

# Strategy on Education for Conservation (EfC)

A Contribution from IUCN CEC and  
FLEDGE in support of Realizing the  
Future Conservation Goals



## Strategy on Education for Conservation (EfC)

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# Strategy on Education for Conservation (EfC)

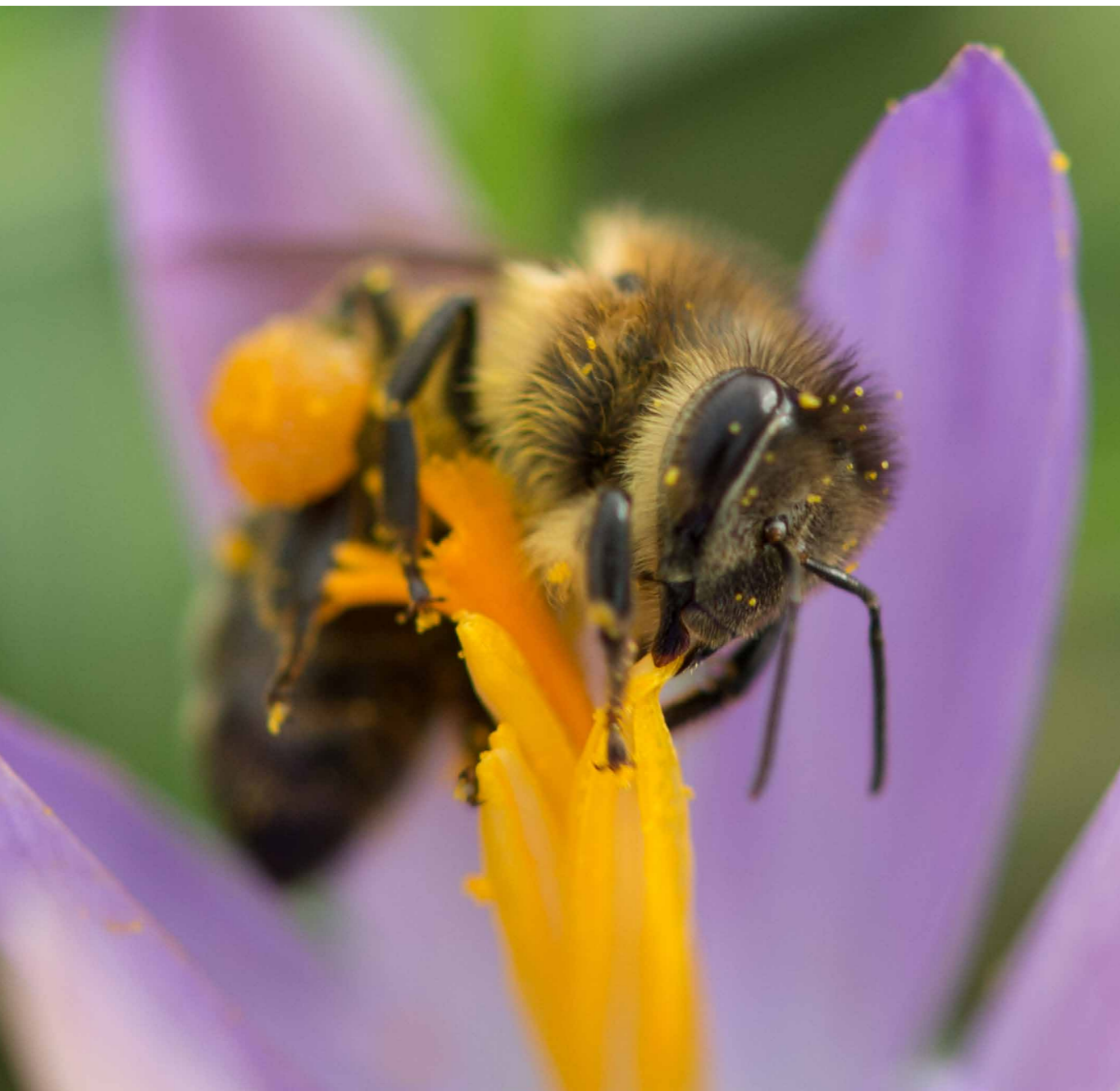
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# Foreword

On 4th July 2020, during a virtual meeting of IUCN Commission on Education and Communications (IUCN-CEC) South and Southeast Asia, the Commission members recommended the need for developing a dedicated, focused and transformational strategy that deals with future needs of education in conservation action.

As a follow up to this, the IUCN CEC Regional Vice-Chair for South and Southeast Asia began consultations with some experts on drafting a strategy on ‘Education for Conservation’. Dr. Abdul Hamid Zakri, an internationally reputed scientist, policy maker and educationist kindly agreed to Chair a small group of experts to brainstorm on elaborating the idea of the strategy along with Dr. Balakrishna Pisupati, the IUCN CEC Regional Vice-Chair for South and Southeast Asia as the Co-Chair. The composition of the steering committee that helped the process of developing the strategy is presented in this document.

After initial brainstorming with several stakeholders, including the youth, a draft strategy was prepared and discussed among the steering committee. A series of four consultations, targeting specific stakeholder groups, i.e. youth, indigenous people and local communities, academic and members of IUCN CEC in the region were held seeking inputs on the draft. The draft was also circulated to select number of experts. Based on the feed-back received and comments made, the current strategy has been finalized.

It is heartening to note that the global IUCN CEC community is currently reviewing the strategy with the possible consideration of this being considered as a product of the Commission with global reach.

In addition, the ASEAN Centre for Biodiversity (ACB), with support from the European Union through the Biodiversity Conservation and Management of Protected Areas in ASEAN (BCAMP) Project, is leading efforts to assess the extent of integration of biodiversity content in national education curricula of the ten ASEAN Member States, which will inform the ASEAN Cooperation on Environment of strategic interventions to increase the level of mainstreaming of biodiversity in education in the region. Strategies identified from this Education for Conservation Strategy will also inform the ASEAN’s efforts.

We are also reaching out to the larger conservation decision-makers, especially those involved in drafting the post 2020 Global Biodiversity Framework (for the period 2021-2030) to consider the strategy as a key element to support effective implementation of the Framework and related targets that are expected to be adopted during CBD COP 15. Likewise, we are proposing that UNESCO will also consider this strategy as integral to its ‘Education for Sustainable Development for 2030’ framework whose roadmap for implementation was recently launched.

The strategy is a small attempt to re-look at conservation education and education in conservation from a perspective that is future based, inclusive and transformational. Given our intent to provide the flexibility for those designing the curricula to suit the details according to local needs, we did avoid providing specific recommendations and/or an action plan for the strategy but rather provided a set of guiding principles, priorities, enablers needed and means to map progress.

We hope that this strategy contributes, in a small way, to manage our existential crises today where everyone depends on nature but leaves it to others to manage it for them!

Abdul Hamid Zakri  
Chair  
Malaysia

Balakrishna Pisupati  
Co-Chair  
India



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# EXECUTIVE SUMMARY

During the forty fourth session of the United Nations Human Rights Council meeting (14 September – 07 October 2020), a resolution was adopted on realizing the Rights of child to healthy environment where the member States have agreed that the education of the child shall be directed to the development of the care and respect of the natural environment. It also calls for creating opportunities for children to inclusive and meaningful participation in environmental decision making.

During the United Nations Heads of State and Government Summit on biodiversity, held on 30 September 2020 at the United Nations General Assembly, global leaders called for increased focus on Nature conservation that is rooted in knowledge and action.

The Sustainable Development Goals (SDGs) report 2020, indicate that the world is not on track to meet the 2030 goals related to education. In 2020, more than 190 countries have implemented school closures with about 1.57 billion students out of school. Though progress has been made in relation to education with regard to women more needs to be done. In addition to social and psychological challenges such closures would cause, the need for inclusiveness and innovation in future education is critical and needed. These innovations need to spread from providing blended opportunities for education to re-training teachers to deal with the new normal when the new pedagogy and curricula are to be re-designed.

The Strategy on United Nations Decade on Ecosystem Restoration suggests ten actions that are aimed to build the next generation in support of biodiversity and nature management. Focus on the need to engage the youth, shift behaviours, promote transformative changes and build up the next generation form the core.

**Education for conservation is the foundation for future of nature conservation. Considering nature conservation as an existential imperative and an issue of intergenerational equity, ensuring future conservation through change in actions, policies, attitudes and behaviour is critical in addition to setting ambitious goals and targets. Education forms the key pillar to ensure inclusive, participatory, informed participation for achieving the conservation aims, at all levels.**

Our actions in support of nature conservation, including achieving the Convention on Biological Diversity (CBD) post 2020 Global Biodiversity Framework and the UN 2030 Agenda and the Decade of Action to deliver the Sustainable Development Goals should be supported by science, research, innovation, knowledge management, including local knowledge and implementation at local, national, regional and global levels. Education provides significant opportunities to consider, scale up and re-design a number of actions in support of Nature-based Solutions. Considering that nature means different to different people, it is important to consider approaches that can bring in transformations in the way we approach and understand nature now. Education is a key tool for this. This strategy is a step in this direction to look at 'education for conservation' rather than 'conservation education'.

Today's learners demand to be squarely at the center of the education we provide with interactive and engaging learning experiences and wish to be the co-producers of curriculum and decision-making process. But, the opportunities for them to be tuned to ecological literacy, like all other forms of literacy, are limited resulting in fractured interests and frustrated approaches. For such ecological literacy, complimented by ecological intelligence, systems thinking, or life cycle approach, design and technology and cultural contexts are essential

With rapidly changing economies, skill development in green jobs and supporting green entrepreneurship are needed. **Education for conservation is to be considered and understood as one of the 'life skills' needed for all people, like financial literacy.** While the basic skills to deal with understanding, applying of biodiversity conservation and sustainable use are needed for everyone, few can proceed to specialize in this area.

