



## Annex 3: 2016 PIR Generic Offline Template

### Basic Data / Basic Project & Finance Data

#### Basic Project Information

<b>PIMS ID</b>	3465
<b>Project Title</b>	Energy Efficiency Improvements in the Indian Brick Industry

#### Project Contact Information

Role	Name	Email Address
<b>Project Implementing Partner</b>	Mr. Ravi Shankar Prasad	<a href="mailto:Ravi.prasad@nic.in">Ravi.prasad@nic.in</a>
<b>Is the Project Implementing Partner a civil society organization/non-governmental organization?</b>	Yes/No Implementing partner is MoEFCC, a governmental organisation	
<b>Project Manager/Coordinator</b>	N. Vasudevan	<a href="mailto:nvasu@teri.res.in">nvasu@teri.res.in</a>
<b>UNDP Country Office Programme Officer</b>	Dr S. N. Srinivas	<a href="mailto:sn.srinivas@undp.org">sn.srinivas@undp.org</a>
<b>GEF Operational Focal Point (OFP)</b>	Mr. R R Rashmi	<a href="mailto:rr.rashmi@undp.org">rr.rashmi@undp.org</a>
<b>Other Partners</b>		

#### Terminal PIR

<b>Is this the terminal PIR that will serve as the final project report?</b>	YES <i>Note: The terminal PIR is the last PIR the project will submit and serves as the final project report. The terminal PIR can be submitted before the terminal evaluation is completed or it can be submitted in the same calendar year as the terminal evaluation is to be submitted.</i>
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#### General Comments on Basic Data

Please insert additional comments not explained above.
PSC was held on 23 February 2016

## Development Objective Progress / Progress Toward Development Objectives

Objective / Outcome: Description of Objective / Outcome	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2015	Level at 30 June 2016
The goal of the project is to reduce energy consumption and restrict GHG emissions by creating appropriate infrastructure for sustained adoption of energy efficient technologies for production and use of resource efficient bricks. The focus will be on making at least five major brick producing clusters more energy efficient by enhancing (i) public sector awareness on resource-efficient products, (ii) access to finance for brick kiln entrepreneurs, (iii) knowledge on technology and marketing, (iv) availability of	Reduction of 187,840 tonnes of CO <sub>2</sub> in five major brick making clusters in India over 15 years	0	<p>Year 1: reduction of 10,099 tCO<sub>2</sub></p> <p>Year 5: reduction of 59,920 tCO<sub>2</sub></p> <p>Year 10: reduction of 123,880 tCO<sub>2</sub></p> <p>Year 15: reduction of 187,840 tCO<sub>2</sub></p>	As reported earlier, the total number of brick kilns producing REBs remains nine. Three of them were producing REB on pilot basis before the start of project. These entrepreneurs are producing both REBs and solid bricks. As on Dec 2011, these units have reduced 8,783 tCO <sub>2</sub> . No further assessment has taken place since then.	<p>Cumulative GHG reduction from the 9 REB producing units supported by the project is 12,294 tCO<sub>2</sub>. Total number of REB produced from these units is 106.3 million. This include, 76 million perforated bricks and 30.3 million hollow blocks.</p> <p>Yearly estimated production is as given below; 14.9 million in 2010; 14.5 million in 2011; 20 million in 2012; 16.3 million in 2013; 18.1 million in 2014; and 25 million in 2015.</p> <p>The total GHG emission reduction was 12,294 tCO<sub>2</sub> from REBs produced from the project supported units from 2010 to 2015. Estimated GHG reduction was 1625 tCO<sub>2</sub> in 2010, 1570 tCO<sub>2</sub> in 2011, 2283 tCO<sub>2</sub> in 2012, 1887 tCO<sub>2</sub> in 2013, 2043 tCO<sub>2</sub> in 2014, 2886 tCO<sub>2</sub> in 2015.</p>

<p>resource efficient technology models through Local Resource Centres, and (v) capacities of brick kiln entrepreneurs.</p>					
<p>Outcome 1: Enhancing public sector awareness on resource efficient products</p>	<p>Usage of REBs by new public department building contracts increased by 20% by end of project.</p>	<p>No increase in usage of EE bricks in public buildings</p>	<p>Year 2: Increase by 3% Year 3 : Increase by 10% Year 4: Increase by 20%</p>	<p>TERI is a member of the CED-30 committee of Bureau of Indian Standards (BIS). TERI continued to participate in the follow up meetings. TERI participated in 10<sup>th</sup> meeting of clay and stabilized soil products held at BIS office, New Delhi on 21<sup>st</sup> April 2014. The meeting was chaired by Dr. A.K. Minocha, Chairman CED-30 committee, BIS. TERI proposed to BIS to consider revision of IS 2222: 1991(existing standard on 'Specification for burnt clay perforated building bricks" especially with respect to requirements of perforations in the clay-fired bricks. During the meeting, it was decided that Chairman CED-30 committee and TERI will jointly review the existing standard and will provide their consolidated view for any amendment / revision of the existing standard for consideration in the next committee meeting. Summary of earlier work is as given below;</p> <ul style="list-style-type: none"> <li>12 cluster meetings, 2 awareness buildings were carried out where the above stakeholders participated. The project has reached out to about 930 brick</li> </ul>	<p>A significant milestone under this outcome is inclusion of <b>perforated bricks have been included in the specifications of Punjab Public Works Department.</b></p> <p>To increase the market, especially public sector market, inclusion of REBs in procurement schedule was important. For this to happen, revision Indian Standards was required to include REBs. Further for Bureau of Indian Standards to consider inclusion of REBs the testing of REB on technical parameters were required. The project got the required technical testing carried out and provided all the required inputs, documentation to the BIS committee looking into revision of IS standards for REBs. Following are the list of activities to further increase the use of REBs;</p> <ol style="list-style-type: none"> <li>1. TERI, a project partner with this project is a member on the committee CED-30 established by BIS. During the reporting period TERI participated in 4 meetings with BIS CED-30 [at Delhi on 7 Oct 2015, Roorkee on 21<sup>st</sup> October 2015, 23<sup>rd</sup> February 2016, at Roorkee on 10<sup>th</sup> June 2016]. A technical note regarding desired/ proposed modifications in existing IS codes was prepared and submitted to the Chairman, CED-30 Committee of BIS on 13<sup>th</sup> June 2016.</li> <li>2. Punjab State Council for Science and Technology [PSCST] was assigned with a task to establish 3 new REB units and prepare 25 'REB investment plans'. PSCST realizing developing market linkage can motivate brick kilns to convert their unit to REB producing unit they pursued with market to purchase REBs. They also</li> </ol>

