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Process Document on LEGO Risk Mapping Pilot Project (LEGO-DRR & CCA







Executive Summary

Over the past three decades, there have been increasingly frequent and intense disasters that further undermine family resilience and increase the poverty that diminishes a child's life and future opportunities.¹ All projections indicate that such disasters will continue to increase, making the need for more and better community-based and child-centered DRR ever more urgent. While the trend is global, disasters and risks are local; hence, the urgent need for community-based and child-centered approaches. Given the volume of literature and evidence on the impacts of disaster upon children in the region and the broader long-term damage this does to families, communities and economies, there is a need for community-based and child-centered DRR to be much more prevalent, more integrated and less piecemeal than it is currently.

Implementing child-centered DRR (CCDRR) will help to promote the outcomes sought by the CRC with special focus on right to survival and best interest of the child on issues concerning their well being. Thus, the CRC and child-centered DRR can be mutually reinforcing, breaking the lifetime of damage done by disasters in early childhood. Evidence is emerging of the value that children bring to reducing their risks along with the wider community's. Community-based and child-centered DRR saves lives and livelihoods, now and for future generations, while saving government money and assets that can be better deployed to meet the Millennium Development Goals and support sustainable development.

The Global Assessment Report on Disaster Risk Reduction (UNISDR, 2010) notes that commitment to the Hyogo Framework for Action (HFA) has not yet consistently translated into safer and more resilient communities. While progress has been made in developing institutional systems, legislation and mechanisms at the national level, more needs to be done to support this at the local and community levels. While disaster risk is influenced by broader national and global factors – such as governance and climate change, it is ultimately shaped at the local level (Spalton, 2010).

With emphasis on this local level capacity building (focusing CCDRR) the current pilot project was mooted by Save the Children together with LEGO Charity to design the relevant activity material adopting serious play and Child Centered DRR (CCDRR) methods to meaningfully apply the Lego bricks to the activities with the children in India. The objective of this project was to build Disaster Risk Reduction (DRR) capacity amongst children and their communities and testing the added value of applying LEGO bricks to do modeling in Save the Children's risk & hazard mapping activities.

The pilot project was activated in two locations under the auspices of Save the Children – Bal Raksha Bharat. The current literature documents the process of LEGO Risk Mapping Pilot Project (LEGO-DRR undertaken in 2 G.Ps under the Patharpratima Block of South 24 Parganas District of West Bengal.

¹ According to the World Meteorological Office, disasters have led to economic losses of US\$1.2 trillion and over 2 million lives lost since 1980. According the OCHA, in the past 30 years, the number of storms, droughts and floods has increased threefold and the number of people affected has increased fivefold.





The Partners

The LEGO Foundation was founded in 1986, and its activities are based on the belief that all children should have access to quality play and learning experiences. Its goal is to create impact by inspiring and developing children and youth to become active citizens – and to empower them to create a better future for themselves - through fun, creativity and high quality learning.

Save the Children has been working in India as early as the 1940's where Save the Children supported the provision of food and medical care in response to the 1943-1945 Bengal famine. In the recent years, this work has also come to include responses to several large-scale natural disasters. Save the Children India places focus on addressing child survival, child protection, education, and emergency response/disaster risk reduction.

Sundarban Social Development Center has anchored the programme at the local implementation level. The organization was established in the year 1986 and registered in 1989. SSDC has been instrumental in bringing several developmental models to one of the most geographically and economically disadvantaged regions in the state of West Bengal – that is Sunderabans. Today, SSDC is involved in various activities that bring development to the people including health, nutrition, education, income generation, and awareness. DRR is one of the focal acivities of SSDC with thrust on developing community resilience in the disaster prone regions of Sundarbans.

The organization has achieved for itself a high level of credibility among beneficiaries as well as funding partners by dint of the sincere and hard work of its staff members and management. Save the Children features prominently among such funding organizations that have supported SSDC in the past.

Location Background

The project's target locality, Patharpratima Block in the Sundarbans, West Bengal, has a long history of disasters, mainly floods and cyclones. It's fragile ecosystem is very vulnerable to damage and disruption. In 2009 cyclone Aila hit the area leading to large-scale damage to productive assets and infrastructure, further exacerbating the socio-economic problems. According to a recent United Nations Development Programme (UNDP) report, "Sundarbans in South 24 Parganas is highly vulnerable to climate change and it is estimated that 15 percent of the region will be submerged by 2020. Neglecting the Sundarbans can have global implications."

