

تنوع زیستی، گونه ها و چالش های حفاظتی

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بیان مسئله

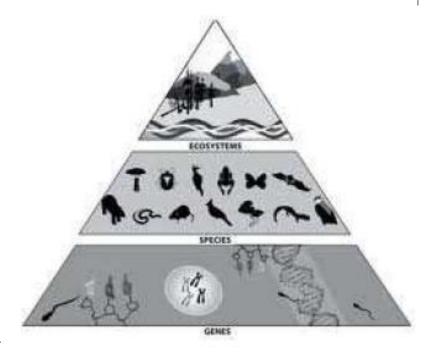
- What is going on? STATE OF THE NATURAL PLANET
- What is our role? HUMAN IMPACTS ON THE PLANET
- What are underlying reasons? A RESILIENT PLANET FOR NATURE AND PEOPLE
- What can we do? EXPLORING ROOT CAUSES

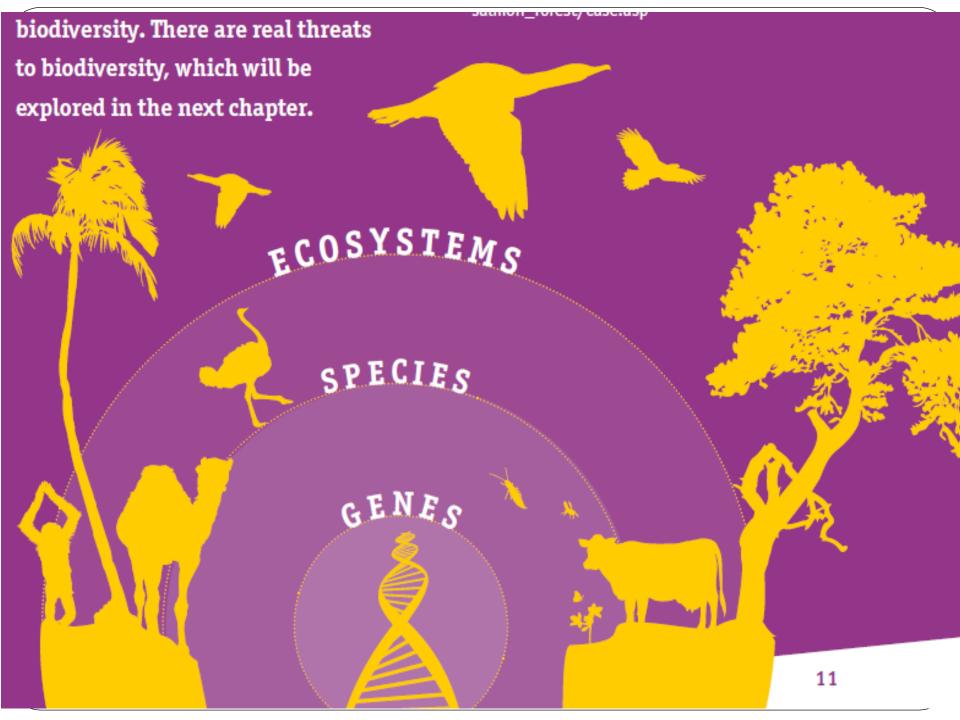
Biodiversity

- Bio: LIFE
- Diversity: Variety
- Biodiversity: Variety of Life

Identifying specific components of biodiversity....

- Genetic diversity
- Species and their habitats
- Populations
- Ecological processes, functions
- Landscapes, ecosystems
- Ecosystem goods and services