			<p>entrepreneurs, architects, builders, government officials, central &amp; state public works departments, Bureau of Indian Standard, Central &amp; state urban development bodies, National Building Code, and Military Engineering Services.</p> <ul style="list-style-type: none"> <li>• A short video film ‘construction practices with REB’s’ was prepared, distributed and uploaded on the project website.</li> <li>• Participated in two trade shows.</li> <li>• TERI is member of BIS committee. Proposal for REB inclusion under standards has been placed to BIS. TERI participated in many meetings of BIS.</li> </ul>	<p>pursued with Public Sector Unit, PWD, Government of Punjab to encourage REB use. An exposure visit to 4 officers [1 Chief Engineer, 2 Executive Engineers and a Senior Engineer from PSCST] from Punjab was organized during 23 – 26 April 2016 to REB production units and sites/ locations near Bengaluru. As result of these efforts, the PWD has included REB specification in their procurement schedule.</p> <ol style="list-style-type: none"> <li>3. Further, PWD, GoP desired to sensitise their engineers to procure REBs. TERI conducted a one day workshop on 24 May 2016 for them. 160 engineers participated. Workshop material are uploaded on project website <a href="http://resourceefficientbricks.org/workshop-clay-fired.php">http://resourceefficientbricks.org/workshop-clay-fired.php</a></li> <li>4. TERI also conducted meetings with many Government departments to promote REBs. They include, Punjab PWD (Bridges and Roads), Punjab Mandi Board, Department of Water Supply and Sanitation, Punjab, Greater Mohali Area Development Authority</li> <li>5. The project initiated discussions with Government of Uttar Pradesh (UP) for inclusion of REBs in their specifications and a detailed note on REB was submitted to Secretary, Additional Source of Energy, Uttar Pradesh during June 2016.</li> <li>6. PSCST conducted awareness workshops on use of REBs for PWD officers in collaboration with TERI on 24.05.2016 at Chandigarh.</li> <li>7. A 8 minute and a 30 seconds audio-visual “Bricking a Greener India”. This will capture various aspects of Resource Efficient Bricks – production, use, cost-benefits, environmental benefits, market, Strength and Standards, etc. the A-V is targeted at policy makers, brick-kiln owners across the country, development professionals, architects, etc. 30 second A-V is for creating awareness and promote the use of REBs. Video shooting was completed in Bangalore, Delhi, Chandigarh and Dera Bassi.</li> </ol>
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					8. A book is under progress titled <b>“Bricking a Greener India: the story of a project that laid the foundation for REBs in the country”</b> .
Outcome 2: Access to finance for brick kiln entrepreneurs.	Loans from local banks/ financial institutions for technology upgradation tripled by end of project	Loans for REB technologies in brick kiln sector will not increase	Year 3 - Loans doubled as compared to baseline year  Year-4 : Loans tripled as compared to baseline year	No activity undertaken during the reporting period.  Thus the achievements remain as reported in previous year, i.e., <ul style="list-style-type: none"> <li>5 model DPRs prepared by LRCs, 2 by TERI - Southern region, 1 by TERI Northern region, rest by other LRCs]. The annual production capacities and investments in Indian Rupees for 5 model DPRs are; 30,00,000 bricks cost INR 108,00,000; 52,00,000 bricks costs INR 250,00,000; 100,00,000 bricks costs INR 262,00,000;;160,00,000 bricks costs INR 496,00,000; and 209,00,000 bricks cost INR 543,00,000.</li> <li>Karnataka State Finance Corporation has reviewed and concurred to the DPRs and in principle agreeable to provide loans.</li> </ul>	5 Model Detailed Project Reports were prepared as reported in previous reporting period.  During the reporting period, draft ‘investment guide’ was prepared. This report is to increase the awareness of financial institution on REBs and to facilitate brick kiln entrepreneurs to avail financial assistance from banks/FIs, The guide will provide information on composition, characteristics, specifications, construction aspects of REBs, advantages over conventional clay-fired solid bricks, details on investments for REB production, etc.
Outcome 3: Improved knowledge on technology including marketing.	REBs sold in the market and used for construction.	Market share of resource efficient bricks remains low.	Market share of resource-efficient bricks doubled by end of project	No activity was undertaken during the reporting period. Thus the achievement under this outcome remains as reported earlier, highlights are presented below; <ul style="list-style-type: none"> <li>Total addition due to project estimated is 9.6 million bricks in two years. In year 1, 2010 was 6.6 bricks and in year 2, 2011 was 6.6 million.</li> </ul>	REB market increased by 100% during the project period. The total REB production was 10.63 crore from all 9 REB producing units. To inform the market on benefits of REBs and promote their use, a number of publications were prepared. They are <ol style="list-style-type: none"> <li>A case study titled “Resource efficient bricks: Benefits of using REBs in building construction” was published. This publication highlights benefits by using REBs. This publication is aimed at the target group of all stakeholders, primarily for REB producers and users.</li> </ol>

