

**10<sup>th</sup> Regional 3R and Circular Economy Forum in Asia and the Pacific (Series of Webinars)**

*“Advancing Circular Economy in Asia-Pacific towards the SDGs under COVID-19 Pandemic”*

# **Country Report**

**(Draft)**

**<BHUTAN>**

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This country report was prepared by the Government of Bhutan as an input for the 10th Regional 3R and Circular Economy Forum in Asia and the Pacific (Series of Webinars). The views expressed herein do not necessarily reflect the views of the United Nations.

# Country 3R Progress Report

Name of the Country: Bhutan

Name, Designation and Organization Respondent:

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Other Ministries, Organizations, Agencies contributing to Country Report:

Timeline of Submission: **20 November 2020** (Email: [3R@uncrd.or.jp](mailto:3R@uncrd.or.jp))

*Progress and achievements towards implementation of the Ha Noi 3R Declaration*  
*-Sustainable 3R Goals for Asia and the Pacific (2013-2023)-*

With the objective of demonstrating renewed interests and commitments of Asia-Pacific countries towards realizing a resource efficient society, the Fourth Regional 3R Forum in Asia-Pacific in 2013 adopted the good-will and legally non-binding “*Ha Noi 3R Declaration – Sustainable 3R Goals for Asia and the Pacific 2013-23.*” The objective of the Country Reporting is to share among international community with various initiatives launched and efforts made (such as new policy instruments, legislations, regulations, institutional arrangements, investments or financing, technological innovation or intervention, partnership mechanisms, such as PPPs, etc.) by the member countries of the Forum in addressing each of the underlined goals of the Ha Noi 3R Declaration. This would help the member countries to share various best practices in 3R and resource efficiency areas across the region. In addition, it would also help bi-lateral and multi-lateral development agencies, donors, development banks in assessing the sustainable needs and challenges of those countries to better plan their existing as well as future capacity building programmes and technical assistance in the areas of 3Rs and sustainable waste management.

With the cooperation of other related ministries, organization and agencies, we request you to kindly fill in the below table as much as possible with relevant data/information in Computer Typed only. If additional spaces are required, separate sheets could be attached.

Thank you very much for your kind cooperation.

**Voluntary Progress/Achievements/Initiatives in  
Implementing Ha Noi 3R Declaration (2013~2023)**

Country Name: Bhutan
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**I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)**

**Goal 1** Significant **reduction** in the quantity of **municipal solid waste** generated, by instituting policies, programmes, and projects at national and local levels, encouraging both producers and consumers to reduce the waste through greening production, greening lifestyle, and sustainable consumption.

**Q-1 What specific 3R policies, programmes and projects, are implemented to reduce the quantity of municipal solid waste?**

- National Environment Protection Act, 2007
- National Integrated Solid Waste Management Strategy, 2014
- Waste Management and Prevention Act 2009
- Waste Management and Prevention regulation 2012 and 2016 (Amendment)
- Integrated Solid Waste Management for Bajothang (pilot project)
- Public Private Partnership –ISWM ( Thimphu Thromde)
- Zero Waste ( Mongar)
- Youth Action for 4 R’s (waste clubs in 10 schools in Thimphu)
- Waste exhibition competition among schools in Thimphu (June 5, Environment Day)
- Samdrup Jongkhar Initiative
- Zero Waste by 2030
- National Waste Management Strategy, 2019
- National Waste Inventory Survey (Nation’s Waste on Scale), 2019
- Flagship Program on National Waste Management, 2020
- Ecology Note – Towards a Clean, Green and Beautiful Bhutan, 2019

**Q-2 What is the level of participation of households in “source” segregation of municipal waste streams?** (Please check the appropriate box)

- Very High (> 90%)
- High (>70%)
- Average (50-~70%)
- Low or not satisfactory (< 50%)
- Does not exist

**Q-3 Total annual government expenditure per capita (US\$ per capita) in municipal solid waste management in 2014-2015**

- Information not available.

**Challenges (policy/ institutional/ technological/ financial) faced in implementation:**

- ❖ Lack of Human Resources with required expertise.
- ❖ Lack of adequate budget to meet the high cost of waste disposal and dealing with emerging wastes such as e-waste.
- ❖ Lack of appropriate equipment and technology, for example technology needed for scientific treatment of waste.
- ❖ Weak public awareness and outreach.
- ❖ Waste management options difficult to initiate and implement due to inadequate waste volume (no or less business potential).
- ❖ Poor monitoring and enforcement of waste regulations and rules.
- ❖ Poor citizens’ responsibility and mindset towards handling and care of waste/garbage and supporting facilities.

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 1</b>	Significant <b>reduction</b> in the quantity of <b>municipal solid waste</b> generated, by instituting policies, programmes, and projects at national and local levels, encouraging both producers and consumers to reduce the waste through greening production, greening lifestyle, and sustainable consumption.
<p><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></p> <ul style="list-style-type: none"> <li>❖ Implementation of Integrated solid waste management for Bajo Town in Wangduephodrang District of Western Bhutan through which segregation at source was initiated. Further street sweeping services, Pet Bailing Plant and compost plant was established in Bajo town.</li> <li>❖ Initiation of 3Rs as part of educational curriculum in the schools.</li> <li>❖ Out sourcing of solid Waste Management to Private firms.</li> <li>❖ Waste and Climate Change Project for a period of four years (March 2017 till March 2021)</li> <li>❖ Integrated Solid Waste Management Strategy, Waste Prevention and Management Act 2009 and Regulation 2012 found at <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> <li>❖ Youth Action for 4Rs (<a href="http://www.nec.gov.bt">www.nec.gov.bt</a>)</li> <li>❖ Samdrup Jongkhar Initiative (<a href="http://www.sji.bt">www.sji.bt</a>)</li> <li>❖ Government uses criteria of 1) waste disposal and littering, 2) unhygienic sanitation, 3) unreliable water supply, 4) air pollution and 5) congestion in the resource allocation formula for allocating capital grants(resources) to the local governments for implementation of their waste/pollution/hygiene related plan projects and activities. Continue to mainstreaming solid waste management issues and opportunities in all policies, plans and programs at national and local level.</li> <li>❖ Any government policies to be passed are reviewed and screened using a GNH screening tool to check whether the proposed policies have any negative impacts on the variables such as 1) public health, 2) water and air pollution, 3) land degradation, and 4) bio-diversity health.</li> <li>❖ National Flagship Program on Waste Management towards an end-to-end waste management system for the whole of the country – towards a circular economy and Zero Waste Bhutan by 2030.</li> <li>❖ Development of Standard Operating Procedures (SOPs) for institutions for sustainable solid waste management in ongoing.</li> </ul>	
<p><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></p> <ul style="list-style-type: none"> <li>-Waste and Climate Change Project for a period of four years (March 2017 till March 2021). The outcome of the project is to come up with the national and city level waste management strategy.</li> <li>- Reducing current ambient air quality(PM10) to an acceptable limit, particularly in Thimphu City and industrial town of Pasakha is one of the important key performance indicators in the 12 Five Year Plan of Bhutan( 12 FYP 2018-2023)</li> <li>- Managing waste through “Pay as You Throw Approach” or “Big Bin Small Bin” approach is one of the important strategies which will be implemented in the 12 FYP.</li> <li>- Waste Prevention and Management Act, 2009 and its regulations will be strictly enforced in the 12 FYP.</li> <li>-The National Integrated Solid Waste Management Strategy, 2014 will be implemented to</li> </ul>	

