



Sustainable Manufacturing and  
Environmental Pollution

Showcase 12 Oct 2023



# P2G

## Plastic to Ghar

Plastic Waste  
Remanufacturing for  
Local Housing:  
Innovation Ecosystem  
in Nepal



**IMPACT  
HUB**

**PROFILE 2023**

# **IMPACT HUB KATHMANDU**



100+

locations

200+

programs

17,000+

members

55+

countries

Impact Hub is  
the world's largest networks focused  
on building

**ENTREPRENEURIAL COMMUNITIES**

for impact at scale.



**Accessible, Inclusive and Safe** space for **entrepreneurs, makers/innovators, activists, artists, changemakers and problem solvers** to try and test new ideas, take risks while learning, unlearning and asking, why not?

**Embrace impact and innovation** across products, services, processes, business models and systems

Work towards positioning **Nepal** as a land of **opportunities and possibilities**



# BUSINESS MODEL

## Programs

### Business Incubator

- Ideation, pre- incubation, incubation, pre-acceleration

### FabLab Nepal – digital fabrication

- Trainings
- STEM workshops for youth

### Impact Academy

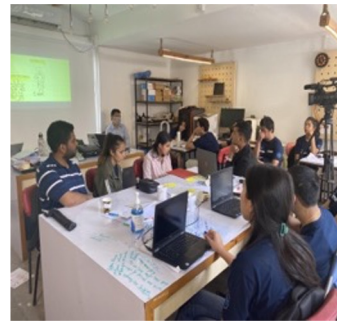
- Capacity building of grassroots organisations, marginalised communities
  - Leadership enhancement
  - Skill building – fundraising, income generation

## Consulting

- Design and Prototyping

## Coworking Space & Training Hall

- 9 tenants (members)
- Training hall for events



# OUR IMPACT SO FAR - BUSINESS INCUBATOR

Provided business support services to **68 companies** across 8 cohorts in Kathmandu and Chitwan

Sustainable business model development for over **16 startups and MSMEs**

Over **35 international and local business experts and mentors** engaged

ImaGen Ventures  
GenU Youth Challenge 3.0: **15 teams from diverse groups** - disability, LGBTQIA+, marginalised girls

Over **30 Nepali investors**, **23% female investors**

**50 new jobs** created (incubation)

**72% average increase in revenue** for startups

Raised **33 Lakhs** in equity funding

Raised **38 Lakhs** through credit and debt financing

Partnered with **local banks for SME loans**

**5 ideation & incubation programs:** I-Cube, Tourovation Hub and RESA, Urban Innovation Challenge, P2G

**Post investment support:** Tourovation Hub and Upscaling Nepal's Green Enterprises



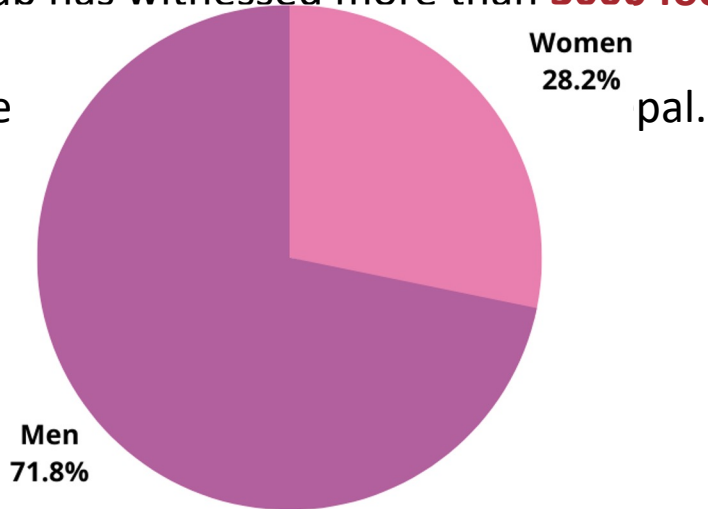
# OUR IMPACT SO FAR - FABLAB NEPAL

Technical trainings to **1545 people** covering digital fabrication, STEAM education, workshop safety, research and development.

