Sustainable Development Goals: Why do We Need Them?

Olga Mironenko
Mendeleev University of Chemical Technology of Russia

Paul L. Lucas
PBL Netherlands Environment Assessment Agency

Natalia Tarasova
Mendeleev University of Chemical Technology of Russia

Janos Zlinszky
REC Sustainable Development Academy for Central and Eastern Europe

ABSTRACT

At the turn of the millennium, the human development on the Earth called for a structured approach. That is when 189 states agreed upon key areas of global cooperation to ensure well-being for all. These key areas then translated into eight Millennium Development Goals, each split into several targets, dealing with poverty, education, gender equality, health and environmental sustainability. For 15 years these have been the ultimate goals of the United Nations member states. There has been progress on many targets, but the environmental conditions have been consistently deteriorating. In response to this, the MDGs and the outcome of the Rio+20 UN Conference on Sustainable Development have merged into Sustainable Development Goals, which will become the new guideline for the humanity until 2030. This article tries to answer what are the differences between these two sets of goals and what factors make the SDGs a more promising choice than the MDGs used to be.

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MILLENNIUM DEVELOPMENT GOALS

At the 2000 Millennium Summit the heads of states accepted that they needed to cooperate to assist the world's poorest people. They set out their shared views in United Nations Millennium Declaration, adopted in 2000 by all 189 member states of the UN General Assembly, listing the key challenges for the humanity and formulating fundamental values essential to international relations and development in the twenty-first century. These values included freedom, equality, tolerance, solidarity, respect for nature, and shared responsibility. They were then translated into eight priority areas of action and relevant targets. In 2001, these targets were organized into eight time-bound, quantified and measurable Millennium Development Goals (MDGs): to eradicate extreme poverty and hunger; to achieve universal primary education; to promote gender equality and empower women; to reduce child mortality; to improve maternal health; to combat HIV/AIDS, malaria, and other diseases; to ensure environmental sustainability; and to develop a global partnership for development. Each goal was further split into specific targets.

In practical terms, the MDGs were actually launched in 2002, at the UN International Conference on Financing for Development in Monterrey, Mexico. The attendees, heads of state, finance ministers, and foreign ministers among them, all agreed that developed countries should step in with support mechanisms and adequate financial aid to help poor countries committed to good governance meet the MDG targets. Thus, since their endorsement by the UN General Assembly in 2001 and the financial cooperation agreement in 2002, the MDGs have risen to the top of the development agenda, and have become the common focus of priorities as far as the development of each country within international community is concerned.

THE *MDG* OUTCOMES

The official UN statistics shows that the targets of reducing poverty, increasing access to safe drinking water and achieving gender parity in primary school are within reach by their 2015 target date. The Millennium Development Goals Report 2014 forecasts the world surpassing MDG targets on malaria, tuberculosis and access to HIV treatment. Over the past 20 years the likelihood of a child dying before the age of five is estimated to have been nearly cut in half, meaning about 17,000 children saved every day. Globally, the maternal mortality ratio dropped by 45 per cent between 1990 and 2013. Antiretroviral therapy for HIV-infected people has saved 6.6 mil-

lion lives since 1995, and expanding its coverage could save many more. Between 2000 and 2012, an estimated 3.3 million deaths from malaria were averted due to substantial expansion of malaria interventions. Since 1995, the efforts to fight tuberculosis saved an estimated 22 million lives (United Nations 2014).

