



Convention on  
Biological Diversity

# Quick guides to the Aichi Biodiversity Targets

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**United Nations Decade on Biodiversity**

# About the quick guides to the Aichi Biodiversity Targets

This document contains a set of quick guides on each of the Aichi Biodiversity Targets. The guides provide an overview of the main issues addressed under each target. They aim to provide Parties and other stakeholders with an introduction to each of the Aichi Biodiversity Targets by quickly introducing key terms, highlighting some of the implications for national target setting, providing guiding questions for consideration as part of national target setting exercises, providing ideas for preliminary national actions, identifying possible indicators to monitor progress and identifying further resources. The information they contain needs to be considered in light of national conditions and circumstances.

These guides are meant to complement other guidance materials related to the development of national biodiversity strategies and actions plans (NBSAP), the fifth national reports and the Strategic Plan for Biodiversity 2011-2020 which can be accessed from [www.cbd.int/nbsap/](http://www.cbd.int/nbsap/), [www.cbd.int/nr5/](http://www.cbd.int/nr5/) and [www.cbd.int/sp/](http://www.cbd.int/sp/). Additional guidance on indicators, including technical fact sheets has been developed by the Biodiversity Indicators Partnership and is accessible from [www.bipindicators.net](http://www.bipindicators.net). Each guide is also available from [www.cbd.int/nbsap/training/quick-guides/](http://www.cbd.int/nbsap/training/quick-guides/).

The quick guides to the Aichi Biodiversity Targets are meant to serve as a resource that Parties and other stakeholders may wish to consider as they develop or refine national targets to be set in support of the global Aichi Biodiversity Targets. Given particular national circumstances, national targets may be more specific and more precise than the corresponding global targets. In accordance with decision X/2, national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

These guides should be considered as work in progress. It is envisaged that they will be periodically updated in the light of experiences and any comments received. The Secretariat would welcome any feedback on the use of the target guides and suggestions for their improvement. Please send comments to [secretariat@cbd.int](mailto:secretariat@cbd.int).

This is not an official document of the Convention on Biological Diversity. The designations employed and the presentation of material in these guides does not imply the expression of any opinion whatsoever on the part of the Secretariat of the Convention on Biological Diversity concerning the legal status of any country, territory, city or areas or of its authorities, or concerning the delimitation of its frontiers or boundaries. The icons for each target have been developed by the Biodiversity Indicators Partnership, enabled by a grant from the European Union to UNEP-WCMC.



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## Quick guide to the Aichi Biodiversity Targets Awareness increased

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

Addressing the direct and underlying drivers of biodiversity loss will ultimately require behavioral change by individuals, organizations and governments. Understanding, awareness and appreciation of the diverse values of biodiversity, underpin the willingness of individuals to make the necessary changes and actions and to create the “political will” for governments to act. Given this, actions taken towards this target will greatly facilitate the implementation of the Strategic Plan and the fulfillment of the other 19 Aichi Targets, particularly Target 2.

### Explanation of the Target

Meeting the target requires that:

- **People are aware of the values of biodiversity** – Biodiversity is not widely understood and as a result its economic, social and environmental importance is often poorly recognized. The values of biodiversity, should be interpreted in the broadest sense, including environmental, cultural, economic and intrinsic values.
- **People are aware of the actions they can take to conserve and sustainably use biodiversity** – While a better understanding of the values of biodiversity is important in building the motivation for action, its is not enough. Individuals also need to be aware of the types of actions they themselves can take in order to conserve and sustainably use biodiversity. Different segments of society can take different actions depending on the types of activities they have control or influence over. Such information can help to empower individuals to take action.

The target applies to all people in society.

### Implications for setting national targets

In order to progress towards this target, Parties will need to develop and implement coherent, strategic and sustained communication, education and public awareness efforts. Different types of education and public awareness activities or campaigns will be needed to reach the different audiences in a country as activities which are effective for one group, may not be for others.

Learning occurs in formal contexts of learning, such as in schools and universities, as well as in informal contexts, such as through the guidance of elders, as well as in museums and parks, and through films, television and literature. Learning also occurs through participation in events and other opportunities for information exchange between stakeholders. Therefore there are a variety of communication and outreach vehicles which could be used. Where possible, awareness and learning about the values of biodiversity should be linked to and mainstreamed into the principles and messages of education for sustainable development.

### Guiding questions for setting national targets

**What is the current level of biodiversity awareness ?** Which groups have the best/least understanding of biodiversity? Which groups should be targeted through awareness raising activities? What are the key messages that need to be transmitted to each group?

**What awareness raising activities are already ongoing?** How effective have these been? How could their effectiveness be improved? Who are the possible partners that could help reach key audiences?



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## Aichi Biodiversity Target 1

**What are the main channels or opportunities for awareness raising?** What type of actions or events could be used? What programmes or initiatives could be further built on?

**What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

The Convention's Communication, Education and Public Awareness (CEPA) programme is an important instrument for this target. The establishment of the United Nations Decade on Biodiversity by the United Nations General Assembly represents an opportunity, throughout the implementation period of the Strategic Plan, to link national awareness raising activities with a broader international process as a means of developing greater visibility and traction for such actions. Likewise the International Day for Biodiversity, on 22 May, provides a similar opportunity.

An initial action towards this target could be to undertake an assessment of the current level of biodiversity awareness in order to identify gaps and those groups whose awareness of biodiversity values is most important to the status of biodiversity in the country. The information from such an assessment could help to identify and prioritize the types of communication and education actions which are needed. Identifying the relevant messages and communication channels for different groups will also be important. Studies to determine and communicate the values of biodiversity are also important steps towards this target.

The involvement of partner agencies, particularly those that have good communication, education and public awareness experience will be particularly important for the fulfillment of this target.

### Possible indicators

- Trends in awareness and attitudes to biodiversity
- Trends in public engagement with biodiversity
- Trends in communication programmes and actions promoting social corporate responsibility

### Resources

- Programme of work on communication, education and public awareness - [www.cbd.int/cepa/](http://www.cbd.int/cepa/)
- CEPA Toolkit - [www.cbd.int/cepa/toolkit/2008/cepa/index.htm](http://www.cbd.int/cepa/toolkit/2008/cepa/index.htm)





## Quick guide to the Aichi Biodiversity Targets Biodiversity values integrated

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

The values of biodiversity are not widely reflected in decision-making. This is true in the context of development and poverty reduction strategies. Integrating and reflecting the contribution of biodiversity, and the ecosystem services it provides, in relevant strategies, policies, programmes, and reporting systems is an important element in ensuring that the diverse values of biodiversity and the opportunities derived from its conservation and sustainable use are recognized and reflected in decision-making. Similarly accounting for biodiversity in decision-making is necessary to limit the unintended negative

### Explanation of the Target

The aim of this target is to place biodiversity into the mainstream decision-making framework so to help give it greater visibility amongst policy-makers when formulating country development strategies and planning progress. This target:

- Considers all **biodiversity values** – Biodiversity underpins a wide range of services that support economies, food production systems, secure living conditions and human health. In addition biodiversity is central to many cultures, spiritual beliefs and worldviews and has intrinsic value in its own right. As such biodiversity has multiple values some of which can be quantified in monetary terms and others which are more abstract. Given the various values of biodiversity that need to be considered when taking actions towards this target a multidisciplinary approach will be required to assess the values of biodiversity.
- Requires integrating biodiversity into **national development and poverty reduction strategies** – these are key instruments in countries' efforts to eradicate poverty in line with the Millennium Development Goals.
- Requires integrating biodiversity into **national and local planning process** – land use planning in particular, can have major impacts on biodiversity. The integration of biodiversity concerns into national and local decisions will help to internalize the costs and benefits of the conservation and sustainable use of biodiversity and help to frame conservation and sustainable use in terms of opportunities for development.
- Requires integrating biodiversity into **national accounting**, if appropriate – National accounting provides a means of keeping track of resource flows and of better understanding the benefits which are being derived from biodiversity. Such information allows for more informed policy decisions to be made.
- Integrating biodiversity into **reporting systems** - Governments are required to report on a variety of issues to their own constituents as well as to the international community. Including biodiversity in reporting systems, where relevant, can help to ensure that the importance of biodiversity remains visible and is appropriately accounted for in decision making.

### Implications for setting national targets

Integrating the values of biodiversity into planning processes and national accounting and reporting systems will require Parties to appropriately value biodiversity. Efforts to improve the valuation of biodiversity should include tools and methods that recognize social and cultural values, in addition to economic values, and should be conducted in ways that encourage the sustainable use of biodiversity at all levels. The evaluation and integration of biodiversity can be costly and time-consuming depending on national circumstances. Given this some countries will need to build capacity, both technical and administrative, as well as adopt a flexible approach towards this target. A combination of both national and local policies will be needed to fulfill this target.



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## Aichi Biodiversity Target 2

### Guiding questions for setting national targets

- **What are the most important ecosystem services in the country?** Have valuation studies of these services been undertaken? Which services would be the most feasible to value?
- **Is biodiversity valuation being used to inform policy-making?** If so how could it be strengthened? What are the gaps/needs that exist? If not what are the obstacles to it occurring?
- **What are the opportunities and constraints in integrating biodiversity into national planning processes?** What are the key national planning instruments and processes? What are the potential ecological, economic, and social benefits and costs of integrating biodiversity into such instruments and processes?
- **What are the opportunities and constraints in integrating biodiversity into local (sub-national) planning processes?** What planning decisions are (being) devolved to sub-national (state/province, city, municipal) governments? What are the potential ecological, economic, and social benefits and costs of taking into account ecosystem services and other benefits of biodiversity?
- **Who are the stakeholders that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

There are a variety of tools available to help assess the values of biodiversity. These include the Convention's work on economic, trade and incentive measures, the Economics of Ecosystems and Biodiversity (TEEB) study, and the UN System of Economic and Environmental Accounting (SEEA). Tools are also available for integrating biodiversity into spatial planning exercises through the mapping of biodiversity ecosystem services and through systematic conservation planning. Strategic environmental assessment and similar tools provide useful methodologies to assess impacts on biodiversity and allow for the assessment of trade-offs in decision-making. Payment for ecosystem services mechanisms and the development of private sector guidelines for the appropriate reflection of the values of biodiversity are additional implementation mechanisms which could be used to meet this target.

Depending on national circumstances, the integration of biodiversity could be undertaken in a step wise or incremental manner by first including those values of biodiversity which are easiest to account for and then further developing or enhancing systems for integrating biodiversity values into decision making processes. To do so, in many countries there will be a need to increase coordination among government ministries and different levels of government.

### Possible indicators

- Trends in incorporating natural resource, biodiversity, and ecosystem service values into national accounting systems
- Trends in number of assessments of biodiversity values, in accordance with the Convention
- Trends in guidelines and applications of economic appraisal tools
- Trends in integration of biodiversity and ecosystem service values into sectoral and development policies
- Trends in policies considering biodiversity and ecosystem services in environmental impact assessment and strategic environmental assessment

### Resources

- CBD Technical Series 27 - [www.cbd.int/doc/publications/cbd-ts-27.pdf](http://www.cbd.int/doc/publications/cbd-ts-27.pdf)
- CBD Technical Series 28 - [www.cbd.int/doc/publications/cbd-ts-28.pdf](http://www.cbd.int/doc/publications/cbd-ts-28.pdf)
- CBD Poster on Options for the Application of Tools for Valuation of Biodiversity and Biodiversity Resources and Functions - [www.cbd.int/doc/publications/cbd-2007-poster-en.pdf](http://www.cbd.int/doc/publications/cbd-2007-poster-en.pdf)
- TEEB Reports - [www.teebweb.org/InformationMaterial/TEEBReports/tabid/1278/Default.aspx](http://www.teebweb.org/InformationMaterial/TEEBReports/tabid/1278/Default.aspx)





## Quick guide to the Aichi Biodiversity Targets Incentives reformed

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

Substantial and widespread changes to subsidies and other incentives that are harmful to biodiversity are required to ensure sustainability. Ending or reforming harmful incentives is a critical and necessary step that would also generate net socio-economic benefits. The creation or further development of positive incentives for the conservation and sustainable use of biodiversity, provided that such incentives are in harmony with the Convention and other relevant international obligations, could also help in the implementation of the Strategic Plan by providing financial resources or other motives to encourage actors to undertake actions which would benefit biodiversity.

### Explanation of the Target

This target has implications for both harmful and positive incentives on biodiversity:

- **Incentives, including subsidies, harmful to biodiversity** generally emanate from policies or programmes that induce unsustainable behaviour harmful to biodiversity, often as unanticipated and unintended side effects of policies or programmes designed to achieve other objectives. Types of possibly harmful incentives include production subsidies and consumer subsidies while policies and laws governing resource use, such as land tenure systems and environmental resource management, can also have harmful effects.
- **Positive incentives** are economic, legal or institutional measures designed to encourage activities beneficial to biodiversity. Positive incentives can include such things as public or grant-aided land purchases or conservation easements.

