

(Annex 1 of ‘Development and Environmental Sustainability in India: Possibilities for the Post-2015 Framework’, Ashish Kothari, Paper commissioned by Oxfam India, Feb 2013)

Indicators for sustainable development / human well-being goals and targets for India

(Note: These focus on environmental sustainability, and need to be complemented with goals/targets and indicators for other aspects of human well-being; some of these are included here in so far as they are closely linked to environmental sustainability. Also, there is a need to build in some prioritization below, based on criteria such as urgency and impact, since not all targets can be achieved at the same time and scale)

Goal / Target <i>(note: timelines may need to be set)</i>	Policy indicator	Programmatic indicator	Indicative outcome	Comment
<i>Goal 1: The integrity of natural ecosystems, wildlife populations, and biodiversity, must be safeguarded, by reducing and eventually eliminating resource and biodiversity loss, and regenerating degraded ecosystems and populations</i>				
Target 1.1: Expand the coverage of areas specially dedicated to or helping to achieve biodiversity conservation, to at least 17% of terrestrial and 10% of marine area, through diverse governance types and means that are fully participatory and democratic	Legislative measures in place to support enhanced conservation focus at specific sites, through diverse governance types and democratic means, including suitably amended Wild Life Act, Biological Diversity Act, Indian Forest Act and Forest Rights Act	Extent of government and civil society schemes and programmes in place to support achievement of target Extent of diversification of governance types of conservation sites, with focus on shared governance (co-management) and community-led measures	% of terrestrial and marine area under special conservation focus % of conservation estate under community and shared governance	India is committed to expand its ‘protected area’ coverage, using diverse governance types and through democratic means, under the CBD Biodiversity Targets (‘Aichi Targets’); Target 11 sets the terrestrial/marine

				coverage mentioned here
Target 1.2: Integrate conservation principles and practices in land/water use activities across the board, including in urban areas	Legislative measures in place, including those mentioned above, and others dealing with land/water use and settlements	Extent of government, corporate and civil society schemes and programmes integrating conservation principles into land/water uses	<p>% of ecosystems of various types with healthy trend towards conservation</p> <p>% of degraded ecosystems on path to restoration / regeneration</p> <p>% of area suffering land degradation and desertification processes</p> <p>Trends in urban biodiversity (or of indicator species)</p>	<p>Quantitative targets such as extent of forest cover need to be supplemented with qualitative measures showing the health of the ecosystem</p> <p>Land degradation includes erosion, waterlogging, salinisation, micronutrient deficiency, and other processes reducing its natural productivity and health</p>
Target 1.3: Phase out the use of chemicals in agriculture, industry, and settlements, that lead to irreversible ecological degradation and the poisoning of wildlife	Legislative measures in place to phase out / prohibit use of ecologically damaging chemicals	Extent of government and civil society schemes and programmes supporting organic, biodiversity-safe methods	<p>% of agriculture converted to organic methods</p> <p>% of industry using safer products replacing dangerous chemicals</p> <p>% of settlements using safer products replacing dangerous chemicals</p>	
Target 1.4 Eliminate invasive species causing irreversible ecological damage	Policy and legislative (?) measures in place to prevent	Extent of government programmes and their	% of area subject to invasive species	

	and eradicate invasive species	coverage of invasive species		
<i>Goal 2: All people must have access to safe and adequate resources to fulfill basic needs, in ways that are ecologically sustainable and culturally appropriate</i>				
Target 2.1: Ensure safe and adequate drinking water to all, largely through decentralised harvesting and distribution systems	Policy measures in place, focusing on universal access to safe drinking water, and provisioning through decentralised systems	Extent of government and civil society support for safe drinking water access through decentralised systems	<p>% of population with secure, sustained safe drinking water</p> <p>% of water harvesting and distribution systems that are decentralised and community-managed</p> <p>% of water sources / waterbodies (surface and ground) that are polluted beyond drinking standards</p>	
Target 2.2: Ensure safe and adequate food to all, focusing primarily on agroecologically sound practices and localized production/distribution systems including localized procurement for the Public Distribution System and other food schemes for the poor	Policy and legislative measures in place, mandating clear, timebound movement towards ecologically sustainable food production systems (agriculture, pastoralism, fisheries)	Extent of government and civil society support for sustainable agriculture	<p>% of cultivated lands using ecologically sustainable methods</p> <p>% of pastures and pastoral lands under sustainable practices</p> <p>% of PDS with local</p>	<p>Ecologically sustainable agriculture is that which uses organic inputs, encourages biodiversity, is carbon neutral (?), gets most or all of its inputs locally</p> <p>National Food Security</p>

