

Research Diary

Innovations - Q3

India's first Bio Bricks based building inaugurated at IITH
Mr Priyabrata Ruatray

KID: 20210310

Based on the patented technology, agro-wastes are converted into sustainable material to built eco-friendly and cost-effective buildings.

Highlights:

- This technology was developed to counter the air pollution caused by stubble burning. Bio-Bricks are quite economical, farmers can make this material at the site and further reduce the labour costs.
- This material exhibits excellent thermal insulation and fire-retardant properties. When used in roofing and wall panelling, it can effectively reduce heat gain by 5 - 6 degrees. Bio-Bricks can also add to the marginal farmers' income and create a new employment opportunity in the lean period (off-seasons).
- Bio-Bricks are found to be 1/8 and 1/10 of weight for similar volume compared to burnt clay bricks and concrete blocks, respectively. Compared to burnt clay bricks, Bio-Bricks will cost about Rs.2 - Rs.3 when mass-produced. Bio-Bricks has a sustainable material that can reduce dependency and allow villagers to built cost-effective buildings.

Read More: <https://tinyurl.com/5zkux6e5>

View Video Abstract:

https://youtu.be/iOFOUXrmw_w

Rakshak Face Shield by the maker of Sudhikran
Mr Priyabrata Ruatray

KID:20210309

With the onset of COVID 19, we need a large number of protective gears, and a cost-effective and modular face shield will protect doctors and frontline workers from bodily fluids and reduce the risk of infection through the eyes and ears. This design is modular and requires significantly less time to make using only a few materials.

Highlights:

- Easy to use.
- Easy to manufacture.
- Prevents strain from hard parts on the forehead.
- Easy to assemble.
- Easy to change the shield.

View Video Abstract:

<https://youtu.be/t1uIOnLjkYw>



Fig. 11: Rashak - Face Shield



Fig. 12: 1st Bio Brick Building at IIT Hyderabad