**Voluntary Progress/Achievements/Initiatives in  
Implementing Ha Noi 3R Declaration (2013~2023)**

Country Name:  
Bhutan

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 1</b>	<p>Significant <b>reduction</b> in the quantity of <b>municipal solid waste</b> generated, by instituting policies, programmes, and projects at national and local levels, encouraging both producers and consumers to reduce the waste through greening production, greening lifestyle, and sustainable consumption.</p> <p>strengthen waste management system and to attain zero waste.</p> <p>-One of the programmes in the 12 FYP is to strengthen Government to citizens services (G2C) and to harness the power of ICT and make public service delivery professional, convenient and faster through end-to-end integration of citizen services such as waste management, education and businesses.</p> <p>-Achieving 24X7 access to safe drinking water supply to all households in the country is the key target in the 12 FYP and supported by a Flagship program.</p> <p>-Implementing Comprehensive National Development Plan 2030 for integrated human settlement in the 12 FYP.</p> <p>-Implementing Water, Sanitation and Hygiene (WASH) programme in the 12 FYP.</p> <p>- Implementation of Waste Management and Stray Dog Population Control Flagship Program.</p>
<p><i>Is this Goal relevant for your country?</i>   <input checked="" type="checkbox"/> Highly   <input type="checkbox"/> Partially   <input type="checkbox"/> Not at all</p>	

<b>I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)</b>	
<b>Goal 2</b>	Full-scale utilization of the organic component of municipal waste, including food waste, as a valuable resource, thereby achieving multiple benefits such as the reduction of waste flows to final disposal sites, reduction of GHG emission, improvement in resource efficiency, energy recovery, and employment creation.
<b>Q-1 Does the central government have policies or support to utilize or reduce the organic waste such as composting, energy recovery and improving efficiency in food processing?</b>	
<ul style="list-style-type: none"> <li>• The National Integrated Solid Waste Management Strategy, 2014 emphasizes on the processing and treatment of Organic Component of Waste through: Composting, Bio-gas and home composting.</li> <li>• Waste Act 2009</li> <li>• According to <i>The Waste Prevention and Management Regulation, 2012</i>, composting is the most preferred method for organic waste management.</li> <li>• The blue print document of the “<i>Waste Management and Stray Dog Population Control Flagship Program</i>” emphasizes on the composting, bio-gas as the options for food waste.</li> </ul>	
<b>Q-2 What is happening to country’s organic waste? (Please check the appropriate box)</b>	
<input checked="" type="checkbox"/> mostly landfilled <input type="checkbox"/> mostly incinerated <input type="checkbox"/> both landfilled and incinerated <input type="checkbox"/> mostly open dumped or open burned	
<b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b>	
<ul style="list-style-type: none"> <li>• The amount of segregated waste collected is less due to limited segregation happening at the point of generation.</li> <li>• The compost plant is not sustainable as it takes long time to produce one batch of fertilizer and also the business is not viable as it has to compete with chemical fertilizer.</li> </ul>	
<b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b>	
<ul style="list-style-type: none"> <li>• Installation of Compost plant in Bajo Town (pilot project)</li> <li>• Environmental Impact Assessment Act, 2000 and its regulation 2002</li> <li>• Waste Prevention and Management Act, 2009</li> <li>• Waste Prevention and Management Regulation, 2012 ( rules and regulation)</li> <li>• National Solid Waste Management Strategy 2014</li> <li>• Formulation of City Sanitation Planning for Samtse Town</li> <li>• Zero Waste Project 2015</li> </ul>	
<b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b>	
<ul style="list-style-type: none"> <li>• Zero waste project</li> <li>• Youth Action for 4 R’s in 10 schools in Thimphu</li> </ul>	

**Voluntary Progress/Achievements/Initiatives in  
Implementing Ha Noi 3R Declaration (2013~2023)**

Country Name:  
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I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 2</b>	Full-scale utilization of the organic component of municipal waste, including food waste, as a valuable resource, thereby achieving multiple benefits such as the reduction of waste flows to final disposal sites, reduction of GHG emission, improvement in resource efficiency, energy recovery, and employment creation.
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	



**I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)**

**Goal 3** Achieve significant **increase in recycling rate** of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.

**Q-1 What is the recycling rate of various recyclables?** (Please check the appropriate cell & add more waste streams as relevant for the country)

Type \ Rate	Very High (>90%)	High (>70%)	Average (50~60%)	Poor (<50%)	Recycling does not exist	Definition of recycling rate*
Paper		X				1
Plastic		X				1
Metal	X					1
Construction waste				X		1
e-waste				X		1
others						

*\*Note: Please specify in the cell which of the following definitions (ie., 1 or 2 or 3) is followed for recycling rate*  
 Definition 1: (collected recyclable waste)/(estimated generation of waste)  
 Definition 2: (volume of utilized recyclable waste)/(volume of raw material)  
 Definition 3: (volume of utilized recyclable waste)/(volume of collected waste for recycling)

**Q-2 What specific policies are introduced at local and national level for prevention or reduction of waste streams – paper, plastic, metal, construction waste, e-waste?**

- The Economic Development Policy of Kingdom Of Bhutan, 2012 states that recycling plants processing domestic waste are exempted from Custom Duty and Sales Tax. Further, it will also be exempted from CIT/BIT and will be provided with land on nominal lease.
- Paperless Project initiated by the National Environment Commission in coordination with the Cabinet Secretariat, Ministry of Finance, Ministry of Information and Communication.

**Q-3 What is the rate of resource recovery from various waste streams?**

Type \ Rate	Very High (>90%)	High (>70%)	Average (50~60%)	Poor (<50%)	Recycling does not exist
Paper			X		
Plastic			X		
Metal		X			
Construction waste				X	
e-waste					X

(Please check the appropriate cell & add more waste streams as relevant for the country)

**Q-4 What is the level of existence of resource recovery facilities/ infrastructures in cities?**

Type \ Level	Every Major City	Few Major Cities only	Does not exist	Supportive policy or programmes exists	No supportive policy or programmes
Paper		X			
Plastic		X			

**Voluntary Progress/Achievements/Initiatives in  
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Metal		X			
Construction waste			X		
e-waste			X		

**I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)**

**Goal 3** Achieve significant **increase in recycling rate** of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.

**Challenges (policy/ institutional/ technological/ financial) faced in implementation:**

- Municipality has very less numbers and old Refuse Collection Vehicles (RCV)

**Voluntary Progress/Achievements/Initiatives in  
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Country Name:  
Bhutan

- The amount of recyclables collected is not sufficient to set up a recycling plant in Bhutan. Therefore all the recyclables are transported to India.
- Recycling plant is very expensive.

***Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant***

- Installation of PET shredding/Bailing Press Machines in Thimphu, Paro and Wangdue.
- RFP developed by the Department of Information Technology and Telecom, Ministry of Information and Communication.

***Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)***

- Promote recycling in other towns by providing PET shredding and Bailing machines and Glass crushing plants
- Public Awareness on Waste Management and Recycling
- Support private sectors initiatives in other towns

***Is this Goal relevant for your country?***  Highly  Partially  Not at all

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 4</b>	Build <b>sustainable cities /green cities</b> by encouraging “ <b>zero waste</b> ” through sound policies, strategies, institutional mechanisms, and multi - stakeholder partnerships (giving specific importance to private sector involvement) with a primary goal of <b>waste minimization</b>
<b><i>Q-1 What specific waste management policies and programmes are introduced to encourage private sector participation in municipal waste management?</i></b>	
<ul style="list-style-type: none"> <li>• The Waste Prevention and Management Regulation, 2012 mentions each town to have Material Recovery Facility and also create enabling environment for viable business to private sector through providing technical support and leasing of land and other subsidies.</li> <li>• The National Integrated Solid Waste Management Strategy encourages Public- Private partnerships</li> </ul>	
<b><i>Q-2 What are the major waste management areas that have strong involvement of private and business sector?</i></b> (Please check appropriate boxes and add other areas if not listed below)	
<input type="checkbox"/> waste collection <input type="checkbox"/> resource recovery <input type="checkbox"/> waste recycling <input type="checkbox"/> waste to energy, composting, etc. <input type="checkbox"/> PPP projects in waste sector	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>• Financial constraints</li> <li>• Change of behavior</li> <li>• Implementation of polices</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>• The two bins project for segregation at household level initiated by Thimphu Thromde</li> <li>• Pet Bottle Crushing Plant operated by Greener Way in Thimphu</li> <li>• Pet Bottle Crushing plant at Bajo, Wangdue</li> <li>• Zero waste project 2015 <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> <li>• Waste Management and Stray Dog Population Control Flagship Program recommends three colour coded bins at the household level for waste segregation to reduce the waste going to landfill.</li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></b>	
<ul style="list-style-type: none"> <li>• Amendments to the Waste Prevention and Management Regulation 2012 – make it in conformity with other laws and National Solid Waste Management Strategy 2014. These changes are proposed by the Implementing agencies drawing from their implementing experiences.</li> <li>• Formulation of technical guidelines for management of different waste streams.</li> <li>• Formulation of National Holistic Waste Management Strategy.</li> </ul>	

**Voluntary Progress/Achievements/Initiatives in  
Implementing Ha Noi 3R Declaration (2013~2023)**

Country Name:  
Bhutan

<b>I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)</b>	
<b>Goal 4</b>	<b>Build sustainable cities /green cities</b> by encouraging “ <b>zero waste</b> ” through sound policies, strategies, institutional mechanisms, and multi - stakeholder partnerships (giving specific importance to private sector involvement) with a primary goal of <b>waste minimization</b>
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 5</b>	Encourage the <b>private sector</b> , including small-and medium-sized enterprises (SMEs) to implement measures to increase <b>resource efficiency and productivity</b> , creation of decent work and to improve environmentally-friendly practices through applying environmental standards, clean technologies, and cleaner production.
<i><b>Q-1 What are the major clean technology related policies aiming to increase energy and resource efficiency of SMEs?</b></i>	
<ul style="list-style-type: none"> <li>• National Environment Protection Act of Bhutan 2007</li> <li>• Environmental Impact Assessment Act of Bhutan 2000 and Regulation 2002</li> <li>• Waste Prevention and Management Act 2009 and Regulation 2012</li> <li>• National Solid Waste management Strategy 2014</li> <li>• Fiscal Incentives Act of Bhutan 2017 which provides for example, Tax rebate of up to 15% of the up-gradation expenses for adopting modern environmentally-friendly technologies by industries and businesses, and Income tax holiday of 5 years to newly established waste management/ recycling entities including scrap dealers.</li> </ul>	
<i><b>Q-2 What are the capacity building programmes currently in place to build the technical capacity of SMEs in 3R areas?</b></i>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• Weak institutional coordination and linkages</li> <li>• Broad policy</li> <li>• Limited technical capacity and resources</li> <li>• Financial constraint</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<ul style="list-style-type: none"> <li>• Zero Waste Project 2015</li> <li>• RFP for recruitment of an E- Waste Management entity under the Waste Prevention and Management Regulation 2012</li> <li>• Amendment of the Waste Regulation 2012</li> </ul>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<ul style="list-style-type: none"> <li>• Zero Waste Project</li> <li>• Youth Action for 4Rs' <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> </ul>	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 6</b>	Promote the <b>greening of the value chain</b> by encouraging industries and associated suppliers and vendors in socially responsible and inclusive ways.
<i><b>Q-1 What percent of companies and industries have introduced green accounting and voluntary environmental performance evaluation (Ref: ISO 14000)?</b></i>	
<input type="checkbox"/> Very High (> 90%) <input type="checkbox"/> High (>70%) <input checked="" type="checkbox"/> Average (50~70%) <input type="checkbox"/> Low or not satisfactory (< 50%) <input type="checkbox"/> None	
<i><b>Q-2 What percent of companies and industries have introduced social accounting (Ref: SA 8000) in consultation with their workers?</b></i>	
<input type="checkbox"/> Very High (> 90%) <input type="checkbox"/> High (>70%) <input checked="" type="checkbox"/> Average (50~70%) <input type="checkbox"/> Low or not satisfactory (< 50%) <input type="checkbox"/> None	
<i><b>Q 3 Does government have a programme for promoting greening of the value chain? What specific policies, programmes and incentives are introduced to promote greening of value chain?</b></i>	
<ul style="list-style-type: none"> <li>• Zero waste project 2015</li> <li>• E-waste management entity</li> </ul>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• Weak institutional coordination</li> <li>• Weak policy enforcement</li> <li>• Limited technical capacity and resources</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<ul style="list-style-type: none"> <li>• Piloted Cleaner Technology and Environmental Management Projects in selected industries – ferro silicon, cement, steel, wood, food processing, mining and calcium carbide have benefitted from the testing of adoption of cleaner productions methods.</li> <li>• Zero waste project 2015</li> </ul>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 7</b>	Promote <b>industrial symbiosis</b> (i.e., recycling of waste from one industry as a resource for another), by providing relevant incentives and support.
<i><b>Q-1 Does your government have policies and programmes promoting industrial symbiosis in industrial parks or zones? What specific policies, programmes and incentives are introduced to promote industrial symbiosis?</b></i>	
<ul style="list-style-type: none"> <li>• Strong Environmental Policy and Economic Development Policy to recycle waste</li> <li>• E-waste management entity (private company) to manage and recycle e-wastes</li> </ul>	
<i><b>Q-2 How many eco-industrial parks or zones or the like, which is supported by the government, are there in the country?</b></i>	
<ul style="list-style-type: none"> <li>• No Eco- industrial parks for now.</li> </ul>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• The industrial symbiosis in Bhutan is largely by default and very limited. There needs to be proper planning for an industrial symbiosis.</li> <li>• Most wastes generated are not felt to be cost effective when recycled.</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<ul style="list-style-type: none"> <li>• What exists in the most basic form is at Pasakha industrial estate in South West of the country, where the micro-silica waste from the ferro- silicon industries is used for manufacturing construction bricks and sold to cement industry.</li> </ul>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<ul style="list-style-type: none"> <li>• Recruitment of e-waste management entity</li> <li>• Zero waste management project</li> </ul>	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	