**To define 'Education for Conservation', "Education for Conservation (EfC) refers to diverse approaches and strategies for education and learning that facilitate connection with nature, and that imbibe diverse values, norms, knowledge, and practices consistent with establishing a sustainable way of life in harmony with Nature".**

**Appreciating, respecting and protecting Nature** - EfC leads us to explore the close links between identity, culture and nature and to realise that through nature we find part of our own human identity as living beings among other living creatures.

**Nature as a resource that must be managed, shared and passed on to future generations** -EfC implies education for sustainable use responsible consumption and nature conservation commitment, with equitable benefit sharing within and among societies, including local communities and between present and future generations.

**Nature as a solution that can solve society's problems** - EfC should be used to solve real problems and challenges and to make plans for preventive action, enhancing positive attitude and behavioural change to nature conservation. This requires the development of skills for critical investigation into the realities of our milieu and for the enlightened diagnosis of problems.

**Nature as a system for better governance** - EfC encourages us to recognise the links between local and elsewhere, between the past, the present and the future, between local, national and global matters, between the political, social, economic and environmental spheres, between lifestyles, health and the environment, necessitating the need to govern it appropriately.

**Nature as a place to live** - EfC focuses on everyday life – at school, at home, at work aimed to encourage us to explore and rediscover our own surroundings, and to develop a sense of belonging.

**Nature as a biosphere** - EfC makes us aware of the interdependence of socio-environmental ecological realities at world level, local to global, and focuses on international solidarity which invites us to think more deeply about the modes and indicators of economic growth and development of human societies.

**Nature as a part of human community** - EfC focuses on cooperation and partnership to achieve desired changes within a community, where people need to learn to live and work together in communities of learning and practice to conserve nature.

## GUIDING PRINCIPLES

**The new strategy on EfC shall be based on the following four guiding principles. These principles will set out how we go about achieving the future of EfC that is responsive, futuristic and inclusive.**

- (i) Increasing knowledge, skills and understanding of conservation issues, thereby motivating and empowering people,**
- (ii) Influencing attitudes and behavioural change,**
- (iii) Encouraging innovative learning opportunities and**
- (iv) Being relevant and responsive to local needs.**



## INTRODUCTION

During the forty fourth session of the United Nations Human Rights Council meeting (14 September 2020 – 07 October 2020), a resolution was adopted on realizing the Rights of child to healthy environment where the member States have agreed that the education of the child shall be directed to the development of the respect of the natural environment. It also calls for creating opportunities for children to inclusive and meaningful participation of children in environmental decision making and suggests development of appropriate strategies and curricula for imparting environmental education that is responsive to children's culture, language and environmental situation.

The Sustainable Development Goals (SDGs) report 2020, indicate that the world is not on track to meet the 2030 goals related to education. In 2020, more than 190 countries have implemented school closures with about 1.57 billion students out of school. In addition to social and psychological problems such closures would cause, the need for inclusiveness and innovation in future education is critical. These innovations need to spread from providing blended opportunities for education to re-training teachers to deal with the new normal, where how to learn and how to educate with new pedagogy and curricula are to be re-designed.



(UN, SDG Report 2020)

### PRIORITIES

Guided by these, the following five priorities are identified for EfC.

1. Global, regional, national and local education policies consider and mainstream conservation as key elements of pre-primary, primary, secondary, tertiary education and for life-long learning;
2. Education for Conservation shall have a inter and transdisciplinary focus, prioritizing conservation behavior in everyday life;
3. Social, cognitive and behavioural change shall be the key focus of Education for Conservation;
4. Traditional, formal, non-formal and informal aspects of knowledge generation and management shall guide future of Education for Conservation; and
5. Capacity building on Education for Conservation shall focus on all sectors of society and be guided by modern technologies, pedagogy and needs of future.

### STRATEGIC AREAS

EfC need to focus on the following strategic areas, considering the above priorities:

- i. Education that is wholistic, be inter and transdisciplinary and be responsive to local needs;
- ii. Use of new technologies, local knowledge and pedagogical approaches to guide future education for conservation;
- iii. Re-designing pedagogy and curricula in support of Education for Conservation; and
- iv. Using behavioural change as a guidepost for realizing conservation targets and goals.

Delivering the EfC needs the several pre-conditions. These include getting the new form of education for conservation ready, both in terms of focus and mentoring, re-designing the pedagogy to suit modern needs, supporting inter and transdisciplinary approaches, development of engagement and impact assessment methods, encouraging responsive policy development, linking with local, national and global conservation priorities, goals and targets and preparing the teachers to deliver the above.

Realizing this strategy, with uncommon approaches, as indicated in the document, will depend on a combination of re-designing the pedagogy and curriculum and ensuring our teachers and mentors are re-trained to consider conservation education as a life skill.

The strategy here is a first step in the process to bringing in long needed changes in the way we educate and skill the young generation with changing scenarios of opportunities and challenges to step into the future.

## EDUCATING IS CHANGING AND SO IS CONSERVATION

The Strategy on United Nations Decade on Ecosystem Restoration suggests ten actions that are aimed to build the next generation in support of biodiversity and nature management. Focus on the need to engage the youth, shift behaviours, bring transformative change and build up the next generation form the core.

**Education for conservation is the foundation for the future of biodiversity and nature conservation.** Considering Nature conservation as an ethical imperative and an issue of intergenerational equity, ensuring future conservation through change in actions, policies, attitudes and behaviour is critical in addition to setting ambitious goals and targets for conservation. **Education forms the key pillar to ensure inclusive, participatory, informed decision making for achieving the conservation aims, at all levels.**

While environment literacy and appreciation of nature are the first steps toward developing environmentally aware citizens, they clearly alone cannot improve the behaviour of humans towards nature protection. Embedded within this is the focus on biodiversity. It is important to combine the existing approach of knowledge with action on the ground to create a wider and deeper impact on the environment. The Nature for all initiative of IUCN Commission on Education and Communication (IUCN CEC) calls for approaches that connect people with Nature. As the actual changes in behaviour are long term, the research suggests that education for conservation should move away from a unidirectional path to a more dynamic and complex ecosystem of relationships between Nature and people that leads to environmental and nature management and improvement. In order to be effective, it needs to be carried out at multiple scales i.e. at an individual, societal, and the ecosystem level.

Our actions in support of Nature conservation, including achieving the post 2020 Global Biodiversity Framework shall be supported by science, research, innovation, knowledge management and implementation at local, national, regional and global levels. Education provides significant opportunities to consider, scale up and re-design a number of actions in support of nature-based solutions. To achieve these, we need transformations in the way we approach education now. This strategy is a step in this direction to look at 'education for conservation' rather than 'conservation education'.

The future of education for conservation should be based on uncommon and innovative approaches including development of a new skills agenda for development, inter and transdisciplinary approaches and integrating several options to learn and be educated using formal, informal, non-formal and traditional means. These integrative approaches should include diverse cultural learning communities and communities of practice in urban and rural settings, as well as diverse educators, policymakers, government and civil society representatives that are critically important to mainstream biodiversity conservation across different distinctive communities and society.

Education is changing rapidly. Current challenges in traditional modes of imparting education are being amplified by both the need for new approaches to suit the needs and aspirations of the young generation and technological developments.

Conservation needs and actions required are also changing at the same time. From being a science and partly a practice of specialists in the past, future conservation belongs to multicultural and governance-diverse communities of peoples and citizens. The development and successes of diverse knowledge integration in education programs are a vital reference as the foundation for successes in cross-cultural classrooms, driven by the young generation of today along with the exponential growth of different technological competencies and participation in multicultural platforms and codes beyond borders need to be considered while focusing on new strategies related conservation education.

**There is a growing demand for flexibility in learning, innovations in teaching and mentoring and investments in coming up with a new breed of conservation educators, who are responsive, technically savvy and come up with new approaches in pedagogy.**

These changes are happening in the backdrop of turbulent times of economic downturn, job losses, under-employment and rush to deal with post-COVID19 recovery. The pandemic has been having a direct influence on the speed of change, and the direction. This has had an impact on the way we looked at natural ecosystems and biodiversity. The need to better know, understand and maintain biodiversity is more felt now than before. Therefore, the context of discussing a new framework on using education as a tool to deal with conservation action is more imminent and relevant now. The global lockdown, for months together, has brought affront the need for blended learning as the new normal in education and conservation education is no exception to this. However, current strategies and approaches to conservation are rooted in traditional methods of teaching and outdated curriculum that is struggling to connect with present and the future.

The pandemic has created an uncertainty with the transition process too. When the pandemic is controlled there will be a recalibration in the offline to online ratio. Thus, the process of development of the new strategy on education for conservation would need to keep a real-time assessment on how the engagement is changing during the pandemic period.





## 2.1 Current educational system for the present and future global challenges

According to UNICEF, globally, among school-age children from richest households, 58 per cent have internet connection at home, compared with only 16 per cent from the poorest households. The same disparity exists across country income level as well. Less than 1 in 20 school-age children from low-income countries have internet connection at home, compared with nearly 9 in 10 from high-income countries.

**The Covid-19 crisis as well as other frequent disasters has displayed the low resilience that current educational system possesses.** Negative effects of COVID-19 induced lockdowns on students have been felt all around the world. These effects are disproportionately being felt by the underprivileged that do not have access to the latest educational technology available to the privileged. Learning from home for the former category of students has become a real challenge. It has also been observed that online learning cannot entirely replace face to face interactions with educators. For instance, only about 1 million out of 5 million children in Africa are using educational technology. Many of the students who were kept away from education due to lockdown may never return owing to the growing inequity brought forth by the pandemic and the system has no mechanism yet to address such a challenge. All these challenges compound when dealing with conservation education, which traditionally has been a learning activity that is primarily 'in the field'. Therefore, one of the priorities must be removing the technological and access gap.

## 2.2 Understanding today's needs

Today's learners demand to be squarely at the center of the education we provide with interactive and engaging learning experiences and wish to be the co-producers of curriculum and decision-making process. But, the opportunities for them to do so are limited resulting in fractured interests and frustrated approaches.

