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**Engineers Without Borders (EWB) – Denmark shall contribute to increasing the maize production among poor farmers in Kenya**

*The project is financed by Bill and Melinda Gates Foundation as a contribution to better food security in Africa. Expensive work on improvement of maize species and a large quantity of food for poor farmers are lost due to poor storage conditions*



*Breeding of maize*

EWB Denmark in cooperation with partners in Kenya shall improve storage facilities for maize and maize seeds. It concerns partly the storage of maize for consumption by poor farmers where insects may destroy a large part of the harvest before it is used, partly the storage of maize seed used for breeding higher yield and more resistant species. The background for the project is an inquiry from The Gates Foundation, which supports improving food security in poor countries and in this connection, is investigating the possibility of establishing improved storage facilities. EWB Denmark conducted with the support the Velux Foundation, a Fact Finding Mission to Kenya earlier this year and the result of this Mission now forms the basis for the present project development. The total budget for the next phase is 160,000 USD.

**Micro silos**

Africa suffers from attacks from Larger Grain Borers, which came from America and now cause great losses on maize stored the traditional way. It has been reported, that up to half of the harvest is lost, and the alternative for the farmer is selling at a low price just after harvest and later buying for consumption at a higher price. The forward solution is to store the maize in safe, closed containers – micro silos – on the farm.

**Better cold rooms**

Growing maize and the development better and more resistant species contribute greatly to a reduction of the lack of food in Africa, and in this connection there is an essential need of safe storage of maize seed which is used in breeding new species. As of now there is a risk that new species (genes) are destroyed and the corresponding breeder work is lost. The perspective in the improvement activity is that breeders expect an increase in maize yield, which in ten years will be three times the present yield.

**Only a first step**

The problems addressed in this project are not only relevant for other crops and other places in Kenya, but also in other countries in Africa and in other parts of the world. EWB Denmark therefore has great expectation to the further activity in this field.

**Previous EWB experience**

**We would appreciate contact with any EWB with previous experience from working within this area.**

**Contact:**

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Jørgen Nielsen, Project Manager: [jnemr@nielsen.mail.dk](mailto:jnemr@nielsen.mail.dk)

**FIFTY SHADES OF COOPERATION**



*Steen Frederiksen*

The EWB family has more than 50 members and the variation in size is very big from large and rich NGOs to very modest start-ups. We are all based on the original philosophy of ISF France established as the first in 1982, and we are all to a varying degree involving students at the technical universities in our work. Most of us are exclusively focusing on development work others are – like EWB Denmark – also engaged in emergency assistance following earthquakes, flooding and civil war.

We are all assisting poor people in poor countries – and securing a life after survival.

We all have minimal salaried staff and are largely based on volunteers. This is great because the funds we can raise benefit more people. The drawback is that we are sometimes lacking the professional input we could get by paying specialists to assist. There is an obvious limit to how long and how often volunteers can work overseas. We are making up for that by drawing on local resources, but continuously building up experience is difficult.

One way of compensating would be to share resources and benefit from experience gained by other EWBs. In this respect it seems that we are doing a monumentally poor job. There is no efficient mechanism for sharing knowledge and exchanging experience among the more than fifty EWBs.

It is of course logical to cooperate with a local EWB for work in a developing country – if there is one – but even that is not always the rule. There is very little exchange of information, not to mention cooperation among the 50 members of our family. This is waste of resources, time and money. Getting useful feedback from other EWBs is rather the exception than the rule. Learning from each other's mistakes is hardly ever taking place.

The Board of EWB-International decided to organize a conference for discussing these issues. However, we had to give it up for lack of financing. We are now embarking on a simple database, where the individual EWBs can list their references and which as such could form a basis for exchanging experience.

We owe to the poor communities we assist, to the donors financing our operations and of course in the end to our own organisation to improve the cooperation and the exchange of know how among the more than fifty members of the EWB family.

