



Achieving the UN Millennium Development Goals The contribution of Novartis



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Daniel Vasella, MD
Chairman of the Board
Novartis

Foreword

Achieving the Millennium Development Goals (MDGs) would be the most significant political, social and economic success in modern history. In addition to saving millions of lives and improving quality of life for hundreds of millions of people who currently live in poverty, this could be the most important investment in a peaceful and prosperous future for our children and grandchildren.

I share the view of Secretary-General Ban Ki-moon that humankind possesses the knowledge and resources necessary to achieve the goals set by the world community in September 2000. This is why I am convinced that “achieving the MDGs is possible” – but only if all development stakeholders contribute their fair share in applying best practices and proven policies on a broader scale.

Business corporations such as Novartis can contribute in different ways, be it through research and development, innovative marketing practices and investments or through not-for-profit activities. As a good corporate citizen with global reach, Novartis is committed to doing everything in its capacity to contribute to the achievement of the MDGs.

Preface

The Millennium Development Goals (MDGs) are the most broadly supported, comprehensive, yet specific development goals ever set by the global community. The eight goals, which are to be achieved within a fixed time period, are to:

- Eradicate extreme poverty and hunger;
- Achieve universal primary education;
- Promote gender equality and empower women;
- Reduce child mortality;
- Improve maternal health;
- Combat HIV/AIDS, malaria and other diseases;
- Ensure environmental sustainability; and
- Develop a global partnership for development.

Underpinned by 21 quantified targets and 60 measurable indicators, these goals provide concrete, numerical benchmarks for tackling the many facets of underdevelopment.

Adopted by world leaders in the year 2000, the MDGs are both global and local, tailored by each country to its specific development needs. They provide a framework for the entire international community to work together towards a common end – extending human development to everyone around the world. If these goals are indeed achieved by 2015 as planned, world poverty will be cut by half, tens of millions of lives will be saved, and billions more people will have the opportunity to benefit from the global economy.

At the heart of the MDGs lies a recognition that problems of this complexity and magnitude cannot be solved by any single actor, be it national government, bi- and multilateral organization, NGO or the private sector. Instead what is needed is a new kind of cooperation whereby different stakeholders combine their specific expertise, experience, resources and networks to work together in good faith.

Through the MDGs, for the first time the private sector was explicitly invited to contribute to the achievement of development goals by providing new technologies and resources not available to other stakeholders. Pharmaceutical companies specifically were challenged to provide access to affordable essential drugs in developing countries.

Since the year 2000, substantial progress has been made in cutting the rate of extreme poverty, enrolling children in primary schools, addressing HIV/AIDS, malaria and child mortality. But in some countries, improvements in living conditions for the poor have been too slow, while certain hard-won gains have been eroded by the climate, food and economic crises. Despite these recent setbacks there is still a good chance the MDGs can be achieved in most countries and for most people living in poverty. As ever, though, it is this “last mile” that could prove to be the most challenging.

Novartis has been contributing to the realization of the MDGs since their launch in 2000. Through its core business, the company has made significant investments in many developing countries, transferred technology, employed and trained thousands of associates in Novartis subsidiaries and its supply chain, and has made pharmaceutical products available, thereby helping save millions of lives and improve quality of life for hundreds of millions of patients.

The September 2010 special Review Summit on the MDGs convened in New York and hosted by the UN Secretary-General, aims to take stock of proven initiatives that are delivering progress on the goals and inspire governments to commit to a program of action to complete these, along with other internationally agreed development targets. The Novartis Foundation for Sustainable Development (NFSD) is involved in summit plenary meetings and roundtable sessions by virtue of its being accredited with consultative status at the UN. With only five years left to achieve the MDGs ahead of the 2015 deadline, the summit marks an opportunity to intensify global efforts and agree on a concrete action plan to accelerate progress.

For Novartis and its Foundation for Sustainable Development, this special UN Review Summit presents a valuable opportunity to report publicly on our contribution to the MDGs, both because we are proud of our efforts and in order to encourage others to become engaged in similar activities.



Klaus M. Leisinger
President and Managing Director
Novartis Foundation
for Sustainable Development



1

**ERADICATE EXTREME
POVERTY
AND HUNGER**



2

**ACHIEVE UNIVERSAL
PRIMARY EDUCATION**



3

**PROMOTE GENDER
EQUALITY AND
EMPOWER WOMEN**



4

**REDUCE
CHILD MORTALITY**



5

**IMPROVE MATERNAL
HEALTH**



6

**COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES**



7

**ENSURE
ENVIRONMENTAL
SUSTAINABILITY**



8

**A GLOBAL
PARTNERSHIP
FOR DEVELOPMENT**

The eight Millennium Development Goals and their targets

■ Goal 1: Eradicate extreme poverty and hunger

- 1a:** Reduce by half the proportion of people living on less than a dollar a day
- 1b:** Achieve full and productive employment and decent work for all, including women and young people
- 1c:** Reduce by half the proportion of people who suffer from hunger

■ Goal 2: Achieve universal primary education

- 2a:** Ensure that all boys and girls complete a full course of primary schooling

■ Goal 3: Promote gender equality and empower women

- 3a:** Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

■ Goal 4: Reduce child mortality

- 4a:** Reduce by two thirds the mortality rate among children under five

■ Goal 5: Improve maternal health

- 5a:** Reduce by three quarters the maternal mortality ratio
- 5b:** Achieve, by 2015, universal access to reproductive health

■ Goal 6: Combat HIV/AIDS, malaria and other diseases

- 6a:** Halt and begin to reverse the spread of HIV/AIDS
- 6b:** Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it
- 6c:** Halt and begin to reverse the incidence of malaria and other major diseases

■ Goal 7: Ensure environmental sustainability

- 7a:** Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources
- 7b:** Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss
- 7c:** Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation
- 7d:** Achieve significant improvement in the lives of at least 100 million slum dwellers, by 2020

■ Goal 8: Develop a Global Partnership for Development

- 8a:** Develop further an open, rule-based, predictable, non-discriminatory trading and financial system
- 8b:** Address the special needs of the least developed countries (includes tariff- and quota-free access for the least-developed countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous Official Development Assistance (ODA) for countries committed to poverty reduction)
- 8c:** Address the special needs of landlocked developing countries and small island developing states through the Programme of Action for the Sustainable Development of Island Developing States and the outcome of the twenty-second special session of the General Assembly
- 8d:** Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term
- 8e:** In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- 8f:** In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Introducing the Millennium Development Goals

The promise of a better world

The Millennium Development Goals (MDGs), adopted in 2000 by all 192 United Nations (UN) member states and set to be achieved by 2015, are the most broadly supported, comprehensive, yet specific development goals the world has ever agreed upon.

Providing a framework for the international community to work together towards a common end, the MDGs cover income poverty, hunger, maternal and child mortality, disease, inadequate shelter, gender inequality, environmental degradation and the Global Partnership for Development. The eight goals are broken into 21 quantified targets measured through 60 indicators (see p. 4).

Progress and challenges

Ten years in and five years from the target date, the UN paints a mixed picture of the progress made. Many countries are moving forward, including some of the poorest, but unmet commitments, inadequate resources, and lack of focus and accountability have created shortfalls in many areas.

According to the UN MDG Report 2010, the world is on track to meet the **poverty reduction** target of halving the proportion of people living on less than a dollar a day. From 1990 to 2005, the poverty rate dropped from 46% to 27%. But overall progress in reducing the prevalence of **hunger** has been insufficient to lower the number of undernourished people, and about one in four children under the age of five remains underweight.

Enrollment in primary education has continued to rise, reaching 89% in the developing world. Nevertheless, the pace of progress is insufficient to meet the target of 100% enrollment. **Gender parity** in primary educational enrollment has improved from 91 girls for every 100 boys in 1999, to 96 girls for every 100 boys in 2008. Despite this progress, meeting the target of gender equality in primary and secondary education is still beyond reach for many developing countries.

Since 1990, the **mortality rate for children** under age five dropped by 28% in developing countries – from 100 deaths per 1,000 live births to 72 deaths in 2008. Globally, the total number of under-five deaths declined from 12.5 million in 1990 to 8.8 million in 2008. Although countries such as Ethiopia, Malawi and Mozambique have substantially reduced their mortality rates, sub-Saharan Africa as a whole still accounts for half of the deaths in children under five worldwide and is unlikely to meet the target.

Preliminary data shows signs of progress in **maternal health**. However, the rate of reduction is still well short of the 5.5% annual decline needed to meet the target. Hemorrhage and hypertension account for half of all deaths in expectant or new mothers. Other causes include malaria, HIV/AIDS and heart disease as well as complications in labor or Cesarean section. The vast majority of these deaths are avoidable.

Data shows that the **HIV/AIDS** epidemic seems to have stabilized in most regions although its prevalence continues to rise in Eastern Europe, Central Asia and other parts of Asia. Sub-Saharan Africa remains the most heavily affected region with 72% of all new HIV infections in 2008. Major increases in funding and attention to **malaria** have accelerated the delivery of critical interventions. In order to meet this target, the UN advises that efforts be focused on ensuring success in large countries with a high burden of disease. Reaching the MDG target of halving the prevalence and mortality rates of **tuberculosis** will be possible only if control efforts and funding are sustained.