And yet, although the MDGs have not yet expired, it is already obvious that despite this progress by far not all of the targets set within the eight goals will be met. It is also worth noting that, although the goals and targets were set on the global scale, the progress towards the goals has been uneven. Some countries achieved many goals, while others are not on track to realize any, especially in Sub-Saharan Africa. While there is significant progress in China, on the global scale the number of people suffering from hunger has remained practically constant since 1992. While some progress has been made to reduce hunger up to the mid-2000s, the increasing food prices have led to more people without sufficient access to food, especially in sub-Saharan Africa and South Asia. Biodiversity, as measured in mean species abundance (MSA), has continuously declined since 1992, mostly due to habitat loss, but also to increasing environmental pressures and disturbance (Van Vuuren *et al.* 2015). The Millennium Ecosystem Assessment, released in 2005, a 2,500-page report that took four years and 1,300 researchers from 95 countries to make, highlighted a substantial and largely irreversible loss in the diversity of life on Earth, with some 20–50 per cent of 9 out of 14 biomes having been transformed to croplands and the species extinction rate increased by as much as three orders of magnitude (World Resources Institute 2005: 79).

Granted, the MDGs were nothing more than goals, agreed upon by the world leaders to rid the future of the most topical problems regarding human well-being. They did their job of involving public, private and non-profit actors, getting them to work together and independently to achieve the targets set. Ultimately, before the MDGs were crafted, there was no common framework for promoting global development and well-being, and this fact alone makes MDGs a notable landmark in the history of humanity as a global society. Nevertheless, in the light of the unachieved targets and most pressing issues of both environmental and social nature, the global community has to now take a further step. The MDGs are recognized to have been ‘a bold, sharp set of goals, but not a system’ (Kőrösi and Zlinszky 2014: 22), focusing on individual goals while missing out the system these goals exist in.

WHAT THE *MDG*S LACKED

There were a number of things about the MDGs that have been criticized. Lack of participation, for one thing, has been mentioned as a considerable drawback. Since the MDGs emerged from a closed-door UN process and did not involve any wide consultation with the civil society groups and other stakeholders in the countries whose policies were decided upon, the feedback from civil society and local governments resulted weaker than it could have been, had they been called upon during the MDG formulation process. Another weak point is that the MDGs were more of a statement of what was desired to be achieved rather than a step-by-step plan of how to achieve that.

Besides that, priority was given to tackling the symptoms rather than its causes. For instance, the target of halving the proportion of people whose income is less than $1.25 a day between 1990 and 2015 does not deal directly with the country-specific factors that have led to this situation, or the failed target of reducing biodiversity loss by 2010, with no specific measures mentioned.

Other issues, like a transition to renewable and accessible energy sources, were not included as goals, whereas as an expected three billion people in developing and emerging economies will lift themselves out of poverty and enter middle-income, they will also require energy services at much higher levels than today. The energy demand is projected to grow globally by a factor of three over the twenty-first century, a challenge that must be met in ways that do not deplete our resource base, destroy the climate, or cause political tension (Nilsson *et al.* 2013).

It is important to note, that the MDGs regard poverty eradication as a target that has no connection to environmental sustainability, while healthy ecosystems provide the resources needed for material welfare and livelihoods, apart from providing health and cultural benefits to people. Sustainable use of natural capital and the preservation of biodiversity and ecosystem services are vital for sustainable poverty eradication, because if biodiversity loss and natural resource degradation continue or accelerate without additional policies, the poor will be disproportionally affected; hence, the aggravation of poverty (Lucas *et al.* 2013).

Sustainable development *per se* comprises three areas, namely, social, economic and environmental. Among the barriers that hindered the achievement of some targets, which also included debata-

ble accuracy of statistics gathered or focus on external financing rather than an emphasis on the interaction between local governments and community initiatives, the MDGs were distorted towards several aspects of the first two areas, completely disregarding the importance of tackling increasing environmental issues. The 7th Goal, ensuring environmental sustainability, made scarce mention of the environmental issues themselves. The targets included improving the lives of slum dwellers and providing access to safe drinking water and sanitation, whereas most pressing issues like transition to renewable sources of energy, tackling deforestation and habitat destruction, climate change and ocean acidification, waste and pollution management were completely left out of the picture as secondary ones. In the meantime, these factors play a key role in providing healthy drinking water and improving people's lives in general. The point is, in the world of interconnection and precautionary principle it is no longer possible to simply leave such an inalienable part of the system behind. Lack of understanding of complex links between environment and human well-being results in trying to treat the symptoms of a disease rather than getting to the root cause.

