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UN sustainability goals need quantified targets

Scientists must step up and secure meaningful objectives if they are to protect both people and planet, says **Mark Stafford-Smith.**

The United Nations Millennium Development Goals (MDGs) pass their deadline next year and will be replaced by the broader and more ambitious Sustainable Development Goals (SDGs) to guide world development until 2030.

The SDGs matter because they will set development priorities for governments and businesses, among others. Moreover, they can help to reshape attitudes towards the relationship between economic growth and environmental protection, to help preserve and protect both.

Draft goals were presented to the UN General Assembly last week in New York. A year of negotiations follows, with the final version of the goals scheduled to be affirmed in September 2015. That the world is close to agreeing on a consolidated set of objectives for global sustainability is a game-changer.

However, it is crucial that the new goals are based on the best scientific evidence of environmental problems and the best strategies to mitigate these risks. Scientists have helped to draft the proposed goals, but their input has been weak, fragmented and intermittent. We have less than 12 months to change that.

The first problem is that there are too many proposals: 17 goals encompassing 169 individual targets, ranging from improving maternal health to safeguarding the oceans. The strategy has shifted from a list of priorities to an unwieldy and impractical catch-all. The strength of the original MDGs was their focus.

We should aim for no more than ten goals, with around five or six targets for each. This should offer the right balance between covering enough ground and providing sharp focus. These ten goals should cover social, economic and environmental priorities, and on these points the draft proposals make a good start. Four draft goals discuss global environmental constraints, for climate, water, ecosystems and the oceans. This is a step forward that should be applauded.

Although many of the proposed social targets are ambitious, aspirational and reasonably well defined, the biophysical targets are vague, modest and lack detailed quantification. For example, under the health goal, the first target is specific: "By 2030 reduce the global maternal mortality ratio to less than 70 per 100,000 live births." By contrast, the sustainability target under the food-security goal starts: "By 2030 ensure sustainable food production systems". The target is nebulous and, crucially, omits mention of important constraints on the nitrogen, phosphorus and water cycles. A water target is equally vague: "By 2030, substantially increase water-use efficiency across all sectors".

Such non-specific targets will not provide the integrated framework for people and planet that is so direly needed to drive transformations in energy, resource and land-use systems. Without quantified targets and monitoring, it is impossible to determine whether sufficient progress is being made.

We already know enough about the biophysical systems involved to set specific targets, such as keeping the flow of phosphorus into the ocean to below 11 million tonnes per year.

Perhaps most importantly, the goals must work towards a common purpose. At present, individual goals on energy access and tackling climate change could contradict each other — massive expansion of fossil-fuel use, for example, would satisfy one goal but undermine the other. To prevent this, the goals must be integrated. There are perceived trade-offs between securing the long-term stability and health of the Earth system, and securing water, food and energy security in the short term. But this need not be the case. An integrated approach to food security could also ensure that sustainability targets for nutrient and water cycles are met. For example, we should aim, by 2030, to use no more than 1,000 cubic metres of water per tonne of key food crops produced.

In a similar way, the current potential conflicts between the goals of delivering energy for all and limiting greenhouse-gas emissions can be mediated by strong integrative targets: decrease carbon intensity by increasing the share of renewable energy to 30%, and increase energy intensity by 2.4% per year. Current targets do address these two issues, but without quantification.

These are realistic and achievable changes. But the research community must convince policymakers that such changes are important. Organizations such as the Future Earth initiative, the UN's Sustainable Development Solutions Network and the UN Secretary-General's Scientific Advisory Board must ensure that the right expertise is brought to bear on this challenge at international and regional levels.

At a national level, funding agencies and scientific academies need to bring together expertise to support this international process. Scientists should identify and talk to the negotiators who will finalize the draft goals.

2015 is a significant year for international politics related to global change. Nations will also agree on a new climate deal and a strategy for disaster-risk reduction. Traditionally, science has struggled to respond flexibly to the demands and speed of some political processes. But the SDGs are too important for the research community to let the opportunity pass. ■

THE STRATEGY HAS SHIFTED FROM A LIST OF PRIORITIES TO AN UNWIELDY AND IMPRACTICAL CATCH-ALL.

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