This target also requires Parties to undertake several types of actions. Depending on national circumstances Parties should:

- **Eliminate or phase out** harmful incentives – Both the elimination or phasing out of harmful incentives require Parties to end support for such incentives. For some types of incentives it may be possible to eliminate them outright. However for most incentives a more scaled or gradual approach may be required as different sectors or groups in society have come to depend on them, and in some cases there are powerful vested interests for maintaining them.
- **Reform** harmful incentives – In some cases it will not be possible eliminate or phase out harmful incentives as they are deemed important for other societal objectives. In these cases biodiversity harmful incentives should be reformed so that their negative impacts are reduced as much as possible.
- **Develop and apply positive incentives for the conservation and sustainable use of biodiversity** – In addition to eliminating, phasing out or reforming harmful incentives Parties have committed to developing and applying incentives positive for biodiversity as a means of safeguarding biodiversity.

An overarching principle in this target is that any actions taken should be in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions. As such incentives should contribute to the conservation of biological diversity and the sustainable use of its components and not negatively affect biodiversity and livelihoods of other countries and contribute to sustainable development and the eradication of poverty. Further, bearing in mind the principle of common but differentiated responsibilities, this target would not imply a need for developing countries to remove subsidies that are necessary for poverty reduction programmes.



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## Aichi Biodiversity Target 3

### Implications for setting national targets

Implicit in the target is the need to identify those incentives which are harmful to biodiversity. Likewise opportunities to implement positive incentives will also need to be identified. In most countries there are likely to be a number of incentives which are having negative effects on biodiversity therefore countries may need to be strategic in formulating their targets. Ultimately, as most incentive mechanisms are beyond the control of environment ministries, there will be a need to involve and cooperate with other sectors of government as well as the stakeholders impacted by any changes to current incentive schemes or mechanisms.

### Guiding questions for setting national targets

- **What subsidies harmful to biodiversity exist in the country?** How are the subsidies affecting biodiversity? Which are particularly harmful? What is the cost of these subsidies?
- **What other harmful incentives exist in the country? How do they affect biodiversity?** Are there opportunities for enhancing effectiveness while reducing environmental damage? Are there opportunities to mitigate the harmful impacts by reforming the incentive?
- **What are the opportunities and constraints to removing, reforming or phasing out harmful incentives?** What are the potential ecological, economic, and social costs and benefits of addressing harmful subsidies?
- **What biodiversity related problems could be addressed with the help of biodiversity friendly incentives?** How could incentives be used to address the main threats to biodiversity? How could incentives encourage actions in support of biodiversity?
- **Who are the stakeholders that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider? Are there stakeholders who could also act as champions for the removal, phase out, or reform of harmful incentives?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional resources be raised? What are the possible sources for these resources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Actions taken to achieve this target should be guided by the programme of work on Economics, Trade and Incentive Measures. As a first step countries may wish to identify which biodiversity harmful subsidies exist in their country. Based on this countries could then choose those incentives which are particularly detrimental to biodiversity and prioritize these for removal, phasing out, or reform. Obvious candidates would include those policies or programmes which are suspected to be both environmentally harmful and not very cost-effective against their stated objectives. With regards to positive incentives, a first step could be to identify areas where incentives could have a positive impact on biodiversity. When developing positive incentives it will be important to interact with the stakeholders involved and to ensure that the mechanisms designed are effective in their intended purpose.

### Possible indicators

- Trends in the number and value of incentives, including subsidies, harmful to biodiversity, removed, reformed or phased out.
- Trends in identification, assessment and establishment and strengthening of incentives that reward positive contribution to biodiversity and ecosystem services and penalize adverse impacts.

### Resources

- CBD Technical Series 56 - [www.cbd.int/doc/publications/cbd-ts-56-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-56-en.pdf)





## Quick guide to the Aichi Biodiversity Targets Sustainable consumption and production

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

The unsustainable use or overexploitation of resources is one of the main threats to biodiversity. Currently, many individuals, businesses and countries are making efforts to substantially reduce their use of fossil fuels, with a view to mitigating climate change. Similar efforts are needed to ensure that the use of other natural resources is within sustainable limits. This is an integral part of the Vision of the Strategic Plan.

### Explanation of the Target

This target should be seen as a commitment by Governments, business and stakeholders at all levels to take the steps necessary to bring resource consumption to sustainable levels. Specifically the target requires that:

- **Steps to achieve sustainable production and consumption have been taken or plans for this purpose have been implemented** – Recognizing that achieving sustainable production and consumption is a long term process, this target does not require that sustainable consumption and production is achieved by 2020 but that meaningful steps have been taken or measures put in place by 2020 to achieve it.
- **The impacts of use of natural resources with safe ecological limits** – The concept of ecological limits can generally be understood as a point where the amount of resources being extracted or used is less or equal to the amount of resources ecosystems are able to provide on a sustainable basis while maintaining ecosystem functionality. Specific limits will vary with different ecosystems depending on ecosystem compositions and conditions and the type and magnitude of pressures being applied. In many cases the actual limits will be unknown so applying a precautionary approach will be needed.

### Implications for setting national targets

This target will build upon, and contribute to, the achievement of the target established in the Johannesburg Plan of Implementation as well as the sustainable consumption and production framework resulting in the Marrakech process. Similarly actions towards this target would contribute to the 10 year framework of programmes on sustainable consumption and production adopted as part of the Rio+20 outcomes. Further, given its cross cutting nature, progress towards this target will help to achieve many of the other Aichi Biodiversity Targets as well as greatly contribute to the overall Mission and Vision of the Strategic Plan. Fulfilling this target will require dialogue among sectors and stakeholders in order to develop plans for sustainable consumption and production which are effective. While a general overall plan could be developed it is likely that different and more detailed plans would be required for each sector given their specific characteristics.

### Guiding questions for setting national targets

- **What are the main production sectors in the country?** What effect do these have on natural resources? Are the impacts at safe levels?
- **What is the natural resource demand in the country (ecological footprint)?** Is it sustainable? What processes are in place to encourage less resource consumption? How effective have these been?
- **What plans for sustainable consumption and production are already in place?** How effective have these been? How could their effectiveness be improved? What sectors are not covered by production or consumption plans?



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## Aichi Biodiversity Target 4

- **What are the opportunities and constraints in taking steps to achieve or implement plans for sustainable production and consumption?** What are the potential ecological, economic, and social costs and benefits of addressing unsustainable consumption and production? How may these justify a national target which differs from the global target?
- **Who are the stakeholders that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider? Are there stakeholders who could also act as champions for more sustainable production and consumption?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional resources be raised? What are the possible sources for these resources

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

The programme of work on the sustainable use of biodiversity, the Global Partnership for Business and Biodiversity as well as the work on impact assessment would be particularly relevant to this target. Similarly the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity provide guidance which is relevant. Reducing total demand and increasing efficiency will contribute to the target and can be pursued through government regulations and/or incentives, education, and social and corporate responsibility. Further fostering sustainable consumption and production patterns for the conservation and sustainable use of biodiversity, both in the public and the private sector, including through business and biodiversity initiatives, procurement policies that are in line with the objectives of the Convention, and development of methods to promote science-based information on biodiversity in consumer and producer decisions would contribute to the attainment of this target. Early action would involve each production- and consumption-related sector developing and implementing plans for this purpose. The target can be achieved through dialogue among sectors and stakeholders, supported by planning tools such as strategic environmental impact assessment and economic tools such as incentive measures that integrate biodiversity issues. Likewise the greater promotion of scientific and technological innovation related to sustainable consumption and production could help in the achievement of this target. The creation of inter-ministerial committees, nationally developed guidelines, sectoral guidelines and the promotion of ecosystem management in city districts and other local authorities could be used to help reach this target. Support to indigenous and local communities for the development and implementation of community-based sustainable management plans would also contribute to the achievement of the target. Reducing total demand and increasing resource use and energy efficiency, which can be pursued through government regulations and/or incentives, education and research, and social and corporate responsibility, would contribute to the target.

### Possible indicators

- Trends in Ecological Footprint and/or related concepts
- Trends in extent to which biodiversity and ecosystem service values are incorporated into organizational accounting and reporting
- Trends in biodiversity of cities
- Ecological limits assessed in terms of sustainable production and consumption
- Trends in population and extinction risk of utilized species, including species in trade

### Resources

- Cross cutting thematic issue on Sustainable Use of Biodiversity - [www.cbd.int/sustainable/](http://www.cbd.int/sustainable/)
- Global Partnership for Business and Biodiversity - [www.cbd.int/business](http://www.cbd.int/business)
- CBD Technical Series 60 - [www.cbd.int/doc/publications/cbd-ts-60-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-60-en.pdf)
- CBD Technical Series 56 - [www.cbd.int/doc/publications/cbd-ts-56-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-56-en.pdf)
- CBD Technical Series 52 - [www.cbd.int/doc/publications/cbd-ts-52-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-52-en.pdf)
- CBD Technical Series 39 - [www.cbd.int/doc/publications/cbd-ts-39-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-39-en.pdf)
- CBD Technical Series 12 - [www.cbd.int/doc/publications/cbd-ts-12-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-12-en.pdf)
- CBD Technical Series 9 - [www.cbd.int/doc/publications/cbd-ts-9-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-9-en.pdf)
- The Addis Ababa Principles - [www.cbd.int/doc/publications/addis-gdl-en.pdf](http://www.cbd.int/doc/publications/addis-gdl-en.pdf)





## Quick guide to the Aichi Biodiversity Targets Habitat loss halved or reduced

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

Habitat loss, including degradation and fragmentation, is the most important cause of biodiversity loss globally. Natural habitats in most parts of the world continue to decline in extent and integrity, although there has been significant progress to reduce this trend in some regions and habitats. Reducing the rate of habitat loss, and eventually halting it, is essential to protect biodiversity and to maintain the ecosystem services vital to human wellbeing.

### Explanation of the Target

This target refers to **all natural habitats, including forests**. The emphasis of this target should be on preventing the loss of high-biodiversity value habitats, such as primary forests, many wetlands and coral reefs, and of ecosystems where continued loss risks passing “tipping points” that could lead to large scale negative effects on human well-being.

Achieving this target requires that:

- The rate of loss of all natural habitats **is at least halved and where feasible brought close to zero** - Depending on the habitat being considered and national circumstances it may be possible to halt the loss of a given habitat. This would be particularly important in those cases where very little of a habitat remains and further loss would mean it would be completely lost, or cases where further loss would lead to a risk of crossing “tipping points”. However for some habitats, in some countries, it will not be feasible to halt all loss by 2020 given other socio-economic needs. In these cases the aim should be to at least halve the rate of loss.
- **Degradation and fragmentation** of natural habitats is **significantly reduced** – The condition of natural habitats is important for biodiversity. Habitats which are highly degraded or fragmented are less likely to be able to support their full complement of species or provide the same level of ecosystem services provided by intact habitats.

### Implications for setting national targets

Globally most natural habitats are in state of decline. While economic, demographic and social pressures are likely to mean continued habitat loss, degradation and fragmentation, particularly due to land use change beyond 2020, the rate of change needs to be substantially reduced. Ultimately, there must be limits to the conversion or degradation of natural habitats.

For a variety of reasons it may be necessary to set different targets for different types of natural ecosystems. For some habitats there may be so little remaining that continued loss would risk a habitat disappearing all together. In these cases highly ambitious targets, such as completely halting habitat loss, may be warranted. Conversely for some relatively large and pristine ecosystems further loss, if limited and appropriately managed, may be considered acceptable from a variety of socio-economic and environmental reasons. In these cases a target of reducing habitat loss by 50% or more may be more appropriate. In addition, reducing the rate of habitat loss in some ecosystems will be easier than in others so while it may be possible to halt habitat loss in one type of habitat in others a more realistic target may be to reduce the rate of loss by a certain amount.

As a variety of habitats usually exist in a country, setting a target for each and every habitat type may not be realistic given the available resources. In such cases focusing on a few key habitats which are of, strategic, national, global or ecological significance may offer a way forward. The same would also apply to any targets set in relation to fragmentation or degradation. Ultimately any national targets which are set in relation to this target should be seen as a step towards ultimately halting the loss of natural habitats at a level where habitats are still able of supporting their full range of species and of providing ecosystem services.



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# Aichi Biodiversity Target 5

## Guiding questions for setting national targets

**What are the major habitats in the country?** What are the areas of importance for biodiversity, ecosystem services and human wellbeing?

**What is the condition of the natural habitats in the country?** What is the size of the different habitats present? Which habitats are degraded? Which habitats are fragmented?

**What are the current rates of loss for each habitat?** Which habitats are decreasing the quickest? Which habitats are increasing? Which habitats have the least/most amount left? Does further loss of some habitats risk passing tipping points?

**What are the main causes of habitat loss?** What factors are driving or causing this loss? Which are the easiest to address?

**What are the opportunities and constraints in reducing habitat loss, generally and by habitat?** Consider potential ecological, economic, and social costs and benefits of reducing habitat loss in specific habitats. How may these justify higher or lower figures for a national target than for the global target?

