limits to be considered?



As a result of this systemic approach, 277 challenges were identified. Individual challenges were clustered, that is, grouped according to their similarities, and sorted into different categories (e.g. challenges related to finance you will find in the “Finance” cluster).



Explanation: The hoop shows all challenge clusters, with the size of each cluster corresponding to the amount of challenges within the cluster. Since each challenge can be part of up to three clusters, this can affect the number of challenges (total number of challenges $n = 277$ vs. the sum of 653 in this graph).



Explanation: This figure presents a simple overview of the challenges, each of them being connected with up to three clusters.

To use this interactive graphic, [click here](#) and open the **i short user guide** in the box on the left side.

Working with the challenges and clustering them enabled us in the next step to define four **key integrated conservation challenges** of global importance. A **fifth “internal”** challenge consists of a number of WWF-specific issues which need to be addressed at institutional levels. These are the identified key integrated conservation challenges:

- (1) The growth paradigm and its related external effects impacting on the integrity of ecology and society.
- (2) The infrastructure tsunami including urbanisation, with its huge demands for food, energy, and mobility rapidly reducing spaces for biodiversity and fragmenting ecological networks.
- (3) A disconnect between people and nature.
- (4) Poor governance for the (global) commons (e.g. climate, biodiversity, soil, water, air, landscapes).
- (5) WWF's internal challenge: institutional and organisational knowledge, processes, and structures in need of change.

Further details about these key challenges are presented together with the ideation in chapter 8, and the detailed provisional offers for joint acting/ action in chapter 9.



8. Ideated Potential Solutions for Key Integrated Conservation Challenges

During the workshop all participants were encouraged to generate ideas to tackle the identified challenges and note these ideas on cards. All ideas were screened, clustered, and discussed by our department for further elaboration.

[Click here](#) for the full list with all ideas and their background information.

At the last stage of the workshop, all ideas were presented and rated by the participants. Over three rounds each participant rated his or her favourite idea with 5 points in terms of (1) the importance, (2) the personal favourite idea, and (3) the feasibility. In addition, each participant could choose the best idea per round. After rating the ideas, every participant chose his or her favourite three ideas which were brought to tournament mode. The tournament mode was a four-staged selection process through which individual ideas were discussed, with “winners” taken to the next stage. This resulted in four winning ideas, which were further elaborated in small working groups.

8.1 The Top Workshop Ideas and Provisional Offers for Further Collaboration

These are the four winning ideas of the workshop:

- a) Reverse overconsumption (meat) (integrated in challenge 1: see underlined below)
- b) Creating a social movement for nature (integrated in challenge 3: see underlined below)
- c) Support people protecting landscapes (integrated in challenge 4: see underlined below)
- d) The conservation impact academy (further details at the end of this chapter)

[Click here](#) to read the first concepts developed out of the four winning ideas.



To avoid typical effects in ideation workshops (e.g. the “authority bias” or the “overconfidence effect”) and gain a broader representation of the key ideas developed in the workshop we decided to work with the twenty best rated workshop ideas and not only focus on the four winning ideas. See below the top 20 ideas as described by the workshop participants:

The Top 20 Ideas - Potential Solutions for Key Integrated Conservation Challenges (the four voted "winning ideas" are underlined below)

