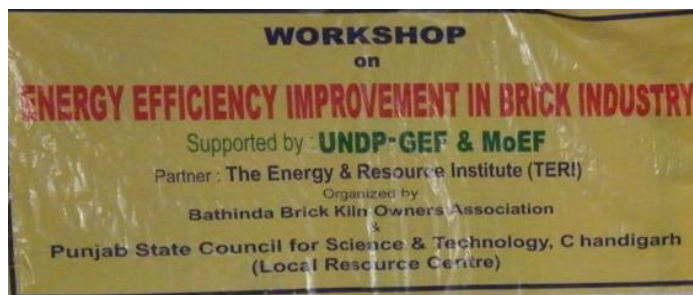


PROCEEDINGS OF THE WORKSHOP ON “ENERGY EFFICIENCY IMPROVEMENT IN INDIAN BRICK INDUSTRY” – UNDP-GEF PROJECT HELD AT CIVIL LINES CLUB, BATHINDA ON 19TH FEB.2010.

List of participants is attached as **Annexure-I**.

A Project entitled “Energy Efficiency improvement in Indian Brick Industry ” is being funded by the UNDP through Ministry of Environment of Forest, GOI. The PSCST has been identified as the Local Resource Centre (LRC) for the states of Punjab and Haryana. The project has been commenced in 2009 with time period of 4 years. The targets for the first year have since been finalized.

One of the important components of the project is enhancing public sector awareness through holding of workshops on promotion of Resource Efficiency Bricks (REBs). The LRC is expected to conduct regional level awareness seminars during execution of this project. These awareness seminars are expected to bring together brick kiln entrepreneurs, construction sector experts and technology suppliers to a common platform to share their experiences and requirements.



It is in this regard that a workshop was organized by the Council in collaboration with Bathinda Brick Kiln Owners Association at Civil Lines Club, Bathinda to sensitize the brick fraternity about this project and other benefits likely to be accrued. About 150 brick kiln owners (BKO) mainly from the districts of Bathinda, Muktsar, Mansa, Barnala, Ferozepore and Ludhiana attended along with office bearers of District Brick Kiln Owners Associations from all the districts of the State of Punjab. Detailed programme of workshop is attached as



Annexure-II. Col. Rakesh Johri, Senior Fellow along with Shri N.Vasudevan, and Mr. Sachin Kumar from TERI also participated in this workshop to appraise the entrepreneurs on significance of the project. The services of Mr.Banerjee from Water

Cravin, a leading technology provider in collaboration with European machinery manufacturers, were also roped in to appraise the entrepreneurs about the salient features of various technologies available in the country.

Welcoming the participants, Mr. Paramjit Singh Sandhu, President, Bathinda Brick Kilns Owners Association conveyed that brick industry is still using age old traditional and conventional technologies and hardly any effort has been made by the entrepreneurs for introducing mechanization in the sector. The Council has been trying their level best to create awareness for promotion of better technologies and conducting awareness workshops on better feeding, firing and operating practices in brick kilns since 1998 and the industry has gained by their interventions. He expressed his concern over the quality of bricks which is deteriorating day by day. He urged the fellow brick kilns owners to look for better technologies including carrying out feasibility for introduction of mechanization in brick making process so as to improve the product quality as well as save losses being occurred due to adoption of age-old traditional technologies.

Er. M.S. Jaggi, Director (PSCST) while addressing the audience stressed on improving the quality of products by introducing energy efficient technologies and adoption of REBs such as hollow bricks and perforated bricks. He informed that by introducing REB, industry is likely to save the precious raw materials like clay and fuel. He further explained the objectives of UNDP-GEF project and the role of the Council as LRC.