The world is on track to meet – even exceed – the target to halve the proportion of the population without sustainable access to **safe drinking water**. However, the 2010 target to reduce **biodiversity loss** has been missed and even though the rate of **deforestation** is slowing, it is still alarmingly high. While the share of the urban population living in **slums** has declined from 39% to 33% between 2000 and 2010, the number of slum dwellers has actually increased in absolute terms.

Regarding **development partnerships**, to date only five donor countries (Denmark, Luxembourg, Sweden, Norway and the Netherlands) have attained the UN target for **official aid** of 0.7% of gross national income. Developing and least developed countries have gained greater **access to the markets** of developed countries, thanks to tariff reductions or removal. **Debt** burdens for developing countries have eased and are likely to remain well below historical levels. Large gaps continue to exist in the availability of **essential medicines** in both the public and private sectors. Prices vary widely across countries and are generally higher than international reference prices. The UN therefore recommends strengthening the global partnership with regard to access to essential medicines. Meanwhile, the use of **information and communication technology** continues to grow with, as of late 2009, 67 out of 100 people having a mobile phone subscription.

Novartis and the MDGs

Novartis has been contributing to the realization of the MDGs since their launch in 2000. First and foremost, Novartis contributes through its **core business** – the discovery, development and marketing of innovative drugs, helping to save millions of lives and improve quality of life for hundreds of millions of patients. Since not every patient has access to these drugs, Novartis carries out extensive access-to-medicine programs such as drug donations, selling at cost or patient assistance programs. In line with its core business, Novartis also conducts voluntary, not-for-profit research into neglected diseases such as malaria, dengue fever and tuberculosis. **The first part of this report is dedicated to the contribution Novartis makes toward the achievement of the MDGs.**

Beyond the core business, **philanthropic commitments** by Novartis contribute specifically to the realization of the MDGs. The Novartis Foundation for Sustainable Development (NFSD), fully funded by Novartis, is a competence center for corporate responsibility and international health, focused on the poorest of the poor. It is committed to “development with a human face” and its supported projects in developing countries are largely focused on the achievement of the Millennium Development Goals – particularly in relation to health. **The second part of this report covers the contribution of the Novartis Foundation for Sustainable Development to the achievement of the MDGs.**

Throughout this report, each MDG is color-coded. Wherever Novartis contributes to one or more goals, their respective color tabs appear. In line with its core business and expertise, this contribution is primarily focused on the goals where the company can make the greatest difference, namely those related to healthcare.



1 Mother and child in Cape Town, South Africa



Novartis

Contributing to society through core business

Both the commitment and contribution of Novartis to achieving the Millennium Development Goals (MDGs) are rooted in its core mission – to discover, develop and successfully market innovative products that prevent and cure diseases, ease suffering and enhance quality of life. This core business is, in turn, grounded in the Novartis definition of corporate citizenship, which stipulates that business success must be attained with integrity and in an environmentally sustainable manner. As a responsible corporate citizen, Novartis strives to be responsive to an array of stakeholders, reflected by four pillars which underpin the company's corporate citizenship commitment:

1. Patients
2. People & Communities
3. Environment
4. Ethical Business Conduct

Patients benefit from a diversified but focused portfolio of innovative pharmaceuticals, generic medicines, consumer health products as well as vaccines and diagnostic tools. The Novartis Pharmaceuticals division focuses on cardiovascular diseases, cancer, mental disorders such as Alzheimers and rare diseases like Muckle-Wells syndrome. The Sandoz division is the second-largest producer of generic medicines in the world with a range of products including treatments for tuberculosis (TB) and epilepsy. Among the vaccines developed by the Vaccines & Diagnostics division to prevent viral and bacterial diseases, Novartis offers a single vaccine against five deadly childhood illnesses: Haemophilus influenza type b, diphtheria, tetanus, pertussis and hepatitis B. In this manner, the **core business** of Novartis contributes to achieving the MDGs by helping to combat disease and promote well-being. In 2009, an estimated 930 million people were protected and treated with Novartis products.

Nevertheless, the company recognizes that many people in the world cannot easily access much-needed healthcare solutions. Therefore, of this 930 million, 79.5 million disadvantaged people living in developed and developing countries benefited from Novartis **access-to-medicine programs** valued at USD 1.5 billion. Some 94% of the people benefiting from these programs are malaria patients, through the at-cost provision of *Coartem*[®] for public sector use. Another example is the Patient Assistance Program (PAP) for treatment against two rare forms of cancer: chronic myeloid leukemia and gastrointestinal stromal tumors (*Gleevec*[®]/*Glivec*[®] and *Tasigna*[®]). Diverse access modalities are applied, ranging from co-payment (patient/Novartis) and shared contribution (Novartis/other organizations) to full donation. In 2009, 38,000 patients were reached in this manner.

Other global access-to-medicine initiatives include treatments against malaria, TB and river fluke (see p. 18). In India, Novartis has introduced a social business model. **Arogya Parivar** – meaning “healthy family” in Sanskrit – targets the health needs of rural populations living at the bottom of the pyramid. Arogya Parivar aims to improve access to healthcare through a network of community

health educators, mainly women, who help promote disease awareness among villagers. They refer patients to rural practitioners who facilitate treatment compliance. In collaboration with city doctors, Arogya also organizes health camps, free-of-charge, wherever there is no rural practitioner in the village. A selected range of generic and Over-The-Counter drugs produced by the Novartis group is available through rural pharmacies. Emphasis is laid on products such as calcium or zinc formulations, which are simple to use, offered in small packs, and which target maternal and child health.

In addition, the **Novartis Institutes for Developing World Medical Research** conduct pro bono research on malaria, TB, dengue fever and diarrheal diseases (see p. 20). These initiatives complement core business activities in combating disease, reducing child mortality and improving maternal health.

As a healthcare company, the prime contribution of Novartis is directed toward reaching the health-related MDGs. Yet it is also active in realizing other MDGs, such as promoting gender equality, women’s empowerment and eradicating poverty. Within the core business, this is visible in relation to Novartis employees, their families and the communities in which company operations are located. The Novartis commitment to **people and communities** includes a group-wide initiative to promote diversity and inclusion. Diversity means recognizing and embracing the existence of individual differences such as gender, ethnic origin and religion, but also thinking and leadership styles. Inclusion is about creating an environment that leverages such individual differences by providing opportunities to all associates to contribute to business goals. Part of this Diversity & Inclusion initiative is to ensure **fair and equitable working conditions** for all employees. Novartis believes that a diverse organization is more likely to be a creative and innovative one – and one better prepared to serve its customers’ needs.

In another pioneering endeavor, Novartis was the first multinational company to establish **living wage** levels for employees across its worldwide operations. The aim is to ensure a decent minimum living standard that guarantees affordability of basic necessities including food, clothing, accommodation, schooling and medical care in a

given local context. These wage levels are updated annually, and any salaries falling below those levels are adjusted according to annual fluctuations in inflation, food costs and exchange rates. In 2009, for the first time, no salaries below living wage levels were found, compared to 93 cases in 2005. Such initiatives not only create a conducive working environment fostering employee engagement and resulting in improved productivity, profitability and customer focus, they also contribute to sustainable livelihoods in the wider community, hence to the eradication of poverty as stipulated in MDG 1. The collaboration with Indian NGOs and the non-profit business association Business for Social Responsibility to define and measure living wages around the world is a tangible reflection of the Novartis commitment to MDG 8.

Ensuring **environmental sustainability** – as stipulated in MDG 7 – is an integral part of company strategy. Novartis considers that careful stewardship of natural resources is not only important for the Group, but also critical for society and future generations. In addition to minimizing impacts and managing risks, Novartis is committed to providing safe workplaces for all associates and third-party personnel through its Health, Safety & Environment (HSE) management and reporting systems. This commitment extends to minimizing the impact of pharmaceuticals in the environment by managing its products over their entire life cycle. To tackle greenhouse gas emissions, Novartis has devised a climate and energy strategy comprising both internal and external measures to reduce its carbon footprint. Together, these initiatives help support targets 7a and 7b of MDG 7, i.e. to “integrate the principles of sustainable development,” “reverse loss of environmental resources” and “reduce biodiversity loss” (see p. 14).

The aim of the Novartis commitment to **ethical business conduct** is to ensure that decisions are made responsibly, sustainably and with awareness of their societal impact. To achieve this, a set of core values and ethical standards has been established that gives behavioral guidance to associates with regard to all business-related activities and processes (e.g. leadership, performance management). For instance, the Novartis Integrity and Compliance program

has developed training courses on the Novartis Code of Conduct and Corporate Citizenship Guidelines that deal with marketing practices, bribery and corruption. By addressing the protection of human rights such as non-discrimination due to gender, age, race or disability, as well as the respect of labor standards (e.g. fair working hours, holidays or maternity leave), these courses support MDGs 1 and 3 and are compulsory for all employees.