Short Title	Description by the Workshop Participants	Score
Disrupting the Infrastructure Tsunami	Integrate ecosystem values into long term infrastructure planning & financing. Use systems modelling tools to evaluate trade-offs and to balance social, economic and nature's needs in development	64
<u>Social Movement for Nature (involving Arts)</u>	Public campaign to create political momentum behind the global deal for nature; involve arts to create a social movement	59
<u>Conservation Impact Academy</u>	Virtual academy addressing knowledge and experience-sharing, training, innovation, ideation and engineering for conservation	55
Sustainable Cities	In 2050, 80-85% of people will live in cities. Cities will concentrate the global demand on resources and thus need to become a model for sustainable living	53
Indigenous People and Local Communities	Securing community land worldwide for conservation through self-driven sustainable development: mapping IPLC knowledge; governance mechanisms; build broad coalitions; lobby for rights recovery and equal access to justice	44
Pandasat	Make real-time tracking cheaper, easier, smaller & better; better data & new applications; establish "PandaSat Ltd.", develop satellite & chip-receivers, start tracking pilots, develop apps, inform policies	44
Double Wildlife	Doubling the number of wildlife on earth; reach out to the upcoming civil society movement "Extinction Rebellion"; form an alliance of nature and cooperate with other NGOs towards 2020	43
Seeking Knowledge, Intelligence	Seek advice to address blind spots, address gaps between land users and conservation to reduce land transformation; document good and failing practice to enable lessons learned, advocate for policies; address species extinction through reducing land transformation	39



Isotopes, genetic fingerprints of Timber, Fibre (Cotton) & Food	Building reference databases while using e.g. multiple stable isotope analysis or genetic fingerprints for several commodities; inform companies, push for transparency and traceability of supply chains. E.g. origin of cotton, fish species or timber can be assessed within a probability framework	27
Cultural Change	Societal and cultural change to reduce consumption of (red) meat (as a symbol for wealth & freedom); with prices, contests and creating events; include writers, actors, scientists and NGOs	26
A "Conservation Optimism" Movement	Support network for conservationists; sharing positive stories of success, failure & learning; access to resources for all, including mobile tech. to connect donors & implementers on the ground; unbranded, bottom-up, multi-lingual, learning & sharing network; place-based but global	24
Environmental Justice Programme	Training programme for national judicial academies, public attorneys and lawyers (e.g. wildlife trade cases) develop a curriculum for nat. jur. academies; conduct review of selected 10 countries; WWF can join hands with an academy/ IUCN env. land programme	24
More Cooperation!	Combined power, on all levels, wherever possible: to effectively tackle the macro-level; with lobbying, campaigns, investing, working together (like big companies do all the time with a huge success, e.g. Glyphosate Task Force)	22
<u>People Protecting Landscapes</u>	Empowerment of indigenous & local communities (they manage de facto 25% of the earth); mapping territories to empower; secure their rights to land/ resources	20,75
The Nature Fix	Show people that they need nature to be healthy and feel good (e.g. 30% more schizophrenia in cities --> change cities); nature-based solutions especially in cities	19
Predictive System for Infrastructure	Development greening, taking climate change projections into consideration; planners need to know how green their infrastructure is	18
Living within Planetary Boundaries	Tackle overconsumption-driven climate change and biodiversity loss (on a global level), taking different cultures into account; promoting sustainable lifestyle, biodiversity conservation, save the climate	17
Indigenous Knowledge & Values	Harnessing the political power, values and knowledge of indigenous people; living in harmony with nature as a role model for transformative change	16,75



<u>Reverse Overconsumption & Biodiversity Loss</u>	Demonstrate happiness campaign: for wellbeing, connection to people and nature, freedom; include oligopols, economic system, politicians, decision makers; tackle biodiversity loss, climate change and social disintegration	15
"Manager" Training	International exchange: regular "manager" training to challenge the WWF management behaviour/ system and to better manage the challenge of long-term engagement/ stagnation; aim for agile adaptation/ disruptive change and learn from other organisations	14,25

[Click here](#) to see the score calculation for the top 20 ideas.

After the workshop, we further analysed the top 20 ideas as rated by the participants. After assigning them to the four key integrated overarching challenges, we developed these ideas into provisional offers. The offers are thought to be potential further work streams. They shall serve as rough guidelines for collaboration between our department and the WWF network, and with external partners. We are convinced that the combination of the key integrated conservation challenges with the respective provisional offers provides a useful and systematic way for further shaping and planning WWF's conservation efforts of the future.