The inextricable intertwinement between the environmental and human well-being requires an integrated approach to the issues within the three given areas and abounds with examples of how inappropriate solutions might be detrimental to both parties.

The forecast for the market demand for food is that it will continue to grow, along with the projected growth of the world's population by 2.3 billion people by 2050. For instance, demand for cereals, for both food and animal feed uses, is projected to reach some 3 billion tons by 2050, up from today's nearly 2.1 billion tons. Feeding a world population of 9.1 billion people in 2050 would require raising overall food production by some 70 per cent between 2005 and 2050. Production in the developing countries would need to almost double. This implies significant increases in the production of several key commodities. Annual cereal production, for instance, would have to grow by almost one billion tons, meat production by over 200 million tons to a total of 470 million tons in 2050, 72 per cent of which in the developing countries, up from the 58 per cent today (Alexandratos and Bruinsma 2012: 7). In the absence of an integrated approach, should sustainable development be considered as a mere social factor, it might well be assumed that the most obvious way to meet this demand will be further deforestation. According to the Food and Agriculture Organization of

the United Nations, by 2050 the arable land would expand by about 120 million ha (Alexandratos and Bruinsma 2012: 17). And yet while planning the cropland expansion, there are significant environmental consequences to keep in mind. This expansion is planned mostly for Sub-Saharan Africa and Latin America and in the case with tropical deforestation, after tropical rains fall on cleared forest lands, the run-off carries soil into local creeks and rivers and this results in a whole series of issues that go on to turn into social ones. Hydroelectric projects and irrigation infrastructure lose productivity from siltation, it also has the effect of raising river beds, hence, increasing the severity of floods. The increased sediment load of rivers smothers fish eggs, causing lower hatch rates, hence, reduced fish crops. And as the suspended particles reach the ocean, the water becomes cloudy, causing regional declines in coral reefs, and affecting coastal fisheries. This illustrates how a target-oriented solution, without regard to the complexity of the problem, might not only prove inefficient but worsen the situation by causing more problems.

Another example of the damage short-term thinking does to the very issue that is being tackled is the industrial fishing techniques currently used. The goal to give the growing humanity access to sufficient food results in an attempt to capture as much bioresource as possible with available technologies. Consistent overfishing combined with environmentally unsound fishing techniques, such as driftnets or trawling, which result in very high levels of by-catch and often damage the seabed, have resulted in the fact that currently most industrial fisheries are either fully or overexploited (World… 2005: 98). World fish landings run at 70 million megatons and approximately half the crop is consumed directly by humans, the rest being used as livestock feed (Mejstrik 1991: 243). In 2006, the journal *Science* published a four-year study which predicted that, at current trends, the world would run out of wild-caught seafood by 2048, the decline being a result of overfishing, pollution and other environmental factors that are reducing the population of fisheries at the same time as their ecosystems are being annihilated (Worm *et al.* 2006). What we essentially have as a society aimed at development, rather than mere growth, is a vicious circle – in an attempt to provide the growing consumption with more food, without a careful analysis of consequences in a multitude of interrelated areas, we not only destroy ecosystems, but also pose a threat to our own food supply.

In the past, major changes to the world's biota have been caused largely by the processes intrinsic to life itself, such as climate change

and tectonic movements. While these processes remain important, current changes in biodiversity stem predominantly from human activities. These anthropogenic drivers include rapid climate change, pollution, land conversion, species overexploitation, biological invasions and diseases (Nelson *et al.* 2006: 24–26). Their consequences are as vast and far-reaching as biome transformation, accelerated species extinction, or even the appearance of a new 'stone' formed through intermingling of melted plastic, beach sediment, basaltic lava fragments, and organic debris from Kamilo Beach on the island of Hawaii, plastiglomerate (Corcoran *et al.* 2013).