Within the Patharpratima Block, selected Gram Panchayat of Durbachati and Gopalnagar were identified as the most vulnerable and hence the same were chosen for the implementation of the project initiative. **Paschim Surendranagar (Gopalnagar) and Harekrishnapur & Radhakrishanagar (Durbachati)** were the two villages that was in focus of the current activities and documented in the following passages.





Project Rationale and Objectives

Risk Mapping to reduce vulnerability:

Risk mapping with children and local communities is a part of Save the Children's global DRR work, and has been implemented in many countries in Asia after the Tsunami in 2004. It has proven to be a valuable tool to identify risks as well as engaging and empowering children; giving children an opportunity to understand and help mitigate some of the major risks caused by extreme weather – and knowledge of how to save their lives and livelihoods during recurring crisis. Currently risk and hazard mapping activities involves children drawing village maps on paper, and this had produced constructive community maps and risk assessments. Many communities place great importance on having a map and it helps them determine which places they need to work on collectively in order to reduce the risks.

It was anticipated, that creating the maps using Lego bricks would be an activity that both stimulates the children's creativity and learning abilities as well as encourages interest and communication amongst the rest of the community. Success in putting together the blocks into various shapes and colorful forms in various numbers of pieces added on a whole new dimension in the process of constructing the map.

Project Objective:

Experiences and evaluations of traditional risk & hazard drawings suggest that children face the challenge of understanding the reasoning behind the mapping activity. Children have been able to develop accurate drawings of their village and identify risks; however they have not been able to fully grasp the continued purpose of these maps. There was a need to further establish evidence of CCDRR concepts and relevance/possibilities of the mapping activity amongst the children: This pilot project was specifically aimed at testing the added value of using Lego bricks in risk mapping activities in comparison to the traditional methods of risk mapping with paper drawings.

Demonstration of the Effectiveness of a Lego Map as compared to conventional map on chart paper:

- The maps built using Lego bricks were 3-D and hence were very realistic model of the village was created. Thus both the children and other community members gathered a clearer memory of the important messages that the map was meant to provide.
- Lego bricks allowed the mapping to become much more dynamic and flexible activity. The maps were constantly revisited and modified to account for changes in the environment or also changes in their understanding of DRR concepts. When using Lego bricks as a tool, children are able to simulate changes/actions in their community directly in the 3D map.
- Using Lego bricks ensured that an inclusive approach to DRR is adapted as it enables both literate/illiterate as well as able/disabled children and adults were involved.
- Lego bricks were a long-lasting material as opposed to paper and not affected by weather, wind, and rain, making it a more sustainable mapping tool.





Target Beneficiaries

The target beneficiaries in the selected locations of Paschim Mahendranagar, Radhakrishnanagar and Harekrishnapur villages comprise of two distinct groups as per following table:

Location	Children's Group (Community)	School Children	
Mahendranagar F. P. School		Class III	20 children
		Class IV	18 children
Harekrishnapur F. P. School		Class III	16 children
		Class IV	22 children
Radhakrishanagar	15 children		
Durbachati	18 children		
Paschim Surendranagar	17 children		

The children belonged to the age group of 8 - 18 years and represented all sections of the society including the marginalized and minority communities.

In order to synchronize the Lego Risk Mapping Pilot Project exercise with the existing academic commitments of the children, the sessions were planned and organized during Saturdays (for School groups) and Sundays (for community groups).

Summary Results of the Exercise:

As a result of the initiative, it was evident that the targeted children were able to develop an understanding of self, logic, ethics, actions and consequences – which forms the core of any initiative that is initiated with the purpose of addressing human sufferings.

It was noted that after participating in risk & hazard mapping activities with Lego bricks, children have retained a stronger understanding of DRR concepts and a stronger understanding of the purpose behind risk mapping. The beneficiaries (children) were now equipped with the knowledge to identify high risk areas and safe zones in their map with will be effective in reducing loss of life and property during an actual exigency.

Children/local communities are able to regularly update their maps allowing them to be much better prepared in case of a disaster as they would be aware of the most up to date information. At the same time they can develop more spatial awareness about time and distance.