Col. Rakesh Johri, Senior Fellow, TERI informed that a number of technological changes have been introduced in construction material except in brick industry. He explained that time has come to diversify from the conventional brick making technologies and bring in resource efficient bricks. He also explained how the transition has taken place from conventional solid brick to perforated hollow bricks in the Europe and other developed countries. This change facilitated by the manufacturers as well as end users. While quoting the example of entry of international clay brick manufacturers like WIENERBERGER into the Indian market, he informed that some mechanization has been introduced in other parts of the countries as well. However, for the existing small brick owners this transformation will take places in stages. The need of introducing mechanization is based on the three driving forces i.e. (i) shortage of manpower (ii) demand for better quality products (iii) shortage of raw materials. While explaining the objectives of TERI as project implementing agency, he

informed that 12 REB Demonstration Units would be set up in the country. A series of meeting is being arranged with BIS for incorporating standards for the REB, State PWDs, CPWD, MES and other organizations for incorporating necessary specifications in the guidelines for the use of REBs.

Shri Pritpal Singh, Senior Engineer, PSCST while comparing the changes that taken place in brick sector since 1997, conveyed that there is hardly any major change that has taken place in the brick making technology. The focus, which was earlier on increasing the production/quantity, has to be shifted towards quality. While improvements have taken place in construction technologies, the end users have now started looking for better quality of bricks which are in short supply. He emphasized on production of quality bricks and also look for feasibility/technologies for introduction of REBs. While explaining the advances of REB viz-a-viz indirect benefit at the consumer end in terms of savings in cost of plastering and energy saving, he appealed to the brick fraternity to go in for thorough investigation of their soils for its feasibility for producing REBs through mechanization. He informed that the Council being LRC would help the industry in identification of proper technologies specific to their soils and create awareness amongst the architects and builders and facilitate availability of land for their brick plants. He cautioned the brick industry to immediately look for better technologies otherwise the new entrepreneurs have started entering into this market. He also gave example of some of the recent mechanized plants set up by other entrepreneurs in the northern parts of the country.

Mr.Bannerji from Walter Cravin informed the audience about the mechanized plants being set up in eastern India and the likely advantages of their machinery. In the end interactive session was held with the participants wherein queries raised by the entrepreneurs were attended appropriately by Mr. Bannerji, Col. Johri and Mr.Pritpal Singh.

The workshop ended with a Vote of Thanks by Shri Ashok Mittal, Vice President, Punjab Brick Kilns Owners Association. He thanked the organizers – PSCST and Bathinda Brick Kiln Owners Association for arranging this workshop and the participants for attending this workshop in such a big way in short notice.

