

Annual Report

November 2021



**THE CENTRE OF
RESILIENCE**

Our Mission

To provide pathways towards resilient livelihood, sustainable living and inclusive wellbeing, and thus a regenerative future for the peoples, cultures and ecology of Bihar.

Where we are

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Reflections on 2021

This month, January, 2022, marks our first full year of work at the Centre of Resilience!

Following our **Stage 2 Plan**, this year we have focused on: completing the centre's set-up, both the centre's physical infrastructure and our on-the-ground team, applying for charitable status, and navigating India's bureaucracy as we formalise ourselves as a Centre. Excitingly, we have also launched prototypes for what will become our long term core-programs at the Centre: the **Resilient Livelihood** Program, **Sustainable Living** Program and **Inclusive Wellbeing** Program. These prototypes build on our work in 2020, and bring us one step close to our goal of launching full-scale programming in Stage 3, by 2023 (see the **Stage 2 Plan** for details).

While 2021 was meant to be a year of focusing on the internal work of setting up this young community centre, similarly to 2020, we have also been busy responding to on-the-ground needs in Bihar, and we have adapted our work to make sure that we as a Centre are building regional resilience while addressing these needs. And we envision that this will be the case moving forward: that a large part of what we do will always be emergent, needs-based work; work that is impossible to foresee, as it is an active response to the on-the-ground reality of Bihar, a place facing severe climate change and complex social and economic challenges.

For everyone reading this, **thank you for your support** as we continue on the journey ahead of bringing about resilience and regeneration in Bihar, and sharing models with other communities around the world.

- *Ben Reid-Howells & Prashant Kumar*

Collaborations, Outreach & Education Updates

Waterstudio.NL

WaterStudio: Floating House Project

We have joined with Koen Olthuis, architect and founder of Waterstudio, and his team of leading specialists in floating structures to counter concerns of floods and rising sea levels. Together we are working on the Floating House Project. Read more about this project in the [Inclusive Wellbeing](#) section of this report.



MUWCI: Natural Construction Trainings and Workshops

This year, Prashant – founding director of the Centre of Resilience – was invited to offer trainings and hands-on workshops to youth around the world at Mahindra United World College, Pune, India. Read more about this educational work in the [Inclusive Wellbeing](#) section of this report.



Following up on a history of collaboration with Royal Enfield, who support Prashant and Ben on the Vasudhaiva Ride project series, Prashant is now leading the Centre's first large scale art installation for an international client: Royal Enfield and the British government. The one of a kind installation is being worked on by learners at the Centre of Resilience: Prakash, Mukesh, Ravi and Pintu.





One Drop and WaterAid India (www.Onedrop.org)

November, 2021 bringing Prashant into their work to use different forms of art and community engagement to help bring about behaviour change across Bihar in regards to: water usage, sanitation and hygiene.



Art Kala

We are in an ongoing collaboration with Bihari marketing platform for sales and marketing of products created at the Centre. Art Kala is the second largest DIY (Do It Yourself) channel on Youtube, worldwide. A central vision for our work at the Centre is to build networks within Bihar of up and coming entrepreneurs and innovators, thus supporting each other as we together build a more resilient sustainable economy across Bihar. We are very excited to be building this relationship with Bihar's own Art Kala.

Program Updates

The Resilient Livelihood Program

What's Happening Now

This program is designed to build the skills of local Bihari makers, so they can go on to create sustainable enterprises, employing other community members in work that centres upcycling, natural design and local Indigenous knowledge.

This year, the first group of learners formed and, guided by Prashant, learnt the basics of upcycling design and fabrication and are now creating the Centre's first product line of upcycled products.



These same learners, as they master not only design and fabrication, but also marketing, communications and teambuilding, will have the opportunity to continue as makers at the Centre, or to become trainers to other learners as we move into Stage 3 of full-scale programming.

Hard Skill instruction this year has included:

- wood and bamboo work to create lamps, chandeliers and detailed crafting;
- scrap metal work to create upcycled furniture, garden installations, planters, archways and lifestyle products.



Soft Skills instruction this year has included:

- Collaborative and solo product ideation and design;
- Team trainings: team bonding exercises; visioning; connecting to land (eg. trips to the Ganga); fair distribution of work, clarity around roles and responsibilities;

Of this year's small team of learners, two core workers are currently being employed by the Centre and their products will be featured in the product line in 2022. This is a model we are currently prototyping and intend to scale up in Stage 3 (2023 onwards), in which learners'

products are sold and the proceeds cover the costs of their learning as well as providing them a salary.