The Red Queen hypothesis in evolutionary biology by L. Van Valen proposes that organisms within a community coevolve, pitted against ever-evolving opposing organisms in an ever-changing environment (Van Valen 1973). They must be in a constant process of evolution to avoid extinction, which will occur if their adaptive mechanisms fail to be the best. This also means that they must develop at the same pace to keep up with one other, and if someone develops faster than everybody else, the consequences for some of the parties involved will be fatal. Hence, the incessant evolutionary process embraces the entire community. Extrapolating this hypothesis to the planetary community with anthropogenic drivers on the one hand and the five Earth systems and their nine boundaries on the other, the systems, which took billions of years to develop and reached stability by Holocene, do not seem to catch up with the pace of anthropogenic transformation they are undergoing. The prospects this arrhythmy brings us are rather gloomy. Human activities 'push the Earth system outside the stable environmental state of the Holocene, with consequences that are detrimental or even catastrophic for large parts of the world' (Rockström *et al.* 2009).

A concept of planetary boundaries was introduced in 2009 by J. Rockström in *Nature* (Rockström *et al.* 2009), which defines nine planetary systems and the status of human disturbance within them. Thresholds have been identified that should not be transgressed if we want to maintain the stability of the Holocene state in which human civilizations have developed. If crossed, these thresholds can generate unacceptable environmental change. The nine processes, for which such thresholds were defined, are climate change, biodiversity loss, nitrogen and phosphorus load, stratospheric ozone depletion, ocean acidification, change in land use, chemical pollution and atmospheric aerosol loading. The boundaries in three of the systems (rate of biodiversity loss, cli-

mate change and human interference with the nitrogen cycle) have already been exceeded and are to bring consequences.

K. Raworth goes on to add a social dimension to this picture and describes humanity's twenty-first century challenge as a doughnut of planetary and social boundaries (Raworth 2012). The environmental ceiling consists of the nine planetary boundaries set out by Rockström *et al*., beyond which lie environmental degradation and crises in Earth systems. The social foundation, introduced by K. Raworth, consists of eleven top social priorities identified by the world's governments in the run-up to Rio+20 – and below this foundation lies unacceptable human deprivation such as hunger, poor health and poverty (Fig. 1). Our quest, therefore, is to recognize the interconnection between these two layers and to find a way to live inside this so-called doughnut.

The realization of the need to learn from past mistakes and take an integrated approach towards global problems of humanity development is what has triggered the discussion and subsequent formulation of Sustainable Development Goals within the post-2015 Development Agenda.

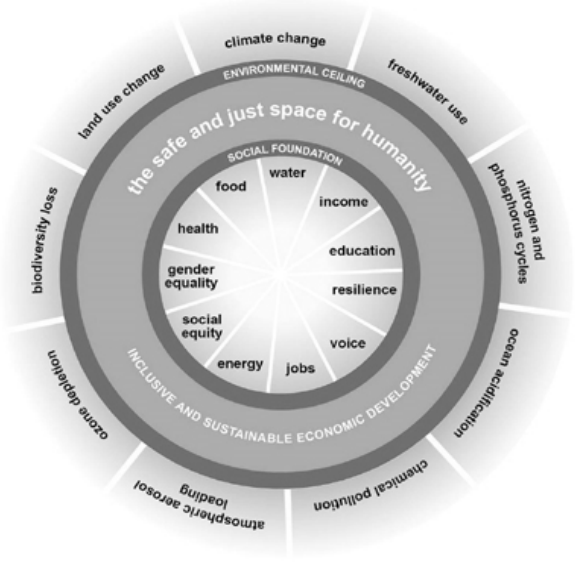

Fig. 1. The doughnut of social and planetary boundaries by K. Raworth

Source: www. kateraworth.com.