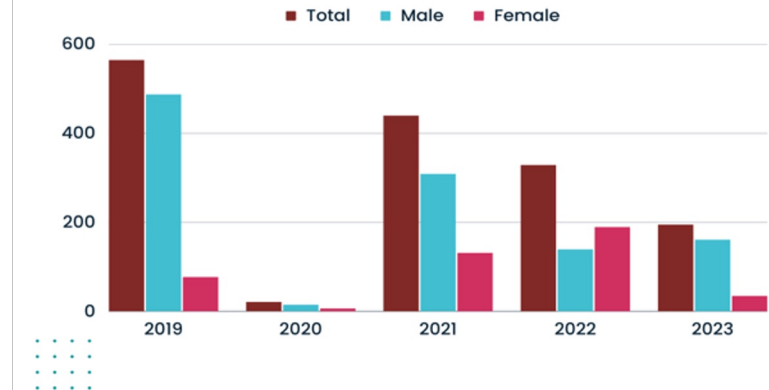
Out of 1545 people, **437 were women**.

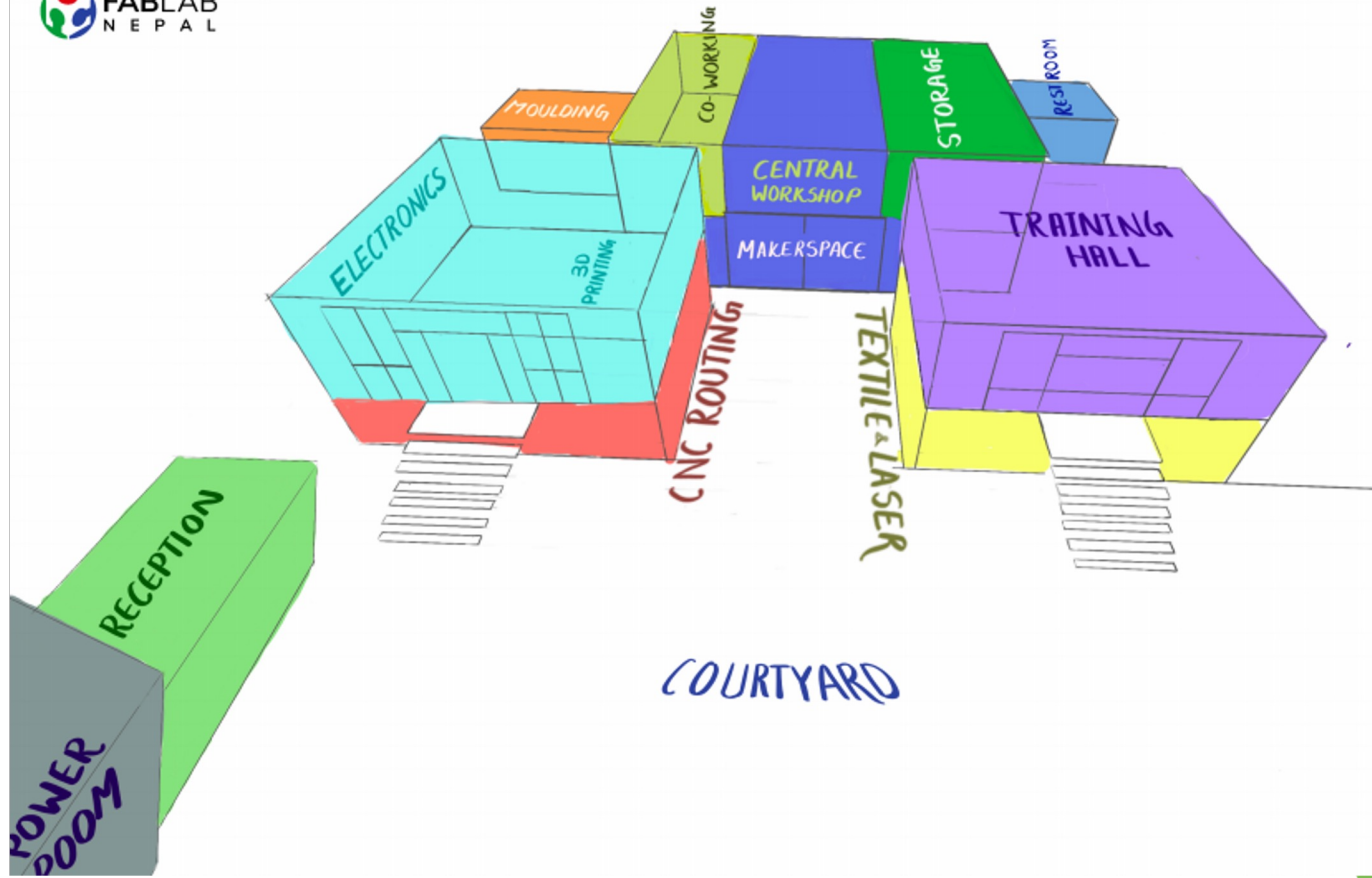
FabLab has witnessed more than **3000 footfall** until