I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 8</b>	Build <b>local capacity</b> of both current and future practitioners, to enable the private sector (including SMEs) to obtain the necessary knowledge and technical skills to foster green industry and create decent, productive work.
<i><b>Q-1 How many dedicated training facilities or centers are there to cater the needs of SMEs and practitioners in the areas of cleaner production, resource efficiency and environment-friendly technologies, etc.?</b></i>	
<ul style="list-style-type: none"> <li>• None</li> </ul>	
<i><b>Q-2 Please provide an indicative figure on annual government (US \$) expenditure on building technical capacity of SMEs and practitioners in the areas of cleaner production, resource efficiency and environment-friendly technologies, etc.?</b></i>	
<ul style="list-style-type: none"> <li>• Information not available</li> </ul>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• Capacity building has largely been through the Danida assisted Cleaner Technology and Environmental Management project and this involved training of industry and government personnel within the country as well as in Denmark, Norway, Austria, Malaysia, India, Thailand and Phillipines. The key challenge is financial support from the government in view of other pressing national social and development priorities. The withdrawal of Danish assistance has also affected Cleaner Production programme.</li> <li>• Inadequate technical capacity and skills in private sector.</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<ul style="list-style-type: none"> <li>• At present the RGOB is not engaged in any greening initiatives by way of financial support but support is provided through fiscal incentives such as exemption of taxes on industries adopting green technology beyond what is required by law.</li> </ul>	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 9</b>	Develop proper <b>classification and inventory of hazardous waste</b> as a prerequisite towards sound management of such waste.
<p><i>Q-1 Is there a systematic classification of hazardous waste? If so, please attach.</i></p> <p><input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No</p>	
<p><i>Q-2 What specific rules and regulations are introduced to separate, store, treat, transportation and disposal of hazardous waste?</i></p> <ul style="list-style-type: none"> <li>Waste Prevention and Management Regulation 2012 <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> </ul>	
<p><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></p> <ul style="list-style-type: none"> <li>Weak institutional coordination</li> <li>Limited technical and financial resources</li> </ul>	
<p><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></p> <ul style="list-style-type: none"> <li>Development of inventory on hazardous waste under Basel Convention, which is also in keeping with the requirements under the Waste Act and Regulation and as an obligation to Basel Convention.</li> <li>Formulation of Strategic Approach to International Chemicals Management (SAICM) framework</li> </ul>	
<p><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></p> <ul style="list-style-type: none"> <li>Update of inventory of hazardous waste</li> <li>Formulation of National Hazardous Waste Management Strategy</li> </ul>	
<p><i>Is this Goal relevant for your country?</i>    <input checked="" type="checkbox"/> Highly      <input type="checkbox"/> Partially      <input type="checkbox"/> Not at all</p>	

II. 3R Goals in Rural Areas	
<b>Goal 10</b>	<b>Reduce losses in the overall food supply chain</b> (production, post harvesting and storage, processing and packaging, distribution), leading to reduction of waste while increasing the quantity and improving the quality of products reaching consumers.
<i>Q-1 What specific policies, rules and regulations, including awareness programmes, are introduced to minimize food or crop waste?</i>	
<i>Q-2 Is there any continuing education services or awareness programmes for the farmers or agricultural marketing associations on reduction of crop wastes for increased food security?</i>	
<i>Q-3 What is the average wastage of crops or agricultural produce between farms to consumers, if there is a study in your country?</i>	
<input type="checkbox"/> Very High (> 20~ 30%) <input type="checkbox"/> High (10~20%) <input type="checkbox"/> Medium (5~10%) <input type="checkbox"/> Low (< 5%) <input type="checkbox"/> Negligible (<1%)	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

II. 3R Goals in Rural Areas	
<b>Goal 11</b>	Promote full scale <b>use of agricultural biomass waste and livestock waste</b> through reuse and/or recycle measures as appropriate, to achieve a number of co - benefits including GHG emission reduction, energy security, sustainable livelihoods in rural areas and poverty reduction, among others.
<i><b>Q-1 How much amount of – (a) agricultural biomass waste and (b) livestock waste are grossly generated per annum?</b></i>	
<i><b>Q-2 How are most of the agricultural biomass wastes utilized or treated?</b></i> (Please <u>check all appropriate boxes</u> )	
<input checked="" type="checkbox"/> as secondary raw material input (for paper, bioplastic, furniture, etc.) <input checked="" type="checkbox"/> biogas/electricity generation <input type="checkbox"/> composts/fertilizers <input type="checkbox"/> mostly left unutilized or open dumped <input type="checkbox"/> mostly open burned	
<i><b>Q-3 What specific policies, guidelines, and technologies are introduced for efficient utilization of agricultural biomass waste and livestock waste as a secondary material inputs towards full scale economic benefits? Relevant websites could be shared for additional information.</b></i>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• Due to availability of cheaper energy such as electricity in Bhutan, the promotion of Bio-gas is challenging.</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<ul style="list-style-type: none"> <li>• Bhutan Biogas projects has installed about 1300 biogas plants</li> <li>• <a href="http://www.bbp.gov.bt">http://www.bbp.gov.bt</a></li> </ul>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<ul style="list-style-type: none"> <li>• Construct more Biogas plants.</li> </ul>	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

III. 3R Goals for New and Emerging Wastes	
<b>Goal 12</b>	Strengthen regional, national, and local efforts to address the issue of <b>waste, in particular plastics</b> in the marine and coastal environment.
<i>Q-1 What specific policies and regulations are in place to address the issue of plastic wastes in coastal and marine environment?</i>	
<ul style="list-style-type: none"> <li>Waste Prevention and Management Act 2009 and Regulation 2012 – have provisions on the need to have an international coordination</li> </ul>	
<i>Q-2 What extent issue of plastic waste is considered in integrated coastal zone management (ICZM)? (Please check the appropriate box)</i>	
<input checked="" type="checkbox"/> Very much <input type="checkbox"/> Somehow <input type="checkbox"/> Not at all	
<i>Q-3 Please provide a list of centre of excellences or dedicated scientific and research programmes established to address the impacts of micro-plastic particulates (&lt;5 mm) on coastal and marine species? If yes, please provide relevant websites.</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

**III. 3R Goals for New and Emerging Wastes**

**Goal 13** Ensure **environmentally-sound management of e-waste** at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal with appropriate consideration for working conditions, including **health and safety aspects** of those involved.