Meeting the needs of education for conservation is therefore critical and **we must identify new ways of defining the pedagogy, curriculum, linkages to emerging interdisciplinary and transdisciplinary trends in education, training and skill development besides refurbishing the needed infrastructure and re-training the educators.**

To include the society at large, **EfC should keep in mind the needs of the community and involve all the members of the society to collaboratively undertake positive environmental action.** Environmental education involves many stakeholders who can collaborate in a research implementation space where science, decision making, and local culture and environment can intersect.

Over the past several decades, the evidence on the impact of education in improving environmental quality and achieving conservation outcomes are being requested by policymakers, donors and educationists. However, due to the complexity and intensive investment of times and resources, the accurate evaluation and reporting on the outcomes of education on conservation and its quality have been limited. It is important that **proper evaluations are conducted even though they require creative, careful, human-resource-heavy efforts to document.**

Currently, the IUCN CEC, with its mandate, drives change for the co-creation of sustainable solutions through leading communication, learning and knowledge management in IUCN and the wider conservation community. Its members are experts in nature, sustainability, environmental education, communication and behaviour change. CEC members contribute voluntarily from all around the world to shape the Futures of education. IUCN CEC calls for focus on ecosystems and ecosystem services that provide the basic living conditions (water, air, food, resources for production of essential and more needs, cultural and spiritual places) that support the all aspects of life including health, welfare, prosperity, violence, migration and suggests that the global goals of education are shared, on regional and local level differentiation depending on social, economic and cultural conditions.



**During a survey held in 2020, IUCN CEC members identified five key areas that need support urgently. These include, climate change, human-nature disconnect, environmental crises, biodiversity loss and population growth with identified need in support of knowledge transfer, problem solving, attitude change and the promotion of active and conscious citizenship.**

## 2.3 Dealing with future needs and challenges

The new EfC strategy should be anchored ensuring education for conservation is not just limited to school children but encompasses all young minds and such education goes beyond knowledge and awareness.

The same holds good for educators as well, with a need to recognize the contributions of teachers, local community and others. Quality education for conservation should help build not only a sense of academic inquiry but also enable young minds to learn the "how", virtually experience consequences that can influence their behaviour and motivates them to effectively contribute towards conservation.

At present, conservation education has many definitions as each country or institution defines it from their perspective, but most of them define it as the process of dissemination of knowledge and awareness of the problems and "why" conservation is important. Enhancing knowledge and awareness are two good objectives that are met with effective Information and communication strategies. Education, the centrepiece of any such strategy, is usually left behind with some chapters to be tested for scores in a curriculum. But everyone believes that education is key to bring about any behaviour change in mankind, an education that is not just limited to people knowing about why it's a problem but also knowing how to make an impactful and meaningful change.

Generally, it has been agreed that conservation education should not be just about reading a few chapters, writing tests or exams and scoring numbers – instead it should be an enlightening "experience" that triggers thinking and hence lead to change. An experience that not only tells people why behavioural change is needed, but also "how" to make that change possible and "how" such change will affect the world positively. Children should also understand the need for conservation and protection that happen without re-drawing the boundaries of species ranges, so that they do not perceive Nature and wildlife as 'intruding' their spaces. The role of local, traditional knowledge and indigenous approaches to learning are critical for modern education systems if we are keen to provide the connection between field realities and academic experiences.

Young minds or affectionately called "Millennial" children and generation "Z" are a new breed and old education strategies have found to be ineffective as they believe more in learning than in being taught. Technology is intimately embedded in their lives. Hence, if we need to engage millennial children in conservation, technology must have a role in it. At the same time, children from rural areas are challenged by lack of infrastructure and technology. Bridging the digital and technology divide is also an important prerequisite for future education, not just for conservation but in general.

Research has also shown that the attention spans of young children are shorter and are evolving. They prefer a broad spectrum of learning strategies, so that they could select the one that suits their "learning style". Their ideal learning environment typically involves limited lectures, an experience, enable collaboration with fellow students in group-based project mode and culminate with a real-life assessments or outcomes. Such hands-on, relevant application-based case studies, where as a group they not just discover new knowledge, synthesise and learn how to use this new knowledge Monday morning shall ensure a successful conservation education program for such children and youth.

One key element of future education for conservation is to ensure that the philosophy of education is mainstreamed across all the disciplines, ranging from basic to applied, social, economic sciences to engineering and from primary schools to tertiary education, including Universities. Such approach will broaden the scope and focus of conservation beyond the elements of ecology and include options for innovations ranging from career and enterprise development using biodiversity to applications of traditional knowledge to finding long-term strategies for managing conservation and sustainable use actions.



## 2.4 Green Careers

According to the SDG Report 2020, half of the global workforce (the equivalent of 1.5 billion people) will be affected by the transition to a greener economy. Youth are the drivers of this transition that will be based on social innovation and green entrepreneurship Education forms the core of facilitating this transformation.

UNEP and key partners such as UNESCO and the United Nations University are encouraging green career development through the Global Universities Partnership on Environment for Sustainability (GUPES), which promotes the integration of environment and sustainability concerns into teaching, research, curricula development and implementation, community engagement and the management of universities including the greening of university infrastructure/facilities/operations. The Global Education Monitoring Report (2016) calls for fundamental change in the way we look at education and its role in human well-being and global development and calls for fostering right types of skills, attitudes and behavior that will lead to sustainable and inclusive growth.

With rapidly changing economies, skill development in green growth, green jobs and supporting green entrepreneurship as well as supporting blue economy are needed. While the basic skills remain for streams such as engineers, architects, doctors and managers, the knowledge and understanding that inform how these jobs can be supported by sustainable management of Nature needs to change.

For such ecological literacy, systems thinking or life cycle approach, design and technology understanding, and cultural contexts are essential. Such literacy and training need to address issues of better Nature management and encourage employability.



# UNDERSTANDING EDUCATION FOR CONSERVATION (EFC)

# 3.

The **Oxford English Dictionary** defines education as “systematic training and instruction designed to impart knowledge and develop skill” (OED 1990). Education and literacy support both the acquisition of knowledge and the ability to evaluate that knowledge.

When **IUCN** defined environmental education in 1970, they included the concept of education bringing in behavioural change. Education for Conservation aims to provide learners that opportunity to gain knowledge and improve understanding about Nature and its role in human well-being. It also increases the sensitivity to Nature that brings about change in attitudes and skills to manage Nature and mitigate negative impacts that cause harm to Nature.

**Principle 19 of the Stockholm Declaration** states, inter alia, that “Education in environmental matters, for the younger generation as well as adults, giving due consideration to the underprivileged, is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension” .

**Agenda 21** in its Chapter 36 (Promoting education, public awareness and training) adopted at the Rio Earth Summit in 1992, states that, “Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environmental and development issues. Both formal and non-formal education is indispensable to changing people’s attitudes”. Thus, one needs to understand that environment and conservation education does not start and stop at school and/or college levels but transcends much beyond. It envisages life-long learning and shall comprise formal, non-formal, informal and traditional knowledge acquisition.

In 1948, during the first IUCN Conference in Paris, the term environmental education was first used. It took close to two decades after that to define the term at the IUCN Conference in the US in 1970. The first international conference was held specifically on environmental education was held in 1970 under the auspices of UNESCO. UNESCO and UNEO co-organized 4 major international conferences on environmental education since 1977 (the First Intergovernmental Conference on Environmental Education in Tbilisi, Georgia (1977), the Conference “International Strategy for Action in the Field of Environmental Education and Training for the 1990s” in Moscow (1987), the third International Conference “Environment and Society: Education and Public Awareness for Sustainability” at Thessaloniki, Greece (1997), and the Fourth International Conference on Environmental Education towards a Sustainable Future in Ahmedabad, India (2007).



## RENEWED APPROACHES FOR EFC

The **World Conservation Strategy** launched by IUCN and the **Brundtland Report** all provided the significant focus on environmental education. Education for conservation related discussions branched off, more prominently after the 1992 Rio Earth Summit. All of these provided the principles, framework and operational strategy for conservation education.

The **Convention on Biological Diversity (CBD)** focused on education as a key, cross-cutting area to achieve its objectives. Article 13 of the CBD calls for “developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity” and its programme of work on Communication, Education and Public Awareness, notably Priority activity 10 calls to “Strengthen formal and informal education on Biodiversity” .

Many decisions by the contracting Parties supported the need for education to support conservation and related actions. These includes, CBD COP 6 Decision VI/19 that established the programme of work on communication, education and public awareness (CEPA) and the CBD COP 10 Decision X/2 to agree on the Aichi Biodiversity Targets 1 and 19 to enhance awareness and knowledge on biodiversity and ecosystems.

**UNESCO**, as the lead agency on Education for Sustainable Development (ESD), implemented the Global Programme for Action on ESD (2009-2014) and subsequently adopted the framework on Education for Sustainable Development Towards Achieving the SDGs (ESD for 2030) that calls for transformative action, structural changes and technological future.

According to the World Social Sciences Report (2013), current approaches to knowledge are divided and the social transformations required to achieve sustainable development needs to focus on bridging the gap between what we know about the interconnectedness and fragility of our Planet and what we are doing about it.

Proof for an effective education programme lies in achieving impactful changes in the way we manage Nature. We need to assess the effectiveness of education in conservation because of this result.

Considering the ‘connectedness’ with nature as a priority to ‘feel’ nature, it is important for people to experience nature they are also more likely to act in ways that benefit the Earth

One key indicator that has been suggested by several social scientists in dealing with conservation education effectiveness is the possibility of long-lasting changes in attitudes, behavioural intention, and ultimately behavior. Research, however, has shown that awareness and knowledge of Nature conservation alone may not be enough to bring about behavioural change but it does influence behavior. This is because of social, economic and societal issues influence behavior. This is where interdisciplinary and transdisciplinary approaches in dealing with education for conservation is critical and important. Conservation, ideally, should not merely be a field of study and training on its own but must be a part of all fields of education.