In the same spirit, **human rights compliance assessments** have been piloted, using a questionnaire-based self-assessment tool developed by the Danish Institute for Human Rights and the Novartis Foundation for Sustainable Development. So far, Novartis country offices in Turkey, Taiwan, South Africa and Indonesia have participated. Suppliers to Novartis must adhere to a specific Third-Party Code which defines minimum standards and is used internally in procurement processes. Last but not least, employees have the option of reporting to a Business Practice Officer (BPO) any incident of misconduct or human rights violation within the company's sphere of influence.

In the following pages, four examples of how Novartis contributes to the achievement of different MDGs are given. While three target patients and their health, one focuses on environmental sustainability:

1. Health, Safety & Environment: ensuring environmental sustainability through energy efficiency and carbon offsets
2. Malaria Initiatives: combating malaria through global partnerships
3. Donating drugs against leprosy, TB and river fluke
4. Novartis Institutes for Developing World Medical Research: vaccines and treatments against neglected diseases

1 *Health educator of the Arogya Parivar initiative in Maharashtra, India*



Patients

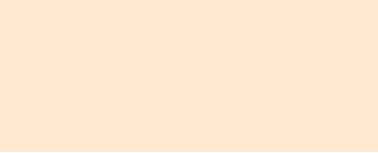
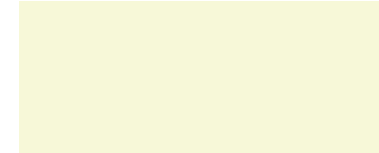
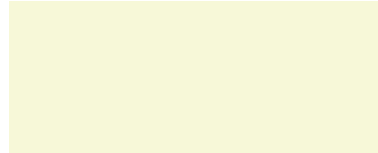
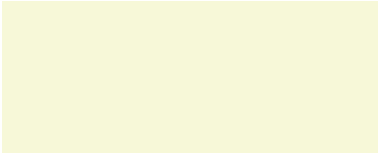
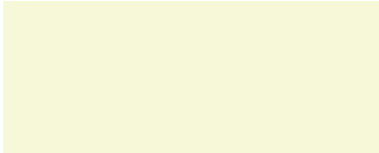
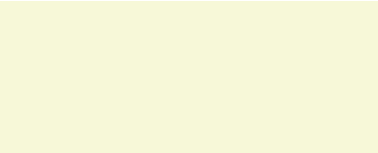
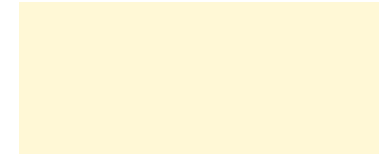
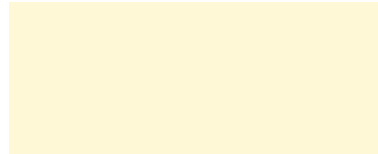
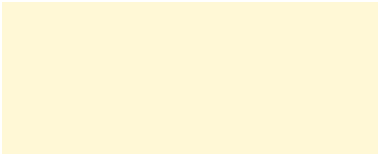
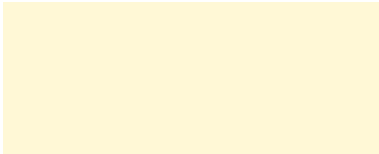
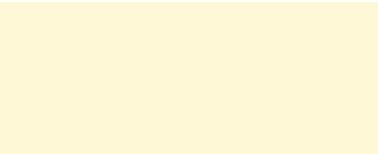
Pharmaceuticals, Sandoz (generics) and Diagnostics & Vaccines divisions

Arogya Parivar initiative

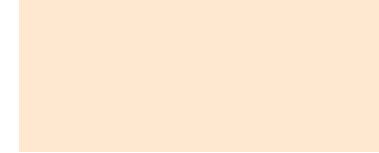
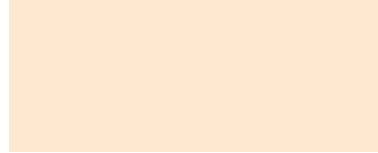
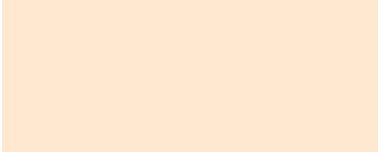
Malaria Initiatives (p. 16)

Patient Assistance Program (PAP) for *Glivec*[®]/*Gleevec*[®] and *Tasigna*[®]

Donating drugs against leprosy, TB and river fluke (p. 18)



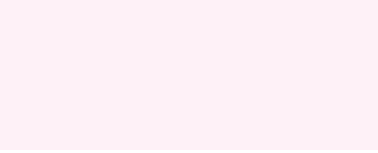
Employment of rural women as community health educators



Diagnostics & Vaccines: single vaccine against five deadly childhood illnesses

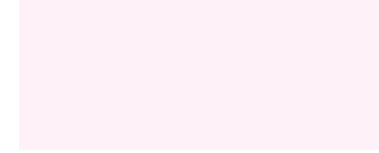
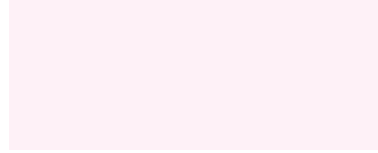
Access to ORS and zinc formulations against diarrhea as per WHO standards

First pediatric formulation against malaria (*Coartem*[®] *Dispersible*) provided at cost for public health-sector use



Access to products such as calcium and nutritional supplements necessary during pregnancy

Evaluation of efficacy and safety of artemisinin-based combination therapies incl. *Coartem*[®] in pregnant women



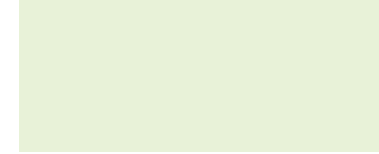
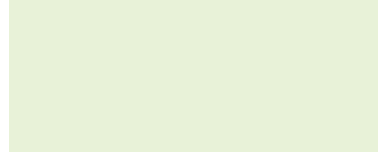
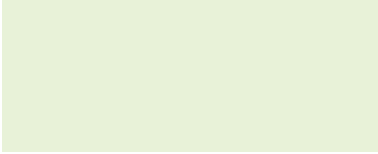
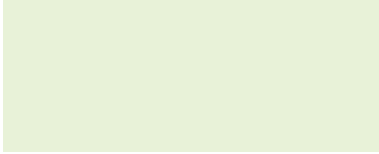
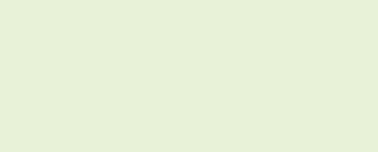
Pharmaceuticals: treatments against cancer, respiratory and cardiovascular diseases, mental disorders; **Sandoz:** treatments against TB, epilepsy, etc.

Supply of a range of low-cost generic and OTC drugs in small packs with simple instructions; disease awareness through health education

Over 340 million *Coartem*[®] treatments against malaria provided at cost for public health-sector use; management of antimalarial stock levels (SMS for life)

Donations and other access modalities for treatment against two rare forms of cancer (*Glivec*[®]/*Gleevec*[®] and *Tasigna*[®])

TB: 500,000 treatments for adults to Tanzania; **leprosy:** worldwide drug donation; **river fluke:** treatment free of charge











Access to Novartis compound library granted to DNDi, iOWH and MMV for research on sleeping sickness and Kala-Azar

Rural private practitioners and micro-credit institutions for infrastructure development to improve access to health facilities in villages

R&D: Chinese partners; **At-cost delivery of *Coartem*[®]:** WHO, UNICEF, UNDP; **Pediatric formulation:** Medicines for Malaria Venture; **SMS for life:** Tanzanian Ministry of Health & Social Welfare, Roll Back Malaria, IBM, Vodafone

Management of Patient Assistance Programs: Max Foundation

Leprosy and river fluke drug donations: WHO; **TB drug donation:** Tanzanian Ministry of Health & Social Welfare, Global Drug Facility (Stop TB Partnership)

	People & Communities	Environment	Ethical Business Conduct	
<p>Novartis Institutes for Developing World Medical Research (p. 20)</p>	<p>Diversity & Inclusion, Living Wage initiative</p>	<p>Health, Safety & Environment (p. 14)</p>	<p>Compliance & Integrity</p>	<p>The MDGs</p>
	<p>Living Wage Initiative: establishment and annual adjustment of living wage levels for all associates</p>	<p>Argentina: job creation through sustainable timber products business; Mali: income for farmers through selling of jatropha seeds for rural electrification and biodiesel production</p>		<p> 1 ERADICATE EXTREME POVERTY AND HUNGER</p>
				<p> 2 ACHIEVE UNIVERSAL PRIMARY EDUCATION</p>
	<p>Diversity & Inclusion: fair and equitable working conditions for all associates, regardless of gender, ethnic origin, etc.</p>		<p>Training for all associates on Novartis Code of Conduct and Corporate Citizenship Guidelines; Human Rights Compliance Assessments in country offices, incl. gender aspects; Third Party Code for suppliers</p>	<p> 3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN</p>
				<p> 4 REDUCE CHILD MORTALITY</p>
				<p> 5 IMPROVE MATERNAL HEALTH</p>
<p>Vaccines and medicines to be made available on not-for-profit basis to poor patients in developing countries. NITD: TB, dengue fever and malaria; NVGH: diarrheal diseases such as Salmonella Typhi</p>				<p> 6 COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES</p>
		<p>Environmental sustainability integrated into company strategy; reduction of greenhouse gas emissions through internal energy efficiency and external carbon offset measures</p>		<p> 7 ENSURE ENVIRONMENTAL SUSTAINABILITY</p>
<p>NITD: Economic Development Board Singapore, MMV, Wellcome Trust NVGH: Global Alliance for Vaccines & Immunization, Wellcome Trust, Gates Foundation</p>	<p>Definition and establishment of living wage levels: Business for Social Responsibility, NGOs</p>	<p>Carbon sequestration: carbon asset management companies; income generation: local entrepreneurs, forestry contractors</p>	<p>Tool for Human Rights Compliance Assessments: Danish Institute for Human Rights</p>	<p> 8 A GLOBAL PARTNERSHIP FOR DEVELOPMENT</p>