SUSTAINABLE DEVELOPMENT GOALS

The UN Summit in 2010 in its outcome document requested the Secretary-General to initiate thinking on the global development agenda beyond 2015, when the MDGs expire. Two years later, at the 2012 Rio+20 Conference on Sustainable Development, the outcome document of which, The Future We Want, initiated a process to develop a set of sustainable development goals. Countries then agreed that both processes need to come together to result in a single framework and an intergovernmental 30-member Open Working Group was established to develop a set of Sustainable Development Goals (SDGs) for consideration and discussion at the General Assembly 69th session in September 2014. The objective was basically to produce by the end of 2015 a set of universally applicable goals that balance the three dimensions of sustainable development – the environmental, social, and economic, – and are consistent with both the MDGs and the principles of sustainable development formulated by the Rio+20 outcome document. When approved and adopted at the end of 2015, the SDGs will constitute the framework of international development until their expiration in 2030.

Within the framework of the global consultation, via the 'World we want 2015' web platform, the post-2015 agenda was opened for thematic consultation in relation to eleven topics. The post-2015 website carried out a global survey of citizens' most important life priorities. By the end of March 2013, over 150,000 respondents from 190 countries had filled out the survey and had indicated good education, better healthcare, good governance, access to safe water and protection against crime and violence as their top priorities. Topics included conflict and fragility, education, energy, environmental sustainability, governance, growth and employment, health, inequalities, nutrition and food security, population dynamics, and water. The Open Working Group went on to formulate the proposal, which will be the main basis for integrating SDGs into the post-2015 development agenda and was discussed and adopted at the UN GA 69th, that took place in September 2014. This proposal describes 17 SDGs with about 10 targets each, including Means of Implementation.

SDGs are consistent with MDGs, but at the same time reveal changes in approach. They deal with poverty and hunger, but set sustainable agriculture as a goal, whereas agriculture as an issue, being as pressing as it is today, was not mentioned in MDGs. They

speak about equitable quality education, but this time it is not only about parity in primary school, but universal adult literacy and free secondary education and promoting life-long learning opportunities for all. Like MDGs they include fostering global partnership for sustainable development, empowering women and promoting economic growth and decent work for all, and yet they are much more measurable, containing a multitude of indicators to be achieved and have about 10 specific targets each. There is one more thing about the SDGs that is a stark contrast from the MDG approach. Seven goals out of seventeen are devoted to tackling environmental issues: water management, access to modern and sustainable energy, sustainable cities, sustainable consumption and production patterns, urgent action to combat climate change, sustainable management of marine and terrestrial resources and ecosystems. No wonder, at a point where, the United Nations forecast has it, ocean acidification alone might result in $1 trillion annual losses for the global economy by the end of the century (Secretariat of the Convention on Biological Diversity 2014: 84). It is high time for the global community to think how we can reduce the consequences that is now threatening us.

WHAT CAN BE DONE TO ACHIEVE *SDG*S

Now that SDGs have been formulated and are undergoing the process to be launched within the framework of post-2015 development agenda at the end of 2015 (Fig. 2), a question arises as to what steps should be taken to achieve the targets.

PBL Netherlands Environmental Agency has analyzed possible pathways to achieve sustainable development goals. The paper 'Pathways to achieve a set of ambitious global sustainability objectives by 2050. Explorations using the IMAGE integrated assessment model. Technological Forecasting and Social Change' explores how environmental and development objectives could be reconciled in actual practice and highlights synergies, trade-offs, and possible directions for policy-making (Van Vuuren *et al.* 2015).

The authors considered the challenge of simultaneous achieving a set of goals instead of addressing each goal separately, taking into account the linkages between achieving individual goals. For this purpose, they used the PBL integrated assessment model framework IMAGE, that includes models for assessing biodiversity, health and climate policy (GLOBIO, GISMO and FAIR; Stehfest *et al.* 2014).