The **Local Biodiversity Outlook 2020** report observes that prevailing values, cultural and education systems carrying a dominant worldview of science and technology and the mastery of nature have displaced traditional conservation knowledge, practices and relations with nature. This paradigm has also displaced youth across the world leaving already disconnected local education curriculums, for urban economic livelihoods and lifestyles, further undermining the vitality of communities who have a key role on preserving biodiversity. The report emphasizes that important innovations in problem-solving by IPLCs for the specific field of conservation remain unused, and yet they relate to vital cultural underpinnings of social and ecological transformations for the world.

The **Global Youth Biodiversity Network (GYBN)** calls for ‘transformative education’ in their call for achieving the future, global biodiversity goals and define the same as ‘diverse approaches and strategies for education and learning that foster an active citizenry aware of their place in the web of life and their role in society, fully capable of stewarding society towards a sustainable, peaceful and equitable future in harmony with nature’.

Approaches to environmental education have evolved since 1950s. Starting as a discipline that deals with observing Nature, it has now become a discipline that started to deal with socio-economic issues, policy and politics as well. Changes are needed in defining the way we view education for conservation. One prominent view is to focus on sustainable use, management as key basis for future conservation action.





## DEFINING EDUCATION FOR CONSERVATION

Education for Conservation is to be understood as one of the ‘life skills’ needed for all people, like financial literacy. While the basic skills to deal with understanding, applying and making use of conservation are needed for everyone, few can proceed to specialize in this area.

To simplistically define ‘Education for Conservation’, **“Education for Conservation (EfC) refers to diverse approaches and strategies for education and learning that facilitate connection with nature, and that imbibe diverse values, norms, knowledge, and practices consistent with establishing a sustainable way of life in harmony with Nature”.**

It differs from conservation education in that it supports multifaceted learning for ecological literacy across disciplines, sectors, strata and institutions of the society.

### Dimensions of EfC

Education for Conservation is about learning and knowing our relationship with Nature. It is thus important to take into account the many possible dimensions of this relationship, corresponding to different but complementary ways of dealing with conservation :

**Appreciating, respecting and protecting Nature** - EfC leads us to explore the close links between identity, culture and nature and to realise that through nature we find part of our own human identity as living beings among other living creatures.

**Nature as a resource that has to be managed, shared and passed on to future generations** - EfC implies education for sustainable use responsible consumption and nature conservation commitment, with equitable benefit sharing within and among societies, including local communities and between present and future generations.

**Nature as a solution that can solve society’s problems**- EfC should be used to solve real problems and challenges and to make plans for preventive action, enhancing positive attitude and behavioural change to nature conservation. This requires the development of skills for critical investigation into the realities of our milieu and for the enlightened diagnosis of problems.

**Nature as a system for better governance** – EfC encourages us to recognise the links between local and elsewhere, between the past, the present and the future, between local, national and global matters, between the political, social, economic and environmental spheres, between lifestyles, health and the environment, necessitating the need to govern it appropriately.

**Nature as a place to live** - EfC focuses on everyday life at school, at home, at work aimed to encourage us to explore and rediscover our own surroundings, and to develop a sense of belonging.

**Nature as a biosphere** - EfC makes us aware of the interdependence of socio-environmental ecological realities at world level, local to global, and focuses on international solidarity which invites us to think more deeply about the modes and indicators of economic growth and development of human societies.

**Nature as a part of human community** - EfC focuses on cooperation and partnership to achieve desired changes within a community, where people need to learn to live and work together in communities of learning and practice to conserve nature.

An EfC strategy, programme and action plan that is limited only to one of these dimensions is incomplete and risks transmitting a biased vision.

Traditional Views (generalized)	Modern views
Conservation education is a tool for Nature protection	Conservation education is central for sustainable development, across sectors and disciplines.
Increasing specific training for educators that is defined at national and/or global levels.	Educators defining their own concepts, tools and learning methods – tailored to local needs.
Education for conservation should be targeting primary and secondary school children	Education for conservation should be a life-long approach and be targeted at all age groups of citizens
Formal education and curriculum-based approach is suited to enhance conservation action	Traditional, informal, non-formal and formal education systems all are critical to achieve optimal and long-lasting impacts of education for conservation.
Technology based education may not be appropriate due to digital divide and inability to access technology	New technology and multi-devise based delivery are the future of education for conservation. Reach and affordability should be combined with applications.
People need to understand the importance of conservation	People need to ‘feel’ the need for conservation today along with relevance to and impact on their local community.
Teaching conservation is about understanding ecology, biology and systems	Teaching conservation is about linking social, economic and ecological systems
Application of conservation education is about tests and examinations	Application of conservation education is about behavioural change and changing societal attitudes.
Conservation education can only be impactful if taught in class and field	Blended learning, including using virtual or augmented reality options is critical in the future.

The UNESCO’s Futures of Education initiative, under the auspices of an International Commission setup by the Director General, is focusing on ‘rethinking the role of education, learning and knowledge in light of the tremendous challenges and opportunities of predicted, possible and preferred futures’. A quick review of submissions made to this initiative by stakeholders indicate the need for equitable and accessible education that is based on indigenous views, skill development and access to technology by all students .

# 6.

## NEED FOR A NEW STRATEGY FOR EfC

Education, including for conservation, needs opportunities to launch critical inquiry, exposure to ground realities and local condition, relevance to immediate lives and the presence of mentors, peers and influencers. It also needs to focus on understanding the tipping points in empowering individuals to come up with uncommon and disruptive ideas.

Education for Conservation needs more than formal education. Non-formal education and informal learning, including intergenerational lifelong, experiential learning that takes place in the community, provides learners with critical opportunities to relate them to the realities that concern them and to be influenced to take the necessary actions are important and should be considered while developing strategies.

Education for Conservation should be understood as a citizenship in action that evokes learning based on participation, non-discrimination and accountability. Cultural identity is critical to stimulate social learning for conservation. The current pedagogy and curricula of conservation education does not necessarily address this, limiting the autonomy of learning institutions to innovate and develop adaptive curricula.

A quick review of literature shows that enormous focus on environmental education with details including options for curricula available, including on Education for Sustainable Development (ESD) . However, as remarked by the Millennium Ecosystem Assessment (MA, 2001), environment and conservation are interchangeably used that is not serving the purpose of conservation action in its entirety.

Conservation education helps people develop skills and thinking to understand the deal with complexities of ecological processes and problems besides supporting the life systems in an integrated fashion. Thus, we need a separate strategy on EfC. In addition, the Global Biodiversity Outlook (GBO 5) report that has now been launched states that the Aichi biodiversity target 1 on increasing the awareness about biodiversity by 2020 has been achieved only partly .

The focus on EfC has been rather limited, even in actions led by specialized agencies and groups, such as the IUCN Commission on Education and Communication. National efforts on increasing awareness on biodiversity, using metrics such as the Biodiversity Barometer study by UEBT indicate that decades of actions through implementation of various targets under the CBD has left EfC much wanted .

In addition, education constitutes the meeting ground for evolving political terms of the relationship between Indigenous Peoples, nation-states, and mainstream institutions. Rather than incorporating and assimilating Indigenous knowledge in a fragmentary way, formal and informal education have unique opportunities to affirm the knowledge production from Indigenous cultural and governance systems, including transnational connections other governance systems, within the aspiration of what education represents for the advancement of knowledge and human development.

Considering EfC focuses on imparting ecological literacy across a cross-section of society and is needed for all stakeholders and supports overall development of the society, it has to be approached in a manner that it facilitates imparting experience-based, life-long learning and provides life skills. Currently, we do not have any specific strategy that focuses on this aspect of supporting ecological literacy that combines skill development and transformative, sustainable life styles for people around the world. It links itself to all disciplines of learning from basic to applied, from biological to social sciences and simple field based actions to sophisticated technological aspects of learning and applications.

# 7.

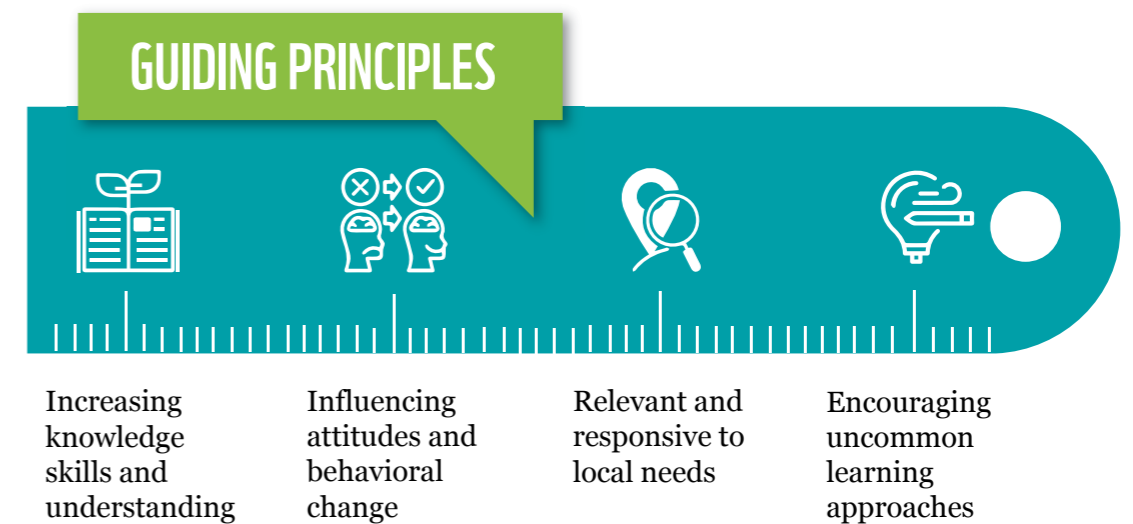
## THE GUIDING PRINCIPLE FOR EfC

The Guiding Principles of EfC is based on issue of values, respect for Nature and understanding issues of inter-generational equity.