The MDGs



1
ERADICATE EXTREME
POVERTY
AND HUNGER



2
ACHIEVE UNIVERSAL
PRIMARY EDUCATION



3
PROMOTE GENDER
EQUALITY AND
EMPOWER WOMEN



4
REDUCE
CHILD MORTALITY



5
IMPROVE MATERNAL
HEALTH



6
COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES



7
ENSURE
ENVIRONMENTAL
SUSTAINABILITY



8
A GLOBAL
PARTNERSHIP
FOR DEVELOPMENT

Health, Safety & Environment: ensuring environmental sustainability through energy efficiency and carbon offsets

Although pharmaceutical companies operate with relatively low energy requirements compared to other industries, Novartis is committed to environmentally sound business conduct. To promote environmental sustainability in its business activities, Novartis focuses on reducing energy consumption, in particular **CO₂ emissions**. This is in line with the first target of MDG 7, namely to “integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.” While this MDG primarily targets nation states, Novartis made a voluntary commitment to the Kyoto protocol in 2005. This is driven both by a moral imperative – because climate protection is the right thing to do – and by a business case: using less energy and more renewable sources will reduce the company’s energy bill in the medium to long term. Moreover, increasing carbon dioxide emissions and associated climate change will affect biodiversity and water supply, both crucial factors for pharmaceutical companies. Biodiversity loss and rainfall reduction would harm the product pipeline and production processes.

In line with the Kyoto protocol’s binding targets for greenhouse gas (GHG) emission reduction, Novartis aims to reduce, by 2012, its annual on-site **GHG emissions** by 5%, using 1990 as a baseline – an ambitious goal given the company’s expanding business activities. This amounts to a reduction of about 30% of GHG emissions compared to 2005. To reach this goal and drastically reduce emissions – by approximately 100,000 tons of CO₂ per year – Novartis pursues a dual strategy. On the one hand, the company strives to improve **efficiency of energy use** in existing business operations and adopt renewable energy sources wherever economically viable. On the other hand, in lieu of purchasing certified emission reduction credits to compensate for exceeding emissions limits, Novartis has set up two carbon-offset projects in Argentina and Mali.

Examples of **renewable energy solutions** include boilers fired by bagasse (sugar cane-based residue) in Mahad, India, or wood chips in Wehr, Germany, solar panels in California and a “carbon-free Campus” at Novartis headquarters in Basel, Switzerland. The bagasse and wood chips are used at production sites to power

boilers for steam generation. In Vacaville, 4,000 photovoltaic solar panels have been arrayed on 20,000 square meters to supply 20% of the site’s electricity needs. This installation has tripled the company’s solar electricity capacity and will eliminate 1,400 metric tons of CO₂ emissions per year. Last but not least, Novartis is relying exclusively on renewable energy in the transformation of its headquarters in Basel, cooling buildings with Rhine river water and heating using incinerated waste. The resultant steam is free from carbon dioxide. Solar panels on some Campus buildings complement this energy mix.

One major **carbon-offset** project, a **forestry plantation** in Argentina, was started in 2007. On 34 square kilometers, 3 million trees have been planted on former farmland between 2007 and 2009 to serve as natural forest. The plantation has already received Forest Stewardship Council certification – the most widely recognized label for sustainable wood products. This project contributes to counteracting deforestation as stipulated in the first target of the MDG on environmental sustainability. In addition to environmental benefits, this sustainable forestry project is improving local livelihoods by creating jobs via its wood products business, thereby helping to reach the second target of MDG 1: “Achieve full and productive employment and decent work for all, including women and young people.” Thanks to this project, Novartis will be able to offset approximately 125,000 tons of its carbon dioxide emissions between 2007 and 2012.

In Western Mali, local small-scale farmers have voluntarily planted 1,800 hectares of **jatropha** on their own land. Selling the jatropha seeds brings cash income to farmers, and demand is steadily increasing. The seeds can be used to produce biofuel to generate renewable electricity (e.g. for rural electrification), and their residue can serve as a much-needed biological fertilizer. As with the forestry project in Argentina, this income-generating opportunity contributes to achieving the second target of MDG 1. In order to ensure food security, the project encourages farmers to plant jatropha in association with food crops (agri-forestry). This initiative enables Novartis to obtain certified emission reductions from car-

bon sequestration (thanks to the plantations) and biofuel production. Estimated emission reductions from the Mali project will amount to approximately 75,000 tons by 2012.

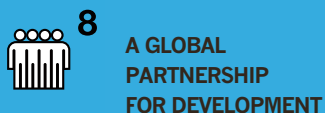
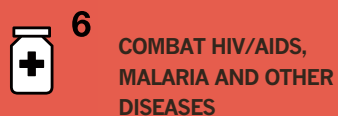
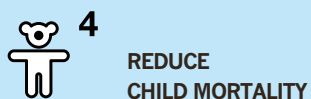
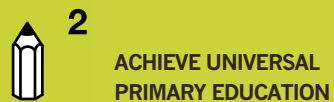
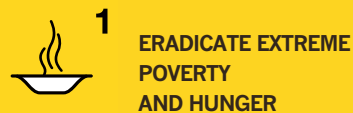
Both projects will be certified under the Clean Development Mechanism, a scheme run by the United Nations agency overseeing the Kyoto protocol, or under voluntary carbon-offset schemes. The Novartis Health, Safety & Environment team has forged partnerships around these two carbon-offset projects with a range of stakeholders, including carbon asset management companies, forestry contractors, local entrepreneurs and others across Argentina and Mali. This underlines the company's commitment to MDG 8, whereby the special needs of least developed and land-locked countries like Mali are addressed and new technologies made available.

1 Carbon offset: *jatropha* plantations in Mali

2 Solar panels at Novartis site in Vacaville, California



The MDGs



Malaria Initiatives: combating malaria through global partnerships

Malaria is a major killer. An estimated 243 million people are affected annually and around 863,000 die each year of the disease, mostly children under the age of five. Although the global TB burden is slowly decreasing, two million people still die every year, and access to quality TB care is a major challenge. Overall achievement of MDG 6 therefore remains out of reach, but target 6c, to “have halted by 2010 and begun to reverse the incidence of malaria and other major diseases” could yet be reached if adequate funding is secured and key interventions sustained and scaled up. Novartis is contributing to the achievement of this MDG directly through the discovery, development and delivery of safe and efficacious medicines.

The main channel for this contribution is the Novartis Malaria Initiatives. Since 2001, the company has provided its **artemisinin-based combination therapy** (ACT) Artemether/Lumefantrine (*Coartem*[®]) without profit for public sector use in developing countries. Development and distribution of this product showcases global partnership at work, as called for under MDG 8: together with its Chinese partners, Novartis transformed a herbal remedy against fevers used for centuries in traditional Chinese medicine into an effective modern treatment that earned regulatory approval in both developing and developed countries, including the US.

To make *Coartem*[®] widely available, Novartis opted for a **dual branding and tiered pricing system**. While the drug is sold at a commercial price under the brand name *Riamet*[®] in wealthy, non-endemic countries, it is sold as *Coartem*[®] in the developing world.

In malaria-endemic countries, three pricing models exist. First, in the **public and not-for-profit health sector**, *Coartem*[®] is currently sold at an average price of USD 0.76 per adult treatment and USD 0.36 per child treatment. Under an agreement with the World Health Organization (WHO), endemic countries can order treatments through the WHO, with funding mainly provided through grants of the Global Fund to fight HIV/AIDS, TB and malaria. While Novartis ensures delivery of the medicines, including insurance and quality control, WHO is responsible for distribution and technical advice in recipient countries. Other international organizations such as the United Nations Children’s Fund (UNICEF), United Nations

Development Program (UNDP), Crown Agents and IDA Foundation order directly from Novartis.

Secondly, in the **private sector**, which provides treatment and care for around 60% of the population in many countries in sub-Saharan Africa, *Coartem*[®] is sold at a higher price in the premium sector, i.e. pharmacies. Thirdly, in the **non-premium private sector**, Novartis has granted low prices – similar to those in the public sector – to pilot initiatives such as the ADDO (Accredited Drug Dispensing Outlets) program in Tanzania. These initiatives have paved the way for the Affordable Medicines Facility for malaria (AMFm), which aims to make ACTs widely available through the non-premium private sector at an affordable price. Together, these varied collaborations contribute to target 8e: “in cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.”