**Who are the stakeholders that may be affected by efforts to reduce habitat loss?** How can they be involved and their needs addressed? What are the trade-offs to consider?

**What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

## Actions and milestones

Actions taken to achieve this target should be guided by the programmes of work on forest, marine and coastal, inland water and dry and sub-humid lands biodiversity and the Convention's work on sustainable use. There are a variety of ways the rate of habitat loss, degradation and fragmentation could be reduced depending on national circumstances and priorities. Reduction in the loss and degradation of natural habitats through land use change could be achieved through improvements in production efficiency and land use planning, and enhanced mechanisms for natural resource governance combined with greater enforcement of such policies. Further the greater recognition of the economic and social value of ecosystem services provided by natural habitats such as, catchment value (water provision), erosion control, the value of carbon sequestration by forests and wetlands, and other ecosystem services (such as denitrification by wetlands) provide contemporary incentives for reducing the net loss of these habitats, and reversing their decline. Taking a landscape-wide perspective to land use planning offers a useful way to integrate global level ecosystem services (e.g., climate change mitigation) with local level ones (e.g., biodiversity conservation, water supply and quality, timber and non-timber forest products).

## Possible indicators

- Trends in proportion of degraded/threatened habitats
- Trends in extent of selected biomes, ecosystems and habitats
- Trends in condition and vulnerability of ecosystems
- Trends in fragmentation of natural habitats
- Population trends of habitat dependent species in each major habitat type

## Resources

- Thematic programmes of work of the Convention on Biological Diversity - [www.cbd.int/programmes/](http://www.cbd.int/programmes/)





## Quick guide to the Aichi Biodiversity Targets Sustainable management of marine living resources

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

Overexploitation is a severe pressure on marine ecosystems globally, and has led to the loss of biodiversity and ecosystem structure. Harvests of global marine capture fisheries have been reduced from the unsustainable levels of a decade and more ago. However, overfishing still occurs in many areas, and fisheries could contribute more to the global economy and food security with more universal commitment to sustainable management policies. This target should be regarded as a step towards ensuring that all marine resources are harvested sustainably.

### Explanation of the Target

This target refers to **all harvested fish and invertebrate stocks and aquatic plants**. Therefore it applies to a variety of marine biological resources including fish, crustaceans, mollusks, urchins and seaweeds. This target has number of components which need to be considered at the national level:

- Stocks need to be **managed and harvested sustainably, legally and applying ecosystem based approaches** – There are a variety of management and harvesting methods used worldwide. These need to be applied in ways which do not damage the long term sustainability of resources, do not constitute illegal, unreported or unregulated fishing, and which take account of the full impact of the fishery on the ecosystem.
- **Overfishing is avoided** – Overfishing refers to harvesting activities which reduce fish stocks to levels that effect their ability to replenish themselves. The ability of a fish stock to cope with harvesting pressure is dependant on, among other things, ecosystem conditions, the life history of the species being harvested and the magnitude and type of harvesting pressure applied.
- **Recovery plans and measures are in place for all depleted species** - For those species which have already been depleted by some factor the development and implementation of a recovery plan is a first step towards their possible recovery. Depending on the state of the stock and the capacities of management there is a spectrum of management options available ranging from catch reductions and quotas to gear restrictions and partial, periodic or full fishery closures.
- **Fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems** – In addition to the direct pressures on target stocks, some harvesting and fishing methods can have unintentional impacts on other species such as through bycatch and/or damage to habitat. These impacts, though unintentional, can nonetheless have major ramifications on species and ecosystem health and must be minimized. This component of the target reflects directly the language of United Nations Resolution 81/105 where this commitment has been made for deep-sea fisheries on the high seas.
- The impacts of fisheries on stocks, species and ecosystems are within safe **ecological limits** – Ultimately the impact of fishing and harvesting pressures on species and ecosystems must be kept at levels which do no undermine the long term sustainability of the ecosystem. In this respect pressures need to be at or below the level of what ecosystems can sustain while still allowing them to provide ecosystem services.

### Implications for setting national targets

Global marine capture fisheries are yielding lower harvests and contributing less to the global economy than they could under stronger policies to manage fish stocks sustainably. The main drivers of overexploitation, such as over capacity, inadequate surveillance and control, or other consequences of poor governance generally can be mitigated, at least in part, by improved governance at international, regional and national levels. Actions taken to reach this target would help to ensure implementation, with respect to marine living resources, of the United Nations Convention on the Law of the Sea and its 1995



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## Aichi Biodiversity Target 6

Implementation Agreement of its Provisions relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and several key UNGA Resolutions. National targets set in support of this target would also contribute to the Johannesburg Plan of Implementation. In situations where fisheries are shared by several countries in a region, mechanisms, such as multilateral strategies, may need to be developed to allow for a coordinated approach to resource management.

### Guiding questions for setting national targets

**Which fish and invertebrate stocks and aquatic plants are harvested in the country?** Which are under or moderately exploited? Which are fully exploited? Which are overexploited, depleted or recovering?

**What are the main fishing and harvesting techniques used in the country?** What effect are they having on vulnerable species and ecosystems? Which of these are sustainable? Which are not?

**What management plans are already in place?** How effective have they been? How could their effectiveness be improved? What species or ecosystems require management plans? What type of management could be introduced (quotas, allocation of rights to harvester, communities, or other appropriate units, fishing gear restrictions, spatial measures including marine protected areas, catch reductions, partial or full fishery closures, license buybacks, etc.)?

**What fisheries subsidies are in place? What effect are these having?** Which subsidies should be reformed or phased out? Which positive incentives could be further developed?

**What are the opportunities and constraints in reducing overexploitation of marine resources?** Consider potential ecological, economic, and social costs and benefits of reducing harvest pressure. How may these justify higher or lower figures for a national target than for the global target?

**Who are the stakeholders that may be affected by efforts to reduce overexploitation?** How can they be involved, how would they be affected, and how can their needs addressed? What are the trade-offs to consider?

**What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Actions towards this target should bear in mind the guidance provided by the programme of work on marine and coastal biodiversity as well as the sustainable use cross-cutting issue. There are a variety of actions which countries can take to fulfill this target. Where fisheries are already managed sustainably and using ecosystem approaches, no further reductions in fishing pressure may be needed, whereas in some areas substantial reductions might be warranted. Similarly actions to ensure all fishing gear is used in ways and places that do not cause serious adverse impacts to the seafloor or non-target species are necessary to achieve this target. Actions that build upon existing initiatives such as the Code of Conduct for Responsible Fishing could help to ensure this. Actions which build from the fisheries targets set during the 2002 World Summit on Sustainable Development and build upon the diverse approaches and tools agreed upon there could also be considered. These include the Ecosystem Approach; the elimination of destructive fishing practices; the establishment of representative networks of marine protected areas; and time/area closures for the protection of nursery grounds.

### Possible indicators

- Trends in proportion of depleted target and bycatch species with recovery plans
- Trends in area, frequency, and/or intensity of destructive fishing practices
- Trends in catch per unit effort
- Trends in extinction risk of target and bycatch aquatic species
- Trends in fishing effort capacity
- Trends in population of target and bycatch aquatic species
- Trends in proportion of utilized stocks outside safe biological limits

### Resources

- The programmes of work of Marine and Coastal Biodiversity - [www.cbd.int/marine/](http://www.cbd.int/marine/)
- CBD Technical Series 27 - [www.cbd.int/doc/publications/cbd-ts-14.pdf](http://www.cbd.int/doc/publications/cbd-ts-14.pdf)





## Quick guide to the Aichi Biodiversity Targets Sustainable agriculture, aquaculture and forestry

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

The increasing demand for food, fibre and fuel will lead to increasing losses of biodiversity and ecosystem services if issues related to sustainable management are not addressed. On the other hand, sustainable management not only contributes to biodiversity conservation but can also deliver benefits to production systems in terms of services such as soil fertility, erosion control, enhanced pollination and reduced pest outbreaks, as well as contributing to the well-being and sustainable livelihoods of local communities engaged in the management of local natural resources.

### Explanation of the Target

This target has implications for areas under:

- **Agriculture** is a broad term that encompasses the cultivation of animals, plants, fungi, and other life forms for the purposes of providing food, fiber, and other products used to sustain life. The variety and variability of animals, plants and micro-organisms used in agriculture is an important aspect of biodiversity. However some agricultural practices are also a major cause of biodiversity loss.
- **Aquaculture** refers to the cultivation of fish, crustaceans, mollusks and aquatic plants. It can occur in both inland water and marine environments. Aquaculture can be contrasted with commercial fishing which is the harvest of wild aquatic organisms.
- **Forestry** refers to the interdisciplinary process of establishing, managing, using, and conserving forests and their associated resources. As such, forestry encompasses not just trees, but the multitude of plants, animals and micro-organisms that inhabit forest areas and the ways in which they are used. Forestry can occur in all types of forests from plantations to primary forests.

Specifically this target requires that these different types of productive landscapes are:

- **Managed sustainably** which refers to situation in which the use of the components of biodiversity occurs in such a way and at a rate that does not lead to their long-term decline. When a resource is used sustainably it maintains its potential to meet the needs and aspirations of present and future generations.

### Implications for setting national targets

Sustainable use is one of the three main objectives of the Convention. Article 10 of the Convention provides that, inter alia, each Party should integrate consideration for the sustainable use of biological resources into national decision-making and adopt measures, as far as possible and as appropriate relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity. As such progress towards this target will help to meet one of the three main objectives of the Convention as well as help countries to ensure that they fulfill their obligations to it. Given the broad nature of this target, progress towards its fulfillment will contribute to several other targets, in particular targets 4, 5, 6, 8, 13 and 15.

### Guiding questions for setting national targets

- **What are the main areas in the country used for agriculture, forestry and aquaculture?** Which are particularly important for biodiversity? Which are particularly important for economic reasons?
- **What measures are in place to ensure the sustainability of agriculture, aquaculture and forestry?** How effective have these been? How could their effectiveness be improved? What areas are not currently covered by any type of sustainable management?



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## Aichi Biodiversity Target 7

- **What are the opportunities and constraints to enhancing sustainable management?** What are the potential ecological, economic, and social costs and benefits of enhancing sustainable management? How may these justify a national target which differs from the global target?
- **What biodiversity related problems could be addressed through sustainable management?** How could sustainable management be used to address the main threats to biodiversity?
- **Who are the stakeholders that may be affected? How can they be involved and their needs addressed?** What are the trade-offs to consider? Are there stakeholders who could also act as champions for enhancing sustainable management?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional resources be raised? What are the possible sources for these resources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

The type of actions that will help to achieve sustainable management will vary between ecosystems and countries. While, as yet, there are no universally-agreed sustainability criteria, given the diversity of production systems and environmental conditions, each sector and many initiatives have developed their own criteria which could be used pending the development of a more common approach. Already criteria for sustainable forest management have been adopted by the forest sector and there are many efforts by governments, indigenous and local communities, NGOs and the private sector to promote good agricultural, aquaculture and forestry practices and to apply law and governance mechanisms. In addition, customary use of biodiversity by indigenous and local communities can often offer lessons of wider applicability and could be enhanced by increasingly delegating governance and management responsibility to the local level. Similarly, the use of certification and labeling systems or standards could be promoted as part of this target. The Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity developed under the Convention on Biological Diversity could serve as a framework for developing further sustainability criteria. The programmes of work on agricultural, forest, inland water, marine and coastal, dry and sub-humid lands biodiversity, and the Convention's work on sustainable use, as well as the International Initiatives on Soil Biodiversity and on Pollinators are particularly relevant to this target.

### Possible indicators

- Trends in area of forest, agricultural and aquaculture ecosystems under sustainable management
- Trends in population of forest and agriculture dependent species in production systems
- Trends in production per input
- Trends in proportion of products derived from sustainable sources

### Resources

- Addis Ababa Principles and Guidelines - [www.cbd.int/doc/publications/addis-gdl-en.pdf](http://www.cbd.int/doc/publications/addis-gdl-en.pdf)
- CBD Technical Series No. 60 - [www.cbd.int/doc/publications/cbd-ts-60-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-60-en.pdf)
- CBD Technical Series No. 52 - [www.cbd.int/doc/publications/cbd-ts-52-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-52-en.pdf)
- CBD Technical Series No. 39 - [www.cbd.int/doc/publications/cbd-ts-39-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-39-en.pdf)
- CBD Technical Series No. 34 - [www.cbd.int/doc/publications/cbd-ts-39-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-39-en.pdf)
- CBD Technical Series No. 3.- [www.cbd.int/doc/publications/cbd-ts-03.pdf](http://www.cbd.int/doc/publications/cbd-ts-03.pdf)





## Quick guide to the Aichi Biodiversity Targets Pollution reduced

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

Nearly all Parties indicated in their fourth national reports that pollution was posing a threat to biodiversity. In particular nutrient loading, primarily of nitrogen and phosphorus, is a major and increasing cause of biodiversity loss and ecosystem dysfunction, especially in wetland, coastal and dryland areas. As nitrogen and phosphorus are often limiting nutrients in many ecosystems when they are present in excessive quantities they can result in rapid plant growth which can alter ecosystem composition and function. Humans have already more than doubled the amount of “reactive nitrogen” in the biosphere, and business-as-usual trends would suggest a further increase of the same magnitude by 2050.