**Steen Frederiksen**  
**President of EWB-I**  
**Chairman of EWB Denmark**



## Projects of the Quarter – EWB India

### Project Tribe Stars – by EWB Mumbai Chapter's Flagship Project

Provision of IT infrastructure to three adopted schools in Wada Taluka of Maharashtra. Under this program, six personal computers having necessary operating system were donated to each school along with UPS and educational CDs. Solar electrification project was inaugurated on 26th Jan, 2013 in one of the three schools adopted by EWB Mumbai Chapter. A video session was also organized for students explaining the need for solar power and working mechanism of solar system.

EWB Mumbai Chapter has been organizing a yearly corporate level cricket tournament since 2011 as a fund raising activity. Funds raised from this event goes to projects implemented under 'Project Tribe Stars'.

Conducted rain water harvesting awareness campaigns in three villages in Vidarbha region of Maharashtra, explaining the need and importance of rain water harvesting. Conducted water quality awareness programs and hand wash campaigns in three schools and two villages around Mumbai, as a part of World Water Quality Monitoring Program. EWB Mumbai Chapter in collaboration with Black and Veatch, Mumbai carried out a tree plantation in Kalambhai school, Mumbai. Fifty saplings were planted in and around the school.



*Project Tribe Stars in Wada Taluka*

### LIGHTING NEEDS AT PEDDA CHERUYU by EWB Hyderabad Chapter



*Pedda Cheruvu Village*

Pedda Cheruvu a tribal hamlet, home to Chenchu tribes is located in the heart of Nallamala Forest of Andhra Pradesh is due to lit up on solar power. The project required 2400 watts of power for lighting the entire hamlet of 80 huts with 2 lights each and 8 street lights. The first phase comprising of 1000 watts solar panel installation and lighting has been taken up by Engineers Without Borders Hyderabad chapter in association with CEPCE, a regional NGO which works on tribal welfare.

### FUEL BRIQUETTES PROJECT, MADHYA PRADESH by EWB Hyderabad & EWB Nagpur Chapters

Fuel Briquettes are smoke free, more efficient than conventional fuels and are from waste recyclable material. After successful demonstrations, EWB pursued this project for implementation in some areas of India as a 'women empowerment program'. The technology used has been modified and simplified to use more and more eco-friendly locally available materials. With the support of Boeing Corporation (through EWB-USA), and cooperation of DRI Chitrakoot, a project is being implemented in Chitrakoot, Madhya Pradesh. The project has started and field trials are going on for use and acceptance of agro waste fuel briquettes by local residents of Chitrakoot.



*Fuel Briquettes Project*

### Additional Classrooms Building, Kitchen and Storeroom at High School, Gowdavalli, Hyderabad, A.P, India by EWB Hyderabad Professional chapter

EWB Hyderabad Professional chapter, under the leadership of Mr. Bharat Maharaj (President, EWB Hyderabad chapter) has successfully completed the Project - Construction of class room building with 4 class rooms in Z.P.H. School in Gowdavalli village. This was done through participation of EWB MJCET Chapter and EWB Guru Nanak College of Engineering chapter.

Project initiative started with Construction of additional classrooms for Higher secondary students at ZPH School, Gowdavalli. Before this infrastructure classes were held in corridor. Value Creation:

- Classrooms with all facilities for higher secondary students.
- Facilities for Noon Meal.
- Science lab with all necessary equipments.
- Multimedia classes for students with projector.
- Landscaping and Gardening for Go-Green initiative.



*High School, Gowdavalli, Hyderabad*

## Meet EWB India

E-mail address of MA or of contact person:

[chairman@ewb-india.org](mailto:chairman@ewb-india.org); [ewbplanning@gmail.com](mailto:ewbplanning@gmail.com)

Web site (if any):

[www.ewb-india.org](http://www.ewb-india.org)

Chairman:

**Dr. Ashok Agarwal**

Contact Person:

**Dr. Ashok Agarwal, Chairman**

**Ms. Veena Mani, Executive Assistant**

Date founded:

**26<sup>th</sup> September 2005**

Office address:

**6-3-668/ 77 & 78, Durga Nagar Colony**

**Panjagutta, Hyderabad – 500 082. A.P. INDIA**

Membership: (numbers)