**Q-1 How do people usually recycle their e-waste (waste electrical and electronic equipment)?**  
(Please check the appropriate box in order of priority by filling in numbers like 1, 2, 3, 4,...etc., for example 1 => Highest priority)

Check if applicable	Number in priority order	
✓		Take to recycling center / resource recovery facilities
✓		Take to landfill
✓		Take to the retailer
		Take to local charity for re-use
✓		Take to second-hand shop for re-use
		Ship back to the manufacturer
		Ship back to the manufacturer
✓		Recycle in another country
✓		Do not know how people dispose

**Q-2 What specific policies and regulations are in place to ensure health and safety aspects of those involved in e-waste management (handling/sorting/resource recovery/recycling)?**

**Q-3 How much amount of e-waste is generated and recycled per year?**

Type of e-waste	Estimated total volume generated (ton/year)	% of collected by permitted recycler	% of volume recycled in collected
Television			
Computer			
Mobile phone			
Refrigerators			
Washing machines			
Air conditioners			
Others...			

**Challenges (policy/ institutional/ technological/ financial) faced in implementation:**

- Policy too broad and fairly new.
- Institutional coordination and capacity underdeveloped.
- Limited technical and financial resources.

**Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant**

- Waste Prevention and management Act 2009 and Regulation 2012
- National Solid Waste Management Strategy 2014
- Bhutan’s E-waste management strategy drafted
- Awareness on regulation and training on e-waste to stakeholders, private sector (IT vendors), representatives in Dzongkhags conducted

III. 3R Goals for New and Emerging Wastes	
<b>Goal 13</b>	Ensure <b>environmentally-sound management of e-waste</b> at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal with appropriate consideration for working conditions, including <b>health and safety aspects</b> of those involved.
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<ul style="list-style-type: none"> <li>• Amendments to the e-waste management chapter in the Waste Prevention and management regulation 2012 – in order to improve the existing provisions in pursuant to enable an environmentally friendly management of e-waste.</li> <li>• Guidelines to be developed keeping in mind the various types of chemicals used in different e-waste generators such as photo studio, printing press, electronic repair shop etc.</li> <li>• Recruit E-waste management entity who will carry out collection and transportation</li> <li>• Nationwide awareness program through AV and print media</li> <li>• Awareness to the Dzongkhag gewog level.</li> </ul>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

III. 3R Goals for New and Emerging Wastes	
<b>Goal 14</b>	Effective enforcement of established mechanisms for preventing illegal and inappropriate export and import of waste, including transit trade, especially of hazardous waste and e-waste.
<i>Q-1 What specific policies and regulations are introduced to prevent illegal import and export of e-waste?</i>	
<ul style="list-style-type: none"> <li>• Environmental Impact Assessment Act of Bhutan 2000 and Regulation 2002 (including standards and enforcement through issuance of an environmental clearance)</li> <li>• Waste Prevention and Management Act 2009 and Regulation 2012 (provisions on the transboundary movement of hazardous waste in line with the Basel Convention).</li> <li>• National Solid Waste management Strategy 2014</li> </ul>	
<i>Q-2 Do you have required number of well-trained custom or other officials (for airport, sea-port, land border control, etc.) to track illegal export and import of e-waste?</i>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<ul style="list-style-type: none"> <li>• Rules fairly new and broad provisions</li> <li>• Custom officers – limited capacity and resources with numerous mandates</li> <li>• Institutional set up- weak coordination, mandates overlap etc.</li> </ul>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<ul style="list-style-type: none"> <li>• Waste Prevention and Management Act 2009 and Regulation 2012 (provisions on the transboundary movement of hazardous waste in line with the Basel Convention).</li> </ul>	

**Voluntary Progress/Achievements/Initiatives in  
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III. 3R Goals for New and Emerging Wastes	
<b>Goal 14</b>	Effective enforcement of established mechanisms for preventing illegal and inappropriate export and import of waste, including transit trade, especially of hazardous waste and e-waste.
<ul style="list-style-type: none"><li>National Solid Waste management Strategy 2014</li></ul>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<ul style="list-style-type: none"><li>Amendment of Ozone Regulation 2008</li></ul>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	



III. 3R Goals for New and Emerging Wastes	
<b>Goal 15</b>	Progressive implementation of “ <b>extended producer responsibility (EPR)</b> ” by encouraging producers, importers, and retailers and other relevant stakeholders to fulfill their responsibilities for collecting, recycling, and disposal of new and emerging waste streams, in particular e-waste.
<b><i>Q-1 What specific Extended Product Responsibility (EPR) policies are enacted or introduced? (If there is none, then skip Q-2 below)</i></b>	
<ul style="list-style-type: none"> <li>• E-waste management chapter in the Waste Prevention and Management Regulation 2012</li> <li>• Ozone regulation 2008</li> </ul>	
<b><i>Q-2 Please provide a list of products and product groups targeted by EPR nationally?</i></b>	
<ul style="list-style-type: none"> <li>• E-waste</li> <li>• Ozone depleting substances</li> </ul>	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>• On the e-waste – lack of technical and financial resources to institute and implement provisions</li> <li>• Ozone – while its implementation is quite effective – we still need to build capacity of the national designated focal agencies and custom officials, with numerous new substances in the market on a daily basis.</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>• E-waste management chapter in the Waste Prevention and Management Regulation 2012</li> <li>• Ozone regulation 2008</li> <li>• HCFC phase out plan</li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></b>	
<ul style="list-style-type: none"> <li>• Ozone project</li> <li>• Waste and Climate Change project</li> </ul>	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