To date, Novartis has delivered more than 340 million *Coartem*[®] treatments worldwide without profit, saving an estimated 850,000 lives. In combination with preventive measures such as long-lasting, insecticide-treated bed nets and indoor residual spraying, the introduction of *Coartem* as a first-line treatment has reduced child mortality by more than 60% in countries like Rwanda, Ethiopia and Zanzibar. Moreover, in collaboration with Medicines for Malaria Venture (MMV), a **pediatric formulation** called *Coartem*[®] *Dispersible* has been developed. It is sweet-tasting and designed to disperse quickly in small amounts of water. Though children account for 90% of malaria-related deaths, there was no treatment formulated for infants and children: *Coartem*[®] *Dispersible* is the first and only ACT designed specifically for this critical patient group. Both formulations, conventional and dispersible, have cure rates above 97%.

In addition to substantially reducing child mortality (MDG 4), the Novartis Malaria Initiatives also contribute to improving maternal health (MDG 5). In collaboration with the WHO, the Malaria Initiatives helped evaluate the efficacy and safety of ACT in pregnant women. This research contributed to the evidence base that ACTs can be used during pregnancy, as stipulated in the revised malaria treatment guidelines issued by the WHO.

Education and information being a key factor in disease control, the Malaria Initiatives include **training material** for healthcare workers to reinforce proper treatment instructions as well as information for patients and mothers/caregivers with pictograms on blister packs to ensure patient adherence. In 2009, *Coartem® Dispersible* was acknowledged by the Healthcare Compliance Packaging Council for its unique packaging, featuring **pictographic instructions** especially useful among illiterate populations. Up to twice a year, Novartis brings together the managers of national malaria control programs across sub-Saharan Africa for **best practice workshops**. This allows an exchange of experience on community awareness, healthcare worker training, stock management and distribution, as well as on health impact measurement.

Innovation and new technologies can help expand access to medicines in the most remote areas, as illustrated by the **SMS for Life** pilot program led by Novartis in Tanzania. This 21-week pilot enhanced the visibility of antimalarial stock levels in public health facilities to help eliminate stock outs. In collaboration with the Tanzanian Ministry of Health and Social Welfare, Roll Back Malaria Partnership, IBM and Vodafone, the initiative used mobile phones, SMS messaging and electronic mapping technology. At the start of the pilot, only 23% of the 129 health facilities had all five ACT dosage forms in stock; by the end, the rate had increased to 74%. Overall, the SMS for Life team found 94% data accuracy between the data submitted by SMS and the physical stock counts. The scale-up to cover 5,000 health facilities in all 131 districts of Tanzania was scheduled for late 2010. Going forward, it is envisaged to expand SMS for Life to other African countries and include medicines for diseases other than malaria.

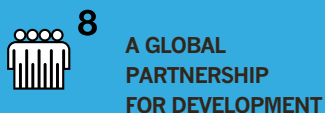
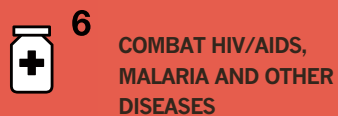
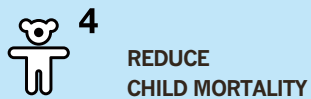
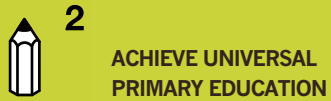
1 Health worker explaining Coartem® dosing regimen to mother

2 Coartem® packages in Nyarugusu refugee camp, northwestern Tanzania

3 Child in Kenya taking Coartem® Dispersible



The MDGs



Donating drugs against leprosy, TB and river fluke

Novartis drug donations help achieve target 6c of MDG 6, to “have halted by 2010 and begun to reverse the incidence of malaria and other major diseases.”

Through its partnership with the WHO, Novartis has been donating **Multi-Drug Therapy (MDT) for the treatment of leprosy** to all patients worldwide since 2000, leading to the cure of more than five million people. MDT comprises three antibiotics, two of which have been developed by Novartis. Almost the entire global supply of MDT is delivered through this collaboration with WHO. Before 2000, the drugs were provided free by two Japanese foundations. Since 1984, a total of 14 million patients have been cured, shrinking the global number of detected cases to 250,000. Only two countries have not yet reached the elimination target (less than one case per 10,000 inhabitants). The Novartis Foundation for Sustainable Development has been supporting this drug donation program since 1986 in many countries including India, Sri Lanka and Brazil (see p. 32). Social marketing campaigns have helped reduce the stigma of leprosy as a disease associated with deformities and resulted in earlier detection, diagnosis and treatment. Integration of leprosy diagnosis and treatment into all general health services has occurred, while mobile clinics have improved access.

Although hidden cases persist in former high-burden countries such as India or Brazil, the fight against leprosy can be considered one of the biggest public health success stories. Novartis is committed to providing free MDT and remains an engaged partner in striving for a world free of leprosy.

Between 2005 and 2012, Novartis has undertaken to donate 500,000 **treatments against TB** to adult patients in Tanzania. As the in-country average annual caseload amounts to 60,000, this donation covers the entire nation for about eight years. The gold standard fixed-dose combination therapy, reducing the treatment period from eight to six months, is made available through the Global Drug Facility of the Stop TB Partnership. The Novartis Foundation and the

Tanzanian Ministry of Health and Social Welfare complemented the drug donation with the introduction of a Patient-Centered Treatment approach (see p. 29). This gives patients the choice of taking the treatment at home or at a health facility. In 2009, 73,000 patients in Tanzania were treated, thanks to this program.

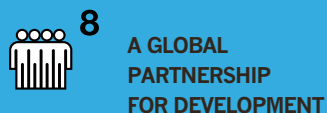
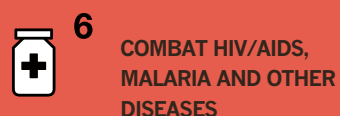
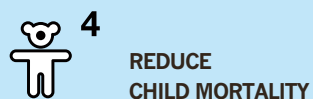
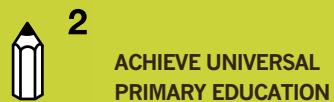
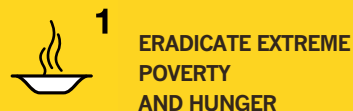
Finally, in collaboration with the WHO, Novartis also donates **treatments against river fluke (fasciolosis)**, a disease prevalent in South America and East Asia. Currently, Novartis manufactures the only WHO-recommended drug against river fluke. In 2009, 387,000 patients in Peru, Bolivia and Yemen benefited from this program.

All three donation programs are conducted in collaboration with supranational agencies such as the WHO, embodying target 8e, namely to: “in cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.”

- 1** *Health worker in Mafinga, Tanzania, providing TB treatment to patient*
- 2** *Chest X-ray to diagnose TB at hospital in Mafinga, Tanzania*
- 3** *Patient taking TB drug under Patient-Centered Treatment approach in Mafinga, Tanzania*



The MDGs



Novartis Institutes for Developing World Medical Research: vaccines and treatments against neglected diseases

Novartis is at the forefront of **research and early-stage development** of vaccines and treatments against major killers such as malaria, TB, dengue fever and diarrheal diseases. While TB kills an estimated two million people annually, 20,000 deaths occur every year due to dengue hemorrhagic fever, and diarrheal diseases cause more than two million fatalities each year. Research on neglected diseases is conducted by two dedicated research institutes at Novartis – the **Novartis Institute for Tropical Diseases (NITD)** in Singapore, and the **Novartis Vaccines Institute for Global Health (NVGH)** in Siena. Both form part of the Novartis Institutes for Developing World Medical Research (NIDWMR), which mobilizes the most advanced biomedical knowledge and cutting-edge technologies to discover vaccines and drugs for neglected diseases of the developing world.

While NITD focuses on **dengue fever, drug-resistant TB** and – since 2005 – on **malaria**, NVGH concentrates on developing a broad range vaccine against **salmonella infections**, e.g. the bacterium *Salmonella Typhi* that causes typhoid fever. Clinical testing of a conjugate vaccine for *Salmonella Typhi* started in 2010. The aim is to develop a cost-effective vaccine for six-week-old children, as they usually attend a health facility at this age for vaccination. NITD succeeded in discovering spiroindolones, a new class of compounds to fight malaria parasites and received the 2009 Project of the Year award from Medicines for Malaria Venture. The institute also offers teaching and training for graduate students and post-doctoral fellows.

Both institutes operate through global partnerships thus contributing to MDG 8. NITD was set up as a public-private partnership between Novartis and the Singapore Economic Development Board (EDB). Its malaria research is being supported by the EDB, Medicines for Malaria Venture and the Wellcome Trust. NVGH works in partnership with the Global Alliance for Vaccines and Immunization (GAVI), the Bill and Melinda Gates Foundation and the Wellcome Trust. Vaccines and medicines discovered by both institutes will be made available on a **not-for-profit** basis to poor patients in developing countries.