				<ul style="list-style-type: none"> <li>• Many knowledge products such as approach paper, film, simulation modeling, draft manual on construction of REBs, were prepared</li> <li>• One international conference organized in north, one interactive meeting in south and four business to business meetings were organized. In all 700 people attended and benefited from these meetings.</li> <li>• Enabling actions such as laboratory testing of REB samples were tested at accredited laboratory. The tests have provided results indicating that the REBs conform to the existing BIS standards on physical and thermal parameters except the thermal conductivity for which Indian laboratories are not equipped.</li> </ul>	<p>Some of the key benefits of REBs are, it saves 22 kg of cement and 0.11 m<sup>3</sup> of sand during 1 m<sup>2</sup> plaster and 1 m<sup>3</sup> masonry work; (ii) saves 1.2 to 5.9% electricity [depending on type of climatic zone] in heating/cooling loads for a typical commercial building.</p> <ol style="list-style-type: none"> <li>2. Draft “Handbook on construction using REBs” was prepared and circulated for comments. This is aimed at the target group of REB users.</li> <li>3. “Adaptation to construction using REBs”. The report makes capacity assessment of present construction practices of masons. It presents the adaptation required while using REBs.</li> <li>4. “Awareness workshop on REBs” was organised at Bangalore on 4<sup>th</sup> December 2015. 30 participants, primarily architects participated. Other participants included REB producers, machinery suppliers and builders. The workshop material are uploaded on project website <a href="http://resourceefficientbricks.org/awareness-workshop.php">http://resourceefficientbricks.org/awareness-workshop.php</a></li> <li>5. To quantify the performance, compare the benefits between solid bricks, perforated and hollow bricks, resource audit have been carried out. These kilns include, 2 brick kilns producing perforated bricks [M/s Panesar BKO, Ludhiana, Punjab; M/s <b>Kailash Brick Kiln Owner, Tohana, Haryana</b>], 2 brick kilns producing conventional solid bricks [M/s Panesar BKO, Ludhiana, Punjab M/s Ramjalan avtar BKO, Tohana, Haryana]; 2 brick kilns producing hollow blocks [M/s Anjaneya Brick Kiln, Hosakote, Karnataka; Sri Venkateshwara Brick kiln, Malur, Karnataka]. The results of the measurements are being analyzed.</li> <li>6. A study titled, “Market assessment for Resource Efficient Bricks (REBs): Present production and future markets” has been commissioned to Greentech knowledge solutions. Consultations with 250 stakeholders (brick producers, architects, engineers, builders, government officials, machinery manufacturers, sector experts, academic and research organization) were contacted during survey. 75 of them</li> </ol>
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					<p>were interviewed over phone and 50 participated in a stakeholder workshop organized on June 8<sup>th</sup> 2016. The findings are as follows; around 50 brick manufacturing units manufacture REBs; production of perforated bricks has increased by 200% and that of hollow bricks by 150% between 2011 and 2015, there is potential to establish 500 REB producing units as they already have extruders. Main states having extruders are Kerala, WB, TN, Karnataka, Assam, Manipur, Punjab, Harayana, Chattisgarh etc and needed market development on priority. It will require around Rs 500-1000 crores as investment in plant and machinery in upgrading extruder based units to REB producing units. They can produce 107 Crore REBs annually and reduce 143,720 tCO<sub>2</sub> annually.</p>
<p>Outcome 4: Availability of resource efficient technologies.</p>	<p>12 energy efficient brick kiln units established in 5 clusters by end of the project.</p>	<p>No EE brick kiln units established</p>	<p>All 12 units established by year-1</p>	<p>No additional manufacturing facility producing REB was supported directly under the project during the reporting period. However, it is expected that the 9 units which were directly or indirectly supported by the project continued with REB production. A summary of achievements as reported earlier is provided here as ready reference;</p> <ol style="list-style-type: none"> <li>1. Pryag bricks at Varanasi</li> <li>2. Bharat bricks at Derabassi</li> <li>3. Dadoo bricks, Hapur</li> <li>4. Kusum bricks at Hapur</li> <li>5. Sai Nath bricks at Gaziabad</li> <li>6. Jai Jalaram bricks at Godhra</li> <li>7. Sri Venkateshwara bricks &amp; tiles, Kolar</li> <li>8. Anjaneya bricks, Hosakote</li> <li>9. Sri Marikamba bricks, Malur</li> </ol>	<p>Technical/ market facilitation was/is being provided to 12 brick producing units to produce REBs.</p> <ul style="list-style-type: none"> <li>• 9 REB producing units which were already producing REBs were facilitated with market development support by TERI [as reported in earlier PIRs].</li> <li>• PSCST has been engaged to establish 3 new REB producing units. Three brick units namely M/s. Baba Bir Singh Brick Kiln Udyog Samiti., Majitha, Amritsar, Punjab; M/s. Sadashiv Bricks, Dabhota, Nalagarh, Solan, Himachal Pradesh; M/s. Jain BKO, Uklana Mandi, Hisar, Haryana have been identified. Resource audits were conducted in first two units. These two units have procured the required machinery to manufacture REBs.</li> </ul>
<p>Outcome 5: Improved capacity of brick kiln entrepreneurs.</p>	<p>At least 5 brick kiln entrepreneurs in each cluster invest in technology</p>	<p>No investment done on REB technology adoption</p>	<p>Year 2 : 1 entrepreneur in each cluster invests</p>	<p>No additional activity was taken up during the reporting period. However, the efforts made by project during the active part of the project may have resulted into action in the sector.</p>	<p>To encourage entrepreneurs upgrade their brick kilns by introducing REBs, PSCST was engaged for northern region with a task to develop Investment plans for 25 brick kilns. PSCST secured 66 consent forms [through 7 cluster level/district level small group meetings with brick kiln associations/ owners, advertisement on newspapers, large</p>

	upgradation by end of the project.		Year 4: 5 entrepreneurs in each cluster invest.	<ul style="list-style-type: none"> <li>• 3 cluster meetings by three LRCs in North, South and East were conducted creating awareness.</li> <li>• 3 exposure visits organized at South to Wienerberger production unit.</li> </ul>	<p>workshop at Chandigarh]. 57 of these were from the State of Punjab, 3 from Haryana, 4 from Rajasthan and 1 each from Jammu &amp; Kashmir and Himachal Pradesh.</p> <p>One-Day Interactive Meet on “Setting up of Resource Efficient Bricks (REBs) Production Units” was organized on 19.01.2016 and all 66 interested parties were invited. 26 out of 66 parties submitted their willingness to participate in the project and submitted their concurrence. Bankable investment plan template was prepared. Preparation of “investment plans to implement REBs’ for these 26 brick kilns is in progress. PSCST is working with 9 machinery manufacturers/ vendors active in India for preparation of draft investment plans.</p> <p>“Technical assessment of operating extruders” has been prepared by TERI. Field visits were conducted in the states of Karnataka and Tamil Nadu in addition to desk review. The report analyses the problems faced by brick kilns in using extruders manufactured by Indian, Chinese and European machinery manufacturer/suppliers. It also presents probable reasons and remedial measures.</p> <p>A brochure “Energy Efficiency improvements in Indian Brick Industry” highlighting the project details and different aspects of REBs has been prepared and uploaded in project website  <a href="http://resourceefficientbricks.org/pdf/projectbrochure.pdf">http://resourceefficientbricks.org/pdf/projectbrochure.pdf</a>.</p>
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## Development Objectives Rating

<p><b>Project Manager / Coordinator</b> is the person managing the day to day operations of the project.</p>	<p>MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country or regional projects where appropriate.</p> <p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Fully explain the critical risks that have affected progress.</li> <li>4. Outline action plan to address projects with DO rating of HU, U or MU.</li> </ol>
	<p><b>Satisfactory</b></p> <p>The project activities were initiated on 17<sup>th</sup> August 2015. As the project was in abeyance during last four years, the prime focus was to re-engage the key stakeholders and ensure their participation to successfully achieve the desired project objectives. The project has actively worked with the relevant government bodies to increase their knowledge on REBs. One-to-one meetings, awareness workshop and exposure visits were organized to increase their awareness on REBs. Case study highlighting benefits of using REBs in place of conventional solid bricks was prepared and shared with the stakeholders. The case study covered two aspects- material saving during construction and energy saving (heating and cooling loads) during use of building.</p> <p><b>Due to project efforts, the perforated bricks were included in the specifications of Public Works Department (Bridges &amp; Roads) of Punjab state government.</b> The project is closely following up Bureau of Indian Standards (BIS) for revision of existing standard on perforated bricks (IS 2222:1991). To increase the knowledge base of stakeholders on various aspects related to REB production and use, specific knowledge products were prepared/under preparation that includes (i) technical report on extruder highlighting common problems encountered during extrusion process and their remedial measures (target group : REB producers) (ii) construction practices of masons (target group : REB users) (iii) handbook on construction practices using REBs (target group :REB user), (iv) Case study on benefits of using REBs (target group : REB users) (v) Investment guide for REB production (target group : FIs/banks) (vi) comparative report on benefits of</p>