III. 3R Goals for New and Emerging Wastes	
<b>Goal 16</b>	<b>Promote the 3R concept</b> in health-care waste management.
<i><b>Q-1 What specific policies and regulations are in place for healthcare waste management?</b></i>	
<ul style="list-style-type: none"> <li>• Waste Prevention and Management Act 2009 and its Regulation 2012</li> <li>• Medicine Act of Bhutan</li> </ul>	
<i><b>Q-2 What is the total annual government expenditure towards healthcare waste management (US\$ per year)?</b></i>	
<i><b>Q-3 List the agencies or authorities responsible for healthcare waste management.</b></i>	
<ul style="list-style-type: none"> <li>• Hospitals, Basic Health Care Units, medical institutes</li> <li>• Pharmacies</li> <li>• Drug Regulatory Authority</li> <li>• Bhutan Narcotics Regulatory Authority</li> <li>• Ministry of Agriculture, livestock and animal husbandry</li> <li>• Private diagnostic firms</li> <li>• Ministry of Education</li> </ul>	
<i><b>Q-4 What is the common practice for disposal of healthcare wastes?</b></i>	
(Please check the appropriate box and add if any other practice followed)	
<input type="checkbox"/> open dumping (untreated)	
<input type="checkbox"/> open burning (untreated)	
<input type="checkbox"/> ordinary landfilling (untreated)	
<input checked="" type="checkbox"/> sanitary landfilling (treated)	
<input type="checkbox"/> Low cost small scale incineration (do not meet air emission standards)	
<input type="checkbox"/> Highly controlled air incineration (dedicated/modern medical waste incinerators)	
<input type="checkbox"/> Other methods (please specify names: _____)	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<ul style="list-style-type: none"> <li>• Policy too broad and fairly new</li> <li>• Institutional coordination and capacity underdeveloped</li> <li>• There is a guideline called Infection Control and Biomedical Waste Management,1996 which is very old and needs revision</li> <li>• No fund support</li> <li>• Problem with disposal as we are practicing dump burial pit system</li> <li>• People trained in biomedical waste management in most hospitals are transferred and even in program there is need of capacity development</li> <li>• Autoclave is used to disinfect the waste but there is no record of weather the autoclaved waste is safe to handle or not and also autoclave machines are very old and to purchase new ones are expensive.</li> </ul>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<ul style="list-style-type: none"> <li>• Health care waste management guidelines</li> <li>• Waste Prevention and Management Regulation 2012 <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> <li>• International Color coding waste segregation are promoted and encouraged where</li> </ul>	

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<b>III. 3R Goals for New and Emerging Wastes</b>			
<b>Goal 16</b>	<b>Promote the 3R concept in health-care waste management.</b>		
	possible.		
	<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>		
	<i>Is this Goal relevant for your country?</i>	<input checked="" type="checkbox"/> Highly	<input type="checkbox"/> Partially <input type="checkbox"/> Not at all

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 17</b>	Improve <b>resource efficiency and resource productivity</b> by greening jobs nation - wide in all economic and development sectors.
<i>Q-1 What specific policies and guidelines are introduced for product standard (towards quality/durability, environment/eco-friendliness, labour standard)?</i>	
<i>Q-2 What specific energy efficiency schemes are introduced for production, manufacturing and service sector?</i>	
<i>Q-3 What specific policies are introduced to create green jobs in product and waste sector?</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<ul style="list-style-type: none"> <li>• Paperless initiatives and online services</li> <li>• Government to Citizen initiatives</li> </ul>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<ul style="list-style-type: none"> <li>• Paperless initiatives in all Government Agencies</li> </ul>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 18</b>	Maximize co-benefits from waste management technologies for local air, water, oceans, and soil pollution and global climate change.
<i>Q-1 Please share how climate mitigation is addressed in waste management policies and programmes for co-benefits?</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 19</b>	Enhance <b>national and local knowledge base and research network on the 3Rs and resource efficiency</b> , through facilitating effective and dynamic linkages among all stakeholders, including governments, municipalities, the private sector, and scientific communities.
<i>Q-1 What specific policies are introduced to encourage triangular cooperation between government, scientific &amp; research institutions and private/business sector in 3R areas?</i>	
<i>Q-2 Please share the number and list of dedicated scientific institution, or coordinating centers in the areas of 3Rs (e.g., waste minimization technologies, eco-products, cleaner production, recycling technologies, industrial symbiosis, resource efficiency, etc.)?</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 20</b>	Strengthen multi-stakeholder partnerships among governments, civil society, and the private sector in raising public awareness and advancing the 3Rs, sustainable consumption and production, and resource efficiency, leading to the behavioural change of the citizens and change in production patterns.
<p><b>Q-1 Does central government have official dialogue with multi-stakeholders in the process to formulate 3R-related policies and regulations? Which stakeholders are involved in the dialogue?</b>(Please check all applicable)</p> <p> <input checked="" type="checkbox"/> NGOs                     <input type="checkbox"/> Industrial Association  <input type="checkbox"/> Local Government                     <input checked="" type="checkbox"/> Academic Institution  <input type="checkbox"/> Others, please add/specify ( )                 </p>	
<p><b>Q-2 What is the level of NGOs' involvement in 3R, sustainable production and consumption, resource efficiency related promotional activities?</b> (Please check the appropriate box)</p> <p> <input checked="" type="checkbox"/> Very high                     <input type="checkbox"/> Moderate                     <input type="checkbox"/> Low                     <input type="checkbox"/> Almost Negligible                 </p>	
<p><b>Q-3 What is the level of citizens' awareness on beneficial aspects of 3R, sustainable production and consumption and resource efficiency.</b> (Please check the appropriate box)</p> <p> <input type="checkbox"/> Very high                     <input checked="" type="checkbox"/> Moderate                     <input type="checkbox"/> Low                     <input type="checkbox"/> Almost Negligible                 </p>	
<p><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></p> <ul style="list-style-type: none"> <li>Public Private Partnership- Integrated Solid Waste Management</li> <li>Emerging of private entities like Greener Way, WeCare etc.</li> </ul>	
<p><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></p>	
<p><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></p>	
<p><b>Is this Goal relevant for your country?</b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 21</b>	<b>Integrate the 3Rs</b> in formal education at primary, secondary, and tertiary levels as well as non-formal education such as community learning and development, in accordance with Education for Sustainable Development.
<i><b>Q-1 Provide a list of formal programmes that addresses areas of 3R and resource efficiency as part of the academic curriculum?</b></i>	
<ul style="list-style-type: none"> <li>• 3R – part of environment curriculum</li> <li>• Youth Action for 4 Rs (existing 10 schools in the capital city with the potential replication to other schools in the country)</li> </ul>	
<i><b>Q-2 Please provide an overview of the Government policies and programmes to promote community learning and development (non-formal education) on 3R and sustainable waste management.</b></i>	
<ul style="list-style-type: none"> <li>• Waste issues form an integral part of non-formal education curriculum. The National Environment Commission will be further strengthening this through a revision of the curriculum.</li> </ul>	
<i><b>Q-3 Please provide a list of academic and research institutions offering PhD programmes in the areas of 3Rs and resource efficiency?</b></i>	
<i><b>Q-4 Please provide a list of management institutions (offering BBA / MBA courses) which have integrated resource efficiency and life cycle assessment (LCA) as part of their curriculum or course development?</b></i>	
<ul style="list-style-type: none"> <li>• Some colleges under the Royal University of Bhutan offers course on environmental science.</li> </ul>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<p>Although the components on Waste Management have been included in the Primary, Secondary and Non-Formal Curriculum, but many has remained as awareness as nothing much on the ground has happened. There has been not much of behavioral change amongst the learners. Constraint has also been observed at policy level where there is lack of monitoring systems. Even if it's carried out, it is just one time and no continuity.</p>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<p>Royal Society for Protection of Nature (RSPN) initiated community based waste management system at Phobjikha. A sanitary landfill was created and a truck to collect waste from different points was purchased. Waste collection containers were placed at different points. A small scale waste mixer where biodegradable waste were shredded and used in the farms was provided at Aman Resort. The overall management was done by the local community. For the sustenance purpose, fees were collected from businesses and households.</p>	