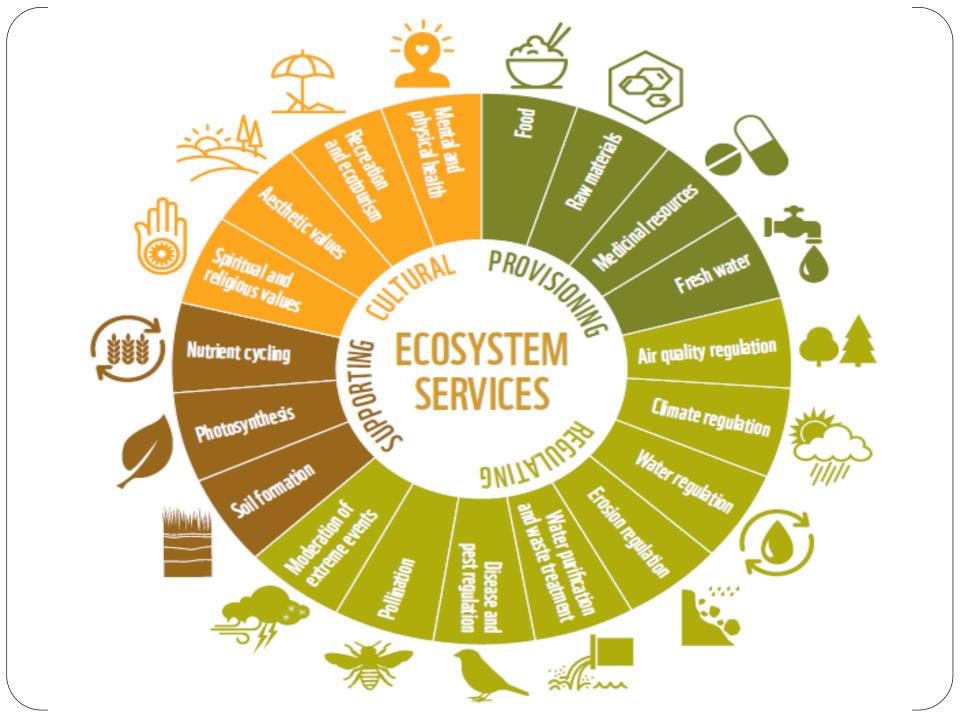


Numbers of threatened species by major groups of organisms, 2016(Redlist.org)

VERTEBRATES	Estimated Number of described species	Number of species evaluated by 2016 (IUCN Red List version 2016-3)	Number of threatened Species in 2016 (IUCN Red List version 2016-3	Species evaluated in 2016, as % of species described
Mammals	5,567	5,567	1194	100
Birds	11,121	11,121	1460	100
Reptiles	10,450	5,338	1079	51
Amphibian	7,571	6,534	2068	86
Fishes	33,400	16,134	2359	48
Subtotal	68,109	44,694	8160	66

Categorizing Values

Direct Use Value(Goods)	Indirect Use Value (Services)	Non-Use Values	
Food, medicine, building material, fiber, fuel	Atmospheric and climate regulation, pollination, nutrient recycling	Potential (or Option) Value	Future value either as a good or service
	Cultural, Spiritual and Aesthetic	Existence Value	Value of knowing something exists
		Bequest Value	Value of knowing that something will be there for future generations



•خدمات زیست بوم ها که در ۲۴ گروه طبقه بندی می شوند فرآیند ها یا عملکردهای زیست شناختی هستند که بصورت مجانی و بدون هزینه توسط موجودات زنده برای ما فراهم می گردد مثل: تولید اکسیژن توسط گیاهان، تنظیم اقلیم، چرخه مواد غذائی، کنترل طبیعی آفات و بیماری ها

Cultivated /

Types of Ecosystem Services

	Forests	Oceans	Agricultural Lands
Environmental Goods	FoodFresh waterFuelFiber	• Food	FoodFuelFiber
Regulating Services	 Climate regulation Flood regulation Disease regulation Water purification 	Climate regulation Disease regulation	Climate regulation Water purification
Supporting Services	Nutrient cycling Soil formation	Nutrient cycling Primary production	Nutrient cycling Soil formation
Cultural Services 37	Aesthetic Spiritual Educational Recreational	Aesthetic Spiritual Educational Recreational	Aesthetic Educational



Threats/Challenges

THE MAIN THREATS TO BIODIVERSITY

There are five main causes of biodiversity loss:



habitat loss



climate change



overexploitation

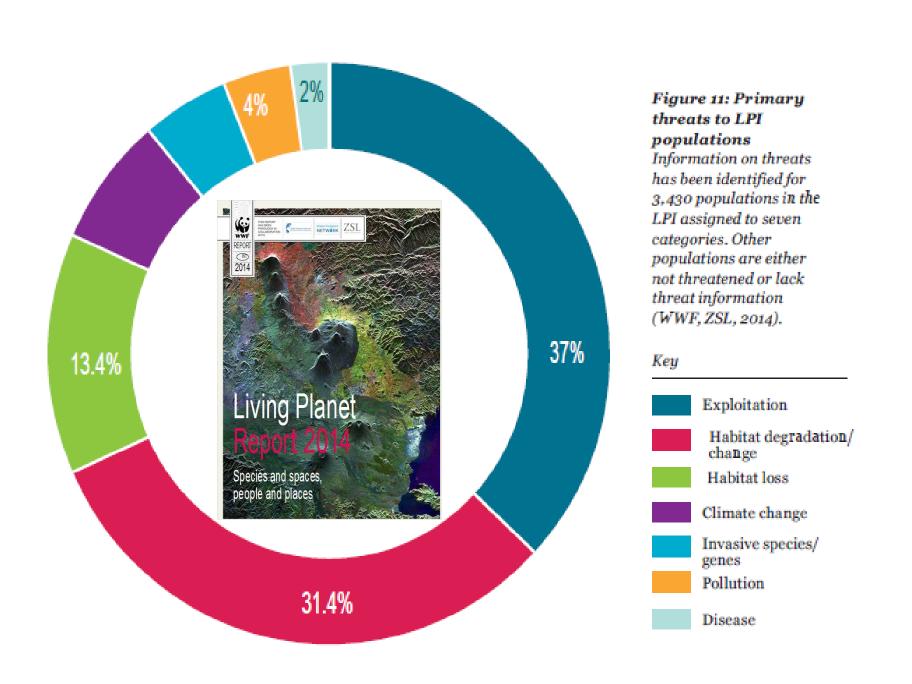


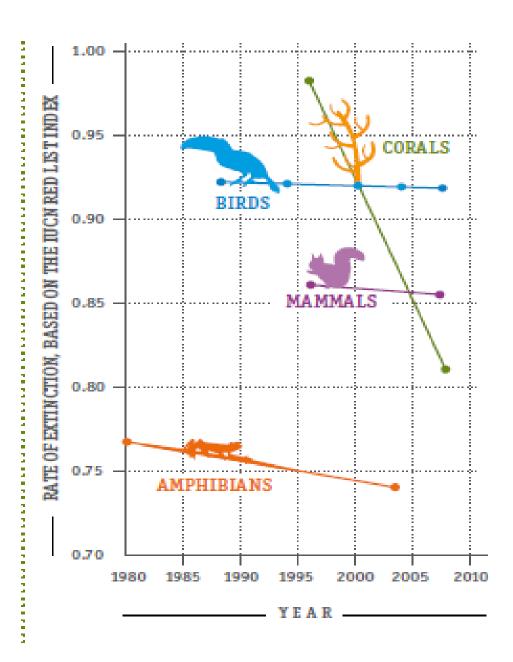
invasive alien species



pollution.

Each of these causes, or "<u>direct drivers</u>", puts tremendous pressure on biodiversity and often they occur at the same time in the same <u>ecosystem</u> or environment.

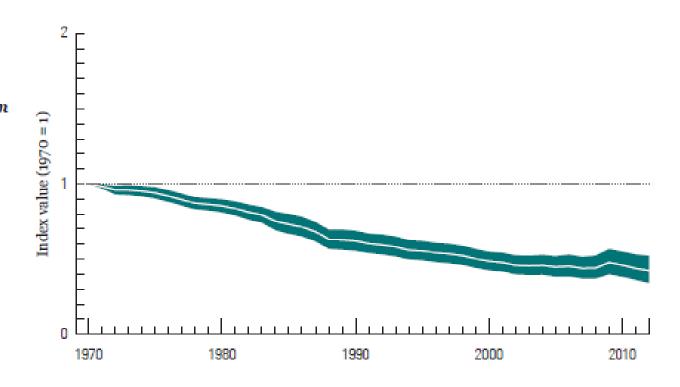




LPI (شاخص سیاره زنده)

- محاسبه با استفاده از روند ۱۰۳۸۰ جمعیت از ۳۰۳۸ گونه
- گونه های مطالعه شده با اطلاعات کافی حاصل پایش و مطالعه دانشمندان در سراسر جهان
 - داده های بسیار زیاد
 - ماهی ها، دوزیستان، خزندگان، پرندگان و پستانداران)

Figure 2: The Global Living Planet Index shows a decline of 58 per cent (range: -48 to -66 per cent) between 1970 and 2012 Trend in population abundance for 14,152 populations of 3,706 species monitored across the globe between 1970 and 2012. The white line shows the index values and the shaded areas represent the 95 per cent confidence limits surrounding the trend (WWF/ZSL, 2016).