**>1,100 TOTAL**

*Personnel members*

**>200**

*Student members*

**>900**

*No. of Professional Chapters*

**4**

*No. of Student Chapters*

**22**

Annual income and Budget:

Member's fees (if any):

**Professional members: Rs.1000 admission / 3000 life time / 300 annual**

**Student members: Rs. 250 admission / 100 annual**

Donations, grants and the like:

**>22,000 \$ sponsorship for projects**

Staffing (if any):

**Executive Assistant (office in charge)**

Key activities or program approach:

**Each chapter is requested to create an Activity Plan for the year, which includes invited speakers on suitable topics, undertaking a study like energy audit, water audit in a selected community; as well as community based project. Each chapter is encouraged to undertake the activity and generate sponsorship funds to execute the projects. A Project Application Form (PAF) has been created for detailing the activity to be undertaken and resulting project application is reviewed by a Technical Advisory Committee before finalization.**

The key focus points are:

- **Target community participation**
- **Sustainability of project for three to five years**
- **Measurable impact on the society**

## Projects of other EWB MAs

### Energy Capacity Building for Students: EWB-Lebanon Students at the Beirut Energy Forum 2012



*EWB-Lebanon Students at the Beirut Energy Forum*

In its efforts to promote renewable energy education at the higher education level, Engineers Without Borders Lebanon secured sponsored participation for EWB-NDU and EWB-AUB chapters at the Beirut Energy Forum in its third edition. The Beirut Energy Forum is a regional event hosting more than 30 highly distinguished speakers and experts in the field, and gathering more than 500 participants from Mediterranean region. The forum includes a series of educational and practical presentations and seminars held in parallel with an ongoing exhibition of renewable energy products and technologies.

Ten engineering students from the American University of Beirut (AUB) and Notre Dame University in Lebanon (NDU) were recommended by EWB-Lebanon to be sponsored by the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) as delegates at this prestigious event leading energy related event in Lebanon. During the event, future engineers attended a series of green energy and sustainability lectures given by national and international experts from the world Energy Council, the European Union, UNDP, League of Arab State, RCS, Schneider Electric, LSES, and many others. Distinguished speakers discussed renewable energy and energy efficiency related topics for 2 days on the 13th and 14th of September at the Hilton Habtour Hotel during which the hottest and most promising topics in the sector were discussed.

### Beekeeping for Poverty Alleviation and Sustainable Rural Livelihood by EWB Lebanon

EWB-Lebanon implements development in agricultural rural areas of the country. The project entitled "Beekeeping for Poverty Alleviation and Sustainable Rural Livelihood" aims at supporting poor families in rural regions through introducing the concept of sustainable beekeeping and providing them with education, financial support, and technical cooperation in the field. Targeting the poorest regions of the country, the project identifies underdeveloped families with good potential but no financial or technical abilities, to help them develop an additional riskless source of income.

The project starts by selecting one poor family from a rural region in Lebanon with previous experience in beekeeping, and works closely with the family members to reconsider beekeeping as a side activity to help produce natural honey. The family is supplied with the tools and equipment needed to perform beekeeping activities, and provided with bee colonies in eight beehives to be raised and used for honey as well as queen bee production.

The role of EWB-Lebanon is to provide the material and lead training and educational sessions in partnership with local experts in the field of beekeeping. The beekeeper is committed to keep close coordination with the organization for a period of two years, reporting problems and following the recommendations of the team leader.

This all is offered to the beekeeper free of charge, the only requirement the family should commit to is to capture and keep the new bee colonies created through artificial or natural swarming in good condition for the period of 2 years. EWB-Lebanon will collect the new colonies and use them to implement a similar activity in the second phase of the project with another underdeveloped family in Lebanon. EWB-Lebanon has the right to perform artificial only once for each beehive during the project period.

The beekeeper is also asked to participate in future training sessions and train other beekeepers in later phases of the project.

The second phase of the project starts while still coordinating with the first beneficiary. During this phase the same process will be repeated with a new family to create a sustainable activity at reduced costs.