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<b>IV. 3R Goals for Cross-cutting Issues</b>	
<b>Goal 21</b>	<b>Integrate the 3Rs</b> in formal education at primary, secondary, and tertiary levels as well as non-formal education such as community learning and development, in accordance with Education for Sustainable Development.
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 22</b>	<b>Integrate the 3R concept</b> in relevant policies and programmes, of key ministries and agencies such as Ministry of Environment, Ministry of Agriculture, Forestry and Fisheries, Ministry of Industry, Ministry of Trade and Commerce, Ministry of Energy, Ministry of Water Resources, Ministry of Transport, Ministry of Health, Ministry of Construction, Ministry of Finance, Ministry of Labour, Ministry of Land and Urban Development, Ministry of Education, and other relevant ministries towards transitioning to a resource-efficient and zero waste society.
<b><i>Q-1 Please list the name of the Ministries and major Government Agencies which are promoting 3R and resource efficiency as part of their policy, planning and developmental activities at local and national level.</i></b>	
<ul style="list-style-type: none"> <li>• National Environment Commission</li> <li>• Ministry of Education (schools)</li> <li>• Private sectors such as Greener Way</li> </ul>	
<b><i>Q-2 What type of coordination mechanism are there among ministries and agencies for a resource efficient economic development?</i></b>	
<input type="checkbox"/> Official regular coordination meeting among ministries and agencies <input checked="" type="checkbox"/> Official ad-hoc coordination meeting among ministries and agencies <input type="checkbox"/> Informal meeting among ministries and agencies <input type="checkbox"/> Other coordination mechanisms (please add/specify)	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>• Funding constraints</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>• Youth Action for 4 Rs' <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> <li>• Zero Waste Project</li> <li>• Waste Prevention and Management Act of Bhutan 2009 by National Environment Commission</li> <li>• National Strategy and Action Plan on Integrated Solid Waste Management (2007) by Ministry of Works and Human Settlement</li> <li>• Guidelines on safe disposal of medical waste by Ministry of Health</li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></b>	
<ul style="list-style-type: none"> <li>• Youth Action for 4 Rs' <a href="http://www.nec.gov.bt">www.nec.gov.bt</a></li> <li>• Zero Waste Project</li> </ul>	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 23</b>	Promote <b>green and socially responsible procurement</b> at all levels, thereby creating and expanding 3R industries and markets for environmentally-friendly goods and products.
<i>Q-1 What specific policies are introduced to promote green and social responsible procurement?</i>	
<i>Q-2 Please provide details of eco-labelling schemes of your country.</i>	
<i>Q-3 Please provide a list of criteria for eco-labeled products and services in your country.</i>	
<i>Q-4 Please provide the list of Ministries and major Government Agencies which have adopted green procurement policy.</i>	
<i>Q-5 What % of municipalities have adopted the green procurement policy?</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 24</b>	<b>Phase out harmful subsidies that favour unsustainable use of resources (raw materials and water) and energy, and channel the freed funds in support of implementing the 3Rs and efforts to improve resource/energy efficiency.</b>
<i>Q-1 Are there any government subsidy programmes that directly or indirectly favour unsustainable use of resources (raw materials, water, and energy)? If so, please provide a list of such programmes along with the responsible Ministry or Agency administering and implementing it.</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 25</b>	<b>Protect public health and ecosystems, including freshwater and marine resources by eliminating illegal activities of open dumping, including dumping in the oceans, and controlling open burning in both urban and rural areas.</b>
<i>Q-1 Is waste management a public health priority in your country?</i>	
<ul style="list-style-type: none"> <li>• Yes.</li> </ul>	
<i>Q-2 What are the rules and regulations to prevent open dumping and open burning of waste?</i>	
<ul style="list-style-type: none"> <li>• Waste Prevention and Management Act 2009 and regulation 2012</li> <li>• Water Act 2011 and regulation 2014</li> </ul>	
<i>Q-3 Rank the five most important rivers in terms of water quality (BOD values) passing through major cities and urban areas?</i>	
<i>Q-4 What are the specific laws, rules and regulations in place to prevent littering in river and water bodies?</i>	
<ul style="list-style-type: none"> <li>• Waste Prevention and Management Act 2009 and regulation 2012</li> <li>• Water Act 2011 and regulation 2014</li> </ul>	
<i>Q-5 What are the specific laws, rules and regulations in place to prevent marine littering?</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<ul style="list-style-type: none"> <li>• Lack of proper baseline data</li> <li>• Enforcement weak due to technical and financial resources constraints</li> <li>• By April 2012, waste management regulations were adopted by the respective sectors. The Thimphu municipality and other implementing agencies of this regulation have put certain operational procedure in place to implement the provisions of these regulations. Some municipalities have also started deploying additional manpower to enforce the regulation and Thimphu municipality has collected some revenue through implementation of this regulations. One of the challenges encountered was the lack of inadequate sanitary inspectors and the required finances to enforce these regulations effectively.</li> </ul>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<ul style="list-style-type: none"> <li>• Integrated Water resources management plan being developed, in order to identify critical watersheds.</li> </ul>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<ul style="list-style-type: none"> <li>• Further strengthen the institutional capacity through additional request of manpower and finances from the central government so that the regulations are enforced effectively.</li> </ul>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

**Voluntary Progress/Achievements/Initiatives in  
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Country Name: Bhutan
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IV. 3R Goals for Cross-cutting Issues	
<b>Goal 26</b>	Facilitate the international circulation of re-usable and recyclable resources as well as remanufactured products as mutually agreed by countries and in accordance with international and national laws, especially the Basel Convention, which contributes to the reduction of negative environmental impacts and the effective management of resources.
<i><b>Q-1 What are major recycling industries in your country?</b></i>	
<ul style="list-style-type: none"> <li>• Pet bottles</li> <li>• Paper recycling industry</li> </ul>	
<i><b>Q-2 Please specify the regulation on transboundary movement of hazardous waste.</b></i>	
<ul style="list-style-type: none"> <li>• Waste Prevention and Management Act 2009 and regulation 2012</li> </ul>	
<i><b>Q-3 If your government has restriction on import of non-hazardous waste or quality control of non-hazardous waste, please list it up.</b></i>	
<i><b>Q-4 Does your government restrict import of remanufactured goods?</b></i>	
<i><b>Q-5 Does your government regard remanufactured goods as secondhand goods, and regulate it as secondhand goods?</b></i>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<i><b>Is this Goal relevant for your country?</b></i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

**IV. 3R Goals for Cross-cutting Issues**

**Goal 27** Promote data collection, compilation and sharing, public announcement and application of statistics on wastes and the 3Rs, to understand the state of waste management and resource efficiency.