### Explanation of the Target

This target specifically addresses **pollution, including from excess nutrients** - Pollution refers to chemical contaminants that are introduced to the environment resulting in instability or harm. Pollution can take numerous forms as a variety of chemical compounds can cause environmental damage depending on their properties and concentrations. The target specifically highlights excess nutrients. Excess nutrients, such as nitrogen and phosphorus, by promoting plant and algae growth, can have particularly negative effects on biodiversity and ecosystem functioning especially in aquatic environments where they can result in eutrophication and the creation of “dead zones” with severe losses of valuable ecosystem services. Common causes of excessive nutrients are sewage and agricultural runoff.

The target also specifies that pollution should be brought to levels that are **not detrimental to ecosystem function and biodiversity** – Therefore the target does not require that all pollutants be eliminated but does require that they are reduced to a point where they do not have a negative effect on biodiversity. The point at which pollution can be considered detrimental depends on the type of pollutant considered as well as the environment it is affecting.

### Implications for setting national targets

This target is consistent with, and complementary to, work under the Rotterdam and Stockholm Conventions and the target established in the Johannesburg Plan of Implementation to achieve, by 2020, a situation where chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment. As such national targets adopted in support of this Aichi Biodiversity Target have the potential to create synergies between the Convention on Biological Diversity and other international processes.

### Guiding questions for setting national targets

- **What ecosystems are being affected by pollution, including excess nutrients?** Which pollutants are they being affected by? How are they affecting biodiversity and ecosystem functioning?
- **What are the main sources of pollution in the country?** What are the point sources of pollution? What are the diffuse sources?
- **What pollution control measures are already in place in the country?** How effective have these been? How could their effectiveness be improved?
- **What are the main channels or opportunities for bringing pollution, including from excess nutrients, to levels that are not detrimental to biodiversity?** What type of actions could be used? What programmes or initiatives could be further built on?

**What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?



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## Aichi Biodiversity Target 8

- **What are the opportunities and constraints for reducing pollution?** How may these justify a higher or lower national target compared to the global target?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

This target is relevant to several programmes of work but, in particular, to those dealing with inland water, agricultural, and marine and coastal biodiversity and the Convention's work on impact assessment. A number of actions could be taken to implement this target. As a starting point countries may wish to identify the types of pollution they wish to address. It may be easiest to start by identifying and addressing point sources of pollution but ultimately non-point or diffuse sources of pollution will need to be addressed as well. The development of national water quality guidelines could help to limit pollution and excess nutrients from entering freshwater and marine ecosystems. With regards to excess nutrients, the more efficient use of fertilizers could help to reduce pollution while at the same time improving the efficiency of agricultural processes. The better control of sources of pollution, including efficiency in fertilizer use and the better management of animal wastes, coupled with the use of wetlands as natural filtration plants where appropriate, can be used to bring nutrient concentrations to levels that are not detrimental to ecosystem functioning, while also allowing for increased fertilizer use in areas where it is necessary to meet soil fertility and food security needs.

### Possible indicators

- Impact of pollution on extinction risk trends
- Trend in emission to the environment of pollutants relevant for biodiversity
- Trend in levels of contaminants in wildlife
- Trends in incidence of hypoxic zones and algal blooms
- Trends in nitrogen footprint of consumption activities
- Trends in ozone levels in natural ecosystems
- Trends in pollution deposition rate
- Trends in proportion of wastewater discharged after treatment
- Trends in sediment transfer rates
- Trends in water quality in aquatic ecosystems

### Resources

- Programme of work on Inland Waters Biodiversity - [www.cbd.int/waters/](http://www.cbd.int/waters/)
- Programme of work on Agricultural Biodiversity - [www.cbd.int/agro/](http://www.cbd.int/agro/)
- Programme of work on Marine and Coastal Biodiversity - [www.cbd.int/marine/](http://www.cbd.int/marine/)
- International Nitrogen Initiative - <http://initrogen.org/>





## Quick guide to the Aichi Biodiversity Targets Invasive alien species prevented and controlled

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

Invasive alien species are one of the main direct drivers of biodiversity loss at the global level. In some ecosystems, such as many island ecosystems, invasive alien species are the leading cause of biodiversity decline. Invasive alien species primarily affect biodiversity by preying on native species or competing with them for resources. In addition to their environmental impacts, invasive alien species can pose a threat to food security, human health and economic development. Increasing travel, trade, and tourism have facilitated the movement of species beyond natural bio-geographical barriers by creating new pathways for their introduction. With increasing globalization, the occurrence of invasive alien species is likely to increase unless additional measures are taken.

### Explanation of the Target

This target focuses on two types of actions, the control or eradication of invasive alien species and the management of their introduction pathways. Specifically, meeting this target globally will require that:

- **Invasive alien species are identified** - Broadly invasive alien species are those which have been introduced and/or spread outside their natural ranges and as a result threaten biological diversity. Any organism can become invasive; the phenomenon is not limited by taxonomic group and can occur in all types of ecosystems. While a small percentage of introduced species become invasive, the negative impacts can be extensive. In most countries there are likely to be several different invasive alien species present therefore, in order to effectively address this threat, such species must first be identified.
- **Pathways are identified** – Pathways, also referred to as vectors, are the means by which alien species are introduced to new environments. Depending on the ecosystem there are likely to be a number of different pathways for the introduction of alien species. Common pathways include shipping (ballast water, boat hulls and shipping containers), the accidental or intentional introduction of species from agricultural or aquaculture activities and the escape of species introduced to a new environment. However major pathways will vary between countries and will need to be identified in order to be effectively addressed.
- **The prioritization** of invasive alien species and pathways - In most countries there are likely to be several invasive alien species established as well as multiple pathways for the introduction of additional invasive alien species. Given the limited resources that exist to address this threat and the timeframe for the implementation of the Strategic Plan, governments will need to prioritize the pathways and invasive alien species they wish to address.
- **The control or eradication** of invasive alien species - Once an invasive alien species has been identified and prioritized, countries will need to determine if they wish to control or eradicate it. Whether an invasive alien species is eradicated or controlled will depend on a number of factors including the species being considered, the ecosystem it is impacting, and the magnitude of its impacts.
- **Measures are in place to manage pathways to prevent their introduction and establishment** - Once the pathways for the introduction of invasive alien species have been identified and prioritized, actions will need to be taken to prevent the risk of new alien species becoming established.

### Implications for setting national targets

There are a number of international agreements and processes which address invasive alien species including the International Convention for the Control and Management of Ships' Ballast Water and Sediments as well as work initiated by the International Plant Protection Convention, the International Organization for Animal Health (OIE), and the World Trade Organization's Committee on the Agreement for the Application of Sanitary and Phytosanitary Measures and its Standards



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## Aichi Biodiversity Target 9

and Trade Development Facility. These different processes could be built upon when taking actions to meet this target. Similarly any national targets adopted in support of this Aichi Biodiversity Target have the potential to create synergies between the Convention on Biological Diversity and these other international processes.

### Guiding questions for setting national targets

- **What invasive alien species are currently in the country?** What ecosystems are they affecting and how? Which species are having the greatest impact? Are they affecting human health, food production and/or the economy?
- **What invasive alien species control or eradication programmes are underway in the country?** How effective have these been? How could their effectiveness be improved? What lessons have been learned from their implementation? What additional species should be controlled or eradicated?
- **What are the main pathways for the introduction of invasive alien species in the country?** What border control and quarantine measures are in place? What measures are in place to assess and monitor the risks of introduction? How effective have these been? How could their effectiveness be improved? What programmes or initiatives could be further built on?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?
- **What are the opportunities and constraints for controlling or eradicating invasive alien species and managing their pathways?** How may these justify a higher or lower national target compared to the global target?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

The Convention's programme of work on invasive alien species is the most relevant to this target. However, given the particularly acute impact of invasive alien species on island ecosystems, the programme of work on island biodiversity is also relevant.

The first action that countries may wish to take is the identification and prioritization of invasive alien species and their introduction pathways. Given the multiple pathways for invasive species introductions and that multiple alien species are already present in most countries it will be necessary to prioritize management, control and eradication efforts to those species and pathways which will have the greatest impact on biodiversity and/or which are the most resource effective to address. Preventing the introduction of an invasive alien species is more cost effective than eradicating it once it has become established. Conducting a risk analysis prior to the introduction of an alien species as well as enhancing border controls and quarantine as well as early warning mechanisms, rapid response measures and management plans are the types of actions that could be taken to help prevent the establishment of alien species. Invasive alien species can be managed, controlled or eradicated through the use of physical, chemical or biological means. In most cases a combination of methods will likely be required and the most effective control or eradication method will depend on the type of invasive alien species and the ecosystem in which it is found.

### Possible indicators

- Trends in number of invasive alien species
- Trends in invasive alien species pathways management
- Trends in the impact of invasive alien species on extinction risk trends
- Trends in incidence of wildlife diseases caused by invasive alien species
- Trends in the economic impacts of selected invasive alien species
- Trends in policy responses, legislation and management plans to control and prevent spread of invasive alien species

### Resources

- Programme of Work on Invasive Alien Species - [www.cbd.int/invasive/](http://www.cbd.int/invasive/)
- Global Invasive Species Database - [www.issg.org/database/welcome/](http://www.issg.org/database/welcome/)
- IUCN's Invasive Species Specialist Group - [www.issg.org/](http://www.issg.org/)





## Quick guide to the Aichi Biodiversity Targets Pressures on vulnerable ecosystems reduced

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

Urgently reducing anthropogenic pressures on those ecosystems affected by climate change or ocean acidification will give them greater opportunities to adapt. Where multiple drivers are combining to weaken ecosystems, aggressive action to reduce those pressures most amenable to rapid intervention should be prioritized. Many of these drivers can be addressed more easily than climate change or ocean acidification.

### Explanation of the Target

This target touches on several different issues:

- **Climate change or ocean acidification** – In addition to climate change, rising atmospheric carbon dioxide concentrations have resulted in ocean acidification. Because of ecological and policy inertias it will be difficult to take actions which will significantly reduce these pressures over the time span of the Strategic Plan.
- **Coral reefs, and other vulnerable ecosystems** – The effects of climate change and ocean acidification have the potential to have a particularly negative effect on those ecosystems which are sensitive to temperature fluctuations and/or depend on the availability of carbonate minerals. For the marine environment this includes warm water and deep ocean coral reefs as well as shellfish beds which will be greatly impacted by the combined effects of climate change and ocean acidification. For the terrestrial environment those ecosystems already at the extreme of their ranges will be particularly vulnerable.
- **Multiple anthropogenic pressures** - In addition to climate change and ocean acidification there are a variety of other human pressures affecting ecosystems. These include such things as land-based pollution/sedimentation, unsustainable harvesting and other physical pressures which result in habitat loss. Given that some ecosystems, such as coral reefs, are expected to suffer serious declines in the future as a result of climate change and/or ocean acidification urgent action needs to be taken to reduce those pressures over which we have greater control or are in a position to meaningfully address now. Given this urgency a deadline of 2015 has been set for this target.

The emphasis of this target should be on taking urgent action to reduce those drivers affecting ecosystems particularly vulnerable to climate change or ocean acidification. The reduction of these stressors will help to make these ecosystems less vulnerable to the impacts of acidification and climate change over the short to medium-term. This will provide more time for climate change and ocean acidification to be addressed over a longer time-scale. Ultimately the aim of this target is to provide ecosystems with the greatest probability of maintaining their integrity and functioning despite the effects of climate change and/or ocean acidification.

### Implications for setting national targets

By addressing those anthropogenic pressures which are most amenable to rapid positive change, it may be possible to give vulnerable ecosystems time to cope with the pressures caused by climate change or ocean acidification. National targets set in response to this target may not directly address climate change or acidification but none the less help vulnerable ecosystems to cope with their impacts. This target has links to Aichi Biodiversity Targets 12 and 15. Further, actions to fulfill Aichi Biodiversity Targets 5, 6, 8 and 9 would likely contribute to the attainment of any national target set in support of this target.