What's Ahead

- Launch crowdfunding campaign to support launch of Product Line: currently planned for February 2022
- Scaling up manufacturing: larger quantity of designs and products
- Marketing: once products are ready for market
- Completion (by July 2022) of Royal Enfield art installation project
- Train the Trainer program: to launch post Product Line, post Floating House project: mid-2022: current learners to become trainers, to train new creators in (eg. intensive 2 month) training program



The Inclusive Wellbeing Program

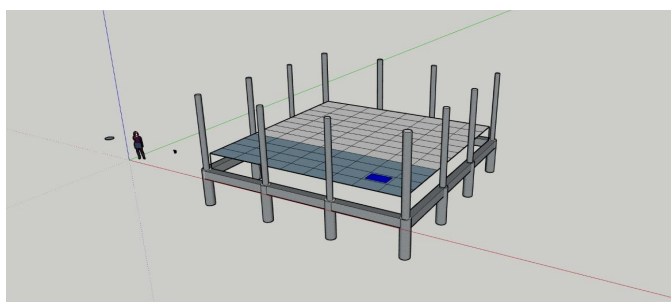
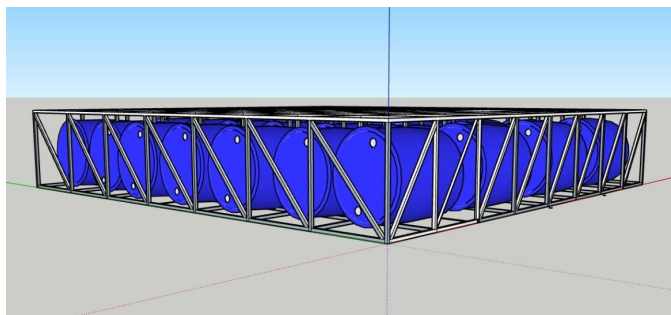
What's Happening Now

Floating Village Project

This year we have progressed in a large-scale project that we are taking on in partnership with the Centre of Resilience and other international partners: the **Resilient Floating Village Project** (aka Floating House project). This project is the first step in our vision of creating self-reliant, floating villages and accompanying skills-training that will prevent the displacement of India's native farmers, and allow them to continue traditional, sustainable forms of living in the face of growing flooding due to climate change.

In 2021 we made the following steps in this project:

- **Forming the team:** with Koen Olthuis and his team at [WaterStudio](#);
- **Design stage:** of the base structure as well as several designs for the house itself;
- **Securing funds:** received from two major contributors: Koen Olthuis and Andreas Müller-Hermann;
- **Sourcing materials:** Prashant sourced materials from across Bihar and transported them to the Centre where the on-the-ground team started processing them;
- **Creation of floating platform:** the base structure that will hold the floating prototype house is now complete
- **Delay:** Covid 19. This work was delayed due to the pandemic, which has caused shortages of basic construction materials across Bihar, delays in transport and other complications.



What's Ahead

- Final design, construction and installation of first prototype floating house;
- Design and installation of renewable systems: energy, food, water and waste;
- Building the wider team to collaborate on these systems.
- Connecting with communities in flood-affected areas to assess the prototype floating house.



The Sustainable Living Program

What's Happening Now

- 1/ Education:** trainings and workshop in natural construction with college students
- 2/ Farming:** reintroduce native crops, increase ecological diversity and complete water systems
- 3/ Land Stewardship & Regeneration:** create habitat for endangered, local species

Education

Centre of Resilience cofounder Ben Reid-Howells taught for 2 years at the Mahindra United World College of India (MUWCI) from 2017-2019. Since then, we have welcomed United World College graduates as interns on various projects: a great model that allows these students from over 100 countries around the world to bring skills and practises back to their home communities. This relationship continues, and in 2021 two members of the Centre of Resilience, Prashant and Sasha, travelled to MUWCI to lead several trainings and workshops on natural construction and sustainable systems.

Natural Air Cooler

With support from art installation and ceramics expert Sasha Upadhyay, students and faculty at MUWCI learnt the technical art of pottery-making, the basics of thermodynamics and construction techniques. The Natural Air Cooler is based on Monish Siripuraru's natural air conditioning model made from placing terracotta tubes in a beehive pattern. MUWCI hopes that this project will set the foundation for sustainable air cooling around their campus for years to come.



EcoHuts

The Ecohuts project, led by Prashant, was a natural construction build aimed at re-centering Indigenous ecological design, preserving local culture and heritage, and demonstrating what can be done with natural materials. Prashant introduced the building methods we promote at the Centre of Resilience, of sustainable architecture with local resources, in this case to create social spaces for the MUWCI community. Features of these huts include: bamboo construction, solar energy; hybrid glass bottle brick laying; 30 person weight bearing capacity; and upcycled chandeliers and light fixtures.