Outre



## TOTAL PEOPLE TRAINED







# COLLABORATORS



Sustainable Manufacturing and Environmental Pollution



FIELD READY



# Thank You!





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Dr. Curie Park | P2G Project lead



# P2G

## Plastic to Ghar

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## SMEP

Funding research and related interventions aimed at reducing the environmental and socio-economic impacts of the manufacturing sector in focus countries



—  
Sustainable  
Manufacturing and  
Environmental  
Pollution  
Programme

## SMEP Aims

Generate cutting-edge scientific knowledge of the environmental health and socio-economic impacts of selected manufacturing sectors in 10 Sub-Saharan Africa and 3 South Asia

Funded By:



Foreign, Commonwealth  
& Development Office



# VISION

Improving human and environmental health by reducing manufacturing / plastic pollution



Tools/ methods for local Govs

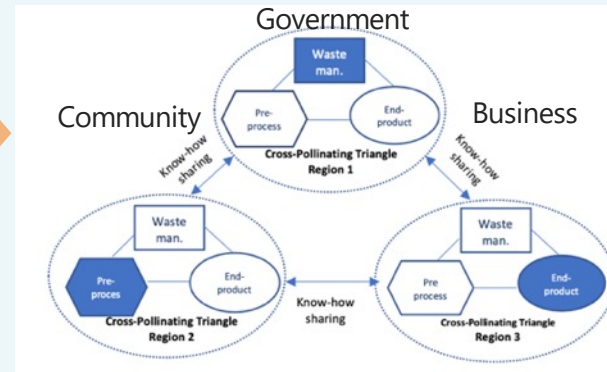
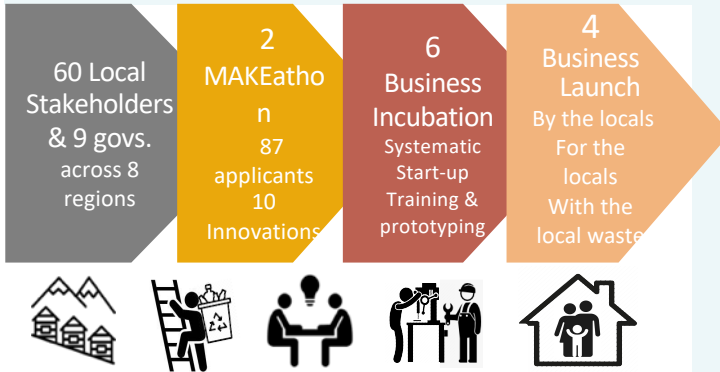
Motivating Businesses to adopt the solution through incentives & business models

Improved production efficiency, business case for replication

## P2G Current & Future Outcomes



Establishing Innovation Ecosystems for Plastic Remanufacturing to improve living conditions in Himalaya