The Earth Charter , which is celebrating its 20th Anniversary this year, reflects a broad convergence of values and principles for sustainability and therefore represents a critical ethical framework for work on education for conservation, with its four main broad principles – respect and care for the community of life; ecology integrity; social and economic justice; and democracy, non-violence and peace.

Thus, there is a need to focus on stewardship and values to guide individuals towards respect for nature and humanity, solidarity and intergenerational responsibility, by promoting, through Education for Sustainable Development (ESD), the principles of the Earth Charter, which defines sustainability as “environmental practices that value and sustain biodiversity and life-supporting ecological processes”, and the ideals of the Declaration on the responsibilities of the present generations towards future generations (in particular articles 4, 5 & 6) .

The IUCN Commission on Education and Communication (IUCN CEC) with its current 1700 plus voluntary expert members have worked for several years in understanding the principles that encompass conservation education. The Working Meeting of the Commission held in 1969 elegantly presents some over-arching principles of environment education in the following lines, “By ‘Environmental Education’ we understand all kinds of education and information which aim at creating the correct approach of Man to his (natural) environment in the sense of conservation, wise use and management. Although the “ecological thinking” is the basic feature of this correct approach and, consequently, of the environmental education, this education by far cannot be only a matter of science, and specially biology teaching. Environmental education, coincidentally with the modern conservation of nature and natural resources and landscape planning and management, including not only scientific but also broader cultural, economical, hygienical, aesthetical and ethical aspects, is an essential part of general civic, moral and liberal education”.





The new strategy on EfC shall be based on the following four guiding principles. These principles will set out how we go about achieving the future of EfC that is responsive, futuristic and inclusive.

**(i) Increasing knowledge, skills and understanding of conservation issues**

Future EfC will be based on imparting diverse local based knowledge and ecological skills that is interdisciplinary as well as transdisciplinary, developing future skills that are broad-based and grounded on the use of traditional and modern knowledge systems combined with responding to future needs of conservation.

**(ii) Influencing attitudes and behavioural change**

Considering the need for bringing in attitudinal and behavioural changes at individual and societal level, future EfC will have a great role to play in devising policies and actions that are responding to emerging needs of the Planet and not merely focus on imparting some elements of conservation literacy.

**(iii) Encouraging uncommon and innovative learning opportunities**

The technical and technological advancements in areas such as artificial intelligence, augmented reality, blended learning and others as well as in emerging areas such as conservation psychology and bio-entrepreneurship development will be mainstreamed into EfC so that the learning can be multifaceted, experiential and socially responsive to emerging needs and challenges.

**(iv) Being relevant and responsive to local needs**

One key element of future EfC will be that it will respond directly to local needs, using national and international expertise and experiences. It is expected that future EfC actions will be more experiential but locally relevant.

It also encourages children and youth to look at conservation not merely as a responsibility but also an opportunity to make careers and secure economic benefits for the society.

## THE STRATEGIC PRIORITIES FOR EfC

Given the changing interests, approaches and priorities for the younger generation to deal with education in general and conservation in particular, the following can be suggested as the new and emerging priorities for EfC.

With an overall aim to achieve actions related to education for conservation, the key overall priority will be to mainstream conservation awareness and management issues across disciplines, sectors and subject. This certainly will fulfill our obligations to deal with a number of Sustainable Development Goals (SDGs) such as SDG 4.7, 12.8, 13.3, 14 and 15.



### **1. Global, national and local education policies consider and mainstream conservation as key elements of pre-primary, primary, secondary, tertiary education and for life-long learning.**

One of the gaps identified during implementation of current strategies and action plans related to education in conservation has been the lack of focus on tertiary education. Significant focus exists in imparting various forms and modes of conservation education at pre-primary and primary school levels while at secondary school levels, the focus diminishes largely to the extent it is about generic teaching of some environmental management principles. Competing time available for core courses is cited as the reason for this diminishing focus. At tertiary education level, conservation education focus is either absent or relatively weak in many countries, except for those students pursuing biology related fields of study. Even in countries such as India where there is a legal obligation for all undergraduate students to take up a course on environmental sustainability, the course is largely ineffective due to lack of rigour imparting the course and curriculum associated with the same. Therefore it has become a mere formality to teach the course.

Under this strategic priority, the curriculum related to conservation has to be re-designed with focus on hands-on experiential learning at primary school level, observational monitoring programmes at secondary school level and more formal research and application oriented focus at tertiary level. Conservation education has to find a place across disciplines, ranging from social sciences to medicine and engineering.

### **2. Education for Conservation shall have an inter and transdisciplinary focus**

Future needs of EfC are rooted in having both inter and transdisciplinary approaches. Mere teaching of biological sciences and ecology will not long suffice to deal with current and emerging challenges of conservation. Today conservation action needs focus and knowledge of diverse areas of study ranging from traditional knowledge to law and policy.

The strategic priority for future EfC needs drawing up of teaching, training and mentoring actions that impart transdisciplinary knowledge and options to explore solutions related to future needs. Conservation psychology, biomimicry, conservation law, anthropology, linguistics, marketing and economics, advertising, traditional knowledge are all relevant and important areas for ensure EfC is future proofed.

### **3. Social, cognitive and behavioural change shall be the key focus of Education for Conservation**

For long, the role and relevance of social sciences has not been effectively mainstreamed into conservation education. This has led to emergence of concepts and approaches to dealing with conservation that are fractured and with limited long-term impacts. Cognitive and behavioural research has clearly shown how conservation management has lost out on impactful results due to lack of focus on cognitive and behavioural components of developing and implementing conservation strategies at all levels. Conservation psychology is now an emerging field to address the approaches to conservation action besides addressing investments in conservation.

EfC need to prioritize issues related to changing attitudes and behaviours of humans towards conservation from early days. Experiences and knowledge based approaches from indigenous and traditional communities form a critical base to develop future EfC strategies and action plans that combines experiential learning, responsive long-term actions and influencing change across sectors and societies.

### **4. Traditional, formal, non-formal and informal aspects of knowledge generation and management shall guide future of Education for Conservation**

EfC has long focused on formal and informal modes of imparting knowledge and sharing information. Non-formal education has played not so significant role in education for conservation, except in rural areas. Though the contributions of traditional knowledge in conservation has been recognized as critical for conservation and management, there are very few examples of how education has mainstreamed traditional knowledge and its rich experiences into education actions.

New strategies and action plans on EfC should provide the same level of recognition and importance to traditional knowledge based education, training and mentoring, as is for formal curriculum-based education. For this to be effective, the new curricula and training programmes should include subjects that are taught by traditional knowledge holders, local communities and experts without diluting the efficiency of both content and delivery systems. The role of informal education should also find a mainstay in semi-urban and urban educational institutions and the impacts of such education in the overall context of education and conservation needs to be assessed.

### **5. Capacity building on Education for Conservation shall focus on all sectors of society and be guided by modern technologies, pedagogy and needs of future**

Current approaches to EfC that focuses on formal school and college level education need to be replaced by approaches that focus on life-long learning. Capacity building and awareness creation among educators should focus on the need for an inclusive approach to education for conservation that experiment with pedagogy for various groups of citizens providing them options to experiment with tools and approaches that range from traditional to modern.

While citizen science and citizen-led approaches are being discussed for participatory actions that are long-term in conservation, the new pedagogical approaches should provide a basis for further promoting and supporting citizen-based learning and action. The COVID 19 pandemic has brought to fore the need to innovate and increase student inquiry, collaboration and creativity .

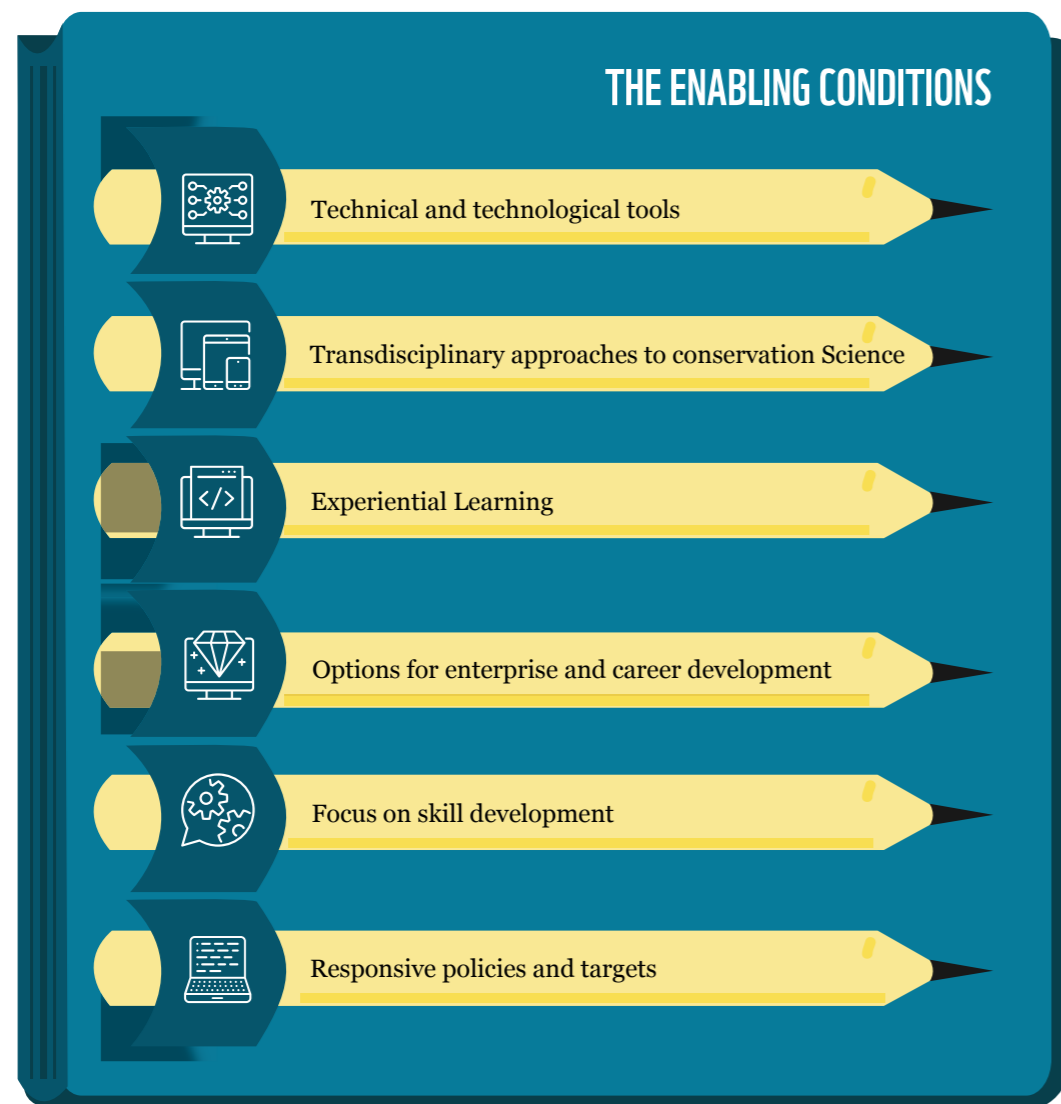
**Based on the above, EfC can focus on the following strategic areas:**