**Q-1 Please give an overview on availability of various data and information on material flow and waste management by checking (X or ✓) the appropriate boxes.** (Please respond on both “Data Availability” and Monitoring Base”)

Data Type	Data Availability			Monitoring Base	
	Good	Very limited	No data exist	Good	Not good
Waste generation		X			
Material flow	X				
Cyclical use	X				
Amount of final disposal		X			
Disposal to land		X			
Direct disposal to water			X		
Import of waste			X		
Export of waste			X		
Total landfilled waste	X				
Import of recyclables			X		
Export of recyclables			X		
Hazardous waste generation (solid, liquid, sludge, etc.)		X			
e-waste generation	X				

*(Please add any other data type relevant to your country)*

**Q-2 What are the current and planned government policies and programmes to strengthen data and information availability in waste sector?**

**Challenges (policy/ institutional/ technological/ financial) faced in implementation:**

**Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant**

**Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)**

**Is this Goal relevant for your country?**     Highly     Partially     Not at all



IV. 3R Goals for Cross-cutting Issues	
<b>Goal 28</b>	Promote heat recovery (waste-to-energy), in case wastes are not re-usable or recyclable and proper and sustainable management is secured.
<i><b>Q-1 What are the government policies and programmes, including incentives, for waste-to-energy programmes?</b></i>	
<ul style="list-style-type: none"> <li>• National Environment Protection Act 2007</li> <li>• Waste Prevention and Management Act 2009 and regulation 2012</li> </ul>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<i><b>Is this Goal relevant for your country?</b></i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 29</b>	Promote overall regional cooperation and multi-stakeholder partnerships based on different levels of linkages such as government-to-government, municipality-to-municipality, industry-to-industry, (research) institute-to-institute, and NGO-to-NGO. Encourage technology transfer and technical and financial supports for 3Rs from developed countries to less developed countries.
<b><i>Q-1 Please provide a list of on-going bilateral/multi-lateral technical cooperation in 3R areas?</i></b>	
<ul style="list-style-type: none"> <li>• Technical Assistant received from City of Fukuoka in the rehabilitation of Memelakha Landfill</li> <li>• Capacity Build on Waste Management from City of Hiroshima</li> <li>• Few Dumper trucks received from City of Hiroshima</li> </ul>	
<b><i>Q-2 What actions are being taken to promote inter-municipal or regional cooperation in areas of waste exchanges, resource recovery, recycling, waste-to-energy and trade of recyclables?</i></b>	
Some ideas, experiences and lessons are being shared amongst the 4 big municipalities but the exchanges in relation to the question have not deepened.	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>• Technical Assistant received from City of Fukuoka in the rehabilitation of Memelakha Landfill</li> <li>• Capacity Build on Waste Management from City of Hiroshima</li> <li>• Few Dumper trucks received from City of Hiroshima</li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i></b>	
Stated under Goal 1.	
<b><i>Is this Goal relevant for your country?</i></b> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 30</b>	Pay special attention to issues and challenges faced by developing countries including SIDS in achieving sustainable development.
<i>Q-1 Please describe any past and on-going cooperation with SIDS (Small Island Developing States) countries in 3R areas.</i>	
<i>Q-2 Please list 3R related projects linked to climate change, biodiversity, disaster management and sustainable tourism. (This is <u>to be reported by SIDS countries only</u>)</i>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 31</b>	Promote 3R + “Return” concept which stands for Reduce, Reuse, Recycle and “Return” where recycling is difficult due to the absence of available recycling industries and limited scale of markets in SIDS, especially in the Pacific Region.
<i><b>Q-1 What specific policies, programme, including pilot projects, are implemented to promote 3R+ “Return” concept? (This is to be reported by SIDS countries only)</b></i>	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)</b></i>	
<i><b>Is this Goal relevant for your country?</b></i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 32</b>	Complete elimination of illegal engagement of children in the <b>informal waste sector</b> and gradually <b>improve</b> the working conditions and livelihood security, including <b>mandatory provision of health insurance</b> , for all workers.
<i>Q-1 What is the approximate market size (in US\$) of the informal waste sector?</i>	
<i>Q-2 Number of annual labor inspections in waste sector?</i>	
<i>Q-3 Is health insurance a mandatory to all informal workers in waste sector by law?</i>	
<i>Q-4 What specific policies and enforcement mechanisms are in place to prevent illegal engagement of children in waste sector?</i>	
<ul style="list-style-type: none"> <li>• Labour Act</li> </ul>	
<i>Q-5 Number of landfill sites accessible to register waste pickers?</i>	
<i>Q-6 Average life span of informal waste workers?</i>	
<i>Q-7 Any government vaccination programmes for informal waste workers?</i>	
<ul style="list-style-type: none"> <li>• Vaccination programmes are a part of the government's free health services</li> </ul>	
<i>Q-8 Any public awareness programmes for informal waste workers on health and safety measures?</i>	
<ul style="list-style-type: none"> <li>• Timely sensitization programmes on the national media – television and radio and newspapers regarding the adverse impacts associated with handling wastes, in particularly, infectious wastes.</li> </ul>	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	

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IV. 3R Goals for Cross-cutting Issues	
<b>Goal 32</b>	Complete elimination of illegal engagement of children in the <b>informal waste sector</b> and gradually <b>improve</b> the working conditions and livelihood security, including <b>mandatory provision of health insurance</b> , for all workers.
<i>Important policies/programs/projects/master plans the government plans to undertake within next five years (2016~2021)</i>	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

**IV. 3R Goals for Cross-cutting Issues**

**Goal 33** Promote 3Rs taking into account gender considerations.

*Q-1 Please give a brief assessment on how the national, provincial and municipal governments incorporate gender considerations in waste reduction, reuse and recycle.*

- The Gross National Happiness Commission in coordination with the National Commission for Women and Children and National Environment Commission and other relevant agencies ensure the mainstreaming of the environmental concerns including the waste issues in the national, regional and local plans and programmes.

*Challenges (policy/ institutional/ technological/ financial) faced in implementation:*

- Thimphu municipality has carried out some survey in trying to find out the involvement of men and women on waste management activity. However, no clear interventions have been on gender considerations largely due to small waste recycling market. However, the private waste recycling firm Greener Way has more women working in waste recycling than men.

*Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant*

- Gender mainstreaming in Low Emission Capacity Building Program for the Outcome: Waste Management

*Important policies/programmes/projects/master plans the government plans to undertake within next five years (2016~2021)*

- Encourage women participation in National Appropriate Mitigation Action for Waste Management

*Is this Goal relevant for your country?*  Highly  Partially  Not at all

**Q- Please provide a brief comprehensive summary of important 3R and resource efficiency policies /programmes/ projects/ master plans of your country.**

**Voluntary Progress/Achievements/Initiatives in  
Implementing Ha Noi 3R Declaration (2013~2023)**

Country Name: Bhutan
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