The LPI measures biodiversity by gathering population data of various vertebrate species and calculating an average change in abundance over time





Patrick Barkham

Patrick Barkham writes for the Guardian on natural history. He is the author of Islander, The Butterfly Isles and Badgerlands



September 2018

Eight bird species are first confirmed avian extinctions this decade



Most of the extinctions were caused by deforestation in South America, a



















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WHERE WE WORK

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جنگل زدائی سد سازی تجارت تخریب زیستگاه

FROM THE CREATORS OF ICE ACE









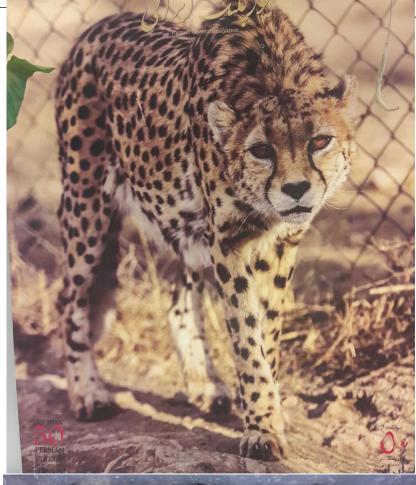
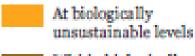
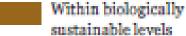


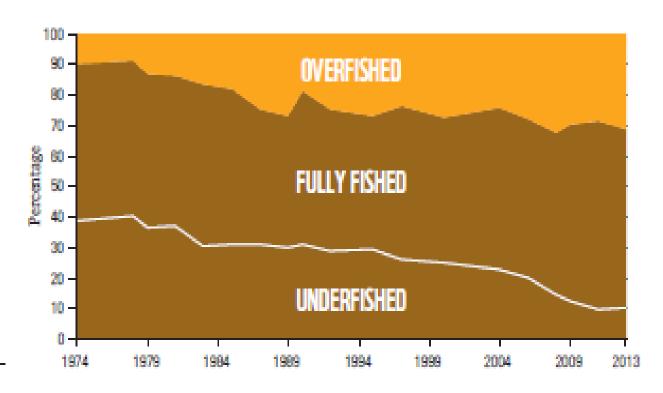


Figure 28: Global
trends in the state
of world marine fish
stocks since 1974
31.4 per cent of assessed
fish stocks were estimated
as fished at a biologically
unsustainable level and
therefore overfished.
Fully fished stocks
accounted for 58.1 per cent
and underfished stocks
10.5 per cent (FAO, 2016a).

Key







OVER 30 PER CENT OF FISH STOCKS ARE OVERFISHED

THREATS TO FRESHWATER BIODIVERSITY

Biodiversity is being lost more rapidly in freshwater ecosystems than in any other ecosystem type.

WHAT IS SUSTAINABLE DEVELOPMENT?

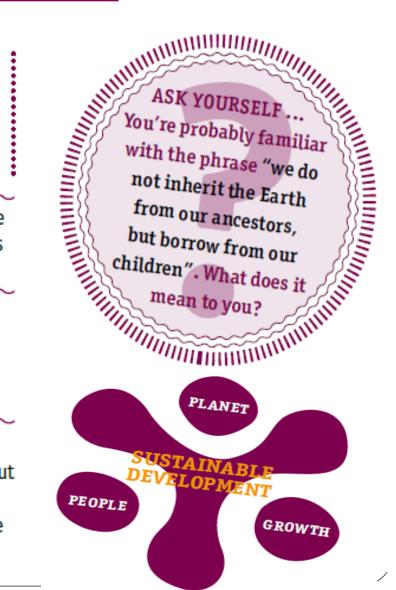
Humans use the planet's resources such as forests, oil and minerals. Many of these resources have accumulated or have grown over thousands or even millions of years!

The 2010 WWF Living Planet Report estimates that we'll need the equivalent of two planets by 2030 to support human populations if we continue with our current consumption patterns!



Where will we find that second planet?
What happens if we don't find it?
What alternatives are there?

Sustainable human development is about living on Earth without taking more than can be naturally replaced. It is about good health, good living conditions and long-term wealth creation for everybody. All these things must occur within the <u>carrying capacity</u> of the planet.







How to conserve...

- Protected areas
- Capture of benefits by local community
- Public awareness and education
- Sustainable intensification of agriculture
- Integration of biodiversity conservation and development

identifying specific goals of biodiversity use and conservation

- Minimize or mitigate threats
- Restore, improve or maintain ecological integrity
- Improve protection status
- Ensure ecological resilience and adaptation
- Maintain ecosystem services

...and integrate these into natural resource sectors

- Agriculture
- Forestry
- Fisheries, marine
- Freshwater, rivers
- Grazing, grassland
- Wildlife management

...and into economic and social development sectors

- Transportation
- Poverty alleviation
- Health
- Tourism, recreation
- Energy
- Climate adaptation
- Private businesses
- Food and water security

...using a variety of approaches, such as by creating or modifying policies and plans...