			procurement of diverse foods	Bill 2011 advocates local procurement for PDS (though it has no operational clauses to implement this)
Target 2.3 Ensure unpolluted air and safe sound levels for all	Policy and legislative measures in place for eliminating air pollution and unsafe levels of noise	Extent of government schemes supporting elimination of air and noise pollution at source and in ambient situations	% of people exposed to unsafe air pollution % of people exposed to unsafe noise levels (or considering they are in noisy surrounds) Average air and noise pollution levels in representative settlements and industries/industrial complexes	Over time this should be disaggregated into various kinds of pollutants
Target 2.4: Ensure safe and adequate shelter/housing to all, facilitating community-based, locally appropriate methods	Policy in place for safe, adequate, and sustainable shelter/housing for all	Extent of government and civil society schemes and programmes for such shelter/housing (focusing especially on the poor)	% of rural and urban population with access to such shelter/housing	
Target 2.5: Ensure energy security for all, optimizing existing production sources and distribution channels, and focusing most new production on decentralised, renewable sources	Policy in place for adequate, sustainable and efficient energy for all, including standards of sustainability	Extent of government schemes for incentivising efficiency, waste reduction, and decentralised renewables, and disincentivising wasteful production and use	% of rural and urban energy sources and consumption meeting sustainability standards	
Target 2.6: Ensure adequate sanitation facilities to all families and	Policy in place for adequate and sustainable sanitation for	Extent of government and civil society	% of rural and urban population with	

communities, using methods that are sustainable and locally manageable	all	schemes/programmes supporting such sanitation	adequate, sustainable sanitation	
<i>(Note: a special focus on those currently marginalized or disprivileged with respect to the above, including women and children, should be built into all these targets)</i>				
<i>Goal 3: All families and communities must have access to dignified livelihoods that are ecologically sustainable and culturally appropriate</i>				
Target 3.1: Encourage, secure, and enhance existing livelihoods directly based on natural ecosystems and resources (forest-based, fisheries, pastoralism, agriculture, crafts, and quarrying) that are already ecologically sustainable	Policy and legislative measures are in place to secure tenurial rights and appropriate support for livelihoods based on natural ecosystems and resources (e.g. laws similar to Forest Rights Act, for marine and freshwater fishers, craftspersons, pastoralists other than those covered by FRA, etc)	Extent of governmental and civil society schemes and programmes supporting such livelihoods	% of households in each category of livelihood with secure tenurial rights to the commons they depend on % of households extended support for continuing / enhancing such livelihoods % change in real or attributed economic value of natural resource based livelihoods	
Target 3.2: Convert and replace unsustainable, unsafe and undignified livelihoods in all sectors (including industry, transport, services, etc), to 'decent', 'green' jobs	Policy and legislative measures in place, including amendments in industrial/mining/urban/other related laws, to ensure transition to 'decent', 'green' jobs	Extent of governmental, corporate and civil society programmes to facilitate transition	% of workforce in each sector, with 'decent', 'green' jobs (including, separately, those continuing with such jobs from the past, and those converted from unsustainable, unsafe and undignified work) % of population suffering workplace-related diseases	'Green' jobs are defined as "work in agriculture, industry, services and administration that contributes to preserving or restoring the quality of the environment"; 'decent work' is defined as "opportunities for

			and accidents	women and men to obtain decent and productive work in conditions of freedom, equity, security and human dignity” (UNEP 2008)
Target 3.3: Invest heavily in livelihoods relating to ecological regeneration and restoration, in areas where degradation has taken place in the past	Policy measures in place to prioritise ecological regeneraton and restoration, through labour-intensive measures	Extent of government and civil society programmes supporting such livelihoods	Number of people (or humandays?) employed in ecological regeneration and restoration, in relation to amount of area needing such measures	
<i>Goal 4: All production and consumption must be ecologically sustainable and socio-economically equitable, using a mix of incentives and disincentives</i>				
Target 4.1: Convert and replace unsustainable agricultural, fisheries, mining, industrial, and other production processes to sustainable ones	Policy and legislative measures in place to reorient each production sector with sustainability as a central focus	Extent of government, corporate, and civil society programmes supporting such reorientation and conversion	% of each sector’s production coming from sustainable operations Amount & % of area off-limits to commercial-scale extractive industry Rate of change of energy and carbon intensity of each sector	