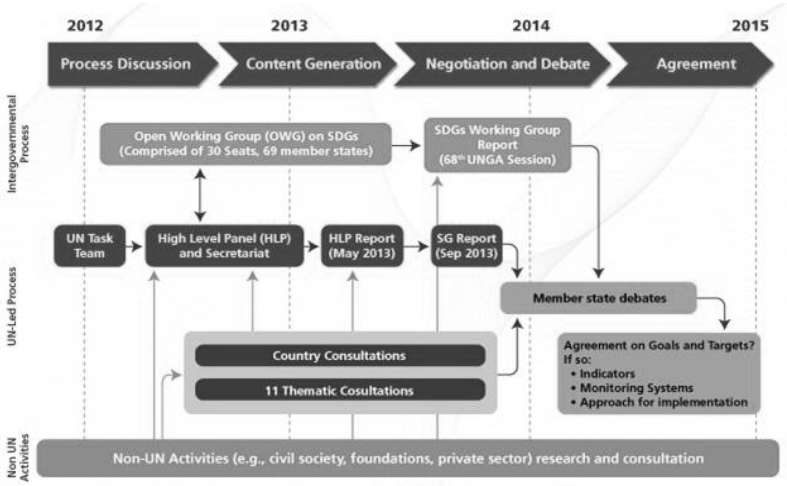

Fig. 2. From planning to launching the post-2015 development agenda

Source: Kőrösi and Zlinszky 2014.

Two key sustainable goal clusters were identified: eradicate hunger and maintain a stable and sufficient food production while conserving biodiversity and ecosystems and ensure a modern energy access to everybody while limiting global climate impact and air pollution.

The paper analyses three Challenge pathways, designed to achieve these goals, and compares them to the Trend Scenario. The three proposed pathways to achieve the goals are Global Technology pathway, focusing on large-scale technologically optimal solutions, such as intensive agriculture and a high level of international coordination; Decentralised Solutions pathway with an emphasis on local energy production and agriculture interwoven with national corridors and policies that regulate equitable access to food; and Consumption Change pathway which consists in changing consumption patterns, mostly by limiting meat intake per capita, coupled with ambitious efforts to reduce waste and a less energy-intensive lifestyle (Van Vuuren *et al.* 2015).

Each of the three pathways in question would allow achieving both goal clusters, for instance, prevent over half of the biodiversity loss projected under the Trend scenario, but would differ fundamentally in their approach, utilizing different combinations of measures. To illustrate the point, applied to Goal 15, which is halting biodiversity loss, the three pathways would each propose their own set of measures, which would contribute to the end result. Un-

der the Global Technology pathway the most important contribution by far comes from increasing agricultural productivity on highly productive lands. Under the Consumption Change pathway, significant reduction in the consumption of meat and eggs as well as reduced wastage means that less agricultural production would be required, thus, reducing the associated biodiversity loss. Under the Decentralised Solutions pathway, a major contribution would come from avoided fragmentation, more ecological farming and reduced infrastructure expansion. And yet under all scenarios, climate change mitigation, the expansion of protected areas and the recovery of abandoned lands also significantly contribute to reducing biodiversity loss (Van Vuuren *et al.* 2015).

What is important, the analysis underlines the benefits of an integrated approach. According to the authors, combining certain elements of these three pathways towards achieving SDGs may be a much more effective and robust strategy, given that each pathway faces specific trade-offs. For instance, consumption changes and technological changes focused on large-scale supply-side change and more decentralised solutions. The additional advantage of such an integrated approach would be that different options appeal to different actors and since the society is a complex community with a multitude of interests and agendas at play, such pluriformity would increase the efficiency of the strategy implemented.