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# Aichi Biodiversity Target 10

## Guiding questions for setting national targets

- **What ecosystems in the country are vulnerable to climate change or ocean acidification? What ecosystems are affected by both pressures?** What areas are particularly important for biodiversity, ecosystem services and human wellbeing?
- **What additional anthropogenic pressures are affecting those ecosystems vulnerable to climate change or ocean acidification?** What additional pressures are having the greatest impact? Which pressures are the most amenable to change? What steps or measures are in place to address these other pressures? How effective have these measures been? How could their effectiveness be improved? What additional measures are required?
- **What are the opportunities and constraints in addressing the additional anthropogenic pressures affecting ecosystems vulnerable to climate change or ocean acidification?** Consider potential ecological, economic, and social costs and benefits of addressing these pressures. How may these justify higher or lower figures for a national target then for the global target?
- **Who are the stakeholders that may be affected by efforts to reduce additional anthropogenic pressures?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

## Actions and milestones

Multiple programmes of work, including those on climate change and biodiversity, and marine and coastal biodiversity, are relevant to this target. Possible actions that could be taken to reach this target include activities such as reducing pollution, overexploitation and harvesting practices which have negative consequences on ecosystems. Similarly efforts to control or eradicate invasive alien species could also help to fulfill this target.

## Possible indicators

- Extinction risk trends of coral and reef fish
- Trends in climate change impacts on extinction risk
- Trends in climatic impacts on community composition
- Trends in climatic impacts on population trends
- Trends in coral reef condition
- Trends in extent, and rate of shifts of boundaries, of vulnerable ecosystems

## Resources

- Addis Ababa Principles and Guidelines - [www.cbd.int/doc/publications/addis-gdl-en.pdf](http://www.cbd.int/doc/publications/addis-gdl-en.pdf)
- CBD Technical Series No. 46 - [www.cbd.int/doc/publications/cbd-ts-46-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-46-en.pdf)
- CBD Technical Series No. 43 - [www.cbd.int/doc/publications/cbd-ts-43-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-43-en.pdf)
- CBD Technical Series No. 42 - [www.cbd.int/doc/publications/cbd-ts-42-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-42-en.pdf)
- CBD Technical Series No. 25 - [www.cbd.int/doc/publications/cbd-ts-25.pdf](http://www.cbd.int/doc/publications/cbd-ts-25.pdf)
- CBD Technical Series No. 4 - [www.cbd.int/doc/publications/cbd-ts-41-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-41-en.pdf)





## Quick guide to the Aichi Biodiversity Targets Protected areas increased and improved

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

Well-governed and effectively managed protected areas are a proven method for safeguarding both habitats and populations of species and for delivering important ecosystem services. Particular emphasis is needed to protect critical ecosystems such as tropical coral reefs, sea-grass beds, deepwater cold coral reefs, seamounts, tropical forests, peat lands, freshwater ecosystems and coastal wetlands. Additionally, there is a need for increased attention to the representativity, connectivity and management effectiveness of protected areas.

### Explanation of the Target

To meet the target several conditions need to be met: The area conserved should:

- **Increase** – Globally, this should be to 17% for terrestrial (including inland water) areas and 10% for marine areas. National targets may vary from this, as justified (see the guiding questions below);
- **Include areas of particular importance for biodiversity and ecosystem services**, such as areas high in species richness or threatened species, threatened biomes and habitats, areas with particularly important habitats (key biodiversity areas, high conservation value areas, important plant areas, sensitive marine areas etc.) and areas which are important for the continued provision of ecosystem services (such as areas important for water supply, erosion control, sacred sites, etc);
- **Be ecologically representative** – Protected area systems should contain adequate samples of the full range of existing ecosystems and ecological processes, including at least 10% of each ecoregion within the country;
- **Be effectively and equitably managed** with planning measures in place to ensure ecological integrity and the protection of species, habitats and ecosystem processes, with the full participation of indigenous and local communities, and such that costs and benefits of the areas are fairly shared.
- **Be well-connected** to the wider landscape or seascape using corridors and ecological networks to allow connectivity, adaptation to climate change, and the application of the ecosystem approach.

The areas can include not only strict protected areas but also areas that allow sustainable use consistent with the protection of species, habitats and ecosystem processes. In addition to state-run areas, indigenous and community conserved areas as well as private areas may be included in the total area provided the other conditions are met. Other effective area-based conservation measures may also include restrictions on activities that impact on biodiversity, which would allow for the safeguarding of sites in areas beyond national jurisdiction in a manner consistent with the jurisdictional scope of the Convention as contained in Article 4.

### Implications for setting national targets

Currently, some 13 per cent of terrestrial areas and 6 per cent of coastal areas are protected, while very little of the open oceans are protected. Therefore reaching the proposed target implies a modest increase in terrestrial protected areas globally, with an increased focus on representativity, connectivity and management effectiveness, together with major efforts to expand marine protected areas. Some countries have already surpassed the global % value and therefore will be able to achieve targets higher than the global average. Indeed, this will be necessary to reach the global target. For most of these countries, however, the focus for terrestrial areas is likely to be on the need for improved management effectiveness.



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## Aichi Biodiversity Target 11

Countries may wish to prioritize the protection of habitats of which relatively little remains and where continued loss would result in the total loss of the habitat type as well as the protection of habitats which are undergoing rapid rates of decline.

### Guiding questions for setting national targets

- **What is the current extent of protected areas on land and in marine areas, (1) overall, and (2) by ecoregion?** Do these figures include effective indigenous and community conserved areas?
- **What areas of importance for biodiversity and ecosystem services are not currently protected?** What areas are under-represented (Gap analysis)? Which habitats are declining the quickest? Which habitats have little left? Consider the areas that need to be protected from local, national and global perspectives.
- **How effective are existing protected areas? How can management effectiveness be improved?** Are indigenous and local communities involved in protected areas management?
- **What are the opportunities and constraints to expanding protected areas, generally and by eco-region?** How may these justify higher or lower figures for the national target than for the global target? What are the potential ecological, economic, and social costs and benefits of additional protected areas and how could these be shared?
- **Who are the stakeholders, including indigenous and local communities, that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Actions taken to achieve this target should be guided by the Convention's Programme of Work on protected areas. Additional guidance is provided in decisions XI/18 and X/31 which suggest the following steps:

- (1) Institutionalize management effectiveness assessment towards assessing 60% of the total areas by 2015 and ensure that the results of the assessments are implemented;
- (2) Completion of ecological gap analysis for identifying "ecologically representative areas (including unprotected important bird areas, key biodiversity areas, etc) and implement the result;
- (3) Integration of Protected areas into wider land and seascapes to show case mainstreaming of biodiversity with other sectors and ecosystem based approaches to climate change adaptation and leading to mitigation through carbon sequestration;
- (4) Recognition of indigenous and community conserved areas including through acknowledgement in national legislation or other effective means formal inclusion in the national systems and practicing of various governance types;
- (5) Development and implementation of sustainable finance plans for protected area systems;

### Possible indicators

- Trends in extent of marine protected areas, coverage of key biodiversity areas and management effectiveness
- Trends in protected area condition and/or management effectiveness including more equitable management
- Trends in representative coverage of protected areas and other area based approaches, including sites of particular importance for biodiversity, and of terrestrial, marine and inland water systems
- Trends in the connectivity of protected and other area based approaches integrated into land- and sea- scapes
- Trends in the delivery of ecosystem services and equitable benefits from protected areas

### Resources

- Programme of work on Protected Areas: [www.cbd.int/protected](http://www.cbd.int/protected)
- Programme of work on Protected Areas e-learning modules: [www.cbd.int/protected/e-learning/](http://www.cbd.int/protected/e-learning/)





## Quick guide to the Aichi Biodiversity Targets Extinction prevented

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

Though some extinctions are the result of natural processes, human action have greatly increased current extinction rates. Reducing the threat of human-induced extinction requires action to address the direct and indirect drivers of change (see the Aichi Targets under Goals A and B of the Strategic Plan for Biodiversity 2011-2020) and can be long term processes. However, imminent extinctions of known threatened species can in many cases be prevented by protecting important habitats (such as Alliance for Zero Extinction sites) or by addressing the specific direct causes of the decline of these species (such as overexploitation, invasive alien species, pollution and disease).

### Explanation of the Target

This target relates specifically to known threatened species. IUCN's Red List of Threatened Species currently lists more than 19,000 species as being threatened globally. Threatened species include those species which are classified as vulnerable, endangered, or critically endangered. Other categories used by IUCN to describe the conservation status of species include near threatened, least concern, extinct in the wild, extinct or data deficient. In addition many countries may have their own lists of threatened species.

This target has two components:

- **Preventing extinction** – Preventing further extinction entails that those species which are currently threatened do not move into the extinct category. Of the more 19,000 species known to be threatened globally, more than 3,900 are classified as critically endangered. Critically endangered species are considered to be facing an extremely high risk of extinction in the wild.
- **Improving the conservation status of threatened species** - An improvement in conservation status would entail a species increasing in population to a point where it moves into a lower threat status. Using the IUCN criteria a species would no longer be considered as threatened once it moved into the near threatened category.

### Implications for setting national targets

A first step in setting a national target is to prepare a list of currently threatened species and their locations. If national list of threatened species are not available countries may use global lists, such as the one maintained by IUCN. Since the focus of this target is on those species which are known to be threatened, it is not necessary to address all species within a country. Countries may choose to initially focus on those species which have relatively small populations remaining and on those species which are declining the quickest.

Progress towards this target would help to reach several of the other targets contained in the Strategic Plan, including Target 13. Conversely actions to reach other targets of the Strategic Plan, such as those under Strategic Goal B and Target 11, would also help to reach this target.

### Guiding questions for setting national targets

- **What species are threatened in my country?** Which species are near threatened? Which species are likely to go extinct without urgent action? Which species are increasing in population? Which species are decreasing in population?
- **Where are threatened species located in my county?** How does this relate to the location of any biodiversity hotspots, Alliance for Zero Extinction sites, Important Bird Areas or similar classifications?



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## Aichi Biodiversity Target 12

- **What are the main threats to the threatened species?** Which can be addressed through direct conservation actions and which require broader approaches?
- **What are the opportunities and constraints in preventing species from becoming extinct?** Consider potential ecological, economic, and social costs and benefits of preventing the extinction of certain species. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

This target is relevant to most of the Convention's programme of work. However the programme of work on protected areas as well as the Global Strategy for Plant Conservation and the Global Taxonomy Initiative are particularly relevant.

Numerous types of actions can be taken to implement this target and include both direct and indirect conservation actions. What actions are best suited will depend largely on the species concerned, the causes of its decline, its life history and characteristics and national circumstances. In situations where habitat loss is the main cause of a species decline possible actions include protecting sites important for biodiversity, such as biodiversity hotspots or sites identified by the Alliance for Zero Extinction. In situations where species are being threatened by other pressures, such as overexploitation or invasive alien species, actions designed to address these specific threats may need to be used. More generally actions directly focusing on a species, such as the implementation of species recovery and conservation programmes, could be used to prevent species from going extinct. In cases where species have already gone extinct in the wild, re-introduction programmes and other ex situ conservation measures could be used to reestablish species in the areas from which they have been extirpated.

### Possible indicators

- Trends in abundance of selected species
- Trends in extinction risk of species
- Trends in distribution of selected species

### Resources

- Addis Ababa Principles and Guidelines - [www.cbd.int/doc/publications/addis-gdl-en.pdf](http://www.cbd.int/doc/publications/addis-gdl-en.pdf)
- Global Strategy for Plant Conservation - [www.cbd.int/gspc/](http://www.cbd.int/gspc/)
- Global Taxonomy Initiative - [www.cbd.int/gti/](http://www.cbd.int/gti/)
- Programme of Work on Protected areas - [www.cbd.int/protected/](http://www.cbd.int/protected/)
- IUCN Red List: [www.iucnredlist.org/](http://www.iucnredlist.org/)
- Alliance for Zero Extinction: [www.zeroextinction.org/](http://www.zeroextinction.org/)
- BirdLife International: [www.birdlife.org/action/science/sites/index.html](http://www.birdlife.org/action/science/sites/index.html)
- Conservation International: [www.biodiversityhotspots.org/Pages/default.aspx](http://www.biodiversityhotspots.org/Pages/default.aspx)





## Quick guide to the Aichi Biodiversity Targets Genetic diversity maintained

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

The genetic diversity of cultivated plants and farmed or domesticated animals and of wild relatives is in decline as is the genetic diversity of other socio-economically and culturally valuable species. The genetic diversity which remains needs to be maintained and strategies need to be developed and implemented to minimize the current erosion of genetic diversity, particularly as it offers options for increasing the resilience of agricultural systems and for adaptation to changing conditions (including the escalating impacts of climate change).

### Explanation of the Target

This target relates to the genetic diversity of three different categories of species:

- **Cultivated plants and farmed and domesticated animals** - Species which have been selected, domesticated and reproduced by human societies for their produce and/or certain traits.
- **Wild relatives** - Species closely related to current breeds and varieties and that survive in the wild. They are potential sources of genetic material which could be used to develop new breeds or varieties.
- **Other socio-economically as well as culturally valuable species** - Species which are not necessarily important for agriculture but which are particularly important for socio-economic or cultural reasons and are therefore crucial to human wellbeing. They include species used in traditional medicines, non timber forest products and local land races.