*Beekeeping for Poverty Alleviation and Sustainable Rural Livelihood*

### Project of the Year Work Phase 2 – The Conception of Educational Facilities for Rural, Developing Areas

According to a recent report issued by the UN, about 61 million children are out of school and not receiving any education. Educational infrastructure as well as clean water, electricity, and sanitation have been shown to be essential in maintaining school attendance of both students and teachers. To cope with these issues and encourage investment in education rural areas in developing countries, it is proposed to implement a self-sustained classroom unit that can provide electricity and clean water.

The goal is to create an integrated solution that provides clean water and electricity using renewable sources. Since the conditions and specific needs in rural areas vary significantly according to the location, the design proposed will be adaptable to different climates by appropriately sizing the electrical and water systems and choosing appropriate infrastructure.

The room will cover the needs of an average classroom, including students and teachers. Using solar panels and micro-wind technologies, the classroom will provide enough power to support the needs of approximately 30 students and their teachers; including lights, a radio, and a water pump for the purification system. Water purification is accomplished via filtration and disinfection by solar pasteurization. The structure is scalable and provides a suitable platform in which to integrate all the above technologies. The communities will be included in the project's conception, construction, and maintenance. Trained local manpower would be able to ensure that the classroom continues to operate as needed.

This project is part of the framework of our Master Degree's Project of the Year. We are four students of the SELECT Masters program (Environmental Pathways for Sustainable Energy Systems), an international course run by seven leading European Universities that focuses on several core competencies, including sustainable design, environmental analysis, and social entrepreneurship. We are currently based in Barcelona, where we are working at the Polytechnic University of Cataluña.

[http://prezi.com/wxmg1snlaczr/poy\\_wp2/?auth\\_key=d7be724c2e619952c10016e0440d769ace43b6f8&kw=view-wxmg1snlaczr&rc=ref-11954753](http://prezi.com/wxmg1snlaczr/poy_wp2/?auth_key=d7be724c2e619952c10016e0440d769ace43b6f8&kw=view-wxmg1snlaczr&rc=ref-11954753)

Contact Email: [teamwater2013@gmail.com](mailto:teamwater2013@gmail.com)



*Team Members:*

*Diego Ching, Nikoleta Christou  
Emily Ain, Julio Quintana*

## NEWS

EWB International welcomes new members – EWB Australia and EWB United Kingdom

4<sup>th</sup> International Conference on Structural Engineering and Construction Management 2013  
"Capacity Building for Development" – Kandy, Sri Lanka 13-15 December 2013

<http://www.icsecm.org/2013/>

ISTIC-ESCI Training Workshop on Maintenance of Infrastructure, Hyderabad, India  
09-13 September 2013 - <http://www.istic-unesco.org/>

EWB Meeting with EWB Sweden, EWB United Kingdom, EWB Norway, EWB Nederland,  
EWB Germany, EWB Australia, EWB Canada and EWB Denmark  
Copenhagen, Denmark, 14-15 April 2013

Main objectives of the meeting were to explore forms of cooperation and synergies between the participating EWBs activities, to exchange experience in project management. The meeting was also call for so as to provide an update from EWB International and to discuss current status of the network amongst others the status of the Alcoa grant. **Participants:**

EWB Sweden (<http://ewbsweden.org>): Tobias Ljungkvist and Hannes Kuusisto  
EWB UK (<http://www.ewb-uk.org/>): Andrew Lamb and Korea Korzec  
EWB Germany (<http://www.ingenieure-ohne-grenzen.org/>): Andreas Feldmann  
EWB Canada (<http://www.ewb.ca>): George Roter

EWB Norway (<http://www.iug.no>): Emanuel Rygg and Luke Doktor  
EWB Holland (<http://afdelingen.kiviniiria.net/>): Jasper Flapper  
EWB Australia (<http://www.ewb.org.au/>): Lizzie Brown and Phil Clark  
EWB Denmark: Steen Frederiksen, Palle Beck and Dorte Lindegaard Madsen



EWB Meeting – Copenhagen, April 2013

The Chair of EWB International Steen Frederiksen (DK) reported that he during his tenure has promoted a revision of the organizations statutes, so as to have a more democratic basis and secure an open and democratic election of the board members.