- Reform or create policies, plans, laws
- Create protected areas, buffer zones, corridors
- Modify management plans and practices
- Incorporate into strategic environmental assessments (SEAs)
- Incorporate into spatial and landuse planning





phytogeographic regions



- 1 Arasbaran
- 2- Hyrcanian
- 3- Zagrosian
- 4- Irano-Turanian
- 5- Khalij-o-Omani

Flora of Iran

- 8200 species
- 2100 endemic



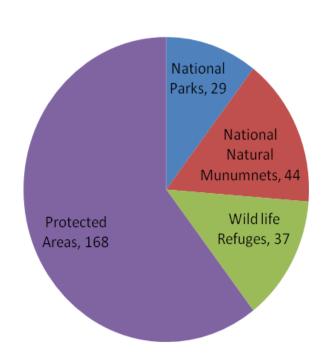
Vertebrates of Iran

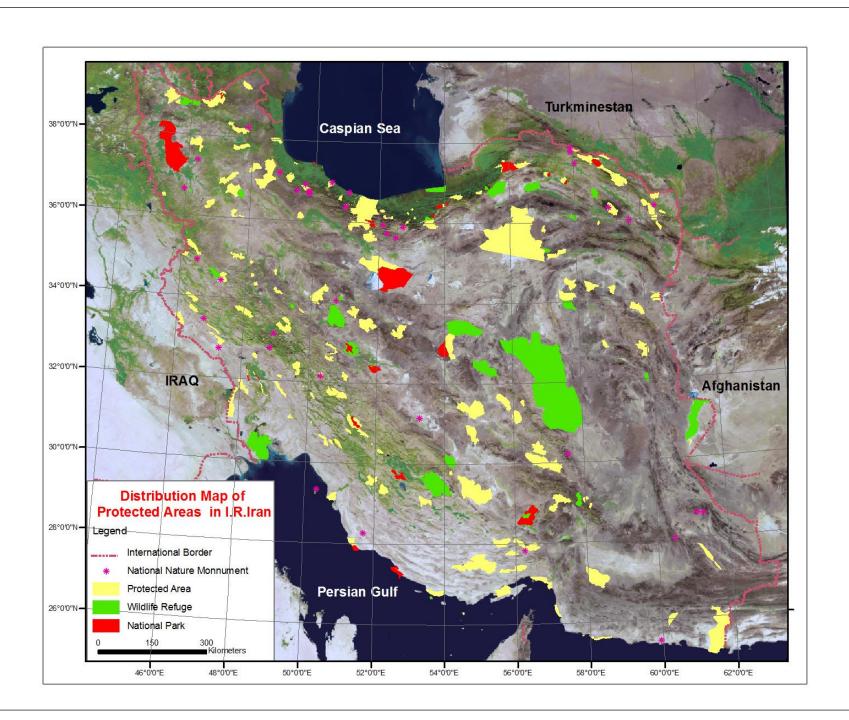
- Fish: 280 (fresh water) of which 73 are endemic *
- Amphibians: 22 of which 6 are endemic
- Reptiles: 236 of which 58 are endemic
- Birds: 535 of which 1 is endemic
- Mammals: 199 of which 8 are endemic
- Total: 1214 species
- 105 listed in IUCN redlist as threatened ,CR, EN,VU



Protected areas

- In 4 categories: National Parks, Wild life Refuge,
 Natural National Monuments and Protected areas
- 274 areas
- %10.4 of the country
- Species specific designated areas?
- Integrity and connectivity?!