The overall purpose of this target is to:

- **Maintain** and **safeguard** genetic diversity through the development and application of strategies which allow for the different genetic characteristics of a species to continue to exist over time. This would include both in situ and ex situ actions.
- Minimize **genetic erosion** which occurs when genes are lost from a gene pool. Species with small populations (gene pools) or with isolated populations are particularly at risk for genetic erosion.

### Implications for setting national targets

The genetic diversity of cultivated and farmed species, their wild relatives and other socio-economically important species, is declining, but the extent of this decline and its overall impacts are not well understood. Significant progress has been made in the ex situ conservation of crops, that is the collection of seeds from different genetic varieties for cataloguing and storage for possible future use. However there has been less progress with in situ conservation, including through continued cultivation on farms, which allows for ongoing adaptation to changing conditions (such as climate change) and agricultural practices. As such this target implies a need for continued efforts to conserve genetic diversity through ex situ techniques with greater attention to maintaining and safeguarding genetic diversity in situ.

### Guiding questions for setting national targets

- **What species of cultivated plants and farmed and domesticated animals are in the country? What wild relatives are in the country? What socio-economically as well as culturally valuable species are in the country?** Which are nationally, regionally or globally important? Which are being maintained in situ? Which have had their genetic diversity maintained ex situ? What species require management plans?



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## Aichi Biodiversity Target 13

- **What plans or strategies are in place to maintain the genetic diversity in situ and ex situ?** How effective have these been? How could their effectiveness be improved? Could traditional plant and animal breeders be involved? What gene or seed banks exist in the country or the region? Could efforts be joined with any international processes?
- **What are the opportunities and constraints in maintaining genetic diversity?** Consider potential ecological, economic, and social costs and benefits in maintaining genetic diversity. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected by efforts to maintain genetic diversity?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, institutional, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

The programme of work on agricultural biodiversity, the Global Strategy for Plan Conservation as well as the Food and Agriculture Organization's (FAO) Global Plan of Action for the conservation and sustainable use of plant genetic resources for food and agriculture, the FAO Global Plan of Action for animal genetic resources and the International Initiative on Biodiversity for Food and Nutrition provide guidance on the types of actions which can be taken to reach this target. Both in situ and ex situ conservation of wild relatives of crop plants and other socio economically valuable species, as well as selected wild species of plants and animals, should be improved inside and outside protected areas. Additional measures are also required to protect the genetic diversity of other species of social and economic importance, including medicinal plants, non-timber forest products, local landraces (varieties adapted over time to particular conditions) and the wild relatives of crops. Traditional plant and animal breeders as well as the curators of ex situ collection can play an important role in making progress towards this target. Once operational, the Nagoya Protocol may offer further avenues to reach this target.

### Possible indicators

- Trends in genetic diversity of cultivated plants, and farmed and domesticated animals and their wild relatives
- Trends in genetic diversity of selected species
- Trends in number of effective policy mechanisms implemented to reduce genetic erosion and safeguard genetic diversity related to plant and animal genetic resources

### Resources

- Programme of work on agricultural biodiversity - [www.cbd.int/agro/](http://www.cbd.int/agro/)
- Global Strategy for Plan Conservation - [www.cbd.int/gspc/](http://www.cbd.int/gspc/)
- The Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture - [www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/gpa/en/](http://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/gpa/en/)
- Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration - [www.fao.org/docrep/010/a1404e/a1404e00.htm](http://www.fao.org/docrep/010/a1404e/a1404e00.htm)





## Quick guide to the Aichi Biodiversity Targets Ecosystems and essential services safeguarded

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

All terrestrial, freshwater and marine ecosystems provide multiple ecosystem services. However some ecosystems are particularly important in that they provide services that directly contribute to human wellbeing by providing services and goods to fulfill daily needs. Actions taken to protect and restore such ecosystems will have benefits for biodiversity as well as human wellbeing.

### Explanation of the Target

This target focuses specifically on:

- **Ecosystems that provide essential services** – All ecosystems provide goods and services. However some ecosystems are particularly important for human wellbeing because of the services they provide. Ecosystems which provide services related to the provision of food, fibre, medicines and fresh water, pollination of crops, filtration of pollutants, and protection from natural disasters are among those ecosystem services provided by biodiversity which are essential for human wellbeing.

The target requires that such ecosystems:

- **Are restored and safeguarded** – Restoration refers to the process of actively managing the recovery of an ecosystem that has been degraded, damaged or destroyed as a means of sustaining ecosystem resilience and conserving biodiversity. Safeguarded is a general term which relates to protection. There is a wide range of measures which can be used to protect ecosystems spanning from strict protected areas to community conserved areas. The most suitable type of restoration and protection will vary with the type of ecosystem being considered.
- **Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable** - While all people are dependent on ecosystem services for their survival some groups are particularly reliant on them for their wellbeing. In many countries the poor and vulnerable are directly reliant upon ecosystem services for their day to day survival needs. In many countries the poor and vulnerable are disproportionately composed of women. Further because of different gender roles, in some countries women may be reliant on certain types of ecosystems more than men. For many indigenous and local communities ecosystems not only provide services but are also an essential part of their spirituality, worldview and identity. Therefore decisions about how to restore and protect ecosystems particularly important for human wellbeing could have effects on these different groups. As such it will be important to ensure that the needs of these groups are considered when setting policies or undertaking certain types of action.

### Implications for setting national targets

As all ecosystems provide important services, countries will need to identify those ecosystems that are particularly important for human wellbeing given their national conditions and circumstances. The attainment of the other Aichi Biodiversity Targets will greatly contribute to this target.

### Guiding questions for setting national targets

- **What are the major ecosystems in the country?** What are the areas of importance for the provision of ecosystem services? How do these ecosystems contribute to human wellbeing?
- **What is the condition of important ecosystems in the country?** Which ecosystems are degrading the quickest? Which ecosystems are improving? Does further degradation of some ecosystems risk passing tipping points? Which ecosystems are in need of restoration? Which ecosystems are in need of safeguarding?



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## Aichi Biodiversity Target 14

- **What are the main pressures on the ecosystems that provide services essential for human wellbeing?** Which ecosystems are particularly important for the wellbeing of women, indigenous and local communities, and the poor and vulnerable? What factors are driving or causing the loss of ecosystem services? Which are the easiest to address?
- **What are the opportunities and constraints in restoring or safeguarding ecosystems that provide essential services, generally and by ecosystem?** Consider potential ecological, economic, and social costs and benefits in specific ecosystems. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected by efforts to restore or safeguard ecosystems?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Ecosystems which provide essential services should be identified through participatory processes at local, national and global levels and in accordance with Article 10 of the Convention. Tools for mapping ecosystem services and for the valuation of ecosystem services are now available and/or are being tested. The resulting information should be integrated into development plans to ensure that these ecosystems receive the necessary protection and investments. Sound distribution and recognition of property rights, including traditional and customary rights, can contribute to ensuring adequate and equitable access to ecosystem services.

Where possible, avoiding degradation through conservation is preferable to restoring an ecosystem after a disturbance. Given the emphasis on safeguarding in this target the programme of work on protected areas provides relevant guidance on the types of actions which could be taken to fulfill this target. Further restoration activities, such as forest and wetland landscape restoration, are already underway in many parts of the world and increasingly will be needed to re-establish ecosystem functioning and the provision of valuable services. Consolidating policy processes and the wider application of these efforts could contribute significantly to the achievement of the objectives of the Convention and this target specifically.

### Possible indicators

- Population trends and extinction risk trends of species that provide ecosystem services
- Trends in benefits that humans derive from selected ecosystem services
- Trends in proportion of the population using improved water services
- Trends in proportion of total freshwater resources used

### Resources

- Addis Ababa Principles - [www.cbd.int/doc/publications/addis-gdl-en.pdf](http://www.cbd.int/doc/publications/addis-gdl-en.pdf)
- CBD Technical Series No. 44 - [www.cbd.int/doc/publications/cbd-ts-44-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-44-en.pdf)
- Programme of work on protected areas - [www.cbd.int/protected/](http://www.cbd.int/protected/)
- Society for Ecological Restoration - [www.ser.org/](http://www.ser.org/)





## Quick guide to the Aichi Biodiversity Targets Ecosystems restored and resilience enhanced

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

Deforestation, wetland drainage and other types of habitat change and degradation lead to the emission of carbon dioxide, methane and other greenhouse gases. The reversal of these processes, through ecosystem restoration, represents an immense opportunity for both biodiversity restoration and carbon sequestration. In fact, in many countries, degraded landscapes, represent a huge wasted resource. Restored landscapes and seascapes can improve resilience including adaptive capacity of ecosystems and societies, and can contribute to climate change adaptation and generate additional benefits for people, in particular indigenous and local communities and the rural poor. The conservation, restoration and sustainable management of forests, soils (especially peatlands), freshwater and coastal wetlands and other ecosystems are proven, cost-effective, safe and immediately-available means to sequester carbon dioxide and prevent the loss of other greenhouse gases.

### Explanation of the Target

This target addresses several different issues:

- **Ecosystem resilience** refers to the ability of an ecosystem to cope with and respond to disturbances and to restore itself. In general, highly resilient ecosystems can respond to natural disturbances, such as fire, flooding and pest outbreaks, more quickly than ecosystems which have low resiliency. Degraded ecosystems tend to have lower resilience and are therefore less able of recovering after a disturbance.
- **Carbon stocks**, in the context of this target, refer to the accumulated stores of carbon found in biomass as well as soils. Major carbon stocks include ecosystems such as tropical forests, many wetlands, peatlands, seagrass beds and mangroves. The degradation of ecosystems in most cases results in the release of carbon while restoration can help to increase carbon sequestration.
- **Restoration** refers to the process of actively managing the recovery of an ecosystem that has been degraded, damaged or destroyed as a means of sustaining ecosystem resilience and conserving biodiversity.

Specifically this target requires:

- **That ecosystem resilience and the contribution of biodiversity to carbon stocks through conservation and restoration be enhanced**—With the growing impacts of climate change, ecosystem resilience will become increasingly important as ecosystems will need to cope with changing environmental conditions and more frequent extreme weather events. A variety of actions can be taken to increase resilience including conservation, the restoration of degraded habitats, the greater use of adaptive resource management and the ecosystem approach. Such actions will also help to conserve existing carbon stocks as well as increase carbon sequestration.
- **Restoration of at least 15 per cent of degraded ecosystems** – The restoration of degraded habitats represent an opportunity to both improve ecosystem resilience and to increase carbon sequestration. In 2010, by some estimates, two thirds of the planet's ecosystems could be considered degraded. The global potential for forest landscape restoration alone is estimated to be on the order of 1 billion hectares, or about 25 per cent of the current global forest area. Therefore there is a large potential for the increased use of restoration.



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# Aichi Biodiversity Target 15

## Implications for setting national targets

Restoration activities, such as forest and wetland landscape restoration, are already underway in many parts of the world and increasingly will be needed to re-establish ecosystem functioning and for the provision of valuable services such as carbon sequestration. Consolidating policy processes and the wider application of these efforts could contribute significantly to the achievement of the objectives of the Convention, and generate significant synergies with the UNFCCC, the UNCCD and the UNFF. However restoration should not be seen as a substitute for conservation. Similarly it should not be used as a justification for allowing intentional destruction or unsustainable use. Rather it should be regarded as the last resort solution for ameliorating degraded ecosystems. Economic analysis shows that ecosystem restoration can give good economic rates of return. However the biodiversity and associated services of restored ecosystems usually remain below the levels of natural ecosystems. This reinforces the argument that, where possible, avoiding degradation through conservation is preferable (and even more cost-effective) than restoration after a disturbance.

## Guiding questions for setting national targets

- **What habitats in the country are degraded?** What are the areas of importance for biodiversity, ecosystem services and human wellbeing that could be restored? What areas are important for carbon sequestration? What type of restoration activities are needed for each habitat?
- **What are the opportunities and constraints in enhancing ecosystem resilience/undertaking ecosystem restoration, generally and by habitat?** Consider potential ecological, economic, and social costs and benefits of enhancing resilience or of undertaking restoration in specific habitats. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected by efforts to enhance resilience?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

## Actions and milestones

The Convention's work on biodiversity and climate change is particularly relevant to this target as are many of the programmes of work. Several articles of the Convention also refer to various aspects of restoration including Articles 8, 9 and 14

## Possible indicators

- Status and trends in extent and condition of habitats that provide carbon storage
- Population trends of forest-dependent species in forests under restoration
- Trends in area of degraded ecosystems restored or being restored
- Trends in proportion of degraded/threatened habitats
- Trends in primary productivity
- Trends in proportion of land affected by desertification

## Resources

- Programme of work on Climate Change and Biodiversity - [www.cbd.int/climate/](http://www.cbd.int/climate/)
- Society for Ecological Restoration - [www.ser.org/](http://www.ser.org/)
- The Global Partnership on Forest Landscape Restoration <http://ideastransformlandscapes.org/>





## Quick guide to the Aichi Biodiversity Targets Nagoya Protocol in force and operational

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

The fair and equitable sharing of the benefits arising out of the utilization of genetic resources is one of the three objectives of the Convention on Biological Diversity. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity was adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting in Nagoya, Japan.