- 1. Education that is wholistic, be inter, transdisciplinary and responsive to local needs**
- 2. Use of new technologies and approaches to guide future education for conservation**
- 3. Re-designing the pedagogy and curricula in support of Education for Conservation**
- 4. Using behavioural change as a guide-post for realizing conservation targets and goals**



## ENABLING CONDITIONS NEEDED TO DEAL WITH THE STRATEGY ON EfC

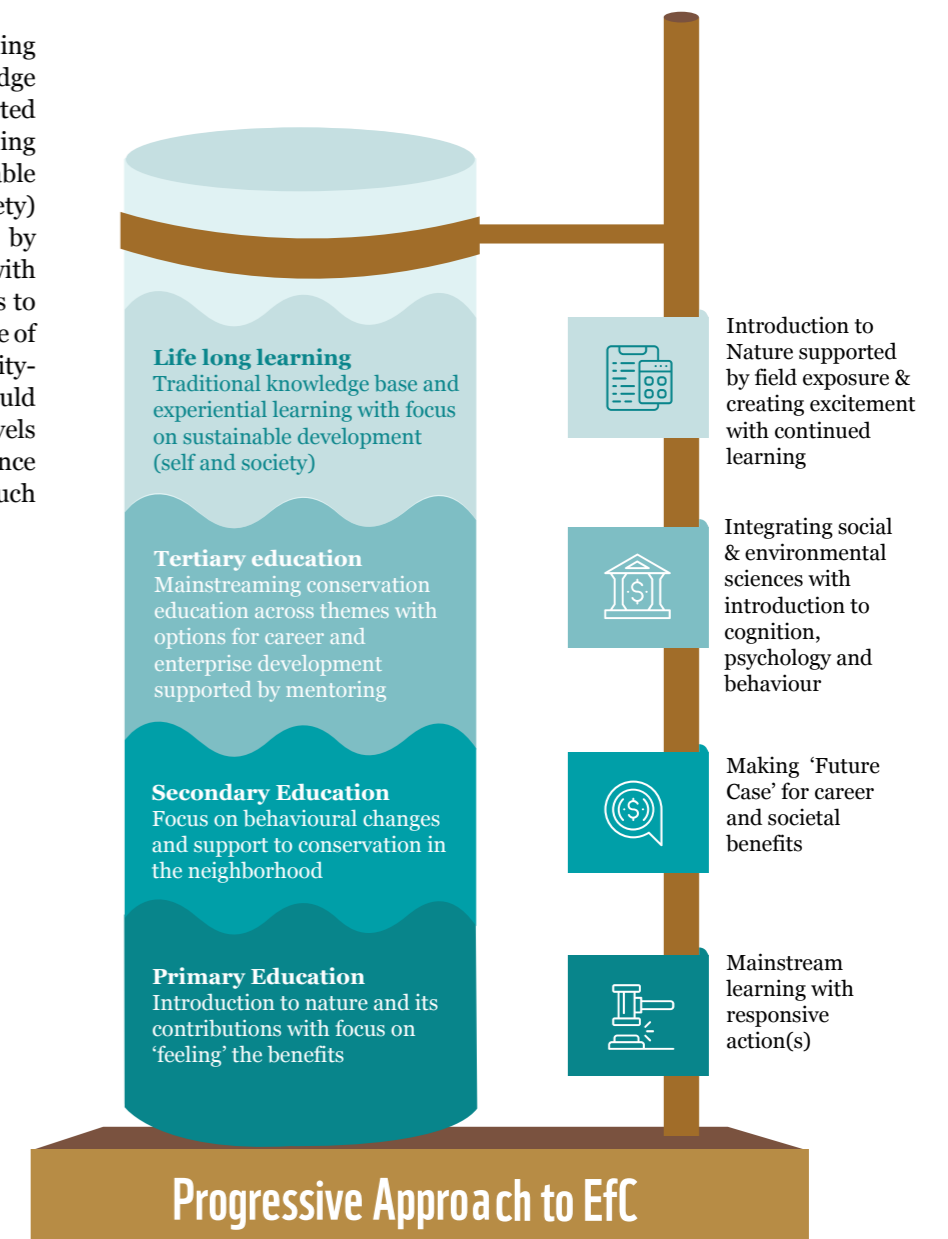
Delivering the new EfC strategy needs certain enabling conditions in addition to existing ones in terms of options and approaches. The following figure illustrates some of these enabling conditions. Unlike in the past education for conservation should be inclusive and responsive to current and emerging needs. Such enabling conditions include the need for experiential learning, transdisciplinary approach to teaching and training in conservation science, use of technical and technological tools – all supported by appropriate policy measure at different levels. Two key enablers include the options for youngsters to see conservation as a ‘do good’ / ‘must do’ option than a ‘feel good’ option. Opportunities for skill development and enterprise development using conservation and related management actions will be important to ensure youngsters get attracted to realizing conservation as an economic and social enabler as well.