Finally, the pilot project was successful in introducing all the beneficiaries to the fresh concept of developing and using Lego as a mapping tool and now these children able to explain through the Lego maps and model the major risks/hazards to which their communities are exposed.

Kickoff – Trainers' Training at Delhi

Risk mapping exercise using Lego bricks was an absolutely fresh concept for the seasoned trainers in DRR and CCDRR activities who participated in the **training programme at Delhi from 28th to 31st August 2012**. The residential training programme was conducted to acquaint the participants with the concepts of CCDRR and use of Lego as a tool to create risk maps. The objective of the exercise would be to increase the understanding of the targeted children of disaster and is associated risks through a play and learn method. The collateral advantages of a Lego map as compared to the normal paper map were also explained to the trainers. Through a series of activities the new concept of mapping was explained to the participants – who would extend the learning horizontally in their activity zone.

The participants in the training session on behalf of SSDC included:

• Sri Akshaya Khatua (PC)	• Smt. Dipika Pal (CM)
 Sri Anupam Shyamal (CM) 	• Smt. Sabitri Das (CM)
• Sri Subha Das (CM)	 Smt. Mallika Sahu(CM)

The training sessions included effective guidelines and knowledge sharing by the experienced trainers for the partner organizations who enlightened the participants on a Child Centric Disaster Risk Reduction (CCDRR) approach and use of Lego bricks for generating DRR & CCA discussions in the rural and urban setting respectively. The most important sessions covered stimulating natural hazards and relating DRR and Lego tools in real life through examples. Use of Lego for risk mapping and explanation of the comparative advantage of these tools were discussed. Maintenance of the bricks and instructions for use were well compiled and distributed in the form for a hand out for future reference.

The practical sessions included hands on training on the use of Lego bricks through different methodologies that would be used to introduce Lego to children who have not seen it before. In the training session, the participants were put through the practice just as the children would go through in the field application. (see photos below) These methods included:

Copy Cat:

This method helps to introduce the participants on how to put together Lego bricks and develop their observation and creative thinking skills. The activity included:

- 1. Get the participants into pairs.
- 2. Ask one participant in each pair to build a creature, object, or structure with 5-10 Lego bricks.
- 3. Ask the other participant in each pair to copy and build the same thing.





- 4. Have the pairs present how accurate their copies are and explain what they have built.
- 5. Have the participants switch roles allowing the second participant to create and the other participant to copy.
- 6. Discuss what the pairs have built and discuss how accurately they were able to copy each other.

Other ways to add more challenge to the exercise was also included in the form of asking participants to do the same activity with more Lego bricks or have the second participant try to figure out and explain what it is they have copied.

Back to Back

This method helps to introduce the participants on how to put together Lego bricks and develop their observation and explanation skills. The activity included:

- 1. Get the participants into pairs and ask them in their pairs to each collect the same set of 5-10 basic Lego bricks. Then have them sit with their backs to each other.
- 2. Ask one participant in each pair to build a creature, object, or structure with the 5-10 basic Lego bricks they have each collected.
- 3. Have the participant explain to their partner how to build the exact same thing. The other participant has to try and build the same object without looking at their partner's sample.
- 4. Ask the participants to turn around and see how accurate both their models are. Have the pairs present how accurate they were able to explain and copy the object.
- 5. Participants switch roles allowing the second participant to give instructions & other participant to build a copy.
- 6. Discuss how accurately pairs were able to give each other accurate instructions and ask each other accurate questions to build the exact same copy.
- 7. Repeat the activity several times to improve their accuracy in building a copy. Other ways to add more challenge to the exercise was also included in the form of asking the participants to do the same activity with more basic Lego bricks and then introduce some more complicated Lego bricks.