Funding neglected disease research remains a challenge. To this end, Novartis has spearheaded efforts to establish a **multi-stakeholder fund** for research and development for neglected diseases. The fund would allocate resources to conduct clinical trials on the most promising compounds and would be overseen by a board composed of representatives from governments, donors and other stakeholders.

Finally, Novartis has also granted **access to its compound library** to the Drugs for Neglected Diseases initiative (DNDi), the Institute for OneWorld Health (iOWH) and MMV, to support their discovery-stage research on sleeping sickness and Kala-Azar, a deadly disease transmitted by infected female sand flies.

As with Novartis access-to-medicine programs on malaria, TB, leprosy and river fluke, these research and development initiatives address target 6c of MDG 6, to “have halted by 2010 and begun to reverse the incidence of malaria and other major diseases.” In addition, they will contribute to reducing child mortality (MDG 4) and improving maternal health (MDG 5).

- 1** *NITD laboratory in Singapore*
- 2** *Scientist in NITD laboratory, Singapore*
- 3** *Scientists in NVGH laboratory in Siena, Italy*





The Novartis Foundation for Sustainable Development

Innovative philanthropy for better health

For over 30 years, the Novartis Foundation for Sustainable Development (NFSD) has served as a competence center for corporate responsibility and international health, focused on disadvantaged people in developing countries. The foundation is committed to “development with a human face.”

The foundation operates independently from the commercial day-to-day business of Novartis, but is an integral part of its corporate responsibility portfolio, focusing on those who would not otherwise be reached through the core business. Forming a bridge between Novartis and the outside world, the foundation facilitates dialogue between the private sector, the state and civil society, driving innovation and pioneering new concepts for jointly improving the health situation of disadvantaged people worldwide. The foundation operates in three overlapping modes, namely: project and program work; dialogue and networking; and think tank activities.

Through project and program work, the foundation contributes to the achievement of the health-related Millennium Development Goals 4, 5, and 6 by strengthening healthcare systems in developing countries and ensuring that medicines donated by Novartis reach patients in need. In all projects, the foundation adopts a comprehensive approach embracing the other MDGs where possible, namely gender equality and empowerment of women. To guarantee sustainability, the foundation deploys a business mindset and outcome-based thinking in all projects.

NFSD-supported projects are focused on **improving access to healthcare** (see p. 28), **strengthening human resources in healthcare** (see p. 30), and **empowering vulnerable groups** (see p. 32).

To increase its impact, the Novartis Foundation works with local, national and international partners, in line with MDG 8 on global partnerships for development. One of the partners is the **Millennium Villages Project (MVP)**, a large-scale initiative spearheaded by Jeffrey Sachs of the Columbia University Earth Institute in New York. Through a holistic approach addressing all eight goals, MVP aims to help impoverished communities in rural Africa achieve the MDGs. The project operates in 80 village clusters and, to date, has reached nearly 400,000 people. As well as financing one of the village clusters, the Novartis Foundation donates artemisinin-based combination therapy (ACT) *Coartem*®, produced by Novartis, for the treatment of uncomplicated malaria to all Millennium Villages. The foundation also collaborates with MVP in implementing a telemedicine project in Ghana (see p. 30).



1 Sick child in St. Francis Hospital, Ifakara, Tanzania

2 Children outside health facility in Ilongula Millennium Village in Mbola, Tanzania



Improving access to healthcare (p. 28)

Strengthening human resources in healthcare (p. 30)

Access to primary healthcare services in rural Mali

Access to effective malaria treatment in Tanzania

Patient-centered treatment of tuberculosis in Tanzania

ICATT: e-learning program for health professionals in developing countries

Tanzanian Training Centre for International Health

Income-generating activities for rural communities, such as jatropha cultivation, poultry and milk production; income-generating activities for women's groups; and measures against malnutrition in children

Income-generating activities for women's groups

Loans for women's groups; training women as village health workers to conduct health education campaigns

Grants for women's groups; training women as village health-workers to conduct health education campaigns

Child vaccination, village-based preventive and curative services; quality of care improvement (incl. child health); health insurance protection; and measures against malnutrition in children

Training of healthcare personnel in Integrated Management of Childhood Illnesses (IMCI); social marketing campaigns in schools on malaria; quality of care improvement (incl. child health); and health insurance protection

Innovative e-learning tool for training in Management of Childhood Illnesses (IMCI)

Various training courses in childhood illnesses for non-physician clinicians

Quality of care improvement (incl. maternal health); health insurance protection; prenatal consultation; and village-based preventive and curative services

Sensitization for women in ante- and postnatal care and use of bed nets; quality of care improvement (incl. maternal health); attended deliveries; and health insurance protection

ICATT is being further developed for training in maternal health

Various training courses in maternal health for non-physician clinicians

Improvement of access to healthcare; health insurance protection; and village-based preventive and curative services

Training on malaria case management; introduction of Rapid Diagnostic Test for malaria; introduction of *Coartem*[®] in ADDOs; social marketing campaigns on malaria; and health insurance protection

Introduction of Patient-Centered TB Treatment approach; social marketing campaigns on TB

ICATT contains training modules on common childhood illnesses (incl. malaria)

Training of non-physician clinicians in most common diseases (incl. HIV/AIDS, malaria, TB)

Installation of incinerators in health centers; contribution to carbon sequestration and reforestation through jatropha plantations

Installation of placenta pits in health facilities

Collaboration with regional and district authorities for health and social development, Union Technique de la Mutualité Malienne (UTM), and Institut National de Recherche en Santé Publique (INSP)

Collaboration with Ifakara Health Institute (IHI), regional and district health authorities and Swiss Tropical and Public Health Institute (Swiss TPH)

Collaboration with Tanzanian National TB and Leprosy Programme, Ifakara Health Institute (IHI), KNCV (Tuberculosis Foundation), and National Institute for Medical Research (NIMR)

Collaboration with World Health Organization (WHO), Sirius Technologies, and Tanzanian Training Centre for International Health (TTCIH)

Collaboration with Swiss Tropical and Public Health Institute (Swiss TPH) and Tanzanian Ministry of Health and Social Welfare

Empowering vulnerable groups (p. 32)

Joining forces for the MDGs

Telemedicine project in Ghana

REPSSI: psychosocial support of AIDS orphans

Leprosy care in India

Millennium Villages Project

The MDGs

Income-generating activities and cash support for meals, mainly for orphans; community savings and loan programs to improve farming yields

Help people affected by leprosy integrate back into society through disability care, rehabilitation and reconstructive surgery


Increasing production of staple food crop; credits and loans for seeds; crop diversification; and school meals coverage

1

ERADICATE EXTREME POVERTY AND HUNGER

Supporting orphans to remain in school

School infrastructure; teacher training and capacity-building; school meals coverage

2

ACHIEVE UNIVERSAL PRIMARY EDUCATION

Multiple project components promoting women's empowerment

Women's participation; business cooperatives for women; and increasing school enrollment for girls


3

PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

Improving quality of healthcare through teleconsultation (incl. child health)

Support material to improve adherence to antiretroviral therapy, reducing mother-to-child transmission of HIV/AIDS

Improving access to healthcare (incl. for children)

4

REDUCE CHILD MORTALITY

Improving quality of healthcare through teleconsultation (incl. maternal health)

Support material to improve adherence to antiretroviral therapy; psychosocial support to destigmatize HIV/AIDS

Improving access to healthcare (incl. for women)

5

IMPROVE MATERNAL HEALTH

Improving quality of healthcare through teleconsultation (incl. HIV/AIDS, malaria, TB)

Psychosocial support and advocacy for children and orphans affected by HIV/AIDS; prevention, treatment and care of HIV/AIDS promoted across all activities and publications

Integrated leprosy care, incl. improvement of access to treatment, disability care, rehabilitation and reconstructive surgery, as well as training of health and social workers

Improving access to healthcare (incl. for HIV/AIDS, malaria, and TB); donation of *Coartem*[®] for treatment against malaria to all MVP sites

6

COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

Tree nurseries, rebuilding soil fertility and erosion control for crop areas

7

ENSURE ENVIRONMENTAL SUSTAINABILITY

Collaboration with Millennium Villages Project (MVP), Digital He@lth Initiative (as co-chair), and Broadband Commission (as member)

Collaboration with international organizations such as UNICEF and UNAIDS; the Swiss and Swedish Development Agencies; as well as over 140 NGOs and community organizations

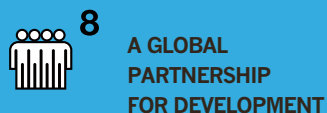
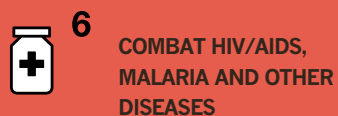
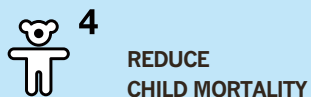
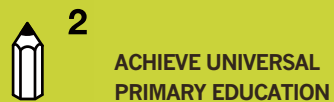
Collaboration with state and district health authorities in India

Collaboration with Millennium Villages Project (MVP); United Nations Development Programme (UNDP); and Millennium Promise

8

A GLOBAL PARTNERSHIP FOR DEVELOPMENT

The MDGs



Improving access to healthcare

Access to healthcare and medicines remains a challenge for many people in developing countries. Availability and affordability of safe and efficacious medicines are crucial factors impacting on access, which in turn affects the ability to combat disease, as well as child and maternal mortality, as stipulated in MDGs 4, 5, and 6. The complexity of access issues, however, can extend far beyond the healthcare system. To meet the health-related MDGs, many different factors and causalities must be targeted. In all supported projects, the NFSD fosters a comprehensive approach to ensure sustainable improvement of access to healthcare services.

