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Menstrual Waste Management: As Under Served Issue

Session 3: Emerging Solutions

Disposal of Menstrual Sanitary Waste: Challenges and Solutions

hecaf 360

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Guideline for Presentation:

- What is the **problem** you are addressing
- What is your *innovation*
- What part of the **value chain** do you address through the innovation
  - Product
  - Disposal
  - Behavior..)
- What is the **technology** aspect of it
  - Data
  - Research to back it up)
- User perspective - **Feedback**
- **Financial** model & **scalability**

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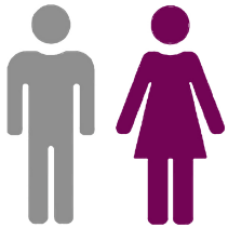
Calculation of Menstrual Load in Nepal:

Based on 2016 Data

Menstrual Waste Management in Nepal



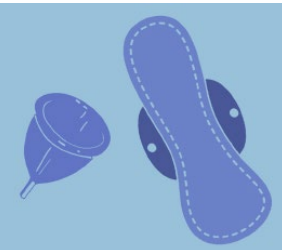
49% Male (12,849,041)

51% Female (13,645,463)

Central Bureau Stastic (2014). Population Monograph of Nepal, Volume II (social Demography). First Edition ISBN: 978-9937-2-8972-6

8,814,949 menstruating girls and women

Central Bureau Stastic (2014). Population Monograph of Nepal, Volume II (social Demography). First Edition ISBN: 978-9937-2-8972-6



7,492,707 (85%) females use clothes & other products

1,322,242 (15%) females use sanitary pads

Karki, K. B., Poudel, P. C., Rothchild, J., Pope, N., Bobin, N. C., Gurung, Y., Basnet, M., Poudel, M., Sherpa, L. Y. SCOPING REVIEW AND PRELIMINARY MAPPING Menstrual Health and Hygiene Management in Nepal (pp. 1-98).

Menstrual Waste Load for Nepal

x 8 (per cycle) = 10,577,936 (pads per month) x 12 = 126,935,232 (pads per year)

3,193,038 menstruating girls go to school

Central Bureau Stastic (2014). Population Monograph of Nepal, Volume II (social Demography). First Edition ISBN: 978-9937-2-8972-6

Menstrual Waste Load in Schools

3,193,038 X 8 = 25,544,304 X 12 = 306,531,648

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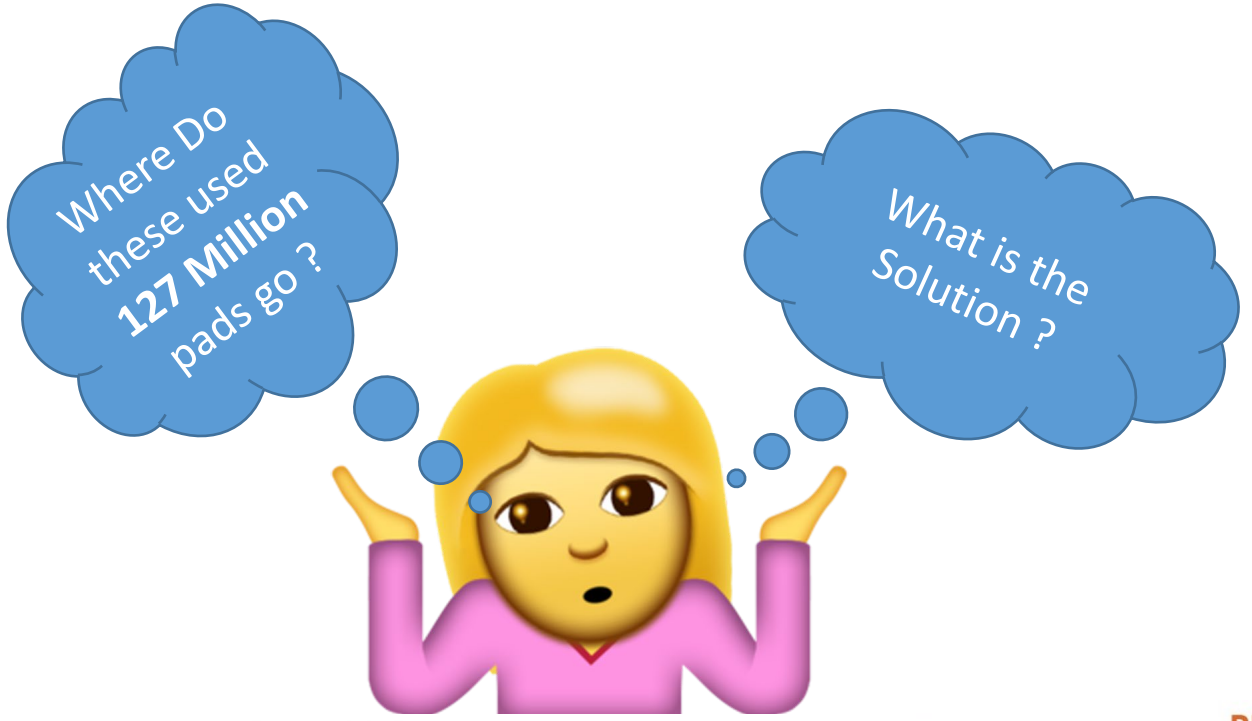
The Problem: Safe disposal of waste of the sanitary products