Top Ideas and Offers for the 4 Key Integrated Conservation Challenges

	1 Growth Paradigm/ Cost Externalisation	2 Infrastructure Tsunami & Urbanisation	3 Disconnect between People & Nature	4 Poor Governance for Commons
Ideas	<ul style="list-style-type: none"> Living within planetary boundaries Cultural change to enable behavioural change & reverse <u>overconsumption</u> and biodiversity loss 	<ul style="list-style-type: none"> Predictive system for infrastructure Disrupting the infrastructure tsunami Sustainable cities (urban nature, public, smart & clean mobility, green buildings; decentralized renewable energy) 	<ul style="list-style-type: none"> <u>Social movement for nature</u> (involving arts) Indigenous people & local communities: knowledge, values & governance The nature fix A "conservation optimism" movement 	<ul style="list-style-type: none"> <u>People protecting landscapes / ecosystems</u> Seeking knowledge & intelligence Environmental justice program (equal access to justice) Satellites (for transparency) Isotopes for timber, fibre & food traceability
Offers	<ul style="list-style-type: none"> Define absolute budgets for common goods incl. biodiversity and identify thresholds for social-ecological systems Incentives for behavioural change, e.g. through the visualization of resource use and consumption (via software, applications, platforms) Rating of central banks and/ or business associations on their ecological risk mitigation 	<ul style="list-style-type: none"> Urban population can be the lever and provide opportunities to enable and support social movements for societal change towards sustainability. Recent developments in policy and science suggest improved joint fundraising opportunities. 	<ul style="list-style-type: none"> Use citizen science & open innovation lab/ platform or gaming app to (re-)connect people with nature Cooperation with social scientists to evaluate and enhance social & ecological movements 	<ul style="list-style-type: none"> Innovative monitoring, data processing, machine learning, open source & transparency/ traceability technologies Enable and support local communities to use appropriate innovative technologies for sustainable resource management Develop business cases for environmental lawyers and setting up an education program

Explanation: This table provides an overview of the four key integrated conservation challenges, and of the top ideas from the workshop including three of the voted "winning ideas" (underlined), as well as the recently developed provisional offers from our department for further collaborative WWF work streams.



(1) **The growth paradigm** and related external effects impacting on the integrity of ecology and society:

Related ideas from the workshop to overcome this challenge are:

- Living within planetary boundaries
- Cultural change to enable behavioural change & reverse overconsumption and biodiversity loss

Provisional offers for further collaboration:

- a) In cooperation with scientists, WWF aims to understand how to change economic systems towards sustainability. Understanding planetary boundaries, WWF works towards defining absolute budgets for common goods including biodiversity, and identifies thresholds for ecosystems. WWF applies a systemic perspective by understanding natural systems as socio-ecological systems that are interlinked. Their understanding requires not only knowledge from natural sciences, but also social sciences to enable the analysis of people's perceptions, values, and behaviour.
- b) In order to motivate people to change, WWF develops pathways towards sustainability and promotes incentives using drivers and marketing strategies (e.g. the visualisation of resource use and consumption). This should create resonance and trigger behavioural change at societal levels.
- c) One promising tool to guide future investments into sustainability, not in "growth", is the rating and benchmarking of central banks and/ or business associations on their ecological risk mitigation policies (in cooperation with e.g. EU responsible banks platform, consumers associations).

(2) **The infrastructure tsunami including urbanisation**, with its huge demands for food, energy and mobility rapidly reducing spaces for biodiversity and fragmenting ecological networks:

Related ideas from the workshop:

- Predictive system for infrastructure
- Disrupting the infrastructure tsunami
- Sustainable cities (urban nature; smart, clean and public mobility; green buildings; decentralized renewable energy)



Provisional offers for further collaboration:

Urban population can be the lever and provide opportunities to enable and support social movements for societal change towards sustainability.