The Novartis Foundation has developed an access to healthcare framework, defined as the degree to which a patient's resources, needs and expectations (demand) are aligned with a healthcare system's services and providers (supply). Access to healthcare and medicines can only be sustainable if the local healthcare system and services meet demand.

Drawing on this framework, the **ACCESS project** aims to analyze and improve access to effective malaria treatment and care in three rural districts in Tanzania, in particular for pregnant women and children under five years of age.

Supported by the foundation in collaboration with the Ifakara Health Institute (IHI) and the Swiss Tropical and Public Health Institute (Swiss TPH), the ACCESS project intervenes on the supply side by facilitating training for healthcare personnel and performance assessments in health facilities. Not only infrastructure and equipment, but also job expectations, motivation and clinical skills of healthcare staff, as well as facility management and patient satisfaction, are continuously measured. Emphasis is placed on malaria case management. Improvements in quality of services are rewarded through a performance-based incentive system. The ACCESS project also introduced the Rapid Diagnostic Test, on a pilot basis, to diagnose malaria more easily and accurately. Geographical accessibility to malaria drugs has been improved by supporting the expansion of Accredited Drug Dispensing Outlets (ADDOS) to the

project districts. The proportion of patients who received the right drug and advice according to their symptoms in such private-for-profit drug shops improved to 80% in 2008, compared to 35% in pre-existing outlets.

On the demand side, ACCESS informs people about the causes, symptoms, modes of transmission and appropriate treatment of malaria through social marketing campaigns in schools and villages. Previously, many Tanzanians believed the convulsions seen in severe cases of malaria were caused by evil spirits, therefore they initially consulted traditional healers for treatment. Thanks to various information campaigns, the proportion of convulsion and fever cases (a common indicator for malaria) treated in health facilities has increased. Quality of care work aims to ensure patients are satisfied with the services and come back during subsequent illness episodes.

To address the affordability of healthcare, ACCESS supports women's groups with grants which they can loan to their members for investment in productive income generation (e.g. piggery, beer brewing, food kiosks and vegetable gardens) and entrepreneurial training. Around 53% of the women have experienced an average monthly gain of more than USD 20 from these activities. In return they commit to sleeping under bed nets, using ante- and post-natal care and conducting community sensitization with regard to malaria and other health issues. These activities contribute to the achievement of MDGs 1, 3, 4, 5 and 6. ACCESS also supports a community-based health insurance scheme to make healthcare more affordable.

Results show that from 2004 to 2008, the proportion of investigated fever cases treated with an antimalarial within 24 hours increased from 66% to 89%, indicating improved treatment-seeking behavior. The proportion of investigated fever cases treated with a recommended antimalarial within 24 hours in the correct dosage, could not, however, be improved mainly due to poor availability of the recommended drug in drug shops and unsatisfactory provider com-

pliance. Nonetheless, the overall mortality for children under five years of age has dropped significantly from 28.4 to 18.9 cases per 1,000 person-years as part of a longer trend dating back to 1997. This is in part thanks to the ACCESS interventions and the national program on Insecticide Treated Nets, as malaria is a major cause of overall child mortality.

The same framework serves as a model for the **Initiative Accès** in Mali, supported by the foundation and the regional authorities for health and social development. On the supply side, it focuses on improving access to primary healthcare by increasing quality of care, strengthening the organization and management of health centers and enhancing geographical accessibility of services for people in remote villages. On the demand side, interventions include a health insurance scheme (the largest rural scheme in the region today), viable income generation and access to credit.

The initiative, which mainly addresses MDGs 4 and 5, covers 13 health areas in the region of Ségou, reaching 170,000 people in 210 villages. Its main beneficiaries are pregnant women, young mothers and children under five years of age. Annual performance assessments of quality of care in health facilities and management of health centers show that the community health associations managing these increased their average score from 119 to 131 points out of 150, through improved internal governance, management and support to healthcare personnel. During the same time, average treatment costs in a health center decreased from USD 4.20 to USD 3.70.

In 2009, the health insurance scheme had over 2,000 beneficiaries, compared to 1,151 in 2004. In total, 1,300 women have gained access to loans through some 30 women's groups, with a repayment rate of nearly 100%. While 77% of interviewed women used the loan for productive activities (poultry, sheep, peanut seeds), 23% solved socioeconomic problems (health, education) with it. The average net gain per month per woman amounts to around USD 18. The initiative thereby also contributes to the achievement of MDGs 1 and 3.

Access to TB treatment is also a major challenge as the disease is very complex to treat, requiring a combination of drugs administered over six to eight months. Lack of patient adherence during this lengthy period has led to the emergence of multi-drug-resistant (MDR) TB. Therefore the TB treatment recommended by the World Health Organization is DOTS (Directly Observed Therapy Short-course), an approach that requires patients to take their medicines under direct daily observation by a medical professional.

Even though Novartis donates gold standard treatments to all patients in Tanzania (see p. 18), access and adherence to TB treatment is not guaranteed. In collaboration with the National TB and Leprosy Programme of the Ministry of Health and Social Welfare, the Novartis Foundation has therefore taken the DOTS strategy in Tanzania one step further. **Patient-Centered TB Treatment** (PCT) gives patients the choice to follow treatment either at a health facility, or at home supervised by a family or community member. Results showed that 88% of TB patients opted for home-based treatment. Previously, patients had to walk long distances every day to be treated in already overburdened health facilities.

More importantly, results indicate that although the majority of patients are observed by a treatment supporter at home, treatment completion rates improved from 72% in 2005 (the year before PCT was introduced) to 77.5% in 2007, while the rate of unfavorable treatment outcomes was reduced from 28% to 22.5%. PCT – together with the TB drug donation of Novartis to Tanzania – contributes extensively to the achievement of MDG 6.

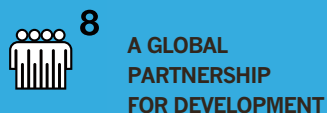
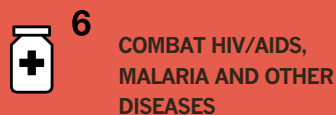
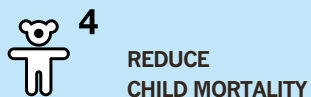
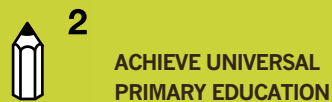
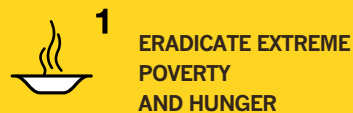


1 Diagnosing a child in health center, Ifakara, Tanzania

2 Nurse providing malaria treatment to girl in health center near Ifakara, Tanzania

3 Cash box of women's group in Cinzana, Mali

The MDGs



Strengthening human resources in healthcare

Skilled human resources are the backbone of any performing healthcare system. But many developing countries face a human resource crisis due to health workforce shortages, migration and lack of adequate training. Increasing health interventions aimed at reducing child and maternal mortality and to tackle diseases such as HIV/AIDS, malaria and TB require more and better-trained health personnel. In order to meet the health-related Millennium Development Goals, great emphasis therefore has to be placed on human resource development.

The Novartis Foundation's commitment to human resource development in health dates back to the 1960s when its predecessor foundation supported the creation of a health training center in rural Tanzania to strengthen the healthcare system of the newly independent nation. Over the decades, the foundation has continuously supported the center to train different types of healthcare personnel. Today, the **Tanzanian Training Center for International Health (TTCIH)** in Ifakara is one of the most promising of its kind in East Africa, both in terms of quality of training and financial sustainability.

Over a two-year course, former Clinical Officers go through comprehensive practical and theoretical training to become Assistant Medical Officers (AMO). The degree is similar to a university medical degree and a priority cadre for the Tanzanian Ministry of Health and Social Welfare. Educating more AMOs helps increase the quality and range of health services, especially in rural areas where health workers are needed most. The TTCIH has established expertise in maternal and child health, both of which are crucial to the achievement of the health-related MDGs.

Since 1961, the training center has trained over 2,000 health workers. In 2009, it trained 300 students in internal and external courses, generating over USD 1 million in gross income. As a result, it will now be able to offset the financial support of the Novartis Foundation, becoming more independent financially and investing in new courses, thus further improving overall quality.

One of the major MDG challenges remains reducing child mortality. In 2009, more than nine million children died worldwide before reaching their fifth birthday. The majority of these deaths could have been prevented through a relatively small number of simple, low-cost interventions such as pre-, ante- and postnatal care, vaccinations and antibiotics. Again, the crucial factor is the development of skilled human resources for health. To strengthen the skills of healthcare personnel working with sick children, the Novartis Foundation – together with the World Health Organization (WHO) – has developed an **e-learning tool for the Integrated Management of Childhood Illness (IMCI)**. IMCI is a WHO/UNICEF strategy that aims to significantly and rapidly reduce infant and childhood mortality in order to meet MDG 4.