ANNEXURE I**Attendance List of BKOs**

Sr. No.	Name	Address	Contact No.
1.	Sh. Parmjit Singh Sandhu	702, Model town, Phase 1, Bathinda	92167-87891
2.	Sh. Ashok Mittal	2, Khurla Kingra Road, Jalandhar	98550-70041
3.	Sh. Aman Bansal	C/o Bansal Brick Co., Street, Kotkapura, Distt. Faridkot	98140-04552
4.	Sh. Arjun Dass Arora	37/104, New Vijay Nagar, Jalandhar City	93572-16766
5.	Sh. Roop Chand Singla	Saivihar, Back Delhi Children Hospital, Kotkapura bye pass, Moga	98147-15967
6.	Sh. Lachman Dass	C/o Kisan Brick Co.	92167-41474
7.	Sh. Pardeep Singla	Singla BKO, Bypass Road, Nihalsinghwala	98553-19709
8.	Sh. Pawan Kumar	C/o M/s B.R. Bricks Co. Kotkapura, Distt. Faridkot	98784-00716
9.	Sh. Brijbhushan Bansal	C/o M/s Ram Lal Piyarelal BKO, Faridkot	98767-04552
10.	Sh. Ashok Mittal	M/s Rajiv Brick Center, Patti Hira Singh, Distt. Moga	92169-01062
11.	Sh. Rohit Tangri	M/s Puran Chand Tangri, VPO Pawa, Distt. Ludhiana	95922-00011
12.	Sh. Devinder Pal	M/s Mahaluxmi Bricks co., Faridkot	94650-03771
13.	Sh. Vicky Singh	RC Singh BKO, Jaito	98146-76769
14.	Sh. Satpal	Bansal Bricks, Jaito	94170-97228
15.	Sh. Satpal Bansal	Bansal Bricks Industries Kotha Guru	98140-59027
16.	Sh. Janak Raj	Aggarwal BKO, shekhupur	09140-56575
17.	Sh. Surinder Mittal	Sonam Bricks co. Sivian	94174-86121
18.	Sh. Naresh Singla	Singla BKO, Gehri Bhai	94170-30500
19.	Sh. Deepak Kumar	Maheshwari Bricks Co., Gurusar Yodha Distt. Mukatsar,	98725-94746
20.	Sh. Rakesh Kumar	Aggarwal Gram Udyog Samiti, Talwandi Sabo, Distt. Bathinda	
21.	Sh. Subhash Gupta	Aggarwal Bricks Industries, Banga	94170-18643
22.	Sh. Krishan Sharma	Supermal Bricks Industries, Mehri	
23.	Sh. Rajinder Raju	Dashmesh Brick Industry	94170-35643
24.	Sh. Sahil Sood	M/s Lekh Ram Sood & Company, Village Bhutta, Ldh.	94170-31265
25.	Sh. Jasbir Singh	President, Tarntarn	98157-24453
26.	Sh. Sukhbir Singh	Cashier, Tarntarn	98153-72744

27.	Sh. Avtar Singh	Vice President, Tarantaran	98152-74852
28.	Sh. Sukhbir Singh	Simar Brick Kiln Co., Tathian Mahanta, Tarantarn	98146-58568
29.	Sh. Davinder Rajdev	M/s Davinder Kumar BKO, Bura Gujjar Road, Muktsar – 152026	92166-02222
30.	Sh. Surinder Gupta	President, BKOs Assciation, Faridkot	98141-39972
31.	Sh. Sahil Gupta	Sh. Durga Bhata Co., Chahal Road, Faridkot	98761-62295
32.	Sh. Ashok Kumar	Ashoka Brick Co., Vill. Bhunder, Mukatsar	98140-73537
33.	Sh. R.M. Sethi	M/s Shiva Const. Bhatta Co., Chahal Road, Faridkot	98885-15469
34.	Sh. Deepak Bansal	Chaina Bazaar, Jaito	98151-01502
35.	Sh. Rakesh Grover	Grover & Co., Mour Road, Mukatsar	98140-38492
36.	Sh. Ramesh Kumar	M/s Guru Nanak BKO, Vill. Dadri, Mukatsar	98147-22539
37.	Sh. Rattan Lal	AB Bricks Industry, Faridkot	98140-14633
38.	Sh. Varun	AB Bricks Industry, Faridkot	94170-31057
39.	Sh. Parshotam Lal	S.S. Bricks, Faridkot	94174-37878
40.	Sh. Maninder Singh	Dashmesh Bricks Manufacturing Co., Ldh.	94175-11613
41.	Sh. Om Parkash Wadhwa	M/s Wadhwa Bricks Industry, Mukatsar	98146-46765
42.	Sh. Yashpal	Yashpal BKO, Burj Dhillon, Mansa	98780-35551
43.	Sh. Babor Chand	Nandi, BKO Nangal Khurd, Mansa	98147-22389
44.	Sh. Munish Kumar	Nandi, BKO	98720-22359
45.	Sh. Krishan Kumar	M/s Tarsem Chand Vijay Kumar BKO Kotkapura	94177-30474
46.	Sh. Krishan	Sh. Ganesh BKO	94177-30474
47.	Sh. Ashok Kumar	Jaito BKO, Jaito	98720-00774
48.	Sh. Amit Gupta	M/s Vishvkarma Bricks Company VPO Panggrain Kalan, Faridkot	98552-41072
49.	Gupta Brothers	Gupta brothers BKO Phul	98149-68366
50.	Surinder Kumar	Rayia Bricks co., Tehsil Phul, Thapli Road, Rayia	98149-68366
51.	K.G. BKO	Vill. Mehraj, Rampura Phul, Bathinda	94174-85475
52.	Sh. Sukhdev Raj	Raj Kumar BKO, Rampura Phul, Batinda	94172-26357
53.	Hari Om Goyal	Hari OM BKO, Phul, Bathinda	98142-68504
54.	Hari Om Goyal	Balaji BKO Phul, Bathinda	
55.	Sh. Bhupinder Bansal, Pappu	Ganesh BKO, Rampura Phul, Batinda	94171-39574
56.	Sh. Krishan Lal	Shree Ganesh BKO, Singla Street,	98555-48246