The interrelated nature of global issues is reflected in the attention of the authors of the study to synergies and trade-offs that each pathway and measure presents. For instance, mitigating climate change might lead to important synergies for reducing air pollution, improving access to food and protecting biodiversity. Sustainable access to enough food, safe drinking water, improved sanitation and modern energy sources would improve health, significantly – especially for small children. It would also create wealth, both directly and indirectly. In much the same way, sound ecosystem management and restoration of degraded ecosystems may result in cleaner and more reliable water sources, higher carbon uptakes by natural areas, and improved soils that would sustain a higher agricultural production (Van Vuuren *et al.* 2015).

Apart from research into approaches and methods to tackle SDGs there are certain practical steps already being undertaken towards them. One of these steps, that has a very perceptible effect on the condition of the environment and, consequently, the entire ‘doughnut’ we strive to live in, is the assessment of chemical foot-

print , which has obtained an increasing interest by both scientific and political communities and the very field of knowledge called the green chemistry. The green chemistry's task is basically to assess the intensity of a chemical's pressure when released into the environment and the potential harm it does in a life cycle perspective. Even though the standards and methodology in this field, and, what is also important, incentives – offered to the industry, are yet to be developed, the very emergence of this area of knowledge is indicative of the journey of transformation we as a society have embarked on.

CONCLUSION

In the present article we have studied the Millennium Development Goals, agreed upon by the world leaders back in 2001, and tried to answer the question as to why they have required both deepening and expansion. Granted, the full answer is beyond the scope of this article, but we have outlined the crucial factor that was lacking in MDGs and that contributed in the failure to achieve the bold targets set. The factor in question is the absence of a systemic and integrated approach towards global problems and certain distortion of the vision of the world's current issues towards social and economic spheres, leaving the third field of sustainable development – the environment – out of the picture.

So why do we need the SDGs? Why not write the post-2015 development agenda restating the MDGs and giving them another 15 years to work?

First of all, the very nature of the new Sustainable Goals is much more correspondent to the nature and complexity of the global issues that our society is facing today. Being the result of a merger between the post-2015 development agenda and the sustainable development efforts undertaken by the global community for decades, these goals embrace a much broader picture of well-being. They address the topics of outmost importance either for the first time, compared to the MDGs, or from a broader perspective. The former issues are, among others, sustainable agriculture, sustainable consumption and production patterns, reduction of environmental impact of cities and substantial increase in the share of renewable energy in the global energy mix. These most pressing issues must be put high on the priorities list in both global and local decision making process and having them outlined as a global development goal will reinforce that.

Bringing together the social, economic and environmental aspects of sustainability and welfare, the SDGs lay a foundation for a gradual progress towards the safe space for human development. Recognition of the important interconnections between eliminating hunger and promoting and investing in sustainable agriculture, ensuring healthy lives and reducing air, water and soil pollution, promoting economic growth while improving resource efficiency and decoupling this growth from environmental degradation, is vital. The more so since it reflects the true nature of global issues *per se*, which do require multifaceted solutions. As far as the link between the environment and human well-being is concerned, it is beyond question that the society is inseparable from the environment it inhabits. Therefore, environmental degradation is a direct threat to the society itself, and once it recognizes it and sets out to deal with it on the global scale, it is on the right path.

Furthermore, the SDGs, as laid out in the Open Working Group proposal, are split into about 10 specific targets each, which increases their efficiency as goals and makes progress on them more tangible and measurable.

Now that the United Nations General Assembly adopted the Open Working Groups' proposed list of SDGs, there are 17 sustainable development goals and 169 targets that will be incorporated into the post-2015 development agenda. And at this very stage, once a breadth of economic, social and environmental issues has been brought together in a single set of goals and is expected to be adopted by the UN Member States at a summit in September 2015, with the amount of scientific knowledge and research carried out to date, solutions need to be introduced. At a point when the major issues have been identified and agreed upon, the only way towards achieving the Goals is a country-specific solutions based framework, which not only points out to these issues but offers solutions for every kind of economy, reinforcing them with financial assistance towards less developed countries and the support of the global scientific community.

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