Urban populations might as well become drivers for

- a) adaptive, decentralized, interconnected, regenerative energy-technologies,
- b) innovative food production & consumption in cities relieving landscapes from the unprecedented negative impact of the agro-industry,
- c) mobility approaches aiming for a huge decline of the transport footprint and
- d) green buildings.

(3) The disconnect between people and nature:

Related ideas from the workshop to solve this challenge:

- Create a social movement for nature (involving arts)
- Indigenous people & local communities: knowledge, values & governance to enable sustainable use, and to restore and protect nature
- The nature fix (i.e. the power of nature to improve health, support reflection and innovation, and strengthen our relationships)
- A “conservation optimism” movement

Provisional offers for further collaboration:

- a) Promising options are the applications of citizen science and open innovation approaches to trigger the reconnection of people with nature (& local communities) and to support self-effective actions of citizens/communities to enable good livelihoods in harmony with people and nature.
- b) WWF in cooperation with social scientists evaluates and enhances social and ecological movements. A key question for change is: How do we move adults towards sustainable living?

(4) Poor governance for the (global) commons (e.g. climate, biodiversity, soil, water, air, landscapes):

Related ideas from the workshop:

- Support people protecting landscapes / ecosystems
- Seeking knowledge & intelligence
- Environmental justice program (equal access to justice)
- Satellites (for transparency)
- Isotopes for timber, fibre, & food traceability



Provisional offers for future collaboration:

- a) WWF applies innovative monitoring, data processing, machine learning, open source and transparency/traceability technologies.
- b) In that way, we enable and support local communities in using appropriate innovative technologies for sustainable resource management. These innovative transparency, verification, monitoring, and evaluation technologies should further be used to inform and enable good decision-making by consumers, politicians, and industry leaders.
- c) A powerful tool to contribute to sustainable global commons management is supporting equal access to justice. This includes creating opportunities for the empowerment of smallholders, cooperatives, and environmental NGOs by developing business cases for environmental lawyers and i.a. setting up an ecology education programme for lawyers (e.g. in cooperation with the “Environmental Justice Foundation” or “Client Earth”).

(5) WWF’s internal challenge and its potential solution:

The conservation impact academy

The fifth internal WWF challenge (see chapter 7) as well as the four key integrated conservation challenges could benefit from a virtual conservation impact academy already introduced above as one of the four winning ideas (see chapter 8.1).

Aims of a (virtual) conservation impact academy are:

- Enhance knowledge-sharing & experience-exchange
- Ideation and engineering conservation impact & proof of impact
- Support risk approaches and innovative minds
- Develop a co-operative attitude for our daily business (internal & external)
- Help developing clear WWF position statements

Provisional offers for further collaboration:

- a) Set up WWF-Lab for a learning, innovative, and risk-taking spirit
- b) Create science platform & provide access to literature for conservation
- c) Organize workshops & conferences enabling impactful engineering of solutions
- d) Strengthen citizen science & open innovation



8.2 State of the Discussion at WWF-Germany

In preparation of this report and to focus our potential support for the WWF network, our department (Innovation, Sciences, Technologies & Solutions) discussed the challenges and ideas as well as our provisional offers with the conservation, marketing and communication leadership teams of WWF Germany. Our colleagues expressed priority interest and commitments for a further elaboration of challenge (1) “The growth paradigm”, challenge (3) “The disconnect between people and nature” and challenge (4) “Poor governance for the commons”.

We have planned to gain further insights and to gather additional knowledge regarding these challenges and the related potential offers. Together with WWF and external experts, we will work on smart ideation, addressing one or two of these key challenges.



9. Conclusions and the Possible Way Forward

The overarching goals and results of the workshop were:

1) The identification of (key) success-factors & potential patterns of success to guide our future conservation and sustainable use strategies. As expected, there is no blueprint suitable for all our projects. However, we found next to some 400 success factors as well as several patterns of success. These patterns can serve as a checklist for future projects and programmes.

2) An identification of blind spots with respect to conservation challenges or knowledge gaps but also regarding drivers and levers for better conservation and improved sustainability.