	producing REBs based on actual energy audit of brick kilns producing REBs and conventional solid bricks (target group : REB producers)
<p><b>UNDP Country Office Programme Officer</b> is the UNDP programme officer in the UNDP country office who provides oversight and supervision support to the project.</p>	<p>MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country. Not necessary for regional or global projects.</p> <p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating, for example, if your rating differs from the rating provided by the project manager please explain why.</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Fully explain the critical risks that have affected progress.</li> <li>4. Outline action plan to address projects with DO rating of HU, U or MU.</li> </ol> <p><b>Satisfactory</b></p> <p>Project restarted in 2015 after on 'hold' for almost 4 years. The project made significant progress in the last one year and has set out the tasks till end December 2016. LFA was revised. To resolve audit observation of excess charging on manpower costs, TERI agreed to reprogramme an amount of 120,000 USD [INR 73, 32,343]. TERI was to carry out such tasks which were continued from earlier years and need to converge such as revision of standards for REBs, review/revision/completion of key documentation. It was agreed that activities for the balance amount 217,057 USD will be carried out through UNDP country office support. The tasks were designed to reasonably respond to the LFA outcomes and goal. The tasks were also designed to respond to the recommendations of mid-term review.</p> <p>In all, the estimated cumulative GHG reduction from the 9 REB producing units supported by the project is 12,294 tCO<sub>2</sub>. Total number of REB produced from these units is 106.3 million. This include, 76 million perforated bricks and 30.3 million hollow blocks. Yearly estimated production is as given below; 14.9 million in 2010; 14.5 million in 2011; 20 million in 2012; 16.3 million in 2013; 18.1 million in 2014; and 25 million in 2015. The total GHG emission reduction was 12,294 tCO<sub>2</sub> from REBs produced from the project supported units from 2010 to 2015. Estimated GHG reduction was 1625 tCO<sub>2</sub> in 2010, 1570 tCO<sub>2</sub> in 2011, 2283 tCO<sub>2</sub> in 2012, 1887 tCO<sub>2</sub> in 2013, 2043 tCO<sub>2</sub> in 2014, 2886 tCO<sub>2</sub> in 2015.</p>

Outcome 1: Enhancing public sector awareness on resource efficient products. To increase public sector market, inclusion of REBs in procurement schedule was essential. For this to happen, revision Indian Standards required revision for REBs. Further for Bureau of Indian Standards to consider inclusion of REBs, testing of REB on technical parameters were required. The project got the required technical testing carried out and provided all the required inputs, documentation to the BIS committee looking into revision of IS standards for REBs. A significant milestone achieved was the inclusion of **perforated bricks have been included in the specifications of Punjab Public Works Department. Government of Punjab was the first state to issue such notification.** TERI, continued to work with BIS to get the revised Indian Standards for REBs. The project website <http://resourceefficientbricks.org/workshop-clay-fired.php> was reactivated and updated. Awareness programmes were conducted in South and North by TERI and PSCST. The project initiated discussions with Government of Uttar Pradesh (UP) for inclusion of REBs in their specifications and a detailed note on REB has been submitted to Secretary, Additional Source of Energy, Uttar Pradesh in June 2016. Documentation of project and audio-visual on REBs have been commissioned to create awareness among all the stakeholders.

Outcome 2: Access to finance for brick kiln entrepreneurs. As reported in earlier PIRs, 5 model Detailed Project Reports for different capacity brick kilns were prepared. These DPR templates were concurred by Karnataka State Financing Corporation, a financing institution. Further, to make more FIs extend lending, efforts are ongoing to conduct a meeting in the next quarter. However, a document 'investment guide in REB production' is prepared for REB producers and financing institutions. This document is expected to provide the much required information composition, characteristics, specifications, construction aspects of REBs, advantages over conventional clay-fired solid bricks, details on investments for REB production, etc.

Outcome 3: Improved knowledge on technology including marketing. REB use can provide multiple benefits. For example, it saves 22 kg of cement and 0.11 m<sup>3</sup> of sand during 1 m<sup>2</sup> plaster and 1 m<sup>3</sup> masonry work; (ii) saves 1.2 to 5.9% electricity [depending on type of climatic zone] in heating/ cooling loads for a typical commercial building; (iii) reduces soil use (5 to 40% depending on perforations); (iv) reduces fuel consumption (5 to 40%). A number of documents were prepared to pool and share the knowledge on REBs targeted for different stakeholders. They are, (i) A case study titled "Resource efficient bricks: Benefits of using REBs in building construction" primarily aimed at REB producers and users; (ii) report on "Handbook on construction using REBs" targeted REB users, (iii) "Adaptation to construction using REBs" aimed at mesons. Awareness workshops were conducted to sensitize engineers, architects during the period. Brainstorming workshops were conducted on analyzing the current government guidelines to create conducive environment for REB promotion and assessing market for REBs.

Outcome 4: Availability of resource efficient technologies. Project provided technical assistance and facilitating market linkages. As reported during earlier PIRs, 9 existing REB producing units were provided market linkage facilitation support to

	<p>increase their sale of REBs. As can be seen from the yearly sales, brick sales increased from 14.9 million in 2010 to 25 million in 2015. In addition, project is providing technical assistance to 3 new brick kilns establishing REB producing facilities.</p> <p>Outcome 5: Improved capacity of brick kiln entrepreneurs. Project was expected to work in 5 different clusters as identified in the beginning of the project. 5 Local Resource Centres were identified. However the progress was not adequate. During the mid-term review, it was suggested to focus on two clusters, north and south. Accordingly the focus was converged to these two clusters. PSCST was engaged for northern region with a task to develop Investment plans for 25 brick kilns. They have over met the target and received expression of interest from 30 brick kilns interested in investing in REB manufacturing. Project is providing technical assistance in the form of developing Investment plans. Extruders are a requirement to establish REB manufacturing unit. Hence, a “Technical assessment of operating extruders” was undertaken. The report analyses the problems faced by brick kilns in using extruders manufactured by Indian, Chinese and European machinery manufacturer/suppliers. It also presents probable reasons and remedial measures.</p> <p>Project has taken number initiatives over the last 20 months after resolving audit issues, restarted it in consultation with MoEFCC and TERI. The project also made significant progress and reasonably responded to the LFA outcome and targets. However, many targets may remain unmet, such as, GHG reductions targeted 187,840 tCO2. Given the overall progress, I provide a rating of Satisfactory.</p>
<p><b>GEF Operational Focal point</b> is the government representative in the country designed as the GEF operation focal point.</p>	<p>HIGHLY RECOMMENDED but NOT mandatory for projects under implementation in one country. Not necessary for regional or global projects.</p> <p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Provide recommendations for next steps.</li> </ol> <p>[DO rating in 2016]</p> <p>[comments]</p>

