

<b>Title of case study*</b>	Bio-toilets: Building a Climate Resilient Society through Environmentally Friendly Sanitation
<b>Date of submission*</b>	08/00/2014
<b>Name of organization(s)*</b>	Banka BioLoo Pvt Ltd
<b>NWP Objective*</b> <i>Select the objective(s) of the NWP that the case study responds to.</i>	<p>The objective of the Nairobi work programme is to assist all Parties, in particular developing countries, including the least developed countries (LDCs) and small island developing States (SIDS), to:</p> <p><input type="checkbox"/> <b>improve their understanding and assessment</b> of impacts, vulnerabilities and adaptation to climate change; and</p> <p><input checked="" type="checkbox"/> <b>make informed decisions on practical adaptation actions and measures</b> to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability.</p>
<b>Objective of case study*</b> <i>Describe the specific objective of case study.</i>	Provide sanitation solutions that obviate the need for external infrastructure for human waste treatment. The system should be sustainable, environmentally friendly and climate resilient.
<b>Actions*</b> <i>Describe the activities to meet the case study objective, highlighting organizations, communities and/or experts to be engaged.</i>	<p>The scope of the project is to provide on-site treatment for human waste using naturally inoculated bio-digester bacteria. In this regard, bio-toilets are provided where sanitation facilities are not available. On the same lines, for homes and institutions septic tanks or pit latrines are upgraded to bio-tanks/bioloos. To Railways, steel bio-tanks are provided to attach to the train bogie, beneath the “open” toilet.</p> <p>The target includes households, academic institutions, construction, infrastructure and plantation companies. That apart, a large focus is on rail passengers as well as families residing beside rail tracks, who face the menace of fecal matter lying on tracks - environmentalas as well as health hazard.</p>
<b>Expected results*</b> <i>Describe the envisaged outputs/benefits of the case study/</i>	<p>Environmentally-friendly and climate-adaptive bio-toilets nurture the ecosystem. They treat the fecal matter at source without any requirement of energy. In the process, pathogen-free water is released that is very good for gardening and similar purposes, as also biogas that could be utilized for cooking etc.</p> <p>The bio-toilets obviate the need for emptying, transporting or external treatment of fecal matter. Thereby, immense amount of energy is saved. No separate infrastructure is required, thereby saving energy and strengthening climate adaptability. On the contrary, the system gives out energy.</p>
<b>Indicators of achievement*</b> <i>Describe any quantitative and/or qualitative indicator to show that the objective of the case study has been achieved.</i>	<p>Human waste treated at source Water treated/recycled Health benefits</p>
<b>Region(s) relevant to case study*</b>	<p><input type="checkbox"/> All regions <input type="checkbox"/> Africa <input type="checkbox"/> Arab States <input checked="" type="checkbox"/> Asia <input type="checkbox"/> Caribbean <input type="checkbox"/> Central America</p>

	<input type="checkbox"/> Europe <input type="checkbox"/> Least Developed Countries <input type="checkbox"/> North America <input type="checkbox"/> Pacific <input type="checkbox"/> Polar regions <input type="checkbox"/> Small Island Developing States <input type="checkbox"/> South America
<b>Country(ies) relevant to case study</b>	India
<b>Business sector of the organization(s)*</b>	<input type="checkbox"/> Intergovernmental organization <input type="checkbox"/> National/regional programme/initiative <input type="checkbox"/> Non-governmental organization <input checked="" type="checkbox"/> Private sector entity <input type="checkbox"/> Research institute <input type="checkbox"/> UN organization/agency
<b>Adaptation sector relevant to case study*</b>	<input type="checkbox"/> Capacity building, education and training <input type="checkbox"/> Energy <input type="checkbox"/> Finance and insurance <input type="checkbox"/> Food, agriculture, forestry and fisheries <input type="checkbox"/> Human health <input type="checkbox"/> Oceans and coastal areas <input type="checkbox"/> Science, assessment, monitoring and early warning <input type="checkbox"/> Technology and Information & Communications Technology (ICT) <input type="checkbox"/> Terrestrial ecosystems <input type="checkbox"/> Tourism <input checked="" type="checkbox"/> Transport, infrastructure and human settlements <input type="checkbox"/> Water resources
<b>Adaptation activity delivered by case study*</b>	<input type="checkbox"/> Capacity building <input checked="" type="checkbox"/> Climate-resilient development planning <input type="checkbox"/> Communications and awareness-raising <input type="checkbox"/> Disaster risk reduction <input type="checkbox"/> Early warning systems <input type="checkbox"/> Education <input type="checkbox"/> Financial support <input type="checkbox"/> Humanitarian assistance <input type="checkbox"/> Knowledge management <input type="checkbox"/> Monitoring and evaluation <input type="checkbox"/> Pilot adaptation programmes/projects <input type="checkbox"/> Risk/vulnerability mapping <input type="checkbox"/> Training
<b>Work areas of the NWP*<sup>1</sup></b> <i>Select among the nine work areas of the NWP that apply to the case study.</i>	<input type="checkbox"/> Adaptation planning and practices <input type="checkbox"/> Climate modelling, scenarios and downscaling <input type="checkbox"/> Climate-related risks and extreme events <input type="checkbox"/> Data and observations <input type="checkbox"/> Economic diversification <input type="checkbox"/> Methods and tools <input type="checkbox"/> Research <input type="checkbox"/> Socio-economic information <input checked="" type="checkbox"/> Technologies for adaptation
<b>Target group*</b>	<input type="checkbox"/> Academics

\* Mandatory fields

<sup>1</sup> More information on the Nairobi work programme work areas is available at: <<http://unfccc.int/nwp>>

**Disclaimer:** These business cases have been cited to raise awareness about the engagement of the private sector in climate change adaptation. The information in the business cases has been provided either directly by the organization or obtained from a public source. The UNFCCC Secretariat has not verified the information and takes no responsibility for it. Users are therefore advised to verify the information before they take any action relying on the information provided in the business cases.

	x Children x Communities <input type="checkbox"/> Policy makers x Practitioners x Private sector x Women
<b>Link</b> <i>Further information on relevant websites.</i>	www.bankabio.com
<b>Picture to illustrate case study</b> <i>Provide high resolution image (*.jpg or *.png)</i>	Please, attach your picture to the email
<b>Description</b> <i>Provide a title and brief description of the picture and of the case study. This information will appear with your image on the homepage of the NWP.</i>	Bio-tank being installed, which is placed beneath the toilet structure and holds the bio-digester bacteria.
<b>Credits</b> <i>Provide the name of the photographer or the copyright references.</i>	Banka BioLoo

\* Mandatory fields

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