





Contribution of Fundação Oswaldo Cruz (FioCruz) to the Aichi Biodiversity Targets

Institution	Fundação Oswaldo Cruz - Fiocruz
Legal name	Fundação Oswaldo Cruz
Foundation year	1900
Name of the Director General or Head of the institution	Paulo Gadelha
Brief description of the Scientific Mission of your institution	Produce, disseminate and share knowledge and technologies aimed at strengthening and consolidating the Unified Health System (SUS) and contributing to the promotion of the health and quality of life of the Brazilian population, to reduce social inequalities and for the national dynamics of innovation, with the guarantee to the right to health and broad citizenship as core values
Brief description of the vision of your institution	To be a public and strategic health institution, recognized by Brazilian society and other countries for its ability to orientate science, technology, innovation, education and the technological production of services and strategic inputs for the promotion of population health, reduction of social inequalities and inequities, consolidation and strengthening of SUS (National Health Unified System), and elaboration and improvement of public health policies and sustainability.
Main objectives or lines of action	Today the institution is responsible for a range of activities which include research development; highly-regarded hospital and ambulatory care services; production of vaccines, drugs, reagents, and diagnostic kits; education and training of human resources; information and communication in the area of health, science and technology; quality control of products and services, and the implementation of socio-environmental programs. It has over 11,000 employees and health professionals with different levels of involvement, a workforce proud of being at the service of life.
Biodiversity related objectives	Research on biodiversity and health, on medical microbiology and entomology, on the human activities impacting the natural ecosystems, among others; Research, development and innovation of diversity of medicinal plants; Prediction of the occurrence and emerging diseases when circulating in the wild.

				CSP members' contribution to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets:					
Objective / Aichi Target			Yes	Partially	No	NA	Briefly include the main actions that are performed in your institution and include hyperlinks or files that will support the information (for 2011-2016):		
A	1	 <i>Public awareness</i>	Does your institution develop actions aimed to strengthen awareness, concern and knowledge about biodiversity?					YES	
							Mobile Science - Life and Health for all - it is a traveling museum which travels in truck and carries exhibitions, games, interactive equipments, conducting workshops and other		