<p><b>Project Implementing Partner</b> is the representative of the executing agency (in GEF terminology). This would be Government (for NEX/NIM execution) or NGO (for CSO Execution) or an official from the Executing Agency (for example UNOPS).</p>	<p>RECOMMENDED but NOT MANDATORY for projects under implementation in one country and regional projects.</p> <p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Provide recommendations for next steps.</li> </ol> <p>[DO rating in 2016]</p>
<p><b>Other Partners:</b> For jointly implemented projects, a representative of the other Agency working with UNDP on project implementation (for example UNEP or the World Bank).</p>	<p>RECOMMENDED but NOT MANDATORY for jointly implemented projects.</p> <p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Provide recommendations for next steps.</li> </ol> <p>[DO rating in 2016]</p> <p>[comments]</p>
	<p>MANDATORY RATING MUST BE PROVIDED for all projects.</p>

<b>UNDP Technical Adviser</b> is the UNDP-GEF Technical Adviser.	<p>Please review the cumulative progress toward end-of-project targets as noted in the DO tab of this PIR and provide a rating on this progress. Please consider the following questions before selecting a DO rating:</p> <ol style="list-style-type: none"> <li>1. Have all the results framework/logframe indicators been updated to end of June this year? Is sufficient evidence available to confirm the data provided? Has this evidence been uploaded to the PIR? If indicators could not be reported on please explain why in the DO rating comments section.</li> <li>2. Do the indicators adequately measure cumulative progress toward the project objective and outcomes? If not then please explain the mitigating circumstances in the DO rating comments.</li> <li>3. Consider the likelihood that the project will achieve its stated objective and outcomes and end-of-project targets by the planned project closure date.</li> <li>4. Consider whether sufficient measures will be in place by project closure to facilitate the long-term sustainability of results (e.g. exit strategy, new partnerships, indirect GEBs generated in the ten years after closure, additional co-financing, etc.).</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating (do not repeat the project objective).</li> <li>2. Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.</li> <li>3. Fully explain the critical risks that have affected progress.</li> <li>4. Outline action plan to address projects with DO rating of HU, U or MU.</li> </ol>
	[DO rating in 2016]
	[comments]

**General comments on Development Objective Rating**

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<b>DO Progress: Rating Definitions</b>	
Highly Satisfactory (HS)	Project is expected to achieve or exceed all its major global environmental objectives and yield substantial global environmental benefits without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to achieve most of its major global environmental objectives and yield satisfactory global environmental benefits with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.



## Adjustments: evidence to support annual Implementation Progress Rating

Please complete all sections of this tab. The IP Ratings on the next tab of this PIR should be informed by the inputs in the Adjustments tab. The responses should also be used by the UNDP Country Office to complete the UNDP annual project quality assurance assessment during implementation; the questions under “Annual Project Quality Assurance Assessment” have been aligned with that system. If you have any general comments about the information in this section of the PIR, please note them at the bottom of this page. Please upload the following documents as relevant on the approve/submit tab: project board meeting minutes; stakeholder consultation documents; lessons learned and other knowledge management materials.

### **Annual Project Quality Assurance Assessment**

<b>Project Governance</b>	
<b>Are at least 40 percent of the personnel hired by the project, regardless of contract type, female?</b>	During the reporting period no persons were hired. Most of the activities were outsourced to consulting firms and government agencies.
<b>Dates of Project Steering Committee/Board meetings during reporting period (30 June 2015 to 1 July 2016)</b>	[23 February 2016]
<b>Did the Project Board function as intended this reporting period?</b>	Yes/No Yes. Country Programme Management Board meeting was held on 9 March 2016
<b>Please add any comments on project governance.</b>	The project activities have been assigned to different agencies and overall the activities are being coordinated by UNDP directly under UNDP country office support modality.
<b>Annual Work Planning</b>	
<b>Have project inputs been procured and delivered on time and budget this reporting period?</b>	Yes
<b>Will the project be able to close on time as planned?</b>	Yes
<b>Please add any comments on annual work planning</b>	Two work plans were prepared. AWP part 1 was implemented by TERI for the reprogrammed amount. AWP part 2 was implemented by UNDP under country office support modality. Earlier TERI was the sole responsible party implementing the project. However, after the audit observations, this adjustment was made.
<b>Stakeholder engagement and target groups</b>	
<b>Please discuss how stakeholders and target groups were directly engaged in the decision-making, implementation and monitoring of the project this reporting period.</b>	Project Steering committee had participation of stakeholders, invitees. Consultation workshop was conducted on 9 June 2016 to discuss the finding of “Market assessment for Resource Efficient Bricks (REBs): Present production and future markets”
<b>Monitoring &amp; Evaluation (M&amp;E)</b>	
<b>Please discuss how the project M&amp;E Plan was implemented and used to support effective project management this reporting period (e.g. please consider whether progress data against the indicators in the project results framework was reported using credible data sources and collected according to the M&amp;E plan, including sex disaggregated data as relevant; whether lesson learned were used to take corrective actions as</b>	(no more than 200 words) Monitoring is done as per prococ. Through Project Steering Committee meetings. In addition, the Programme Analyst and representative from NPD office made field visits, participated in workshops organized by vendors/ agencies. The data are from reports, estimations.

necessary; whether evaluations were conducted following the UNDP-GEF guidance available at <a href="http://www.undp.erc.org">www.undp.erc.org</a> ; and other issues as relevant).	
<b><i>Social &amp; Environmental Standards</i></b>	
Were any new social and environmental impacts and risks identified this reporting period?	Yes/No Government of India has issued a circular banning use of clay in bricks. The project is providing the data and information on the need for examining this circular, as other material cannot fulfil the total brick requirements in the country. This is appropriate to introduce REB which uses clay but at reduced quantity.
Please discuss how social and environmental impacts and risks were managed this reporting period, as relevant.	(no more than 200 words) Nothing to report.



### Project Planning

If delays have occurred in reaching key projects milestones - the inception workshop, the Mid-term Review and/or the Terminal Evaluation - then note below the current status of that milestone, the original planned and actual/expected dates, and comments to explain the reasons for the delays and their implications.