The organization has, during the last couple of years, faced some challenges in raising the necessary support and engagement from the members of the board and steps will be taken so as to ensure that membership in the board of directors is more actively involved in the management and running of the organization. At the moment EWB International has relied heavily on the support of the Secretariat of EWB US a situation which will be addressed with urgency so as to provide for its own management and administrative resources. Fundraising is a mayor challenge in order to secure funds to support the management of the EWB Int. network. Strategy to further this area must be developed and more engagement and participation must be required by the individual members so as to support the organization.

Future vision of the work in EWB Int. was thoroughly discussed by the participants and based on the earlier presentations on activities and focus by each participating EWB, it was identified that the diversity of the work conducted by all of the EWBs worldwide would contribute greatly to the creation of a common vision to consolidate a "movement" to promotion of the "Global Engineer". Even though the focus is very diverse amongst the members in EWB Int. and the potential new members (EWB UK, Australia and Canada) there exist a large and strong potential for the construction of a global common vision under the umbrella of EWB International.

## Membership Fee



Copenhagen, host for the EWB-International Conference

The EWB-I Board has decided that Member Associations have to pay a fee to be members of EWB-I. The fee will contribute to the cost of running EWB-I covering among others conferences, annual general meeting (AGM), web-site, newsletters etc. The Board also has the intention to subsidize less well-to-do MA's participation in conferences and AGMs.

The fee will be collected on a yearly basis. First payment will cover 01.01 2013 to 31.12 2013. Members pay 1.500 USD per year (developed countries) or 500 USD per year (developing countries). Cut off point is the World Bank criteria of GNI 12,275 USD/year – ATLAS methodology (refer: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf>)

Only members having paid their fee have the right to vote at the AGM.

Start-ups pay similarly a fee of 200 USD respectively 100 USD. Start-ups have no voting right at the AGM. In any case the fee cannot exceed 2 % of total turnover and fee amounts of less than 100 USD are not payable.

## Donor's corner

EWB International shared with the participants that the opportunity of receiving part of the Alcoa grant now has become reality and that proposals needs to be forwarded to EWB International. The specific conditions for the latest Alcoa donation of 400,000 USD is still being negotiated - however proposals are to be forwarded.

### Extract from grant agreement:

**ALCOA:**  
*Results Statement: Within this initiative, specific innovative educational practices for sustainable community development will be held up as exemplars for change in the academic environment. These innovative practices will provide specific tools, actions, and training such that they are easily adjusted or scaled into multiple academic environments. An International Forum will be held in the first half of 2014 to highlight these innovative practices. We anticipate 100% of the participants will have increased awareness with 40% of the recipients utilizing the innovative tools in an academic setting and 60% of the participants moving on to STEM careers with the increased readiness. An implementation plan to move forward on a number of fronts:*

- broader expansion into other Alcoa countries and programs,
- communications on campus and globally,
- employee engagement,
- awards – this partnership is somewhat unique because EWB is working globally with one corporation in a centralized way and this is a real opportunity



*to also garner attention for the pedagogical aspects of EWB and impact on students beyond the feel good – experiential learning – how many students continue with their engineering degrees versus those who are not with EWB – so how can we position this for greater recognition?*

- leverage relationships with other corporate partners, and
- global symposium – especially with opportunities to showcase Alcoa's Thought Leadership and the great job that you have done to line up WB and NSF funding this is great.

## Photo competition

Thank you for the photos of the projects you are implementing in your country. We encourage you to show off your photography skills by sending us more your shots of your activities in action. The best photos will be published in the EWB-International Newsletter and presented on the EWB-International Conference and General Assembly Photo Exhibition. Image should be submitted as jpps. Each jpg should be a maximum of 300dpi and 5MB in file size, with your name and the subject in the title. Maximum 5 entries per person per contest. Send you photos on following email:

[oliver@ewb-mk.org.mk](mailto:oliver@ewb-mk.org.mk)

Good luck!

