About Reusable and Fire Resistant RFR Shelter Kits

Background: The Rohingya refugee camps in Bangladesh have been facing major challenges in recent years – fires, floods, cyclone, etc. in the high densely populated camps. The shelters are made of a combination of inflammable materials. Constructed of bamboo and tarpaulin, which makes them very prone to fires. In January 2022, a fire broke out in the Camp 9, 8E & 8W areas, leaving over 90,000 refugees homeless. Another fire broke out in Camp 11 on 5th March 2023. However, this time, the situation was quite different the fire is controlled within 3 hours, but damages still show high 12,000 refugees are homeless and 2,000 shelter are totally burnt. The fires can spread quickly and devastate entire sections of the camps, leaving thousands of people homeless and without necessities like food, water, and shelter. In recent years, there have been several major fires in the camps, highlighting the urgent need for more fire-resistant shelters. This devastating event was a reminder for aid agencies and the government to take action to improve the living conditions of the refugees.

Removable steel structure and prefab base

Measures and objectives: "The aim of the continuous improvement of the poor and sometimes dangerous living conditions for the refugees".
Both UNHCR and IOM's AoR have introduced earlier fire safety training for the refugees. The training covers fire prevention, safe evacuation in case of fire and the use of fire extinguishers. The aim of the programme was to educate and empower the refugees to take preventive measures to reduce the risk of fire. This measure helps to protect people, but it does not substantially improve the safety of people in their highly combustible shelters.
However, on behalf of the SCCCM, a pilot shelter was designed with the aim to withstand high temperatures and resist the spread of flames, reducing the risk of fire. From a macro settlement planning (MSP) perspective, fire safety is an important element to improve, but not the only factor. As a micro element, 'Shelter' also impacts on the whole macro level due to increasing density covered by weak and unsafe shelters, the disposal and reuse of building materials, and the impacts on waste management and the environment.

Flooring fire resistant

Reusable systems of stilted shelters are recommended and proposed by MSP, has they will cause only minimal impact on the landscape, in addition the natural contour line can be kept and maintained. Reusable and easily removable materials should be used, making this construction types environmentally friendly and sustainable.

Summary of specifications for the construction of safe and sustainable shelters for the Rohingya:

- **Safety:** RFR shelters should be waterproof and storm resistant to a certain degree. RFR shelters should be designed to withstand high temperatures and resist the spread of flames, improving living conditions, increasing community resilience, and promoting a safer environment for refugees to live
- **Long-term cost savings**: RFR shelters may be more expensive to build initially, but they can save money in the long run by reducing the need for frequent repairs and rebuilding after fires. In addition, the materials of RFR shelter kits can be reused for a long time because they are designed to be demountable.
- **Increased community resilience**: Building RFR shelters can contribute to the overall resilience of the refugee community. By reducing the risk of fires, refugees can focus on rebuilding their lives and improving their futures.
- **Environmental sustainability**: RFR shelters are designed to be reusable, thereby they must be considered environmentally friendly and sustainable. A calculation has shown that 91% of the Materials can be reusable and 83% of the investment costs can remain at Cox's Bazar local economy. This helps to reduce the environmental impact of the refugee camps and contribute to the long-term sustainability of the area.

Cladding with fire resistant

Conclusion:

The replacement by RFR shelters should be accompanied by decommissioning or rebuilding after fire or other hazards. it is not the intention to replace all shelters in all camps.

The construction of RFR shelter kits can significantly increase the security of the beneficiaries and preserve the value of the investment, as these shelters can be dismantled and reused elsewhere. RFR shelters can be granted to beneficiaries, and they can even be allowed to return to their home country of Myanmar to restart their settlement with value.

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