Key Project Milestone	Status (pick one option below)	Original Planned Date	Actual/Expected Date	Comments including reasons for delays and their implications
Inception Workshop	delayed/completed	May 2008	June 2009	A PSC was held before it was signed to resolve the implementation arrangements. This took some time.
Mid-term Review	delayed/completed	May 2010	October 2012	Though MTR was not required, it was decided to hold the MTR to review the project in light of inadequate progress.
Terminal Evaluation	delayed/pending	April 2013	November 2016	Project was on hold to resolve audit issues from July 2011 till June 2015.
Project Closure	delayed/pending	June 2013	December 2016	Same as above

### Critical Risk Management

Select from below the critical risks only that appear in the ATLAS project risk log and briefly describe actions undertaken this reporting period to address each critical risk. Please ensure that any 'social' risks identified during the environmental and social screening of the project are reflected in the ATLAS risk log under type/description 'other'. Note that the total number of critical risks is used to calculate the overall risk rating of the project. The methodology to determine the overall risk rating is explained further on this page.

Current/Active Critical Risks (pick one option below; add rows as necessary)	Critical Risk Management Measures Undertaken in 2016
Regulatory	<p>Government of India circular of mandatory usage of flyash bricks may pose risk to REB production. Extract from the circular is as follows;</p> <p>The state authorities shall amend building bye laws of the cities having population one million or more so as to ensure the mandatory use of ash based bricks keeping in view the specification necessary as per technical requirements for load bearing structures.</p> <p>The concerned authority shall ensure mandatory use of ash based bricks or products in all Government schemes or programmes e.g. Mahatma Gandhi National Employment Guarantee Act, 2005 (MNREGA), SWATCHH BHARATH ABIYAN, Urban and Rural housing scheme, where built up area is more than 1000 square feet and in infrastructure construction including buildings in designated industrial estates or parks or special economic zone.</p>

	The project is providing the data and information on the need for examining this circular, as other material cannot fulfil the total brick requirements in the country. This is appropriate to introduce REB which uses clay but at reduced quantity.
Operational	Setting up of 3 new REB manufacturing units may not get completed. Quantification of production, savings of energy and estimation of GHG may not take place. PSCST, a governmental agency has been awarded with the task. MoEFCC is a member on their board. Hence, a proposal can be made for overseeing the task directly by MoEFCC.

**General comments on Adjustments**

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## Implementation Progress Rating

<p><b>Project Manager / Coordinator</b> is the person managing the day to day operations of the project.</p>	<p>MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country or regional projects where appropriate.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Summarize annual progress and address timelines of project output/activity completion in relation to annual work plans.</li> <li>3. Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.</li> </ol> <p><b>Satisfactory</b></p> <p>The planned activities as per the approved AWP are being implemented satisfactorily and will be completed as per the schedule. Some of the planned activities were modified/new activities added, as per the request by the stakeholders, and the revised AWP have been submitted to NPD for approval. Different stakeholders (REB producers, architects, Government officials etc.) were successfully engaged in the project activities. All the activities will be completed within the approved budget.</p>
<p><b>UNDP Country Office Programme Officer</b> is the UNDP programme officer in the UNDP country office who provides oversight and supervision support to the project.</p>	<p>MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country. Not necessary for regional or global projects.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol> <p>Please justify your rating and address the following points in your comments. The QORs and delivery data in the ERBM portfolio project monitoring report should inform your rating. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating. If your rating differs from the rating provided by the project manager please explain why.</li> <li>2. Summarize annual progress and address timeliness of project output/activity completion in relation to annual workplans.</li> </ol>

3. Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.

Highly Satisfactory

The project was restarted during the reporting period. The project worked on revised LFA, focusing on few but critical activities that can meet most of LFA outcomes. The actions were designed in two work plans – Work Plan 1 was directly implemented by TERI to account for refund. The project was left with a balance of USD 217,057. It was agreed that activities to meet different outcomes will be designed and outsourced through UNDP procurement process. Thus AWP 2 was prepared with UNDP country office support.

TERI's activities included the following namely, (i) continue to work with BIS to revise IS standards for REBs, (ii) continue to work with different public sector units to get the REBs included in procurement schedule, (iii) different documents targeted at different stakeholders, (iv) reviving project website (v) analysis of extruders, (vi) preparation of brochure. These activities essentially addressed Outcome 1 to 3. TERI is on the committee set up by BIS to review the proposal for revising the IS for REBs. TERI has provided all technical documentation, testing reports, etc. as required by BIS. TERI also has prepared a updated project brochure, revived the project website and prepared draft reports.

Under work plan 2, four key activities were initiated addressing all the four outcomes except 2. UNDP floated RFPs, and selected agencies based on UNDP procurement rules.

The first assignment addresses outcome 3 titled, "Market assessment for Resource Efficient Bricks (REBs): Present production and future markets" commissioned to Greentech knowledge solutions. Greentech has prepared the draft report presented it in stakeholder workshop and also at PSC. The progress is satisfactory. The second assignment addresses outcome 4 & 5, titled "Setting up of 3 Resource Efficient Brick [REB] units and preparation of investment plans for 25 REB units" was commissioned to PSCST. The progress is highly satisfactory. In a short time, more than 25 brick kilns came forward for developing investment plans, 2 brick kilns procured REB machinery investing about 250,000 USD each. The third kin is getting ready for the resource audit. The project supports, resource audit in these 3 units, technical assistance to implement REB and a post implementation resource audit. PSCST also carried out additional task at no additional cost by working with PWD, Government of Punjab and getting **perforated bricks included in the specifications of Punjab PWD (Bridges & Roads). This can be said as the most significant milestone against outcome 1 of the project.**

Further to quantify and compare fuel consumption, soil use and emissions, "Resource Audit of REB producing units and conventional solid burnt bricks" was commissioned to TERI. They have completed the audit, the results are being analysed.