## SUGGESTED APPROACHES FOR IMPLEMENTING THE STRATEGY

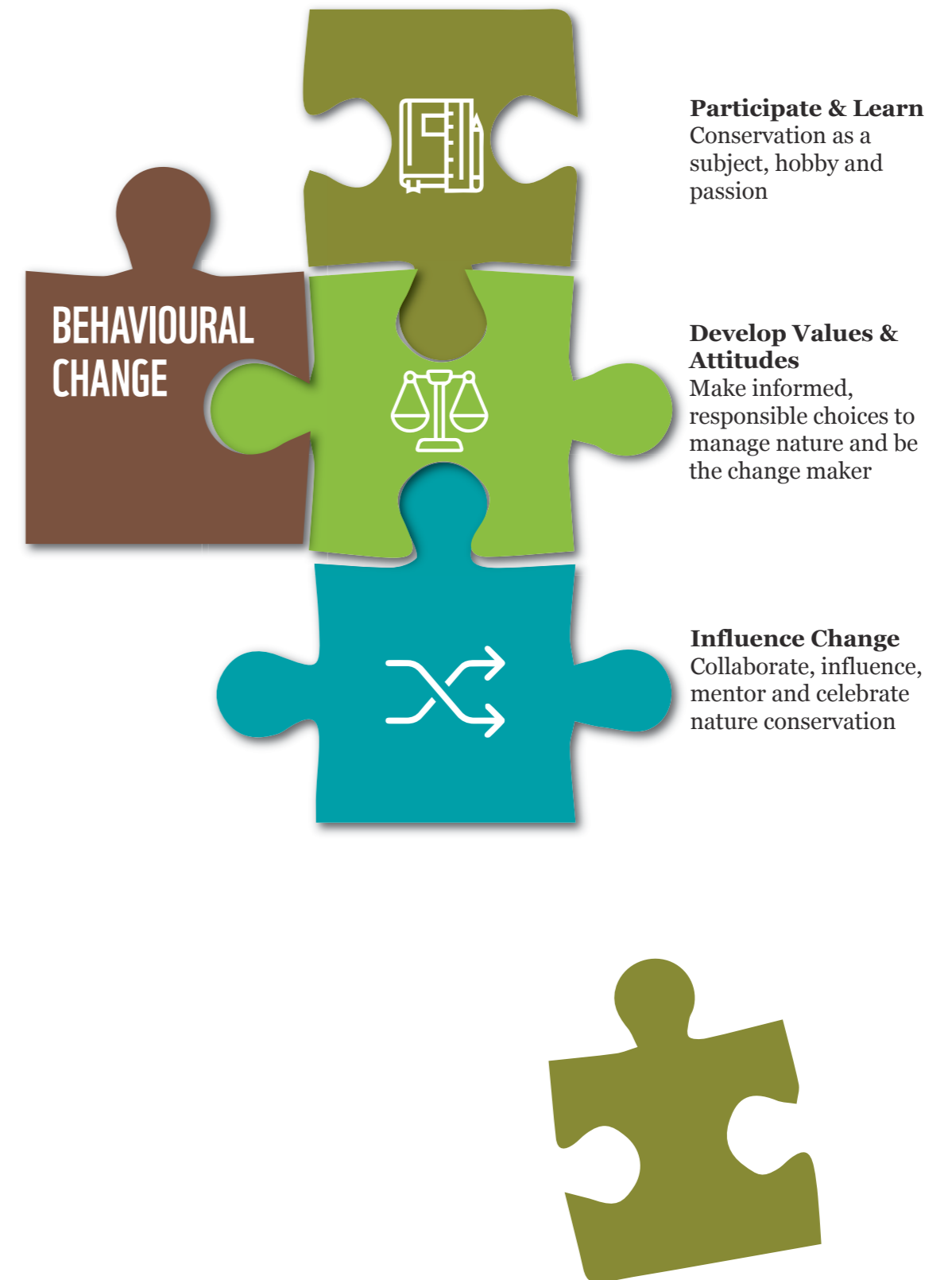
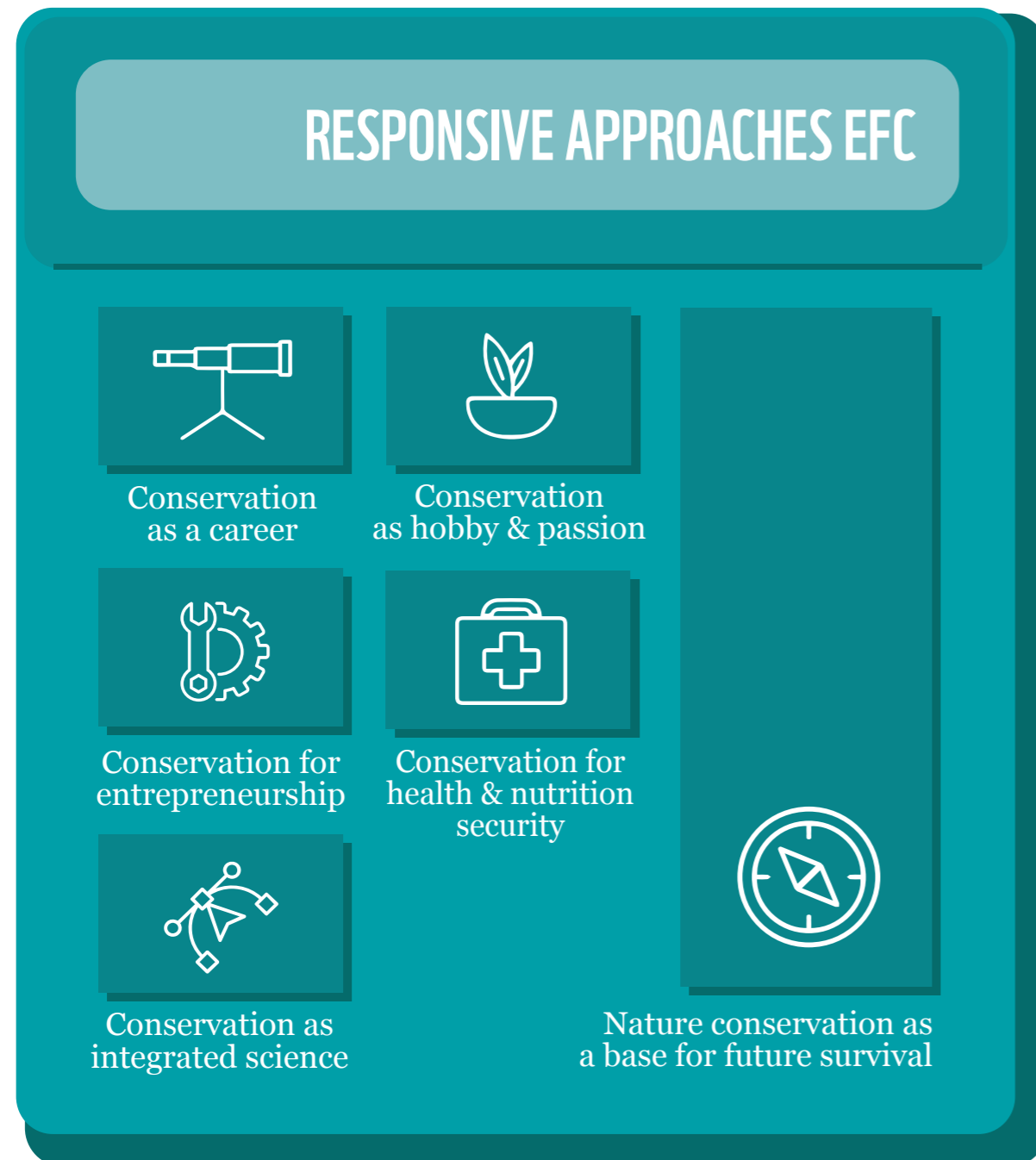
The following figures explain the suggested approach towards new ways of imparting EfC. At the primary level, introduction to Nature and its contributions should be taught with focus on ‘feeling’ the benefits supported by field exposure and creating excitement with continued learning. At the secondary level, the focus should be on dealing with behavioural changes and support to conservation in the neighborhoods by integrating social and environmental sciences with introduction to cognition, psychology and behavior. At the tertiary level, mainstreaming conservation education across themes with options for career and enterprise development supported by mentoring should be the approach, making a ‘Future Case’ for career and societal benefits.

At the life-long learning level, traditional knowledge based, community supported and experiential learning with focus on sustainable development (self and society) should be the approach by mainstreaming learning with responsive action(s). It has to be noted, however, that role of traditional and community-based knowledge should be imparted at all levels with a specific importance being given to seeking such knowledge life-long.



## 10.1 Dealing with Behavioural Issues

Using the aforementioned approaches, key driver for the new EfC strategy shall be the need to effect behavioural change. Such change should be based on three pillars, namely, participation and learning, developing values and attitudes and influencing change.

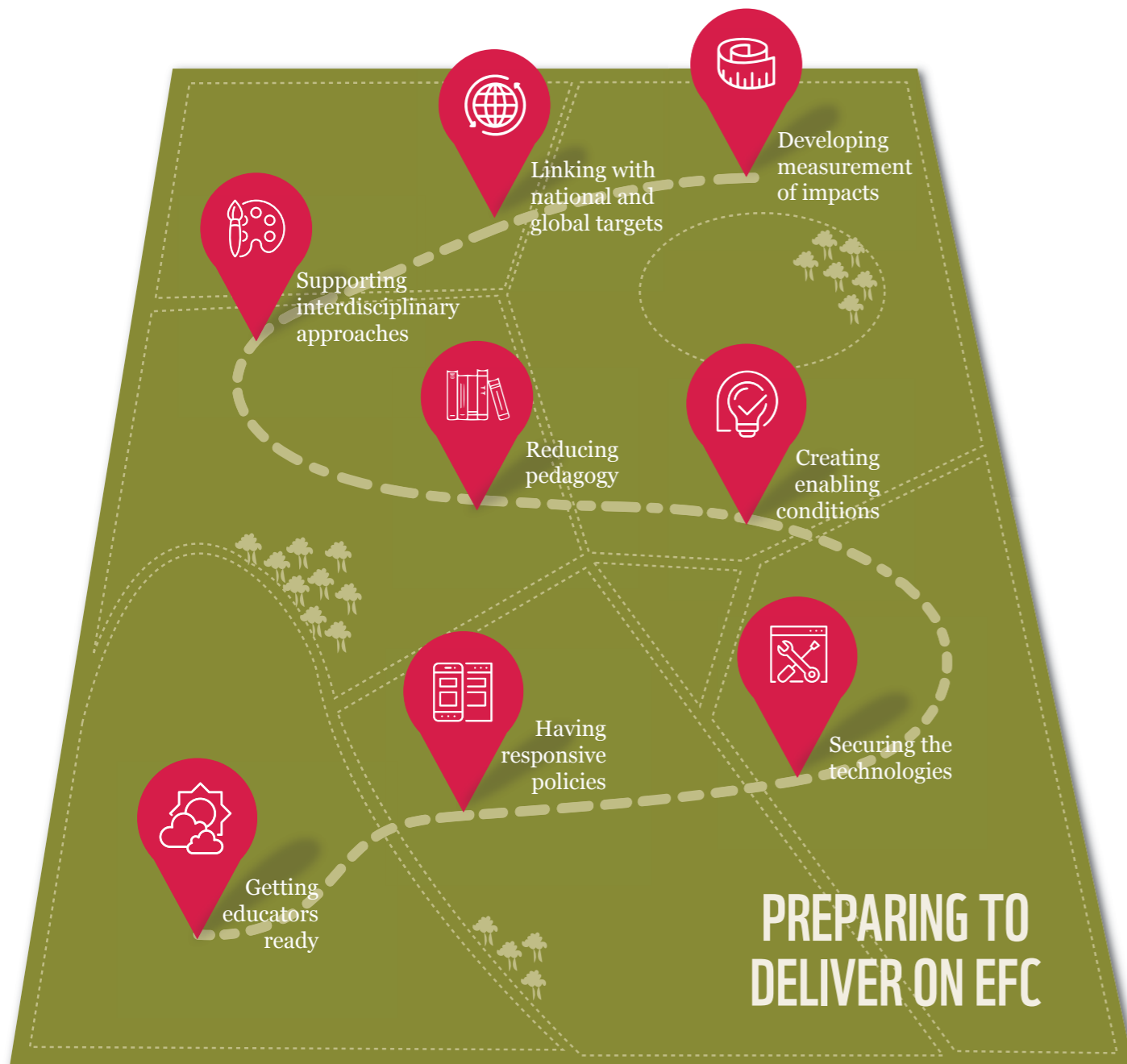




# 11.

## PREPARING TO DELIVER THE EfC

Delivering the EfC needs the following pre-conditions. These include getting the new form of education for conservation ready, both in terms of focus and mentoring, re-designing the pedagogy to suit modern needs, supporting inter and transdisciplinary approaches, development of engagement and impact assessment methods, encouraging responsive policy development and linking with national and global conservation priorities, goals and targets.



The following table provides entry points and key areas of focus to operationalize the EfC.