	Singla	Rampura Phul, Batinda	
57.	Sh. Arvind Kumar Bansal	Banarasi Dass Charan Dass Mehraj, Rampura Phul, Bathinda	94173-40212
58.	Sh. Lila Ram	M/s Lila Ram Garg BKO, Kot.....	98761-40068
59.	Sh. R.K. Jain	#173, Phase-II, Model Town	98155-90123
60	Sh. Inderjit Verma	M/s Inderjit & Co. 6, Pink Avenue, Majitha Road, Amritsar	98141-08633
61	Sh. Ashish Bhalla	M/s Chaman Lal Bhalla & Sons, Subhash Niwas, Guru Bazar, Chheharta, Amritsar	99149-05890
62	Sh. Mukesh Nanda	M/s Tara Chand Nanda & Co., 125, Green Avenue, Amritsar	98140-85106
63	Sh. Ravinder Kumar	M/s Boor Chand Birbal Dass BKO, Vill Bala Marar	94173-75160
64	Sh. Atul Kumar Goyal	M/s Punjab Bricks Co., Kotha Guru (Bathinda)	94176-43615
65	Sh. Pradip Kumar Periwal	Friends Colony near Karan Cinema, Abohar	98765-14121
66	Sh. Vipen Nagpal	Lajpat Nagar, Street 2, Ferozepur, Abohar	98153-94467
67	Sh. Binder Pal Goyal	Sunder Nagri, Street no. 8, M/s. KK & Co., Abohar	
68	Sh. Surinder Batra	M/s S.K. Batra, BKO, Bakridpur	99159-27000
69	Sh. Rohit	Garg Bricks, Bathinda	98154-58572
70	Sh. Gurpreet Singh	Chak Brick Industry, Chak Atar Singh Wala, Bathinda	98726-14733
71	Sh. Rajnesh	Rajnesh Brick Co., Deon, Bhatinda	94171-02569
72.	Sh. Shivji Ram	Brick Industry, V. Katbhara, Bhatinda	94171-02569
73	Balaji Bricks Co.	Vill. Mehma Sangha, Bathinda	98156-21372
74	Sh. Ajay Kumar	Harbans Lal Surjan Ram BKO Bathinda	98145-98533
75	Sh. Krishan Lal	M/s Shree Ganesh BKO, Phul, Dist. Bathinda	98555-48246
76	Sh. Tejpal	M/s Desh Raj, Tejpal BKO Lehra Dhurkoot	98556-39400
77.	Sh. Prem Kumar	Shree Ganesh Bricks Industry, Kotha Guru	98726-58623
78	Sh. Vijay Kumar	MBC, Chahal Road, Faridkot	99156-31157
79	Sh. Surjit Singh	Sardar Bricks, Jalandhar	94638-42391
80	Sh. Om Parkash	Om Parkash BKO, Malout, Mukatsar	98726-77721
81.	Sh. Tara Chand	Tara Chand Construction, Karamgarh	98889-16256
82	Sh. Iqbal Singh	Shivaji Bricks Industry Vill. Gurjar	94170-36842