	<p>To document the project, the project commissioned a task “Develop documentation package for Energy Efficiency in brick industry” to ADCS, a consulting firm. They will come out with three knowledge products, one process story on REBs in India, two audio-visuals one of 8 minutes and another of 30 seconds which acts as promotional material. The 8 minutes documentary will be displayed at workshops/ awareness programmes, etc. 30 seconds A-V will be quick snapshot of REB for television, other social and multimedia, in flight. Project funds are used only for developing them, giving rights to whoever wants to display them.</p> <p>The project has achieved many milestones during the year, firstly it got re-started after a gap of 4 years. Secondly, all the tasks were advertised, agencies selected. Agencies also made significant progress. Thirdly, the single most critical achievement was including REBs in procurement schedule by PWD, Government of Punjab. Thus the reporting period was indeed helped the project turn around and I provide a rating of ‘Highly Satisfactory’ for the progress made.</p>
<p><b>GEF Operational Focal point</b> is the government representative in the country designed as the GEF operation focal point.</p>	<p>HIGHLY RECOMMENDED but NOT mandatory for projects under implementation in one country. Not necessary for regional or global projects.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative.</li> <li>3. Provide recommendations for next steps.</li> </ol>
	<p>[IP rating in 2016]</p>
	<p>[comments]</p>
<p><b>Project Implementing Partner</b> is the representative of the executing agency (in GEF terminology). This would be Government (for NEX/NIM execution) or NGO (for CSO Execution) or an official from the</p>	<p>RECOMMENDED but NOT mandatory for projects under implementation in one country or regional projects.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol>

<p>Executing Agency (for example UNOPS).</p>	<p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative.</li> <li>3. Provide recommendations for next steps.</li> </ol>
	<p>[IP rating in 2016]</p>
	<p>[comments]</p>
<p><b>Other Partners:</b> For jointly implemented projects, a representative of the other Agency working with UNDP on project implementation (for example UNEP or the World Bank).</p>	<p>RECOMMENDED but NOT mandatory for jointly implemented projects.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol> <p>Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating.</li> <li>2. Note trends, both positive and negative.</li> <li>3. Provide recommendations for next steps.</li> </ol>
	<p>[IP rating in 2016]</p>
	<p>[comments]</p>
<p><b>UNDP Technical Adviser</b> is the UNDP-GEF Technical Adviser.</p>	<p>MANDATORY RATING MUST BE PROVIDED for ALL projects.</p> <ol style="list-style-type: none"> <li>1. Please rate the efficiency in delivery of outputs. For example, in this reporting period, is project delivery on target with the Annual Work Plan? Is cumulative project delivery on track?</li> <li>2. Please rate the quality of project governance and project management. For example, in this reporting period did the Project Board address critical issues? Did the project manager effectively implement the decisions of the Project Board?</li> <li>3. Please rate the quality of risk management. For example, in this reporting period were project risks, including any social and environmental safeguard risks, managed effectively,?</li> <li>4. Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issues identified in the PIR last year?</li> <li>5. Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation?</li> </ol> <p>Please justify your rating and address the following points in your comments. The QORs and delivery data in the ERBM portfolio project monitoring report should inform your rating. Please keep word count between 500 words minimum and 1200 words maximum.</p> <ol style="list-style-type: none"> <li>1. Explain why you gave a specific rating. If your rating differs from the rating provided by the UNDP Country Office Programme Officer and/or the Project Manager please explain why.</li> <li>2. Summarize annual progress and address timelines of project output/activity completion in relation to annual workplans.</li> <li>3. Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.</li> </ol>
	<p>[IP rating in 2016]</p>
	<p>[comments]</p>

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**General comments on Implementation Progress Rating**

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<b>Implementation Progress: Ratings Definitions</b>	
Highly Satisfactory (HS)	Implementation of all components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
Satisfactory (S)	Implementation of most components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of some components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of some components is not in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of most components is not in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of none of the components is in substantial compliance with the original/formally revised plan.

## Gender

All projects must complete this section.

This information is used in the UNDP-GEF Annual Performance Report, UNDP-GEF Annual Gender Report, reporting to the UNDP Gender Steering and Implementation Committee and for other internal and external communications and learning.

<p><b>Has a gender analysis been carried out this reporting period?</b>  <i>Please note that all projects approved in GEF-6 (1 July 2014 through 30 June 2018) are required to carry out a gender analysis.</i></p>	<p>Nothing to report during reporting period</p>
<p><b>If a gender analysis has been carried out what were the findings?</b></p>	<p>No</p>
<p><b>Does this project specifically target women or girls as key stakeholders?</b></p>	<p>No</p>
<p><b>Please specify results achieved this reporting period that focus on increasing gender equality and improving the empowerment of women.</b>          Results reported can include site-level results working with local communities as well as work to integrate gender considerations into national policies, strategies and planning. Please explain how the results reported addressed the different needs of men or women, changed norms, values, and power structures, and/or contributed to transforming or challenging gender inequalities and discrimination.</p>	<p>Nothing to report</p>
<p><b>Please upload the gender analysis and any other documents related to the project's gender-related results.</b></p>	<p>N.A.</p>

### General comments on Gender

<p>N.A.</p>
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## Communicating Impact

***Tell us the story of your project, focusing on how the project has helped to improve people's lives.***

Please use 500 words or less.

Avoid UN jargon, acronyms, and technical terms. Use plain language.

Include quotes from beneficiaries, if possible, and be sure to provide their names

The following questions can be used as guidance for your story:

What is this project about – the issue, interventions, and impacts?

Who are the beneficiaries of this project?

How have project interventions improved people's livelihoods?

What was the most notable achievement during this reporting period?

This text will be used for UNDP corporate communications, the UNDP-GEF website, and/or other internal and external knowledge and learning efforts.

The project "Energy Efficiency Improvements in the Indian Brick Industry" aimed to reduce energy consumption in production and promote use of resource efficient bricks. The benefits include reduction of cement and mortar in plastering, reduction in soil, reduce local pollution and GHG emissions. The project aimed to providing technical assistance to existing brick kilns to start producing REBs, facilitate market development for REBs both in public sector and private sector, creating awareness amongst the public to make use of REBs.

The barriers for REB promotion was non availability of machinery manufacturers, REB producers and users not aware of REBs. On other hand, the REBs were not included in procurement schedule and Indian Standards. The project designed various activities to overcome these barriers. The main target beneficiaries of project are REB users and REB producers. The project made the following interventions to overcome the barriers.

Firstly to strengthen the REB production, the project provided market development linkages to 9 existing REB producing units so that the products are sold. These nine REB manufacturing units have increased their production from 150 to 200% from 2010 to 2015 and have collectively produced 100 million bricks during this period and this translates to reduction of 12,294 tonnes of carbon dioxide. Further to encourage more kilns to start producing REBs, technical assistance is being provided to 3 new brick kilns to set up REB machinery. They are in various stages of implementation. In addition, project is providing technical assistance to 25 brick units to develop Bankable Investment Plans. Four workshops were conducted for REB machinery manufacturers and REB producers so that they could interact and enter into agreement on purchasing REB machinery.

To increase market for REBs, it was required to look at both purchase by public sector and private sector. For PSUs to purchase REBs, it was essential that REBs are included in the procurement schedule. REBs inclusion in Indian Standards was helpful for the PSU to consider its inclusion in procurement schedule. The project worked with different Public Sector Units and the governmental agencies. Public Works Department, Government of Punjab was the first to include REBs in procurement schedule. This can be stated as most significant achievement of the project. 150 of their engineers were also sensitized on benefits of REBs and trained on their usage in construction during the reporting period. In all, to increase private market, 25 workshops were conducted by project partners TERI, PSCST and Greentech knowledge solutions. The target groups included architects, REB producers, machinery manufacturers, REB users, government officials, etc. Market assessment for

Resource Efficient Bricks (REBs): Present production and future markets study initiated to provide insights into REB market.