			% of industrial/extractive projects and subsectors subject to EIA and clearance procedures	
Target 4.2: Ensure extended producer responsibility for sustainability at all stages from raw materials to disposal/recycling/reuse, through incentives and legislation	Extended producer responsibility (EPR) legislation in place	Extent of incentive schemes enabling EPR in each sector	% of units in each sector, practicing EPR % of area under unsustainable extraction (for each sector) % of area subjected to waste dumping (for each sector) Amount of unrecycled and untreated wastes emitted by production units (sector-wise)	EPR is a strategy to reduce a product's environmental impact, in which the manufacturer is made responsible for the entire life-cycle of the product, including recycling, reuse, and disposal
Target 4.3: Curb and eliminate unsustainable consumption including advertising that encourages such consumption	Legislative measures in place to curb unsustainable consumption	Extent of incentive and disincentive schemes and programmes related to consumption	% of population living unsustainable lifestyles (or 'Above Consumption Line') % change in advertising that encourages consumerism % change in awareness programmes and their public reach, regarding sustainable consumption % change in energy intensity of consumer products	An index called 'Sustainable Consumption Line' needs to be developed, combining various products/forms of consumption, with the 'Above Consumption Line' measure being a counterpoint to the 'Below Poverty Line' measure
Target 4.4: Encourage innovations in, and make mandatory the use of,	Sustainable technology policy in place	Extent of government and civil society	% change in resource intensity of products and	

technologies of sustainability including those that reduce resource-intensity of products and processes, and discourage (eventually eliminating) those that are inherently unsustainable and inequitable		schemes and programmes supporting development and use of sustainable technologies	processes in each sector % of products and processes in each sector that are zero-waste	
Target 4.5: Move towards a zero-waste society	Policy and legislative measures in place for prevention, reuse, and recycling of waste	Extent of governmental schemes facilitating and incentivising zero-waste processes in domestic, industrial, and other entities	% change in amount of solid waste going into landfills or other dumps % of government operations achieving zero-waste target (including those clearly moving towards it) % of households and settlements (rural and urban) achieving zero-waste target (including those clearly moving towards it) % of industries achieving zero-waste target (including those clearly moving towards it)	Various short-term sub-targets can be set, such as steady reduction of hazardous waste and of dumping into waterbodies, while the zero-waste target could be longer-term
<i>Goal 5: All infrastructure development must be ecologically sustainable and socio-economically equitable</i>				
Target 5.1: Integrate practices of	Policy measures in place to	Extent of government	% of infrastructure projects	

sustainability into existing infrastructure; replace fundamentally unsustainable practices with sustainable ones (e.g. from private to public transportation)	provide clear and time-bound direction to make existing infrastructure sustainable	schemes with appropriate mix of incentives and disincentives for such integration and replacement	and subsectors subject to EIA and clearance procedures % of each kind of infrastructure with sustainability integrated % of population using public transportation (or serviced by public transportation?)	
Target 5.2: Ensure all new infrastructure is built on principles of ecological sustainability	Policy measures in place to ensure sustainability in all new infrastructure	Extent of government schemes incentivising such sustainability	% of new infrastructure projects incorporating environmental sustainability	
<i>Goal 6: All service and welfare sectors must integrate principles and practices of ecological sustainability</i>				
Target 6.1: Ensure that health services focus on preventing ill-health due to environmental degradation (including unsafe or inadequate food and water), and on curative practices that are ecologically sound (including nature-based indigenous systems)	Policy and legislative measures, including amendments where necessary in health, agriculture, water, and settlement related laws, in place	Extent of government and civil society programmes providing environment and health linkages	% of rural and urban health centres with explicit focus on environmental connections to health % of rural and urban health centres with multiple health systems including those essentially based on nature and natural resources	
Target 6.2: Integrate both local and wider ecological, cultural, and knowledge into education policies and	Policy measures mandating ecological integration into teaching and curricula	Extent of government support for such integration	Number of subjects and courses that have integrated ecological sensitivity and	