						<p>activities to Brazilian Southeast cities. It has the objective to promote the science and health dissemination, the traveling museum tries to approximate science to the visitors daily life, offering a space for discovery, reflection and enchantment for science and technology, through interactive activities. Its main issues are the Life and its diversity, the Health promotion and the man's intervention in the life and the environment.</p> <p>Fiocruz Butterfly Garden - the only at Rio de Janeiro. It has the objective to promote the knowledge about the Lepidoptera and their ecological importance.</p> <p>Traveling Exhibitions of the Life Museum in several Brazilian capital cities. The "Biodiversidade e Saúde" (Biodiversity and Health). One of the exhibitions, held in the Quinta da Boa Vista/RJ, October 2015, received more than 2.800 visitors.</p> <p>Fitos Journal - It publishes high scientific merit articles related to Medicinal Plants, which contributes to the thematic areas: research, development and innovation of diversity of medicinal plants and to studies and insights on related issues and disciplines.</p> <p>Memórias do Instituto Oswaldo Cruz Journal - The most accessed scientific journal in Latin America on public health. It disseminates researches in biology, microbiology, genetics and related areas, with a relevant focus on biodiversity of microorganisms, vectors and vertebrate reservoirs, since 1909.</p> <p>Post-graduation Program in Biodiversity and Health, which aims at preparing master and PhD students to act on research, teaching and technical activities on Biodiversity and on Human Health problems resulting from the natural or altered and impacted environments</p> <p>Wildlife Health Information Center - CISS, has the objective to expand the knowledge to the society and to decision makers about the importance of biodiversity conservation for wild, domestic and human animals, through the free access in specialized information website, newsletters, workshops, courses, video, educational material and digital media (FB, You tube,..)</p> <p>Wildlife Health Information System - SISS-Geo, works through a mobile app that integrates ordinary people in to the knowledge and monitoring of wild animals for the development of emergency alerts to zoonosis resulting from biodiversity, the support to species and</p>
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						<p>ecosystems management plans in the RESEX Tapajós-Arapiuns and in the South of Bahia (probioII) and PARNA Serra dos Órgãos, disseminates newsletters and materials in an social accessible language about wildlife and human health. This system integrates SiBBr/GBIF.</p> <p>Canal Saúde - A Health TV Channel - It is a Health Unified System (SUS) open TV channel, created and managed by the Oswaldo Cruz Foundation, available in the TV Brasil multiprogramming, channel 2.4, in Rio de Janeiro and in Brasília and in the channel 3.4, in São Paulo, in open broadcasting in the Brazilian Digital TV System. Everyday in the air, from 8:00 to 12:00h. The channel produces nine programs with issues that include public policies, citizenship, medical treatments, updates, behavior, technological development, environment and sustainability, among others. One recent program was about the new Brazilian ABS legislation.</p> <p>Brazilian Olympics of Health and Environment - OBSMA, which is a biennial educational project promoted by the Oswaldo Cruz Foundation (Fiocruz) to stimulate the development of interdisciplinary activities in public and private schools around the country. Among the main objectives of OBSMA, we highlight the acknowledge of the work developed by teachers and students in the schools and the cooperation with the dissemination of governmental actions created in favor of education, health and environment.</p>
						<p>Do some of the activities that your institution carries out contribute to the valuation of biodiversity and ecosystem services, contributing to achieve poverty reduction and sustainable development?</p>
		 <i>Valorization</i>	YES			<p>Healthy and Sustainable Territories Network, which generates proposals for integrating the scientific and traditional knowledges and building action models on the territory, which can be replicated and adapted to other realities to generate territorialized solutions to the questions related to the sustainable development and for health promotion.</p> <p>Water Atlas - A digital system for view and analysis of water quality, sanitation and health indicators, with the objective to gather indicators and data on health, water and sanitation conditions in Brazil for the production of thematic maps; to portray the conditions of the sanitation systems, the quality of water and the waterborne diseases in the Brazilian municipalities; to allow the use of these information by the managers as a mean to minimize the risks for the population and to elaborate public policies for sanitation and water</p>
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					<p>resources. This study results are available for the civil society, health surveillance technicians and managers interested in this issue. These data integration is unprecedented in Brazil.</p> <p>Laboratory of Epidemiological Monitoring of Major Enterprises, with the objective to monitor the main causes of illness, death and public security in the cities around major enterprises and establish a local and professional network in the areas of health surveillance and social development promotion.</p> <p>Biological Resource Center on Health - Based on the experiences with its microbial collections, Fiocruz has been strongly dedicated to the construction of the Biological Resources Center for Health (BRC-Health) that will be constituted by microorganisms related to tropical diseases of Latin America, including neglected diseases, as well as microorganisms with taxonomical and biotechnological interest. The BRC-Health will offer certified products and services to the scientific community, the industry and the Unified Health System (SUS), in order to provide sustainability for biotechnological innovations in health, as well as the preservation of the microbial diversity in the country.</p>
					<p>Does your institution develop actions aimed at countering the effects of harmful incentives for biodiversity or promote the application of incentives with positive effects on biodiversity?</p>
					<p>National Toxic and Pharmacological Information System - SINITOX, has the objective to coordinate the collection, compilation, analysis and dissemination of notified cases of intoxication and poisoning in the country. The records are performed by the National Toxicological Information and Assistance Centers Network (Renaciat), composed by several unities present in all Brazilian regions. The work results are annually disseminated.</p> <p>Workgroup about pesticides in Fiocruz with the objective to implement institutional policies to face pesticides impacts on health, as a part of a series of commitments that Fiocruz has signed to combat the pesticides along with the Campaign Against the Pesticides and in Favor of Life.</p> <p>Phyto Networks (Redes Fito), which contributes for the discussion of public policies and in the implementation of actions based in the building of collaborative management model, aiming at the promotion of innovation in medicines produced from Brazilian biodiversity. The Phyto Networks offers services and products in a partnership with stakeholders of all the productive chain in the main Brazilian biomes.</p>
					<p>Does your institution developed and/or promoted scientific knowledge and/or</p>