3) During the workshop, more than 270 challenges were identified, all of them being of strategic relevance to WWF. In the future, these challenges could also systematically be prioritized, as a means to identify options for new projects and programmes.

Although these challenges were certainly known, the systemic approach applied to better understand and cluster them involved an intensive analysis of the complex linkages between actors, drivers, needs, and other aspects important to successfully engineer conservation strategies.

4) To address these challenges, we ideated about 70 draft ideas/ draft proposals. Four of them were prioritized and chosen as “winning ideas” with the potential to be implemented. First drafts were already developed during the workshop, but an actual implementation requires additional expertise and (external) support.

In the recent months after the workshop, we analysed the enormous amount of information created. Clustering and linking data, and using the four core themes of technology, behaviour, governance, and cooperation as a guiding frame, we defined four **key integrated conservation challenges**, plus the one of internal relevance for WWF, which, if appropriately addressed, could significantly enhance WWF’s conservation impact.

The following part covers the first steps of operationalisation:

For each of the four conservation challenges, we developed provisional **offers and potential solutions**. These are related to the ideas generated during the workshop, but also to the results of pre-workshop research and the survey as well as of further discussions after the workshop.

(1) The economic growth paradigm and its related external effects lead to overuse and overexploitation of resources. Negative effects on the environment are not considered in private cost calculations and have to be borne by the general society and future generations.

a) In cooperation with social scientists, WWF aims to understand how to change economic systems towards sustainability. Within planetary boundaries WWF works towards defining absolute budgets for common goods including biodiversity, and identifies thresholds for ecosystems. WWF applies a systemic perspective by understanding natural systems as socio-ecological systems that are interlinked. Their understanding requires not only knowledge from natural sciences, but also an analysis of people's perceptions, values, and behaviour.



- b) In order to motivate people to change, WWF creates incentives, for example through the visualisation of resource use, consumption and the related impacts. This could create resonance and trigger behavioural change at societal levels.
- c) Another promising approach to guide future investments into sustainability instead of “growth” is the rating of central banks and business associations on their ecological risk mitigation policies. Rating and benchmarking are carrot and stick tools already successfully applied by WWF.

(2) The infrastructure tsunami including urbanisation.

Addressing this challenge requires a proactive approach that ensures living within planetary boundaries and sustainable economies.

Urban population can be the lever and provide opportunities to enable and support social movements for societal change towards sustainability. Urban populations might as well become drivers for (a) innovative food production in cities relieving landscapes from the unprecedented negative impact of the agro-industry, and improving opportunities for biodiversity conservation, (b) adaptive, decentralized, interconnected, regenerative energy-technologies, enabling decarbonisation and reducing the energy footprint significantly (c) green buildings and (d) mobility approaches aiming for a huge decline of the transport footprint. In addition, recent developments in policy and science suggest improved joint fundraising opportunities.

(3) Disconnect between people & nature.

- a) Promising options are the applications of citizen science and an open innovation lab or gaming apps, to trigger connecting people with nature as well as to support self-effective actions of citizens and communities to enable good livelihoods in harmony with people and nature.
- b) WWF will work with social scientists, indigenous people, local communities and grassroot movements to better understand and enhance social and ecological movements.

(4) Poor governance for the commons like our climate, biodiversity, soil, water, air and landscapes.

- a) Sufficient data and knowledge, accessible for the public, is the basic prerequisite for good commons management. WWF applies innovative monitoring, data processing, machine learning, open source as well as transparency and traceability technologies.
- b) In that way, we enable and support local communities in using appropriate innovative technologies for sustainable resource management. These innovative transparency, traceability, monitoring, and evaluation technologies should further be used to inform and enable good decision-making by consumers, politicians and industry leaders.
- c) We could also contribute to sustainable global commons management in supporting equal access to justice, and creating opportunities for the empowerment of smallholders, cooperatives, and environmental NGOs by developing business cases for environmental lawyers and setting up an ecology education programme.