Famous Model Race

This method helps to introduce participants on how to use and play with Lego bricks and develop their ability to work in a group building upon their observation and explaining skills. The activity included:

- 1. Hide a pre-built model built out of 5-10 bricks behind a board or under a towel.
- 2. Divide the participants into teams of 4 and give each team member a number from 1-4.
- 3. When you say "Go", team member #1 from each group comes to look at the model for 10 seconds.
- 4. Team member #1 has to explain to team member #2 how to start building the model.
- 5. After 2 minutes, team member #2 from each group can come to look at the model for 10 seconds.
- 6. Team member #2 then has to explain to team member #3 how to continue building the model.
- 7. Continue this until each team member has had a chance to look at the hidden model once, explained in their group how to build it, and also had a chance to build the team's model (or until the team thinks they have made an exact copy of the hidden model).
- 8. Let the teams discuss and compare with each other and then uncover the hidden model.
- 9. Ask the teams to guess which of their models is closest in design and why this is the case.

Other ways to add more challenge to the exercise was also included in the form of repeat the activity by making a more complicated hidden model with more bricks or repeat the activity but this time have team member #1 look at the hidden model for 10 seconds and go back to build himself/herself. Then have team member #2 do the same thing. The team members are not allowed to give explanations or correct each other.

Tower Relay

This method helps to introduce participants to use and play with Lego bricks and develop their motor skills. It encourages participants to think of other creative uses/applications of Lego bricks. The activity included:

- 1. Divide the participants into teams of 4-5 and give them each the same set of 20-30 basic Lego bricks and a hard cover notebook or folder.
- Divide the teams into two halves (can be odd numbers on each side) and create a distance of around 10-15 meters between these halves. Each team will have 10-15 bricks at each end. Use something to mark lines at each end.
- 3. The teams have to run from one end to the other alternating turns, balancing a tower of bricks on the notebook/folder.
- 4. The teams will start off with one brick. At each end, the teams will pass it on to the next person who has to add one new brick and then balance the tower back to the other side.
- 5. If the tower falls over, the team is out. If the team uses their hands to hold the tower inside the relay distance, the team is disqualified. When running to the other side, they are not allowed to touch the tower; it has to be balanced on the notebook/folder when inside the lines.
- 6. The winner at the end is the team with the tallest standing tower, even if the team is already out!





The Tallest Tower

This method helps the participants to understand the impact of natural hazards on infrastructure. It encourages them to critically assess the resilience and durability of seemingly permanent structures. This exercise also introduces then to view their surroundings and observe the risks and resources they present.



The activity included:

- 1. Ask participants to name some examples of the tallest objects/structures in their community. Ask them questions about the different objects they have named.
- 2. Divide the participants and have them sit in pairs with access to LEGO bricks and space between them to build.
- 3. Instruct the pairs that they will now have to build some examples as tall as possible with the LEGO bricks available, however each person is only allowed to use one hand! Do not provide any base plates!
- 4. Ask each pair to discuss and between themselves select one of the tall objects/structures from their community which they want to build. Write up what each pair is building on a board or a flip chart paper.
- 5. Inform the participants that we are expecting a hurricane season in 'LEGO town' so the towers are very likely to get damaged.
- 6. Give the participants 10-15 minutes to start building their towers. Remember: each person can only use one hand to build!
- 7. Ask the participants to stop and have them gather around to present their towers. Ask the participants if the LEGO tower looks like what the pair was planning to build.
- 8. Discuss what risks and resources these objects/structures represent in their communities. Often these tall structures can be both a risk and a resource.
- 9. Tell a story about how it is now hurricane season in 'LEGO town' and that you the teacher are the hurricane. Ask participants which towers they think will be stronger?
- 10. Walk around the room and use a hard book/folder to fan a strong wind at each tower. Try to get each tower to fall over.





- 11. Ask participants why they think that tower was going to fall over or why it was not going to fall over. Discuss the significance of strong foundations and other noticeable construction features.
- 12. Close the activity by give participants 15-30 minutes to go back in their pairs and try to build more resilient towers. Let participants practice simulating hurricanes.

My House

This activity helps the participants to learn how to model real-life structures using LEGO bricks. It encourages them to use LEGO bricks in a visual presentation as a way of sharing their information. It also gives them practice in identifying risks and resources. Ultimately it is a practice session of mapping a small environment. The activity included:

- 1. Ask participants if they are ready to build some more complex LEGO structures.
- 2. Instruct participants that they will each have to use a clear base-plate as a foundation to build a home/structure of where they spend most of their time. They can use any bricks they choose.
- 3. Hand out a clear base-plate to each person and give the participants 20-30 minutes to build their 'homes'.
- 4. Ask them to bring up their models and place them in the presentation area.
- 5. After all have finished, get them to gather around the presentation area so that everyone can see the models.
- 6. Ask a few individual participants to present their models to the group and to discuss the features they have included and what bricks they have used. Ask if anyone else would like to present their model.
- 7. Ask participants whether they feel there are any risks or resources in the places their models represent. Ask them to point them out and explain why they think so or why not. Find out whether anything has happened before.
- 8. Discuss what risks and resources might be around these homes and what could one do to minimize these risks.
- 9. Inspect the models for building techniques that resemble construction techniques in real-life. Try to show how some of the LEGO models may be more resilient than others.
- 10. Ask if there are any questions. Give the participants time to look at all the different models and allow them to go back and experiment with or modify their models.

Different ways to add more challenge:

- Ask participants to model more complex buildings that they have seen in their environment.
- Ask participants to build their dream house. Ask them to explain if they have done or added anything to make the structure more resilient and safer from hazards.





A Stable Wall

This activity helps the participants to learn how to model real-life structures using LEGO bricks. It also gives guidance on how to simulate and conduct physical experiments of concepts in DRR & CCA (like simulating an earthquake, tsunami, flood or cyclone and test the resilience of structures. It provides a future road map to the participants to identify risks and resources through practice

The activity started with the narration of the story of 3 little pigs to demonstrate the utility of building a solid and strong house to protect the inhabitants against impending dangers. After reading out the story, the participants are guided through the following exercise

- 1. Ask if anyone can identify the risks and the resources that the pigs had. Discuss why or why not they might be a risk or a resource.
- 2. Divide the participants into groups of three.
- 3. Instruct participants that today they will be conducting experiments, but unfortunately we do not have any straw or sticks. Instead we will only work with LEGO bricks. Do not provide any base plates (as the walls will be too strong)!
- 4. Instruct participants that you want them to build only one wall of the house and carry out an experiment with it, but they can decide what they want to simulate.
- 5. Participants will have to build a miniature wall out of LEGO bricks and simulate some sort of natural hazard exerting stress on the wall. The experiment will consist of trying it out with different types of walls, and different magnitudes of hazards.
- 6. Use some of the experiments below to simulate natural hazards on the wall or come up with your own experiment to simulate a natural hazard.
- 7. Ask participants to see if they can build weaker walls and stronger walls. Ask participants to try and simulate at least two different hazards like floods, earthquake, cyclone. Give participants about an hour to conduct their experiments.
- 8. After they have practiced their experiments, ask a few volunteer groups to present their findings and to show what kind of walls they have built and how they simulated the hazards.
- 9. Ask the other mates to try and explain why some walls might have been more resilient while others were not. Discuss different types of walls built and how they responded to the hazards.
- 10. Inform the participants that in real-life walls might not respond like they did with the LEGO walls; however we were able to practice DRR by trying to minimize the risk of our walls collapsing.
- 11. Ask if anyone has any questions or comments to today's experiments.
- 12. As a closing activity, ask the participants to help wash and clean up the Lego bricks.





In order to introduce a change of taste, the story could be replaced with a skit. Several levels of difficulty could be introduced to test the susceptibility of the wall - thereby further reinforcing the concept of risks for natural disasters for lives and properties within the community.

The group-work on mapping risks and resources along with replication of the same using Lego bricks was another useful session that contributed to the overall understanding of the process of using Lego bricks and the same was extremely necessary while executing the concept in the practical field. In the penultimate day, the participants were allowed to put the knowledge gained by them during the training to practical use by working with a children's group on use of Lego bricks. This session was the best learning experience for the participant and the same was widely used during field work at location. The following images represents the successful training session at Delhi.



Training Session in progress



SUNDARBAN SOCIAL DEVELOPMENT CENTRE

Group-work, Practical and Interaction with Children during training at Delhi Field Activity with the Children's Groups

After concluding the training at Delhi, the trained Lego Activity facilitators returned to their base with enthusiasm and were raring to take forward the lessons learnt to the field activity.

The Children's groups were formed in the project areas to implement the Lego risk mapping initiative with a child centered approach. (See details in section "Target Beneficiaries")

The first workshop with each group was conducted to give them a firsthand idea of the new tool. Since the children had already taken part in DRR&CCA related workshop earlier, they were basically conversant with a portion of the curriculum.