**Table 2 : Mainstreaming conservation across disciplines (indicative and not exhaustive)**

Discipline	Entry Point	Key areas of focus
<b>Agriculture</b>	Agrobiodiversity conservation, traditional agriculture and the related	Conservation of diversity, sustainable agronomic practices, agricultural markets and related livelihoods.
<b>Rural Development</b>	Nature as a base for rural development, livelihood, health, food and nutritional security; ecosystems as enablers of mitigation and adaptation to climate change and the related.	
<b>Economics</b>	Ecological and behavioural economics to determine options for development economics.	Valuation of ecosystems and biodiversity goods and services, translating the 'potential of Nature' into something 'real'.
<b>Finance</b>	Conservation finance, Nature management as sustainable financing option for sustainable development, risk mitigation and discount planning.	Nature based risk management, capital appreciation options, investment prioritization and financial planning for returns on investments.
<b>Law</b>	Biodiversity law, human rights law, environmental law, contract law, innovation law and the related.	Right to Nature as a fundamental right, right to safe environment and biodiversity, Nature as a 'living' entity with recognized rights for self-protection and healing.

Discipline	Entry Point	Key areas of focus
<b>Public Policy</b>	Development planning and policy with Nature management at the centre of decision making.	Rights of local people and communities, rights-based approaches, strengthening institutions and governance structures.
<b>Engineering</b>	Nature-based solutions, including biomimicry.	A range of options for civil, mechanical, architectural, resource and related fields in engineering.
<b>Technology</b>	Develop a platform that enables creation of various layers of an environment ecosystem relevant to conservation interventions including agro-climatic zones, a geo map of terrain, density and type of flora & fauna, migration paths, etc.	Studies, recording and forecasting - impact by agro-climatic zone, loss due to terrain disturbances, distribution of flora, habitats of fauna and their migration paths. Record resource map and game based learning tools.
<b>Medical Sciences</b>	Biodiversity based medicines, natural product based treatments, integrated medicine, Nature healing.	Bio-based research and development, including medicines, devices, approaches and treatments that combine approaches from traditional and Nature-based medicine.
<b>Social sciences</b>	Social anthropology, demographic research, studies and approaches to influence society to value and protect Nature.	Links between society and Nature, modern anthropology that focuses on ecosystem based approaches.

Discipline	Entry Point	Key areas of focus
<b>Management Studies</b>	Managing Nature as a capital, asset and investment, management of human attitudes and behavior towards responsible Nature.	Capital management, development management and resource management.
<b>Advertising</b>	Communication, public outreach that recognizes the potential of Nature to deal with immediate and future needs in a sustainable manner.	Nature-based products, approaches to conservation, changes to consumption patterns, social-proofing Nature conservation.
<b>Insurance</b>	Risks and management options emerging from Nature and its imbalances.	Adaptation and mitigation actions, discounting options, investment support and the related.
<b>Fashion and Lifestyle Changes</b>	Slow-fashion, sustainable and Nature based fashion, ethical sourcing, living in harmony with Nature and its product range and related advertising.	Sustainable design and fashion, Nature based product and range development, options for lifestyles aligning with local conditions and resource availability.
<b>Language &amp; Literature</b>	Understanding traditional knowledge, approaches, management practices and dealing with knowledge management, supporting modern literature that respects and uses Nature as a source of inspiration.	Language and literature studies using Nature as a base and edifice.
<b>Education and Human Resource Development</b>	Approaches in education that considers Nature management as an integral part of human development and for life-long learning.	Development of pedagogy and curricula that transforms conservation education into education for conservation.



Discipline	Entry Point	Key areas of focus
<b>Science and Technology</b>	Use and application of modern tools and approaches in S&T, including for learning, managing, sharing and benefitting from Nature.	Studies on biomimicry, bio-engineering, artificial intelligence, big data analytics and the related.
<b>Special Needs Learning</b>	Teaching and training to experience Nature to heal and learn for peace and tranquility.	Nature education as a special curriculum.
<b>Philosophy</b>	Finding Nature for solace and Nirvana using approaches that are traditional and contemporary.	Experiential learning, feeling Nature and embracing lifestyle that is Nature friendly and Nature-based.
<b>Media and Journalism</b>	Communicating Nature to bring about attitudinal and behavioural change and influence actions relevant to Nature that is sustainable.	Nature studies and conceptualization as a core for society needs. The concepts of EfC integrated into the media narrative and then onto public discussion and policy.
<b>Behavioural Sciences</b>	Conservation psychology, behavioural engineering and social shepherding.	Conservation psychology for attitudinal change that is permanent and influential.
<b>Development Sciences</b>	Nature as a foundation for sustainable development, development economics and development management	Nature based solutions for current and future development challenges and opportunities.

Discipline	Entry Point	Key areas of focus
<b>Mathematics and Statistics</b>	Modeling studies on disturbances and impacts to Nature.	Understanding the mathematical principles of Nature in design and consolidation of responses from Nature.
<b>Tourism and Hospitality</b>	Ethical and ecological tourism with zero footprint options, diversifying options for livelihoods and conservation action, empowerment of local communities and participation in decision making.	Eco-tourism and related principles based on approaches other than Net Present Value and diversity available. Virtual tours of protected sanctuaries, Games, eco-living, folk traditions and others.
<b>Urban Studies</b>	Urban biodiversity conservation, consumption pattern adjustments, local procurement options, construction and development based on principles of Nature conservation and use.	Urban design, development and management that is Nature-proofed.

# 12.

## CONCLUSIONS

Review of the draft post 2020 global biodiversity strategy , being discussed under the CBD, indicate that countries are keen for transformative changes in the way we deal with Nature conservation and there is a need to create a number of enabling conditions. Draft target 19 calls for “By 2030, ensure that quality information, including traditional knowledge, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research”. The means of implementation to achieve the new targets are indicated as “Promotion of biodiversity science and education and organizational learning”.

Thus, there is intent to use education as an enabler to bring in transformative change. As for any such targets, it will be incumbent on countries to come up with strategies to design appropriate enablers. As mentioned earlier, though conservation education has been seen as a tool or enabler, there has been limited and systematic review of the available strategies and approaches. The reason for this is due to education seen within the overall umbrella of tools to increase awareness through knowledge rather than as a tool to provide skill sets, opportunities and bring in behavioural change.

Thanks to current need for transformational changes, expectations of the youth to engage in deciding on what and how to learn and new tools available for imparting conservation literacy across disciplines and age groups, this Education for Conservation strategy is important. Detailing the strategy, based on the principles, priorities and suggestive strategic elements will need to be done at national and local levels for enhanced impacts. However, at the global level, there is a need to internalize and mainstream education across disciplines as indicated in Table 2.

Realizing this strategy, with uncommon approaches as indicated earlier, will depend on a combination of re-designing the pedagogy and curriculum and ensuring our teachers and mentors are re-trained to see conservation education as a life skill.



**The strategy here is a first step in the process to bringing in long needed changes in the way we educate and skill the young generation with changing scenarios of opportunities and challenges to step into the future with positive behavior and active participation in nature conservation..**



*“As Chair and Deputy Chair of the IUCN Commission on Education and Communication (CEC) we want to recognize and thank the authors and contributing CEC members for this important strategic document. This Strategy reminds us of the critical importance of education as a tool for conservation - but also emphasizes the need to integrate nature and conservation issues into all aspects of educational pedagogy and curriculum. With a more thoughtful education we can help reimagine and recreate the future of our planet”.*

**Sean Southey, Chair and Katalin Czippan, Deputy Chair. IUCN CEC**

*“...we are thus happy to support this Strategy as it is fully in line with the objectives and UNESCO’s commitment to Education for Sustainable Development....happy to confirm that UNESCO will be pleased to collaborate on promoting and disseminating this new strategy among its partners and stakeholders.”.*

**Stefania Giannini, Assistant Secretary General for Education, United Nations Educational, Scientific and Cultural Organization (UNESCO), France.**

*“...the Secretariat of the Convention on Biological Diversity supports this important initiative. We look forward to engaging with this strategy and promoting it to the Parties to the Convention and all stakeholders.”*

**Elizabeth M Mrema, Executive Secretary, Secretariat of the Convention on Biological Diversity (SCBD), Canada.**

*“Thoughtful and impactful, the Education for Conservation strategy demonstrates how taking nature as the foundation for life on earth leads to better personal and policy decisions. A must-read and must-adopt strategy to enhance society’s capacity to tackle the contemporary environmental crisis”.*

**Prof. Maria Ivanova, Associate Professor of Global Governance and Director, Center for Governance and Sustainability, University of Massachusetts Boston, USA.**

*“I am sure the EfC Strategy is going to play an important role in shaping the minds and careers of youngsters to admire and protect nature at a time in our history where the trade-off are critical for the future of humankind. We at the GEF welcome and congratulate for this fabulous initiative and will be a strong source for inspiration but also for project development”.*

**Carlos Manuel Rodriguez, Chief Executive Officer, Global Environment Facility (GEF), USA.**

*“The Strategy on Education for Conservation (EfC) is a comprehensive and coherent policy document addressed to all the Member States, to each citizen as an individual, and as a member of the society, regardless of age, colour, race, or religion, to remind us that nature is our “OIKOS” (home) and we must respect it, appreciate it, protect it, and preserve it. Adopting the Strategy and implementing the same will be a springboard for promoting the SDGs.”*

**Dr Aravella Zachariou, Head of the Unit of Education for Environment and Sustainable Development, Chair of UNECE ESD Steering Committee, Vis. Ass. Prof. on ESD, Frederick University, Cyprus Ministry of Education and Culture Pedagogical Institute, Cyprus.**

*“Education for Conservation (EfC) Strategy provides fresh and forward looking approaches to not just conservation education but education for conservation”.*

**Prof. Mohamed H A Hasan, President, The World Academy of Sciences (TWAS), Italy**

*“Experiential learning of biodiversity is the most appropriate route to conservation. The best teacher for understanding complex ecological processes is nature itself. This Strategy on Education for Conservation provides the way forward for conserving nature”.*

**Erach Bharucha, Director, Bharti Vidyapeeth Institute of Environment Education and Research, India.**

*“A refreshing approach, responding to the current needs of youth who wants to not only secure the Planet for future but make their careers responsive, irrespective of individual disciplines”*

**Ms. Akamou Grace, Research Scholar, Makerere University, Uganda.**