As introduced in 8.2 above, next steps planned by our department are to gain further insights and knowledge regarding key challenges, and to work on the provisional offers together with the network and external partners.

In addition, the blind spot analysis revealed that WWF faces internal challenges. They show that knowledge-sharing and experience-exchange (lessons learned from success and failure) as well as a cooperative daily business attitude is not yet sufficiently addressed to fulfil its potential.

WWF as a well-trained lobbying organisation is in danger of running into slightly biased decision-making, questioning the purely science-based approach. Innovative and risky approaches are usually avoided by large global organisations like WWF, which reduces chances to apply new, high-potential, and effective solutions. We often shy away from positioning ourselves but the young generations expect from WWF clear political, economical and social positions – of course based on facts and science.

WWF too often lacks the proof of impact related to its projects, programmes, and interventions in fostering successful conservation implementation. All these shortcomings are also reflected in the four cultural and behavioural recommendations of WWF-International to deliver our intended global goals. The [“Living Together Possible”](#) publication explicitly mentions: *“listen deeply, innovate fearlessly, collaborate openly, and strive for impact”*.

Closing personal note

Recently becoming part of the inspiring climate movement in Germany, I felt again the optimism of a starting civil-society engagement, the power of “anything is possible” and the innovative spirit of “we can change the world”.

We shaped our world over the recent centuries and decades – a lot for the better, like implementing human rights, securing freedom and peace, and improving livelihoods; a few issues for the worse, like heating our climate, destroying biodiversity, and increasing inequality (finance, natural resources, power, and access to justice).

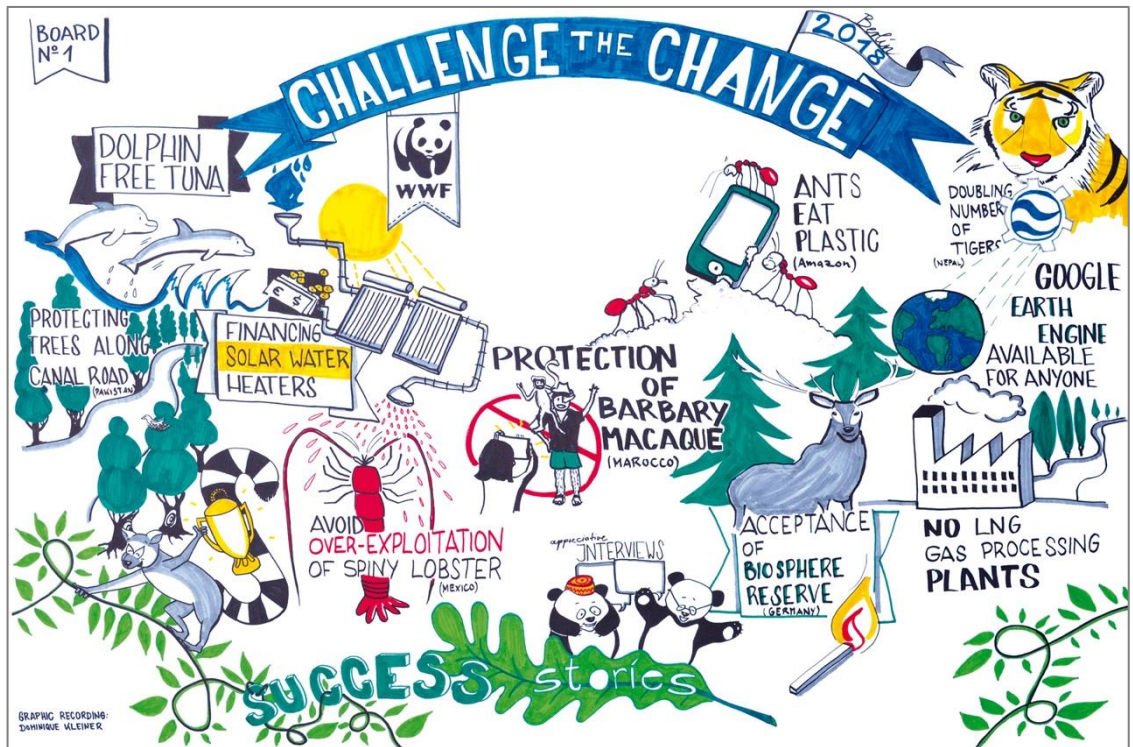
Most of what we experience today is influenced by humanity, which means we can shape it for the better.