### Explanation of the Target

The Nagoya Protocol provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The Protocol covers genetic resources and traditional knowledge associated with genetic resources, as well as the benefits arising from their utilization by setting out core obligations for its contracting Parties to take measures in relation to access, benefit-sharing and compliance.

This target addresses two issues:

- **Entry into force of the Nagoya Protocol by 2015:** The Nagoya Protocol will enter into force 90 days after the date of deposit of the fiftieth instrument of ratification. As such for Target 16 to be met 50 countries must ratify the Protocol by October 2015 at the latest.
- **The Nagoya Protocol is operational, consistent with national legislation:** The operationalization of the Nagoya Protocol requires that it be implemented effectively at the national level. Countries will need, depending on their specific circumstances, to revise legislative, administrative or policy measures already in place or develop new measures in order to meet the obligations set out under the Protocol. Countries will also need to determine the institutional structure needed for implementing the Protocol.

### Implications for setting national targets

The fair and equitable sharing of the benefits arising out of the utilization of genetic resources is one of the three objectives of the Convention on Biological Diversity. The Nagoya Protocol is based on the fundamental principles of access and benefit-sharing enshrined in the CBD. It supports the implementation of the third objective of the Convention by providing greater legal certainty and transparency for both providers and users of genetic resources. It helps to ensure benefit-sharing, in particular when genetic resources leave the providing country, and it establishes more predictable conditions for those wanting to access genetic resources.

By enhancing legal certainty and promoting benefit-sharing, the Nagoya Protocol encourages the advancement of research on genetic resources which could lead to new discoveries for the benefit of all. The Nagoya Protocol also creates incentives to conserve and sustainably use genetic resources, and thereby enhances the contribution of biodiversity to development and human well-being. In addition, by setting-out clear provisions on access to traditional knowledge associated with genetic resources, the Nagoya Protocol will assist in strengthening the ability of indigenous and local communities to benefit from the use of their knowledge, innovations and practices. The Nagoya Protocol will also provide incentives for the promotion and protection of traditional knowledge by encouraging the development of community protocols, minimum requirements for mutually agreed terms and model contractual clauses related to access and benefit-sharing of traditional knowledge associated with genetic resources



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# Aichi Biodiversity Target 16

## Guiding questions for setting national targets

- **What are the opportunities and constraints in ratifying the Protocol?** Consider potential ecological, economical, social costs and benefits.
- **What is the process within the country for ratifying the Protocol?** Is there a need for an implementing legislation prior to ratification? Who is involved in the ratification process in your country (i.e. Parliament, different ministries, stakeholders etc.)
- **Who are the stakeholders that may be affected by ratifying the Protocol?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **Are there legislative, administrative or policy measures already in place in your country that need to be revised/updated in order to meet the obligations set out in the Nagoya Protocol?** What type of new/additional legislative, administrative or policy measures need to be developed in your country in order to meet the obligations set out under the Protocol?
- **What administrative and institutional structures need to be established for the implementation of the Protocol?** These will include the designation of a national focal point, of one or more competent national authorities and one or more check points to monitor the utilization of genetic resources.
- **What additional resources (financial, human and technical) will be required to make the Protocol operational?** How can additional funds be raised for this purpose? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

## Actions and milestones

Actions which can be taken by countries to reach this target are the following:

- To deposit the instrument of ratification, acceptance, approval or accession of the Nagoya Protocol as soon as possible to ensure that the Protocol enters into force by 2015.
- To have legislative, administrative or policy measures and institutional structures in place for implementing the Nagoya Protocol by 2015.

## Possible indicators

- Number of Parties to the CBD that have ratified the Protocol
- Number of Parties to the Nagoya Protocol that have legislative, administrative or policy measures and institutional structures in place for implementing the Nagoya Protocol.

## Resources

- The Nagoya Protocol website - [www.cbd.int/abs/](http://www.cbd.int/abs/)
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity - [www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf](http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf)
- Access and Benefit sharing Information Kit - [www.cbd.int/abs/information-kit-en/](http://www.cbd.int/abs/information-kit-en/)
- The Nagoya Protocol on Access and Benefit Sharing Fact sheets - [www.cbd.int/abs/doc/protocol/factsheets/all-factsheets-en.pdf](http://www.cbd.int/abs/doc/protocol/factsheets/all-factsheets-en.pdf)
- Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization. Montreal - [www.cbd.int/abs/bonn/](http://www.cbd.int/abs/bonn/)
- United Nations Treaty Handbook - [www.cbd.int/abs/doc/treatyhandbook\\_en.pdf](http://www.cbd.int/abs/doc/treatyhandbook_en.pdf)
- Database on ABS measures: [www.cbd.int/abs/measures/](http://www.cbd.int/abs/measures/)
- List of signatories and ratifications: [www.cbd.int/abs/nagoya-protocol/signatories/](http://www.cbd.int/abs/nagoya-protocol/signatories/)





## Quick guide to the Aichi Biodiversity Targets NBSAPs adopted as policy instrument

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

National biodiversity strategies and action plans (NBSAPs) are the key instrument for translating the Convention and decisions of the Conference of the Parties into national action. For this reason it will be essential that Parties have developed, adopted and commenced implementing as a policy instrument an updated NBSAP which is in line with the goals and targets set out in the Strategic Plan by 2015.

### Explanation of the Target

National Biodiversity Strategies and Action Plans are the principal instruments for implementing the Convention at the national level. In order to fulfill the Strategic Plan by 2020 NBSAPs must be in place by 2015 at the latest as they are the main national mechanism through which the Strategic Plan will be implemented. Further the target for 2015 implies that, not only are NBSAPs developed through a participatory approach, but that they are used as effective tools for mainstreaming biodiversity across government and society. Specifically, this Target requires Parties to:

- **Develop or update** their NBSAP – Article 6 of the Convention requires countries to prepare a national biodiversity strategy (or equivalent instrument) which reflects how a country intends to fulfill the objectives of the Convention in light of specific national circumstances, and a related action plan which outlines the sequence of steps to be taken to meet these objectives. Most Parties have developed an NBSAP, however with the adoption of the Strategic Plan for Biodiversity, many will need to be revised and or updated in order to reflect its outcomes. Those Parties which have yet to develop an NBSAP should do so as a matter of urgency. The process of developing or updating an NBSAP should be participatory, involving all relevant stakeholders. A revised NBSAP should not be a static planning document but a dynamic process that allows individual Parties to identify their needs, priorities and opportunities for biodiversity in light of their broader national goals. Where appropriate, regional and sub-national strategies should be developed.
- **Adopt** their NBSAP as a **policy instrument** – Once Parties have developed their NBSAP it should be adopted or otherwise incorporated into government policy so that it can be actively implemented. This is to ensure that it is mainstreamed into the planning and activities of all those sectors whose activities can have an impact (positive and negative) on biodiversity.

### Implications for setting national targets

The requirement to integrate consideration of the conservation and sustainable use of biological resources into national decision-making, and mainstream issues across all sectors of the national economy and policy-making framework, are the complex challenges at the heart of the Convention. COP has adopted consolidated guidance for the development, updating and revision of NBSAPs (Decision IX/8). In line with this decision, NBSAPs should catalyze a number of strategic actions in countries including: Integration of biodiversity in broader national strategies (see target 2); Communication, Education and Public Awareness; ensuring availability of information and knowledge for action, including through national CHM nodes; ensuring availability of appropriate tools for implementation; providing capacity building and facilitating access to financial resources; and ensuring monitoring, reporting and review, including identification and use of indicators as appropriate.

### Guiding questions for setting national targets

- **Does the country currently have an NBSAP?** If not, what are the obstacles to developing one? If so when was it last revised? How effective has it been? How could its effectiveness be improved? What were the major obstacles to its implementation?
- **What are the opportunities and constraints in developing or updating an NBSAP?** Consider potential ecological, economic, and social costs and benefits. How may these influence the process to be followed?



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- **Who are the stakeholders that need to be consulted in the development, updating and implementation of the NBSAP?**

How can they be involved and their needs addressed? What are the trade-offs to consider?

- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Detailed training models on NBSAPS have been prepared to facilitate the development and revision process ([www.cbd.int/nbsap/training/](http://www.cbd.int/nbsap/training/)). Further there is an ongoing series of Regional and Sub-Regional Capacity-building Workshops for implementing the Strategic Plan for Biodiversity 2011-2020 through National Biodiversity Strategies and Action Plans ([www.cbd.int/nbsap/workshops2.shtml](http://www.cbd.int/nbsap/workshops2.shtml)) to assist Parties in fulfilling their requirements.

In order to help finance the development and revision of NBSAPs, as part of the fifth replenishment of the Global Environment Facility (GEF-5), which runs from mid-2010 until mid 2014, 145 countries are eligible to receive funding to integrate their obligations under the Convention on Biological Diversity into national planning processes through enabling activities. These funds are additional to the resources provided through the System for Transparent Allocation of Resources (STAR) mechanism.

As all programmes of work, cross-cutting issues and initiatives developed under the Convention provide guidance on how the three objectives of the Convention can be implemented, they are all relevant to this target. The planning process would of necessity involve dialogue with, and full and effective participation of, all sectors of society, including indigenous and local communities, and at all levels of government. Participatory stakeholder involvement throughout the design, planning and implementation of an NBSAP is essential to ensure that the plans will be effective.

### Possible indicators

- Trends in implementation of National Biodiversity Strategies and Action Plans, including development, comprehensiveness, adoption and implementation

### Resources

- COP Guidance - [www.cbd.int/nbsap/guidance.shtml](http://www.cbd.int/nbsap/guidance.shtml)
- CBD Capacity Building Modules - [www.cbd.int/nbsap/training/](http://www.cbd.int/nbsap/training/)
- Quick Guides for the Aichi Biodiversity Targets - [www.cbd.int/nbsap/training/quick-guides/](http://www.cbd.int/nbsap/training/quick-guides/)
- NBSAP Guidelines - [www.cbd.int/nbsap/guidance-tools/guidelines.shtml](http://www.cbd.int/nbsap/guidance-tools/guidelines.shtml)
- Biodiversity Planning: an assessment of national biodiversity strategies and action plans - [www.ias.unu.edu/resource\\_centre/UNU-IAS\\_Biodiversity\\_Planning\\_NBSAPs\\_Assessment\\_final\\_web\\_Oct\\_2010.pdf](http://www.ias.unu.edu/resource_centre/UNU-IAS_Biodiversity_Planning_NBSAPs_Assessment_final_web_Oct_2010.pdf)





## Quick guide to the Aichi Biodiversity Targets Traditional knowledge respected

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

There is a close and traditional dependence of many indigenous and local communities on biological resources. Traditional knowledge can contribute to both the conservation and the sustainable use of biological diversity. This target aims to ensure that traditional knowledge is respected and reflected in the implementation of the Convention, subject to national legislation and relevant international obligations, with the effective participation of indigenous and local communities.

### Explanation of the Target

This target addresses several related issues:

- **Traditional knowledge, innovations and practices** of indigenous and local communities describes the body of knowledge built by indigenous and local communities over generations. Developed from experience gained over the millennia and adapted to the local culture and environment, traditional knowledge tends to be collectively owned, transmitted orally from generation to generation and has a diversity of forms ranging from stories and folklore to agricultural and animal husbandry practices. This target specifically relates to knowledge relevant to the conservation and sustainable use of biodiversity.
- **Customary use of biological resources** refers to indigenous and local systems for the control, use and management of natural resources. Customary use of biological resources includes spiritual, cultural, economic and subsistence functions.
- Given different national circumstances and the diversity of indigenous and local communities and that traditional knowledge is addressed at multiple levels and by a number of international initiatives, actions taken to implement this target should be developed **subject to national legislation and relevant international obligations**.

Specifically this target requires that traditional knowledge, innovations and practices:

- Are **respected** - Respect with regard to traditional knowledge can be understood as the requirement to accord traditional knowledge a status and level of protection comparable to that of other types of knowledge, innovations and practices.
- Are **fully integrated and reflected in the implementation of the Convention** – As a cross cutting issue, traditional knowledge touches on many aspects of biological diversity and it can make a significant contribution to the fulfillment of the Strategic Plan and to the attainment of the Convention's three objectives.
- With the **full and effective participation of indigenous and local communities** - A fundamental principle of the programme of work for Article 8(j) has been the participation of indigenous and local communities in the work of the Convention. For indigenous and local communities to participate effectively requires mutual respect and understanding as well as resources and technical and legal support.