The project has produced a number of knowledge products to create awareness among different stakeholders. The project has a project website <http://www.resourceefficientbricks.org/index.php> and also UNDP project page [http://www.in.undp.org/content/india/en/home/operations/projects/environment\\_and\\_energy/energy\\_efficiencyimprovementsintheindiabrickindustry.html](http://www.in.undp.org/content/india/en/home/operations/projects/environment_and_energy/energy_efficiencyimprovementsintheindiabrickindustry.html) . The project is also in the process of developing documentation on REBs in India, 8 minute & 30 second audio visuals.

There are about 200,000 brick producing units in India producing about 220 to 280 billion bricks annually. There may be about 50 REB units. Assuming a brick unit produces about 2 million bricks annually, these 50 REB producing units may be producing 100 million bricks annually. There are 500 brick producing units are equipped with extruders [extruder is a pre-requisite for REB production] which are producing solid clay bricks. All the above project efforts may help in more brick kilns producing REBs that reduce energy consumption, soil and GHG emissions.

***What is the most significant change that has resulted from the project this reporting period?***

The most significant change could be positive or negative and could relate to any aspect of the project such as direct beneficiaries, communities, partnerships, policy. The purpose of this section is to capture lessons learned and changes that many not be revealed through the project's logical framework or other parts of the PIR.

This text will be used for internal knowledge management in the respective technical team and region.

1. The project was restarted during the reporting period. The project was on hold from July 2011 to July 2015 till audit issues were resolved.
2. The project was redesigned to focus its activities in two regions [North and South] instead of five, following on recommendations of MTR.
3. UNDP provided country office support to implement the work plan.
4. TERI agreed to reprogramme about 120,000 USD [7,332,343] for the excess charges which otherwise they had to repay.
5. The Punjab Government has already included perforated bricks in their specifications and Uttar Pradesh government has shown their interest in the REBs.

***Describe how the project supported South-South Cooperation and Triangular Cooperation efforts in the reporting period.***

Describe the main focus of the efforts. What is the evidence that the initiative(s) contributed to results?

This text will be used for internal knowledge management in the respective technical team and region.

Nothing to report

***Project links & social media***

Please list below the website addresses (URLs) that exist for this project, including any links to social media sites. Please include: Project website, Project

Project web-site:  
<http://www.resourceefficientbricks.org/>

<p>page on the UNDP website, Adaptation Learning Mechanism (UNDP-ALM) platform, Facebook, Twitter, Flickr, YouTube, Google +</p>	
<p>Please share hyperlinks to any media coverage of the project, for example, stories written by an outside, external source.</p>	
<p>Please upload any supporting files, including photos, videos, stories, and other documents.</p>	<p>[uploading only possible in PIR system; list here the files that you plan on uploading]</p>

***General comments on Communicating Impact***

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## Partnerships

All projects must complete this section. Please enter "N/A" in cells that are not applicable to your project.

This information is used to get a better understanding of the work GEF-funded projects are doing with key partners, including the GEF Small Grants Programme, indigenous peoples, the private sector, and other partners. The data may be used for reporting to GEF Secretariat, the UNDP-GEF Annual Performance Report, UNDP Corporate Communications, posted on the UNDP-GEF website, and for other internal and external knowledge and learning efforts. The RTA should view and edit/elaborate on the information entered here.

<b>Partners</b>	<b><i>Give the name of the partner(s), and describe the partnership, recent notable activities and any innovative aspects of the work. Please do not use any acronyms. (limit = 2000 characters for each section)</i></b>
<b>Civil Society Organisations/NGOs</b>	TERI: As responsible party for some of the activities and also to carry out "Resource Audit of REB producing units and conventional solid burnt bricks"
<b>Indigenous Peoples</b>	N.A.
<b>Private Sector</b>	M/s Wienerberger India Pvt Ltd. – For organizing awareness programme for architects at Bangalore on 4 <sup>th</sup> December 2015 M/s Sathya Consultants, Bangalore – For preparing the handbook on construction practices with REBs M/s Mech Brick Engineers, Pune – For carrying out evaluation of existing extruders
<b>GEF Small Grants Programme</b>	N.A.
<b>Other Partners</b>	Greentech knowledge solutions, Delhi: to carry out the assignment "Market assessment for Resource Efficient Bricks (REBs): Present production and future markets" Punjab State council for Science and Technology, Chandigarh – for carrying out the assignment "Setting up of 3 Resource Efficient Brick [REB] units and preparation of investment plans for 25 REB units" ADCS communications, Chennai: to carry out "Develop documentation package for Energy Efficiency improvements in brick industry"

### **General comments on Partnerships**

## Environmental or Social Grievance

This section must be completed by the UNDP Country Office if a grievance related to the environmental or social impacts of this project was addressed this reporting period.

It is very important that the questions are answered fully and in detail.

*If no environmental or social grievance was addressed this reporting period then please do not answer the following questions.*

*If more than one grievance was addressed, please answer the following questions for the most significant grievance only and explain the other grievance(s) in the comment box below.*

<b>What environmental or social issue was the grievance related to?</b>	Nothing to report in this reporting period [Environmental/Financial/Organisational/Political/Operational/Regulatory/Strategic/Other]
<b>What is the current status of the grievance?</b>	Nothing to report [Resolved / On-going / Both]
<b>How would you rate the significance of the grievance?</b>	Nothing to report [Minor / Significant / Serious]
<b>Please describe the on-going or resolved grievance noting who was involved, what action was taken to resolve the grievance, how much time it took, and what you learned from managing the grievance process (maximum 500 words). If more than one grievance was addressed this reporting period, please explain the other grievance (s) here.</b>	Nothing to report

Rating	Description
Minor	The grievance had/has a low impact on the day-to-day implementation of the project.
Significant	The grievance had/is having a significant impact on the day-to-day implementation of the project, but the project is still expected to achieve its objective.
Serious	The grievance had/is having a serious impact on the day-to-day implementation of the project, and there is a risk (50% or higher) that the project may not be able to achieve its objective.

## Sustainable Development Goals

The UNDP-GEF Technical Advisor and Programme Associate must complete this section. Please select one or more Sustainable Development Goals that align with the results, impact and type of work of the project. For more information on the Sustainable Development Goals please visit <http://www.un.org/sustainabledevelopment/>.

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
	The project addresses Goal No. 7
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development