# For the Locals By the Locals With the Local Waste

**Sagarmatha next**



Clean up Nepal

**UNIVERSITY OF CAMBRIDGE**  
Department of Engineering

**IfM** Centre for Industrial Sustainability



**Korea University Graduate School**



Seoul Innovation FAB LAB



THE POLYFLOSS FACTORY



Good Neighbors



*Jan - Apr 2022*

*Apr 2022 - Mar 2023*

*Apr 2023 - Mar 2026*

## Phase I

Feasibility & Open Innovation



## Phase II

Innovation Development &  
Business Incubation



## Phase III

Launch & Replication



### 1. Pre-Project

- a. Local Networking
- b. Feasibility Analysis

### 2. Procurement (Part 1)

- a. Plastic waste processing machines imported and installed

### 3. MAKEathons

- a. 4-6 Local Entrepreneurs selected for Phase II

### 1. Innovation Development

- a. Prototyping
- b. Evaluation
- c. Roadmapping

### 2. Business Incubation

- a. 4-6 Local entrepreneurs trained for start-ups

### 3. Test & Pilot

- a. Production Line Test
- b. Local Market Pilot

### 1. Test & Pilot (Part 2) & Procurement (Part 2)

- a. Units of plastic waste processing machines ready for launch

### 2. Business Launch 1 & 2

- a. Re-manufacturing process scaling up & out in 4 regions

### 3. Benchmark replication in other Province

### 4. Knowledge Dissemination

- a. Open source innovation protocol for SMEP region Dissemination



# 22-month of Magical Journey so far

# 5 Innovations to Rediscover the Value of Plastic Waste across Himalaya

# Plastic machines FabLab Nepal, Kathmandu



# MAKEathon 1

26 local & global participants from 4 countries at FabLab Nepal

6 Webinars about plastic upcycling tech, business model

11 mentors and 2 on/offline facilitators

7 open-source new innovations & 3 winners

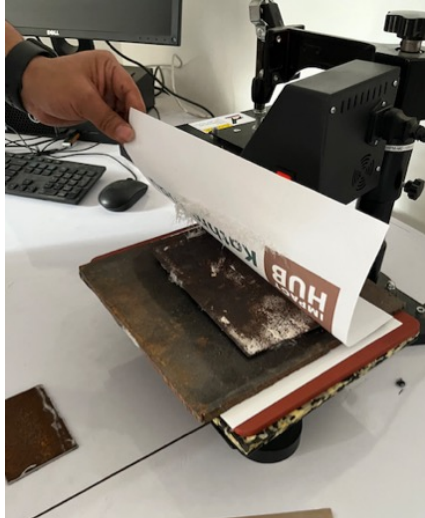


## MAKEathon 2

44 local participants from across Nepal at FabLab Nepal  
6 Webinars about plastic upcycling tech, business model  
6 open-source new innovations & 3 winners





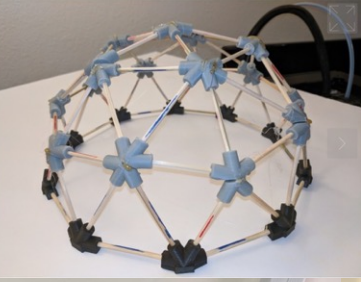


# 6-month Business Incubation Masterclasses and Coaching





# Product development continues





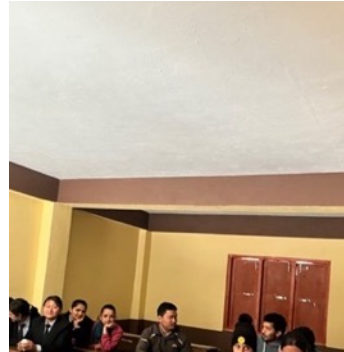


Tea plantation and tourism area  
With great political support: potential provincial level pilot

Serious brain drain:  
“We all go to the Korean Language school. Everyone wants to go to Korea to work. There is no job in Ilam.”

“We banned plastic bags since 2010. We burn other plastic waste. It will be very good to have business in Ilam with plastic waste so that we don’t go to Korea.”







Beautiful village between Ganesh Himal and Annapurna

Potentially the smallest yet the most switched on intervention location

Been supported by a French NGO and the local waste management company to have a Community Recycling Centre.

The Recycling Centre with the most spectacular backdrop:  
Ganesh Himal 7,422m







## First Pilot of roof repairing







Homestay village with an enthusiastic local politician.

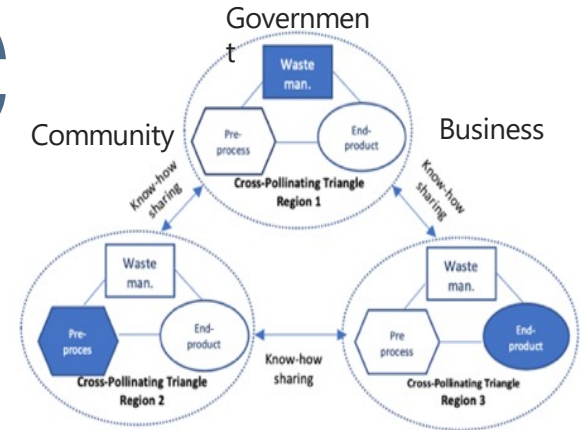
5 hours from Pokhara, 3 hours from Besi Sahar- the entrance to Annapurna Trekking- hence good access to tourism and their waste.





## Towards 11 UN Sustainable Development Goals

# Systemic Change



# Innovation Ecosystems for Sustainability Challenges

# Solidarity Circularity CO<sub>2</sub> Reduction