Farming, Land & Water Regeneration

The Centre of Resilience itself is envisioned to provide an example of affordable, sustainable and autonomous systems of land, food, medicine, energy and water stewardship that can be adapted and adopted both regionally in Bihar, and globally. In 2021 we furthered the set-up of these nested systems that will ensure that the Centre is self-reliant. These systems are also experiments and prototypes for managing global issues such as flooding, famine and pollution.

This year's innovations have built on work started in 2020, as well as new systems altogether, including:

- 1/ Incorporating a grey water recycling system into food-farming land; and growing native crops that filter water and help to manage flooded areas.
- 2/ Growing regional medicinal herbs and plants: turmeric, black basil, sweet basil, varieties of tulsi, aloe vera, peppermint, rosemary, oregano, black pepper;
- 3/ Introducing new vegetables to the centre to provide food staples and income: sweetcorn, urad dal, saag (similar to spinach); coffee.
- 4/ Launch of bio compost: to build the soil and regenerate the land
- 5/ Permaculture compost system
- 6/ Development of Natural pesticides: tobacco and neem leaves for pest control
- 7/ Jugaad Rainwater harvesting system



Creating A Natural Sanctuary for Biodiversity

Another aspect of the Sustainable Living Program in 2021 has been the continued creation of habitat for local species. As we create more and more diverse habitat around the Centre, we see more species that are able to find a place to call home. The Centre is quickly becoming an ecological oasis in the surrounding concrete jungle of Arrah.

This year we have planted native fruit and shade trees around the Centre's perimeter for increased habitat creation (mango and guava trees). We have also installed an aquaculture pond, which also helps to store rain-water and increase water-based ecology.

New species that have taken sanctuary at the Centre this year include:



Painted Turtle - *Chrysemys picta*

White breasted waterhen -
Amaurornis phoenicurus

Indian Grey Mongoose - *Urva edwardsii*

What's Ahead

Farming:

- creation of plant bed designed to filter black water resulting from seasonal floods
- creation of greenhouse: to combat increasingly hot summers and high fluctuations of temperatures, rains and severe weather due to climate change
- creating plant nursery: to increase production of medicinal, native species and be able to offer these to local community
- creation of small nursery to increase plant growth
- further applications of permaculture principles
- practising methods of natural food preservation (started in 2021)



Land and water regeneration:

- topsoil regeneration: experiment with new methods of creating natural fertilisers and pesticides, to build topsoil fertility, and apply this in flood situations (ie. in areas affected by floods, where the ground level needs to be raised and topsoil is lost, this method will help to regenerate topsoil)
- aquaculture: setup of pond for small scale fish farming: part of the nested systems, returning nutrients from fish pond to soil.

Summary of Engagement

- Floating House Project: 5 people in training as builders; 2 people in training as team coordinators
- Royal Enfield art installation project: 4 people in training as fabricators
- 2 learners employed through Resilient Livelihood program
- Total number of volunteers trained this year: 10
- Number of youth engaged in workshops and community service: 100+



Future plans: 2022

Centre Infrastructure

1/ Completion of multi-use:

- soft-skills training space: with computer lab and classroom
- completion of shop and display area for products created at the Centre
- creation of reception area

2/ Completion of accommodation area for 10 people: volunteers, visiting learners and teachers.

New Roles

- Workshop Manager & Graphic Design Lead: Sasha Upadhayay
- Metalwork Lead Crafter: Prakash Kumar
- Lead Farmer: Mukesh Kumar
- Workshop Helper: Ravi Sharma

NOTE: The surname "Kumar" is very popular in Bihar. Prakash and Mukesh Kumar are not relatives of Prashant.

Finances

Summary Statements of Financial Position as of November 2021

Total funds we currently have: 1,200 EU - budgeted for Floating House Project

Total funds received in 2021: 12,000 EU

Total funds personally invested: 5,000 EU

Total funds spent in 2021: 17,000 EU

Major Funding Sources & Spending: January - November 2021

Contributor: Andreas Müller-Hermann; Amount received: 6000 EU

Application of funds: Centre Infrastructure Development

1. Workshop Electricals
2. Workshop workstations
3. Workshop storage
4. Machines and tools
5. Raising land of workshop area for

Contributor: Koen Olthuis; Amount received: 6000 EU

Application of funds: Floating House Project

1. Purchase of construction materials
2. Team salaries
3. Electricity bills
4. Workshop space maintenance
5. Painting
6. Purchase of machines for fabrication process

Total 2021 funding received: 12000 EU



THANK YOU!

From the on the ground team in Arrah, and our global family, **THANK YOU** for following, supporting, sharing and enabling our work and vision for a more resilient Bihar. We cannot do this work without you.

Please contact us via the email below to share any guidance, support or connections, as we continue to grow as a centre.

Email: centrefresilience@gmail.com

Yours in One world, One family,

- Prashant Kumar & Ben Reid-Howells