Yours,

Alfred Schumm

Director Innovation, Sciences, Technologies & Solutions, WWF Germany

Annex I: Graphic Recordings







Annex II: Participant List

Last Name	First Name	Organisation
Beyerl	Katharina	Institute for Advanced Sustainability Studies (IASS), Germany
Brandes	Eberhard	WWF Germany, CEO
Brandt	Miriam	Leibniz Institute for Zoo and Wildlife Research (IZW), Germany
Bruns	Jan	Mercator Research Institute on Global Commons and Climate Change (MCC), Germany
Clemen	Dagmar	WWF Germany, Innovation, Sciences, Technologies & Solutions
Czech	Eliza	Pacific Garbage Screening
Dreifke-Pieper	Andrea	WWF Germany, Business & Markets
Fabricius	Christo	WWF International, Global Science, Wildlife
Goeltenboth	Philipp	WWF Germany, Africa & South America
Habib	Ali Hassan	HIMA Verte, Pakistan
Haimerl	Nick	WWF Germany, Innovation, Sciences, Technologies & Solutions
Heinrich	Christoph	WWF Germany, Chief Conservation Officer (Biodiversity)
Heinrichs	Harald	Institute for Sustainability Governance, University of Lüneburg, Germany
Hill	Catherine	Oxford Brookes University, Department of Social Science, UK
Hulverscheidt	Dirk	Facilitator
Kiplagat	Jackson	WWF Kenya
Kleiner	Dominique	Graphic Recording
Koehncke	Arnulf	WWF Germany, Wildlife



Kopp	Matthias	WWF Germany, Finance
Krüger	Jörg-Andreas	WWF Germany, Chief Conservation Officer (Footprint)
Llewellyn	Gilly	WWF International, Oceans Practice
Marin von Köller	Sylvia	WWF Latin America & Caribbean, Transformational Initiatives and Innovation
Milner-Gulland	Eleanor Jane (E.J.)	University of Oxford, UK
Monument	Alistair	WWF International, Forest Practice
Perez-Cireira	Vanessa	WWF International, Climate & Energy Practice
Putt del Pino	Samantha	WWF International, Markets Practice
Ratsifandrihamanana	Nanie	WWF Madagascar
Rodrigues	Anabela	WWF Mozambique
Schäfer	Michael	WWF Germany, Climate & Energy
Schumm	Alfred	WWF Germany, Innovation, Sciences, Technologies & Solutions
Schwerdtner-Manez	Kathleen	Consultant, Science
Sekhran	Nik	WWF US, Chief Conservation Officer
Shaw	Rebecca	WWF International, Global Science Lead
Soos	Eszter	WWF Germany
Steimanis	Ivo	University of Marburg, Germany
Stoll-Kleemann	Susanne	University of Greifswald, Germany
Surkin	Jordi	WWF Amazon Programme
Thau	Dave	WWF International, Global Science, Data & Technology
Van Montfort	Joost	WWF International, Governance Practice



Vesper	Heike	WWF Germany, Oceans
Wagnitz	Philipp	WWF Germany, Freshwater
Weaver	Chris	WWF Namibia
Weser-Koch	Maritta	WWF Germany, Board
Ziegler	Stefan	WWF Germany, Asia
zum Felde	Ivonne	Consultant, Innovation & Technology

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