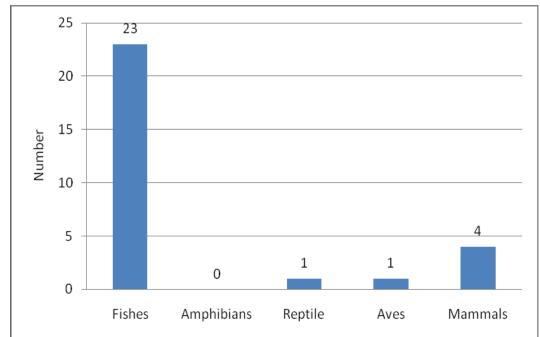
Alien species

*

Tilapia zilli







Alien species 2





Cydalima perspectalis

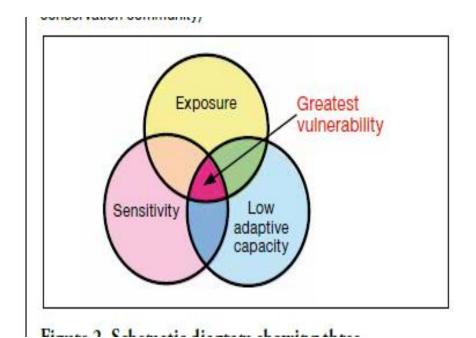
Alien species 3 *

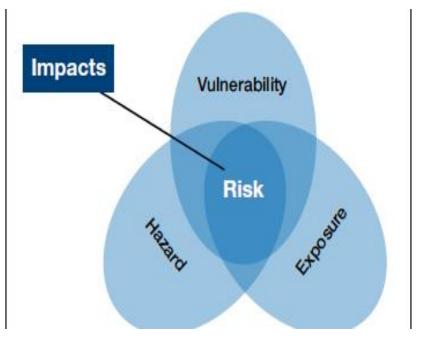


Eichhornia
crassipes
(water hyacinth)

Climate change

- a "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer" (IPCC, 2013a).
- Climate change results from both natural global cycles as well as from external drivers of change such as shifts in solar cycles, volcanic eruptions and persistent human influences on the composition of the atmosphere or land cover.





CC Effects

- Many terrestrial, freshwater, and marine species have shifted their geographic ranges, seasonal activities, migration patterns, abundances, and species interactions in response to ongoing climate change
- Based on many studies covering a wide range of regions and crops, negative impacts of climate change on crop yields have been more common than positive impacts
- In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans.

Administrative Matters

- Lack of proper cooperation and coordination among stakeholders especially at governmental level
- Lack of funds and financial support
- Insufficient mainstreaming of biodiversity
- <u>Lack of knowledge and mismanagement/lack of management</u>

Provisions/measures to conserve Biodiversity

- National General policies of the Environment (Declared by the Supreme Leader)
- 6th development plan of the country
- Different National laws regarding the environment
- International agreements *
- Preparing NBSAP
- Aichi Targets/SDG
- International/Regional cooperation and works
- Public education and awareness

RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT 1992

Principle 15

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

پروتکل کارتاهنا

- an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another
- It was adopted on 29 January 2000 as a supplementary agreement to the Convention on Biological Diversity/ entered into force on 11 September 2003
- The Protocol seeks to protect biological diversity from the potential risks posed by <u>living modified organisms</u> resulting from modern biotechnology
- It establishes an <u>advance informed agreement (AIA)</u> procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory.





The Convention

The Cartagena Protocol

Cartagena Protocol

Supplementary Protocol

BCH

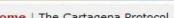
Secretariat

Country Profiles...



















About the Protocol

Text of the Cartagena Protocol

Strategic Plan

Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress

Key Protocol Issues

Assessment and Review

Capacity Building

Compliance

Financial Mechanism

Home | The Cartagena Protocol

The Cartagena Protocol on Biosafety

The Cartagena Protocol on Biosafety to the Convention on Biological Diversity is an international agreement which aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. It was adopted on 29 January 2000 and entered into force on 11 September 2003.

More »



Entry Into Force NEW Supplementary Protocol on Liability and Redress 5 March 2018



برنامه راهبردی پروتکل برای ۲۰۲۰–۲۰۱۱

• Facilitating the establishment and further development of systems for the implementation of the Protocol;

(تسهیل در ایجاد و توسعه بیشتر نظام های مورد نیاز برای اجرا)

- Capacity-building;(ظرفیت سازی)
- Compliance and review(بازبینی و پذیرش)
- Information sharing; and(تسهيم و اشتراک اطلاعات)
- Outreach and cooperation(توسعه و همکاری)

2011-2020

for the Cartagena Protocol on Biosafety

برنامه راهبردی 2

دیدگاه/چشم انداز

Making biological diversity adequately protected from any adverse effects of living modified organisms

ماموریت •

to strengthen global, regional & national action and capacity in ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements

تقدیر و تشکر

- با تشکر از دبیرانه شورایعالی ایمنی زیستی و کارگروه ایمنی زیستی سازمان و زحمات سارکار خانم دکتر کهک
 - با تشکر از پژوهشکده محیط زیست و توسعه پایدار
 - تشکر از همکاران برای حسن توجه شان