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YES


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		 <i>Sustainable Production</i>	technology innovation that promote sustainable production and/or consumption (including within your institution)?					Campus Management Directory of Fiocruz-DIRAC, through the Environmental Management Department, promotes campaigns for the reduction of energy and water consumption, batteries collection and material recycling.
B	5	 <i>Habitat loss</i>	Has your institution carried out actions that contribute to a decrease in the rate of loss of natural habitats?					Fiocruz Atlantic Forest Campus – CFMA, which was recognized as an Ecological Station, with 506 ha, located on the Pedra Branca State Park, in Rio de Janeiro city, it promotes research on medicine and drug production, biodiversity conservation and zoonosis control, as well as development of technologies that conciliate health and environment. It is intended to improve the local population quality of life and to support a sustainable and healthy balance between the human occupation and the environment, as natural as urban. In practice, it offers a support to the formulation and implementation of health and environment integrated public policies.
	6	 <i>Sustainable management of fishes and invertebrates</i>	Has your institution developed or implemented scientific knowledge and/or technology and innovation to promote the sustainable extraction and recovery of species of fish, invertebrates and aquatic plants, or that have contributed to reduce illegal fishing or incidental catch?	NO				
	7	 <i>Sustainable primary sector</i>	Does your institution promote and contribute to the sustainable management of agricultural land, and/or farming of aquatic organisms, and/or forests?	NO				
	8	 <i>Pollution reduction</i>	Does your institution carry out actions to control, monitor and/or improve water pollution, and/or ocean and coast pollution, and/or soil pollution, and/or solid waste pollution, and/or air pollution?	NO				
	9	 <i>Invasive species</i>	Does your institution carry out actions to control, monitor and/or improve water pollution, and/or ocean and coast pollution, and/or soil pollution, and/or solid waste pollution, and/or air pollution?	YES				Elaboration of the Review of invasive exotic species which affect Human Health, which updated the I National Report on Invasive Exotic Species that affect human health, published in 2006.
	10	 <i>Pressures on vulnerable</i>	Does your institution develop scientific knowledge and/or technology and innovation to reduce the anthropogenic pressure factors and maintain integrity and functioning of coral reefs and/or other ecosystems vulnerable to climate change?	NO				

		<i>ecosystems</i>				
C	11	 <i>Protected Areas</i>	Does your institution develop scientific knowledge and/or technology and innovation that promote or contribute the efficient management, representativeness, connectivity and integration landscape of protected areas (terrestrial, and/or marine and coastal) or the creation/incorporation of new public, private or community conservation areas?			
			YES			<p>Fiocruz Atlantic Forest Campus, which is responsible for the conservation of 506 ha of the Atlantic Forest in the urban environment.</p> <p>Technical-scientific support to the Chico Mendes Institute for Biodiversity Conservation (ICMbio - the Brazilian Ministry of the Environment's administrative arm), Action Plan for Endangered Species and to the conservation unities management and basic research for taxonomic groups of common interest. It brings data and information from SISS-Geo for species in all the Brazilian states.</p>
	12	 <i>Threatened Species</i>	Does your institution develop scientific knowledge and/or technology and innovation to promote and contribute to the effective protection of threatened species?			
			NO			
	13	 <i>Genetic diversity</i>	Does your institution develop scientific knowledge and/or technology and innovation to reduce the anthropogenic pressure factors and maintain integrity and functioning of coral reefs and/or other ecosystems vulnerable to climate change?			
			YES			<p>Fiocruz Biological Collections, which maintain and preserve specimens representing the genetic biodiversity of archaea, bacteria, fungi, protozoa, helminths, insects, mollusks of medical and environmental importance as well as human and animal histopathological samples; the epidemiological memory and the recording of changes occurred in etiologic agents through time; and the genetic populations of organisms related to research on public health, besides microbiological collections with potential in the production of new bioproducts with a biotechnological interest. As sources of genetic resources, the Fiocruz biological collections offer qualified products and services for use in Research, Development and Innovation (R,D & I) that include, among other, the production of inputs for diagnostics, vaccines and drugs. The collections integrate the SiBBR/GBIF, SiColl and World Federation of Culture Collections</p>
D	14	 <i>Restoration</i>	Has your institution developed scientific knowledge and/or technology and innovation for the restoration and recovery of ecosystem services taking into consideration the needs of women, indigenous and local communities and the poor and vulnerable?			
			YES			<p>In the Fiocruz Atlantic Forest Campus, Reforestation of 344 ha of Atlantic Forest was conducted, in the Pedra Branca State Park, Rio de Janeiro (RJ), with investments of R\$ 2,5 million in the activities that included: reactivation of the Garden-School; production of regional native matrixes for supply of seeds of</p>