### Implications for setting national targets

In line with Article 8(j) of the Convention, traditional knowledge, innovations and practices should be respected, protected, maintained and promoted, and used in local ecosystem management, drawing upon experiences of customary use, and with the prior informed consent of relevant communities. Likewise, in line with Article 10(c), customary use of biological resources that is compatible with conservation and sustainable use, should be protected and encouraged. The rights of indigenous and local communities over their traditional knowledge, innovations, practices and related biological resources, along with their rights to practice and pass on such knowledge, innovations and practices should be respected and accessed only with prior informed consent. Indigenous knowledge, innovations and practices is most often highly specific to the locality in which each



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## Aichi Biodiversity Target 18

community lives and thus Parties will need to develop approaches which take into account the diversity of indigenous and local communities as well as their specific national circumstances. This would also contribute to the development of sui generis systems for the protection of such knowledge.

### Guiding questions for setting national targets

**Who are the indigenous, local or traditional communities in the country?** How are their traditional knowledge, innovations, practices and customary use of biological resources being respected? What processes or mechanisms are in place to promote this respect? How effective have they been? How could their effectiveness be improved? What other national legislation and international obligations need to be considered?

**How has traditional knowledge been integrated and reflected in the implementation of the Convention?** What mechanisms are in place to promote this? How effective have they been? How could their effectiveness be improved? Has a national focal point for article 8(j) and related provisions been appointed? Has a national action plan to protect, preserve and promote the knowledge, innovations and practices of indigenous and local communities and encourage sustainable use of biodiversity been developed? Do community action plans exist?

**Has there been full and effective participation of indigenous and local communities, with regards to the integration of their knowledge in the implementation of the Convention?** If not, what have been the obstacles to this occurring? If so, how effective has it been? How could its effectiveness be enhanced? Have action plans for the protection, preservation and promotion of indigenous and local community knowledge, innovations and practices been developed? Are systems in place for granting prior informed consent from indigenous and local communities regarding their knowledge, innovations and practices? Are measures in place at the national level which recognise the rights to customary sustainable use of biodiversity?

**Who are the stakeholders that may be affected by efforts to respect traditional knowledge and integrate it into the implementation of the Convention?** How can they be involved and their needs addressed? What are the trade-offs to consider? How are stakeholders informed of their rights and obligations related to such knowledge? Are there processes in place at local and/or national level for prior informed consent or for the development and adoption of mutually agreed terms?

**What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

Given the cross cutting nature of this target, actions taken to fulfill it will contribute to several of the other Aichi Biodiversity Targets as well as the Nagoya Protocol. The guidance developed as part of the Convention's cross-cutting issue on traditional knowledge, innovations and practices (Articles 8(j) and 10(c) and related provisions) provides advice on how this target may be implemented. Capacity building and programmes for the recognition and mainstreaming of Articles 8(j) and 10(c) and related provisions will also likely need to be strengthened and implemented.

### Possible indicators

- Trends in degree to which traditional knowledge and practices are respected through: full integration, participation and safeguards in national implementation of the Strategic Plan
- Trends of linguistic diversity and numbers of speakers of indigenous languages
- Trends in land-use change and land tenure in the traditional territories of indigenous and local communities
- Trends in the practice of traditional occupations

### Resources

- Akwé:Kon Voluntary Guidelines - [www.cbd.int/doc/publications/akwe-brochure-en.pdf](http://www.cbd.int/doc/publications/akwe-brochure-en.pdf)
- The Tkarihwaí:ri Code of Ethical Conduct - [www.cbd.int/traditional/code.shtml](http://www.cbd.int/traditional/code.shtml)
- The Revised Programme of work on Article 8(j) and related provision of the CBD - [www.cbd.int/decision/cop/?id=12309](http://www.cbd.int/decision/cop/?id=12309)
- Plan of Action for the retention of traditional knowledge, innovations and practices - [www.cbd.int/traditional/plan.shtml](http://www.cbd.int/traditional/plan.shtml)
- Article 8(j) and related provisions - [www.cbd.int/traditional](http://www.cbd.int/traditional)
- Traditional Knowledge Information Portal - [www.cbd.int/tk](http://www.cbd.int/tk)





## Quick guide to the Aichi Biodiversity Targets Knowledge improved, shared and applied

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

All countries need information to identify threats to biodiversity and determine priorities for conservation and sustainable use. While nearly all Parties report that they are taking actions related to monitoring and research, most also indicate that the absence or difficulty in accessing relevant information is an obstacle to the implementation of the goals of the Convention.

### Explanation of the Target

The overall purpose of this target is to increase **knowledge**, the **science base** and **technologies** relating to biodiversity. This target should be regarded as a general commitment to increase the amount and quality of biodiversity relevant information and technologies as well as to make better use of it in decision making as well as to share it as widely as possible. It specifically calls for information on:

- The **values** of biodiversity – Biodiversity has multiple values owing to the different ecosystem services it provides. The types of values include economic, social and environmental values, many of which are poorly recognized and/or understood. While some values can be expressed in monetary terms many cannot.
- The **functioning** of biodiversity – Species provide a variety of functions within an ecosystems. These help to maintain relatively stable ecosystems as well as to provide the services upon which people depend. Our understanding of the role and function of species within ecosystems is poorly understood and needs to be improved, particularly if we are to avoid crossing ecosystem tipping points.
- The **status and trends** of biodiversity – Most of the information we have on biodiversity relates to its status and trends. However there are major gaps in this information with many ecosystems and species having little to no information. Status and trends information is particularly important as it allows for patterns of change to be identified as well as to determine if our responses to biodiversity loss are having any effect.
- The **consequences of biodiversity** loss – While it is widely recognized that we are loosing biodiversity at an unprecedented rate we have relatively little information on the consequences of its loss. Much of the information we have is based on anecdotal evidence. Increasing understanding of the consequences of biodiversity loss will be crucial in creating momentum for its conservation.

The overall purpose of this target is to increase the amount and quality of information and tools at the disposal of policy makers and the general public. Specifically, information, technologies and the science base need to be:

- **Improved** – While the amount of information on biodiversity has increased greatly in recent years there are still major gaps in understanding which need to be filled, such as those related to taxonomy. Similarly much of the information which is currently available is often incomplete and/or in need of updating.
- **Widely shared and transferred** – Information and technologies relating to biodiversity should be made more accessible and shared, subject to national legislation, so that it can be put to better use. Much of the information which is available is not effectively used as it is difficult to access.
- **Applied** – There is a need to make better use of biodiversity information in decision making. While there are gaps, the information which is currently available should be used to inform policy decisions.



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# Aichi Biodiversity Target 19

## Implications for setting national targets

Actions taken towards this target will greatly facilitate the implementation of the Strategic Plan and the fulfillment of the other 19 Aichi Biodiversity Targets by encouraging new research, the development of new technologies and improved monitoring. Such actions will strengthen the policy-science interface and will contribute to the fulfillment of the other elements of the Strategic Plan. Reaching this target will require substantial investment in global and national biodiversity observation networks, implementation of the Global Taxonomy Initiative, and further investment in research, including modeling and participatory research. Improvements are also needed in the science-policy interface. With regards to the sharing of technologies related to biodiversity, this should be consistent with Article 16 of the Convention.

## Guiding questions for setting national targets

- **What biodiversity information is available on the country?** Who has the information? What are the major gaps? What information would be crucial to have?
- **What programmes are in place to generate information on biodiversity in the country?** How effective have these been? How could their effectiveness be improved?
- **What mechanisms are in place in the country to share biodiversity information and technologies?** How effective have these been? How could information be shared more effectively? What have been the limitations in sharing information?
- **How is biodiversity information being used to support policy decision in the country?** How effective has this been? How could biodiversity information be put to better use?
- **What are the opportunities and constraints in improving biodiversity information and technologies and sharing them?** Consider potential ecological, economic, and social costs and benefits of improving, generating and sharing information and technology. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

## Actions and milestones

The Convention's cross cutting issue on Identification, Monitoring, Indicators and Assessments can provide a starting point for work towards this target. Similarly the Global Taxonomy Initiative is also relevant to this target. For knowledge that is already available, access could be improved through the further development of the clearing-house mechanism at national and global levels. Relevant information includes biodiversity-related data as well as tools and methodologies for biodiversity conservation, sustainable use and benefit sharing, and case-studies of their use. Further efforts are also needed, at multiple scales, to improve biodiversity-related knowledge and reduce uncertainties around the relationship between biodiversity change, ecosystem services and impacts on human well-being. The further development and enhancement of biodiversity monitoring and observation systems could also contribute to the attainment of this goal.

## Possible indicators

- Number of maintained species inventories being used to implement the Convention
- Trends in coverage of comprehensive policy-relevant sub-global assessments including related capacity building and knowledge transfer, plus trends in uptake into policy

## Resources

- Cross Cutting Issue on Identification, Monitoring, Indicators and Assessments - [www.cbd.int/indicators/](http://www.cbd.int/indicators/)
- Global Taxonomy Initiative - [www.cbd.int/gti/](http://www.cbd.int/gti/)
- Technical Series No. 58 - [www.cbd.int/doc/publications/cbd-ts-58-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-58-en.pdf)
- CBD Technical Series No. 53 - [www.cbd.int/doc/publications/cbd-ts-53-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-53-en.pdf)
- CBD Technical Series No. 32 - <http://www.cbd.int/doc/publications/cbd-ts-32.pdf>



## Quick guide to the Aichi Biodiversity Targets Financial resources from all sources increased

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

Most countries indicated in their fourth national reports that limited capacity, both financial and human, was a major obstacle to the implementation of the Convention. The capacity which currently exists in countries needs to be safeguarded and increased from current levels, in line with the process laid out in the Strategy for Resource Mobilization, in order to enable countries to meet the challenges of implementing the Strategic Plan for Biodiversity 2011-2020. The fulfillment of this target will have implications on the feasibility of achieving the other 19 targets contained in the Strategic Plan

### Explanation of the Target

The overall objective of this target is to increase the amount of resources available to implement the Strategic Plan for Biodiversity. The target specifies that the resources mobilized should:

- **Come from all sources** - In assessing the amount of resources available for implementing the Strategic Plan, resources from governments, the private sector, and nongovernmental organizations will need to be considered. In this sense this target is broader than only the amount of money spent by governments and should also include resources made available through other channel, both domestic and international.
- **Increase substantially from the current levels** – International financing for biodiversity has been increasing in real terms since 1992. Despite this increase, the capacity for implementing the Convention, in terms of trained staff and financial resources, is limited in many countries, especially in developing countries, and in particular the least developed countries and small island developing states. The funding assessments which are available suggest that much greater investment in biodiversity conservation is needed.
- **Be in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization** - In 2008, COP-9 adopted a resource mobilization strategy to assist Parties in establishing national targets, goals as well as action for enhancing international financial flows and domestic funding for biological diversity (Decision IX/11). The mobilization of financial resources should be in line with this decision.
- **Is subject to changes contingent to resources needs assessments** - In 2010, COP-10 decided to adopt targets for resource mobilization at COP-11 based on an assessment (Decision X/3) and to conduct a specific assessment on the funding needs for the sixth replenishment of the Global Environment Facility (GEF-6) (Decision X/23). Based on the outcomes of these processes this target may be modified at COP-11.

### Implications for setting national targets

This target should be seen as a common commitment by donors and recipient countries to take action, as appropriate, to both increase development cooperation funds available for biodiversity relevant activities, consistent with the Paris Declaration, and also to give appropriate priority in the use of those funds. It assumes that developed countries will comply with their commitments under the Monterey Consensus. In accordance with the Convention, financing should be from both domestic and international sources, including innovative financing mechanisms, in line with the Convention's Strategy for Resource Mobilization and bearing in mind the provisions of Article 20 of the Convention and on the resources needs assessment to be conducted and reported on by Parties during the eleventh meeting of the conference of the Parties in 2012.

### Guiding questions for setting national targets



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## Aichi Biodiversity Target 20

- **What is the current amount of biodiversity financing available in the country?** What percentage of this funding comes from national budgets? What percentage comes from other sources?
- **What are the main sources of biodiversity financing in the country?** What are possible additional funding sources?
- **What financial resources will be required to implement the Strategic Plan nationally?** How can additional funds be raised? Who are the stakeholders that may be involved?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

### Actions and milestones

In response to decision X/3 the Secretariat has initiated two processes. The first is the development of a preliminary reporting framework, methodological guidance and guidelines for the application of the indicators for monitoring the implementation of the strategy for resource mobilization. Parties have been invited to make use of this framework to report on their biodiversity related expenditures. The second is a process for assessing funding needs for the implementation of the Convention for the sixth replenishment period of the Global Environment Facility (GEF-6). Further in decision X/3 the Conference of the Parties reiterated that national implementation of the strategy for resource mobilization should include, as appropriate, the design and dissemination of a country-specific resource mobilization strategy, with the involvement of key stakeholders, in the framework of updated national biodiversity strategy and action plans. Therefore the development of such a strategy could be one action Parties may choose to take towards the implementation of this target.

### Possible indicators

- In decision X/3 the Conference of the Parties adopted a set of 15 indicators to assess progress in the implementation of the financial resource mobilization strategy and Target 20 of the Strategic Plan.

### Resources

- Financial Resources and Mechanisms - [www.cbd.int/financial/](http://www.cbd.int/financial/)