practices, and ensure that ecological sensitivity becomes a part of every subject			methods	
Target 6.3: Convert all tourism and visitation to practices that are ecologically sustainable, culturally appropriate, and local community driven	Policy and legislative measures in place, to ensure tourism is sustainable, equitable, and community-driven	Extent of governmental, corporate and civil society support for such tourism	% of tourism projects/facilities subjected to EIA and clearance procedures % of tourism projects/facilities certified to be ecologically sound and community-run	
<i>Goal 7: Macro-frameworks of economy and polity must be geared to ecological sustainability, human security, and socio-economic equity</i>				
Target 7.1: Encourage the development and propagation of macro-economic theories and concepts that acknowledge and respect ecological limits on one side and socio-economic equity on the other, replacing current theories and concepts that lead to unsustainability and inequity	Sustainability- and equity-centred macro-economic theories and concepts in place, recognizing and respecting natural resource limits	Extent of use of such theories and concepts in official planning processes	% of economics, development, and other related courses that are centrally focused on sustainability and equity	
Target 7.2: Reorient financial measures such as taxation, subsidies, and other fiscal incentives/disincentives to support ecological sustainability and related human security and equity goals	Policies and legislative measures to reorient finance towards sustainability in place		% of financial measures of each kind, oriented to sustainability and equity Rate of increase of subsidy and incentives for	

			sustainability- and equity-centred activities (in relation to extent of such financial measures needed)	
Target 7.3: Evolve a long-term national land and water use plan, based on decentralised and participatory processes	Policy in place to mandate a national land and water use plan based on decentralised processes and with a long-term perspective	Extent of government facilitation of local, state and national level land and water use plans	Extent of planning that is based on long-term local, state, and national level land/water use plans	Such a plan should incorporate a national target of the % of territory under natural ecosystems based on ecological understanding (replacing the current arbitrary figure of 33% forest cover)
Target 7.4: Ensure that socio-economic planning is based on ecological linkages and boundaries, including at landscape/seascape levels that may cut across political boundaries	Policy and legislative measures in place to mandate planning at ecologically defined landscape/seascape levels,	Extent of government funding for and facilitation of such planning	Extent to which planning is taking place at landscape/seascape levels, encompassing units defined by ecological boundaries	It is not suggested that such a process immediately replace planning based on currently defined political units, but that it add a layer to such planning, and eventually replace it where appropriate
Target 7.5: Develop and use a robust set of human well-being indicators, through appropriate tools, to replace the current GDP and economic growth-related ones	Policy measures in place to supplement or replace GPD/growth as indicators with human well-being indicators	Extent of government support to develop such indicators on a continually evolving basis	Extent to which planning and assessment processes are using well-being indicators	Several indicators of human well-being have been proposed (see Section 6 of paper), India needs to choose/modify as appropriate
Target 7.6: Integrate principles and	Policy and legislative measures	Extent of government	% of natural resource related	

<p>practice of radical/participatory democracy into all decision-making, with the smallest rural and urban settlements as the basic units, and landscape level institutions building on these</p>	<p>are in place to mandate radical/participatory democracy from the smallest units, strengthening 73rd and 74th Constitutional Amendments and related laws as appropriate</p>	<p>schemes and programmes facilitating governance from smallest to landscape and larger levels</p>	<p>budgets being spent by institutions of self-governance at various levels</p> <p>Number of gram sabhas and urban ward (area sabha?) committees empowered to take local natural resource related decisions</p> <p>Number of decision-making institutions in place at ecologically-defined landscape/seascape levels</p> <p>% of projects and sectors subject to participatory environmental audits</p>	
<p>Target 7.7: Create institutions of independent oversight on environmental matters</p>	<p>Constitutional amendment creating an office of Environment Commissioner (independent of government) passed</p>	<p>Adequate government support for such an office in place</p>	<p>% of complaints coming to, or taken up suo moto by, Commissioner, dealt with</p>	
<p>Target 7.8: Ensure preparedness for natural and human-induced disasters (including those related to climate change)</p>	<p>Policy measures in place for mandating disaster preparedness</p>	<p>Extent of government schemes and programmes for assisting communities in disaster preparedness</p>	<p>Trends in reducing human impacts of disasters</p>	