					<p>flora; implantation of forest nurseries for the production of seedlings of regional species; realization of training courses in the environmental area with communities belonging to the Campus and around it, including seedling production modules of native species, recovery and restoration techniques and matrixes mapping; monitoring involving evaluation of parameters related to the success in the planting and reflections in the zoonosis incidence in the community around.</p> <p>Agroecological Platform of Phytomedicines (PAF), which supports, together with Botanical Collection of Medicinal Plants (Fiocruz/CBPM), the National System of Phyto Network (Redes Fito), and develops the project "Health and Medicinal Plants in Agroecological Productive Systems" in the South End of Bahia, in a partnership with EMBRAPA, ESALQ/USP, ENSP/FIOCRUZ, The Movement of the Landless Rural Workers (MST)</p>
	15	 Resilience	<p>Has your institution developed scientific, technical and/or technological actions of ecological restoration and rehabilitation? How many actions since 2011 and is the approximate restored area of degraded ecosystems within the framework of these actions?</p>	NO	<p>List of actions:</p> <p>Restored area:</p>
	16	 Nagoya Protocol	<p>Have you heard of the Nagoya Protocol, and has your institution developed scientific, technical and/or technological actions linked to it?</p>	YES	<p>Effective participation in the elaboration of the Biodiversity Law (Law n.13.123/2015) and its regimentation (Statement n. 8772/2016). Broad discussions regarding the new Brazilian ABS legislation within Fiocruz scientific community were conducted through open internal seminars and through official representation at the Environment Ministry (MMA) and Science and Technology Ministry (MCTI).</p> <p>Official participation of a representative within international forums about the Nagoya Protocol: (i) Dialogue between Brazil and the European Union about the Nagoya Protocol – Building bridges for the Genetic Resources exchange, held on June 7-10 in Brasilia; (ii) Workshop on the Utilization of Brazilian Genetic Resources in the EU – understanding ABS expectations and legal requirements, organized by the Natural History Museum in London, England, on June 27-28, 2016. During these opportunities the new Brazilian ABS legislation was presented and disseminate.</p>
E	17	 NBSAP update	<p>Has your institution collaborated in the elaboration and/or implementation of the National Biodiversity Strategy of its country, or any other biodiversity strategy at a sub-national level or equivalent?</p>	YES	<p>Fiocruz informed the Environment Ministry about the institutional actions that helped the fulfillment of the Aichi Goals to be incorporated in the National Biodiversity Strategies and</p>

						<p>Action Plans (NBSAPs).</p> <p>FIOCRUZ - 2022 Strategies - Fiocruz for its 122 anniversary in 2022 defined macro strategic guidelines. One of them is the integrated approach of health, environment and sustainability, from which biodiversity is one of the main principles in its programs and actions.</p>
18	 <p>18 Traditional Knowledge</p>	<p>Does your institution integrate traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity?</p>			<p>YES</p>	<p>Profito, cultivation of medicinal plants in the communities in the Fiocruz Atlantic Forest Campus, in Pedra Branca State Park region, in Rio de Janeiro. The aim is to offer sustainable development alternatives with a stimulus to the local production through the training of agricultural producers</p> <p>Support to the elaboration and implementation of a National Policy of Integral Healthcare of the Rural and Forest Populations, which included the traditional activities of indigenous people, quilombola people and traditional communities in the area of food security and public health, in a wide context of welfare.</p> <p>Research on indigenous health and their way of life, besides training indigenous Community Health Agents in the Amazon</p>
		<p>Does your institution generate scientific, technical and/or technological information on biodiversity? How does your institution consider that the availability of useful information on biodiversity (assessment, monitoring, inventories, studies, etc.) is in your country?</p>				<p>YES</p>
19	 <p>19 Knowledge, science and technology</p>					

							<p>represents a meaningful part of the public health research in Brazil.</p> <p>Fundamental research in biological, health and social sciences that endure actions and policies in health and environment, promoting activities in research, education/training, technological development and technical cooperation oriented to the environment and biodiversity preservation, training of human resources in 32 "strictu sensu" post-graduation courses.</p>
	20	 Funding	<p>What is the approximate percentage of your institution's annual budget destined for the implementation of scientific, technical and/or technological actions aimed for the conservation and sustainable use of biodiversity and ecosystem services and does your institution have fundraising strategies for this purpose?</p>	NO			

Annex. Aichi Targets

- **Strategic Goal A:** Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- **Strategic Goal B:** Reduce the direct pressures on biodiversity and promote sustainable use
- **Strategic Goal C:** To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
- **Strategic Goal D:** Enhance the benefits to all from biodiversity and ecosystem services
- **Strategic Goal E:** Enhance implementation through participatory planning, knowledge management and capacity building

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

- **Target 1:** By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
- **Target 2:** By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
- **Target 3:** By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.
- **Target 4:** By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

- **Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- **Target 6:** By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that

overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

- **Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
- **Target 8:** By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
- **Target 9:** By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
- **Target 10:** By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

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

- **Target 11:** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.
- **Target 12:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
- **Target 13:** By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

- **Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
- **Target 15:** By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including

restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

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

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

- **Target 17:** By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
- **Target 18:** By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.
- **Target 19:** By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.
- **Target 20:** By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.