For each of the groups, a tarpaulin sheet was procured and distributed to facilitate the children to sit and work with the Lego bricks. This would help in keeping the pieces in one place and also prevent the small pieces from being lost. In order to store the piece, special containers were also procured and distributed to the groups.

As per the policy guidelines, the project staff assumed the role of a facilitator and not of a teacher or instructor. This helped in the process of the children exploring their own imaginations with the Lego tools to deliver best results. Facilitation method required the facilitator to guide or lead the students to new knowledge and not just to give them the 'correct' answer. This method allowed the students to actively work with the subject, task, or theme provided for open-ended lessons that help produce creative problem solvers and independent thinkers. The corner stone of this method being the philosophy that there is not one single absolutely correct answer; there are a variety of possible answers Learning Sessions were centered on the following topics that introduced and later induced the children to this alternative form of child centric – activity oriented DRR initiative:

- 1. How to use LEGO bricks.
- 2. Taking care of your LEGO bricks.
- 3. Discussing DRR & CCA concepts using LEGO bricks
- 4. What is a risk and resource community map?
- 5. Using LEGO bricks to create risk and resource maps
- 6. Action planning
- 7. Sharing and presenting the information on the maps

Through the use of recommended activities to model DRR & CCA concepts with LEGO bricks (copy cat, back to back, my house, strong wall, etc discussed earlier), simulating cause-and-effect relationships that occur in the natural environment. Children were encouraged to start by building a familiar structure/environment out of LEGO bricks and then follow the activity instructions to simulate natural hazards and create discussions around the risks that arise in the model (like floods or cyclones).





Some of the common DRR & CCA measures adopted during exigency was discussed that has relation to search, warning, rescue and evacuation like – emergency exits, evacuation and access routes, high grounds, hazardous infrastructures, waste management, fire safety, etc.

The concept of risk and resource community map was discussed with the participants as a sketch of a particular area or a place that is drawn by the people in the community to show the risks, vulnerabilities, and the capacities of the community and its members in relation to potential hazards that might strike the region. Its utility was discussed as follows:

- To find a location, to measure distance, to visualize an area.
- Symbols, legend/key, title, direction, distance, labels/names, colors, etc.
- Lets people know easily the location of both the risks and the resources at their disposal.
- It helps people in the community prepare to deal with a calamity

Children were acquainted with the utility of undertaking the exercise of making a risk and resource map that would show information on hazards, vulnerabilities, and capacities. Capacities would include safe gathering places, first aid centers, radio stations, and other early warning systems.





Finally the children were initiated into the activity of replicating the maps drawn earlier and replicating it with the help of Lego bricks – wherein they were using separate type, colors of bricks to represent various objects, structures, and terrains in map. They made a key/legend for the map. Step by step from first placing a house, then roads and then neighboring houses, etc they were building up. The groups added key landmarks & important buildings to your map, and make sure they can be identified. Lego bricks were used to show different environmental features in your community area using different bricks. Most importantly they were being creative!







Complete Risk Map with Lego bricks



Children having fun with Lego

Baseline Survey

The baseline survey of the field situation assessment of the knowledge and skills of the children were assessed through the survey after conduction of a couple of sessions. By such time they had been introduced to the methodologies of using the Lego bricks and after tiding over the initial hesitation, they were fast adopting the new tool. The English questionnaire was translated into Bengali and handed over to the children. This survey was conducted in anonymous mode and no one was allowed to write his/her name on the response sheets. Each child followed the instruction and filled up the sheet without discussing with or copying from a peer. The facilitators too did not involve themselves in the process of the children filling up the forms. The survey was thus a total reflection of the thoughts, notions and



knowledge of the children participating in the project. Sample response sheet (Bengali) is appended:





District Level Consultation

On the last day of January, a district level consultation was organized to share the achievements of the pilot project that is an extension of SSDC's existing activities relating to DRR and manifested in the formation of village level children's group, child protection committees, and capacity building of these groups through basic training on disaster early warning, search & rescue, first aid, psycho-social support, school safety planning and technical training on mainstreaming of Disaster Risk Reduction. The introduction of creative use of Lego bricks being the new entrant in the list. With participatory spirit of the community, the sharing was organized to involve the community and DRR related duty bearers on the new lessons and the exciting opportunity of "Disaster Risk Reduction Map by using the Lego bricks – DRR & CCA pilot project".