Called ICATT (IMCI Computerized Adaptation and Training Tool), the program facilitates the management, with minimal personnel intervention, of the most common pediatric diseases such as pneumonia, diarrhea, malaria, measles and malnutrition. ICATT can be easily adapted to country-specific features such as treatment guidelines and rolled out for the training of healthcare personnel in IMCI. So far, ICATT has been tested and introduced in Tanzania, Peru and Indonesia and is being further rolled out by WHO.

The tool facilitates faster and more flexible upscaling of IMCI training. Training time and costs are reduced and consequently more people can be trained in the management of childhood illnesses. Currently, the foundation is developing a similar tool for training in maternal health – thus aiming to contribute to the achievement of MDG 5.

In an effort to strengthen human resources in rural areas, the foundation started a **telemedicine project** in Ghana in cooperation with the Millennium Villages Project (MVP). The project will be implemented through the local MVP infrastructure in Bonsasso. The goal is to provide quality primary health services that are affordable, sustainable and meet the needs of patients through appropriate mobile and information technologies.

First, the project aims to reduce unnecessary transportation and to improve the referral system. Implementation of a knowledge system for treatment referrals will ensure resource availability and supply and improve transportation access and infrastructure. Second, healthcare personnel will be inducted in the use of mobile technologies and teleconsultation for health. Capacity-building in human resources, logistics and institutions will be conducted, ensuring gender balance throughout.

Finally, a system will be implemented to monitor and evaluate performance and quality of services and to measure in a timely fashion the effects of telemedical consultations and mobile health. Through the collection of routine data, adaptation of indicators and quality assurance, the ultimate goal of the monitoring and evaluation system is to inform – and improve – policy and practice.

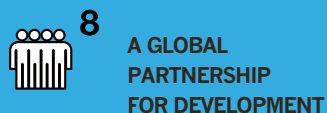
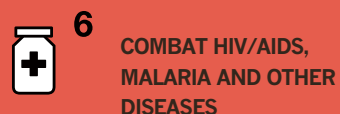
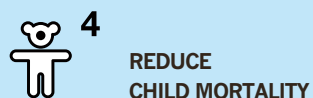
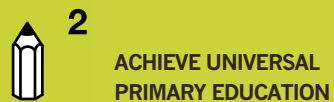
1 *Clinical practice course at TTCIH in Ifakara, Tanzania*

2 *ICATT training in Peru*

3 *IMCI assessment in Ifakara, Tanzania*



The MDGs



Empowering vulnerable groups

As a result of the AIDS pandemic, millions of children in sub-Saharan Africa are growing up without parents, jeopardizing their health, wellbeing and sometimes their very survival – not to mention the overall development prospects of their countries. In keeping with all MDG objectives, the Novartis Foundation co-founded and continues to support the **Regional Psychosocial Support Initiative for Children affected by AIDS, Poverty and Conflict** (REPSSI), whose main objective is to help orphans cope with their loss and regain confidence.

To date, the initiative has reached over three million children and aims to reach five million by 2011. REPSSI has experienced tremendous growth and is today recognized as the leading organization worldwide in the field of psychosocial support. Its leadership position has earned the political and practical support of the Southern African Development Community (SADC), UNICEF, governments and other high-level stakeholders. Collaborating with 140 local nongovernmental organizations, REPSSI develops and disseminates courses and tools for psychosocial support.

Through its partners and income-generating activities, REPSSI assists thousands of children and households with income-gener-

ating measures to get out of extreme poverty, thus helping achieve MDG 1. REPSSI's partner Consol Homes, for example, together with the government of Malawi, supports over 10,000 communities with a savings and loans program to improve farming yields. Although REPSSI generally does not provide school fees for orphans, the initiative helps increase school attendance, specifically for girls, through its psychosocial support, school-based interventions and advocacy. In this way, REPSSI contributes to the attainment of the MDGs on increasing primary school enrollment and promoting gender equality.

REPSSI's main objective is to give psychosocial support to children orphaned by HIV/AIDS. All REPSSI publications in the 13 project countries include training units on HIV/AIDS prevention and treatment. Together with UNICEF and other partners, REPSSI conducts reproductive health education through social marketing campaigns and training for caregivers, teachers and child-focused organizations. Contributing to the achievement of MDG 4, REPSSI helps improve access to HIV counseling and testing as well as adherence to antiretroviral therapy in Tanzania and Zambia, thus reducing mother-to-child transmission of HIV/AIDS.



In 2007, the Novartis Foundation initiated and funded research in collaboration with the Swiss Academy for Development (SAD) and REPSSI to identify essential elements of a successful minimal Psychosocial Support (PSS) package. The results will be fed back into the programs studied and made available to relevant stakeholders. The ultimate aim of this research collaboration is to facilitate a paradigm shift in aid interventions by strengthening evidence-based programming for affected children and families.

In a similar vein, the Novartis Foundation has been active since 1986 in empowering disadvantaged people affected by leprosy. Spreading the message that “leprosy can be cured,” the foundation has played a key role in reducing the stigma attached to the disease and helping patients reintegrate into society. A prerequisite for the campaign’s major success was free provision of multidrug therapy (MDT) from 2000 onwards by Novartis to all leprosy patients worldwide (see p. 18).

The prevalence of leprosy has been reduced dramatically thanks to MDT. Nevertheless, many former leprosy patients suffer from disabilities which continue to cause social stigmatization. The **Novartis**

Comprehensive Leprosy Care Association (NCLCA), supported by NFSD, aims to prevent disabilities through early detection of leprosy. At the same time, the project helps those with deformities reintegrate into society through disability care, including surgeries, grip aids and physiotherapy.

By passing knowledge on to local health workers and empowering patients to become autonomous, the project has greatly increased the impact of disability care in India. The project directly reaches between 800 and 1,000 patients annually and the adoption of NCLCA’s modalities – such as grip aids, self-care kits and health education booklets – by the Indian government has increased the impact further still. To date, nearly 28,000 self-care kits have been distributed to patients through the Indian National Leprosy Eradication Program. Other countries such as Myanmar, Tanzania and Sri Lanka have also adopted the tools developed by the NCLCA. This initiative furthers the aims of MDGs 1 and 6.



- 1 *School children with hero book developed by REPSSI, Cape Town, South Africa*
- 2 *Children orphaned by HIV/AIDS in Kagera, Tanzania*
- 3 *Leprosy patients dressing their wounds with NCLCA self-care kit, near Mumbai, India*
- 4 *Girl with hand splints to correct disabilities caused by leprosy, near Mumbai, India*



Conclusion

The road ahead to 2015

The UN MDG Report 2010 reveals that there is still much to be done over the next five years if the eight goals are to be reached. Sustained efforts are needed in order to further reduce hunger, child and maternal mortality as well as to fight diseases such as HIV/AIDS, malaria and TB.

The wealth of experience amassed in the last 10 years has highlighted best practices and tools that can help achieve the MDGs – or at least speed up progress towards them. At the MDG Review Summit in September 2010, world leaders need to translate this evidence into a concrete action plan for the next five years. The MDGs can only be met if everyone contributes – governments, international organizations, civil society and the private sector, including pharmaceutical companies like Novartis. Moreover, focus must be directed to the areas where progress is currently insufficient.

In line with their core competencies, Novartis and its Foundation for Sustainable Development are committed to supporting such targeted efforts. Through its pro bono research on TB, dengue fever, malaria and diarrheal diseases, Novartis aims to contribute to the development of a new generation of medicines and vaccines. The Novartis Institute for Tropical Diseases plans to test at least two potential treatments in patient trials by 2012. Drug donation programs for the fight against leprosy and TB will be, or have already been prolonged to help sustain elimination and control efforts. The Novartis Malaria Initiatives have committed to supporting the Affordable Medicine Facility for malaria (AMFm) in order to expand access to *Coartem*[®] for disadvantaged people through the non-premium private sector.

Over the next five years, the Novartis Foundation for Sustainable Development will step up its work on improving child and maternal health services. It will continue to build human resources expertise in this area by supporting the Tanzanian Training Centre for International Health, extending the ICATT e-learning tool to maternal health, and through its new telemedicine project in Ghana. Under the access initiatives in Mali and Tanzania, poverty will be addressed through health insurance protection, access to credit and support of viable income-generation activities. By targeting women's groups, these measures not only help facilitate financial access to health services, but also contribute to greater gender equality and women's empowerment.

With regard to environmental sustainability, recent data shows that Novartis has succeeded in slightly reducing its absolute emissions since 2005, despite an expansion in production and sales. But in order to meet targets beyond 2012, further internal energy-efficiency improvements, increased use of renewable energy and additional carbon-offset projects will be required.

Finally, none of these endeavors would be as effective or sustainable without successful partnerships. Therefore Novartis and the Novartis Foundation for Sustainable Development will continue to maintain existing global partnerships for development, as well as forge new ones, thus contributing to the full realization of the Millennium Development Goals.



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