		Jodha, muktsar	
83	Sh. Jitinder Goel	Grover & Co., Mukatsar	94175-83091
84	Bansal BKO	Hushnar, Tajo Road	94176-25422
85	Shiv Shakti BKO	Talwani Road, Near Crown Palace, Faridkot	98142-33061
86	Sidhu Brothers	Kot shankh, Bathinda	98555-89861
87	Sh. Magber Khan	Adash BKO, Mehru Khurd, Bathinda	94170-79926
88	Sh. Amit Goyal	Sidhu BKO, Karamgarh Setia, Bathinda	98762-00286
89	Sunny Bricks Co	Karamgarh, Bathinda	99158-34393
90	Sh. Saurabh Singla	Biharilal BKO, Giddarbaha, Mukatsar	98887-77884
91	Friends Brick Industry	Bharu Road, Giddarbaha	98155-63162
92	Ajanta Bricks Co.	Tehsil Mour, Distt. Bathinda	94170-79926
93	BL BKO	Vill. Husner, Near Hospital, Giddarbaha	98141-01793
94	Sh. Rakesh Kumar	Mittal Bricks Co., Rampura, Bathinda	98154-80518
95	Sh. Pawan Kumar	Guru Kirpal Divya BKO, Bullamgarh,	99152-00674
96	Sh. Jagpreet Singh Brar	JRM Brick Industry, Madrass	98883-10445
97	Sh. Prem Bhutani	Vill. Baruala, Chd. Road Ludhiana	98765-72000
98	Sh. Lajpat Rai, BKO	Katani Kalan, Ludhiana	98140-32717
99	Sh. Parneet Singh, BKO	Vill Kubbe, Ludhiana	98760-66777
100.	Sangha Brothers BKO	Vill Alawalpur,	99141-33336
101	Gupta Brothers, BKO	Vill. Banga, Tarantaran	99141-33336
102	Bath BKO	Vill Bath, Tarantaran	98141-20179
103	New Age, BKO	Tarantaran	98146-46825
104	Sh. Mukesh Kumar Singla	C/o M/s R.S. Bricks Co., Vill Kot Bhai, Giddarbaha	98146-15555
105	Sh. Satish Mittal	C/o Mittal Brick Co., Satran	94176-46063
106	Sh. Atma Singh	C/o SAS Bricks, Badal Road, Bajakhana	92186-03040
107	Sh. Nitin Garg	C/o Garg Gram Udyog Samiti, Vill Faridkot Kotli	99153-95311
108		Dashmesh Brick kiln	94174-62664

PROGRAMME SCHEDULE**Workshop on energy efficiency improvement in Indian
Brick Industry****UNDP-GEF , MoEF Project****Organized by****Bathinda Brick Kiln Owners Association &
Punjab State Council for Science & Technology****Venue : Civil Lines Club, Bathinda****Date : 19/02/2010**

Time	Event
10.00 A.M. – 11.00 A.M.	Registration
11.00 A.M. – 11.15 A.M.	Introduction by President, Bathinda Brick Kiln Owners Association
11.15 A.M. – 11.45 A.M.	Welcome address and brief about workshop by Er.M.S.Jaggi, Director-PSCST.
11.45 A.M. – 12.15 P.M.	Details about the Project by Col.Johri, TERI, New Delhi
12.15 P.M. - 01.00 P.M.	Types of bricks and relevant IS Codes including case studies – Er. Pritpal Singh, Senior Engineer-PSCST.
01.00 P.M. – 01.30 P.M.	Use of resource efficient brick – case study – Er.Sachin Kumar, Fellow, TERI, New Delhi.
01.30 P.M. – 02.00 P.M.	Presentation by Mr.N.K. Banerjee, Calcutta
02.00 P.M. – 03.00 P.M.	Interactive session and final action plan for future.