Most Significant Achievements

The important and significant achievements of the pilot project are in relation to the target beneficiaries (children) having adopted the a risk lens perspective: such as independently evaluating their risks at home or school and informing the concerned duty bearers to initiate necessary corrective step as we have noted in certain case studies. We were able to successfully implementation of community level DRR Risk Maping, School Level DRR- CCA risk maping with action plan by our targeted children group. Another side we were completed PRI meeting at gopalnagar and Durbachati GP level and also state and district level meeting to share the lego pilot project and its Child centre DRR- CCA risk reduction process. The use of Lego bricks as a tool was successful in achieving an inclusive discussion among children sans age or social boundaries. Even younger children could efficiently and effectively participate in the process and contribute positively towards the final mapping activity. Thus the pilot project could demonstrate that the risk and resource mapping activity could enhance the life skills of children irrespective of any barriers of age, gender or social background.

Finally activity was successful in igniting the limitless curiosity and inquisitiveness of a child and his quest for answers also made him/her involve the elders in the community to take note of the effort and lend a supportive role in matter concerning a particular risk to the community. Most importantly, the children enjoyed the sessions and treated Lego activities as another avenue of releasing their creative energy while learning more about Disaster Risk Reduction.

Way Forward

The experience of the pilot project needs to be consolidated and further extended to cover other vulnerable areas within the Sunderbans. More children's groups and schools have to be included to give Lego based activities the look of a revolution taking place in the country side whereby the entire





community are being involved in the process of creating, updating an maintaining risk and resource maps. Proper monitoring mechanism has to be installed in place to ensure that the activities are being conducted as per specified guidelines and the maps are regularly updated to reflect any change in the ground level so as to preserve its effectiveness during the occurrence of a natural disaster.

Project Outcome

The Risk Mapping Exercise using Lego bricks was a big achievement in directing disaster risk reduction activities towards a child centric approach. The creative edge of this activity with a perspective of equipping children with knowledge on life skills was unknown in this part of the world. Hence introduction of the LEGO sessions in the community and schools first received a cautious response from the group of children.

However after a couple of initial gingerly steps that was assisted by the community mobilizers of Sunderban Social Development Center, they gradually started getting interested in the development of models of objects and sites that he saw in his daily life around him.

With a few advanced sessions, they discovered how these objects could be used to replicate situations of natural disaster and also demonstrate the ideal situations that can be planned to minimize risks to life and property during occurrence of such calamities.

This practical perspective further boosted their interest in the LEGO sessions and it happens with children, interest flourished into a passion for development of new concepts in creating disaster proof structures - like increasing the strength of the plinth, binding the walls of construction to provide additional support, creating appropriate channels to release accumulated water during floods, etc.

Children now realized the utility of risk and resource map built with Lego bricks and can now constantly upgrade and update the hazard, risk and resource data on their maps for immediate reference.

As an outcome of this exercise, schools have taken note of the risks posed to children within the premises that did not feature within the ambit of its developmental activities. The management of schools has woken up to the realities and has taken active and effective steps to reduce such risks to children ushering in the realms of a child friendly school.

Common measures for protecting the community against embankment breaches and flash floods have again come up in the fore front of discussion. The role of forests and the need for saving the mangores and extending its cover through aforestation efforts have been highlighted through the risk mapping exercise by the children of the community.

The activities were an empowering experience for the boys and girls of Gopalnagar and Durbachati since their participation and opinion in decision making process was now being respected and called for by the adult members of the community. The children have contributed positively though the knowledge gained in this project to secure disaster resilience for their families and communities. This augmented children's participation in matters of development and in their best interest.





It can thus be concluded that the effort of Save the Children and SSDC needs to be extended with the support from Lego Foundation to extend the scope of the activity to cover more children's groups and schools to bring them within the ambit of this creative and focused activity aimed at reducing risks of disasters for communities living in the vulnerable areas of the Sunderbans.

Image Gallery



Look what we made!!





Shh!! We are concentrating !







Everybody is interested to know more about Lego – DRR & CCA!

Image Gallery



Some of our works !!





Fascinating! Isn't it?