DISPOSED OPENLY

BURIED UNDERGROUND

BURNT IN THE OPEN

DISPOSED IN LANDFILL WITH OTHER WASTE

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Problems caused due to poor disposal practices

Innovation: Menstrual waste disposal through Vermi Composting

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Technology: Bio Vermi technology

Value Chain: Product –Disposal- Behaviour

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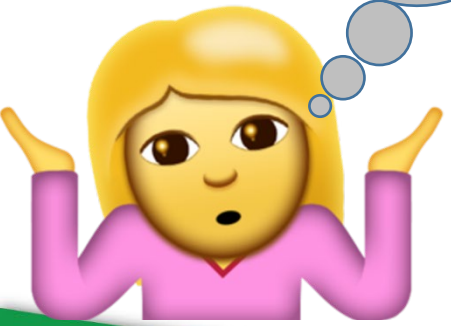
- Comfortability? √
- Fragrance? √
- Price ? √
- Brand ? √
- Disposal? X
- Environment? X



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SANITARY PRODUCTS AVAILABLE IN NEPAL

10 MULTI USE PRODUCTS

- MENSTRUAL CUPS (4)
- CLOTH PADS (6)
  - **1** LOOSE CLOTH
  - **5** SEWN CLOTH PAD
    - **1** COTTON WITH NATURAL DYE
    - **1** COTTON WITH CHEMICAL DYE
    - **1** COTTON WITH CHEMICAL DYE, FALATIN
    - **1** VELVET & POLYESTER
    - **1** COTTON WITH CHEMICAL DYE, FALATIN & HANDSWEN

47 SINGLE USE PRODUCTS

- SANITARY PAD (46)
  - **19** REGULAR
    - **6** WITH SAP
    - **13** WITHOUT SAP
  - **27** ULTRA
    - **27** WITH SAP
    - **0** WITHOUT SAP
- TAMPONS (1)

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Reearch Study : Categorization of available menstrual products

GREEN → Lesser chemicals that are hazardous to women's health and also have a high degradation rate.

BLUE → Traditional method reusable cotton cloths used as sanitary pads degraded produced from Organic Cotton with Natural dye.

Orange → Lesser health impact than the sanitary pad which falls in red.

RED → Madeup of synthetic plastic and presence of SAP, has negative health impacts during use; environmental impacts when disposed off

GREEN (Single Use-Compostable)

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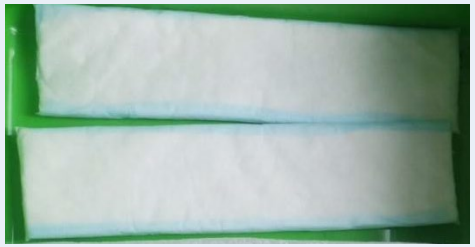
Tray	Code	Product Type	Week 1(12th April)	Week 21(20th Sep)
Tray 1	T1G1	Tampon		
Tray 1	T1G2	Peripad (Cotton Gauze)		
Tray 2	T2G3	Commercial Pad-degradable (Pinewood Pulp , bio plastic)		
Tray 2	T2G4	Semjong (Pad Man) Cotton Pulp with Super Absorment Polymer (SAP)		

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BLUE (Reusable-Cloth)

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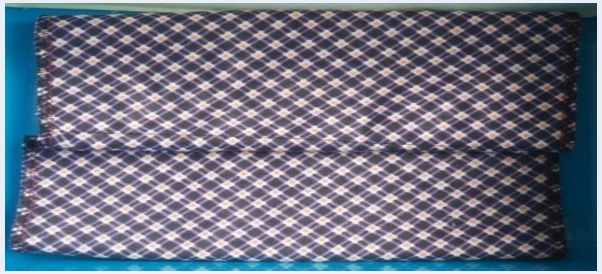
Tray	Code	Product Type	Week 1(12th April)	Week 21(20th Sep)
Tray 3	T3B1	Traditional Use Cotton Cloth (Reusable)		
Tray 3	T3B2	Commercial Cloth Chemical Dye (Reusable)		
Tray 4	T4B3	Local Cotton with Natural Organic Dye (Reusable)		
Tray 4	T4B4	Micro fiber Chemical Dye (Reusable)		

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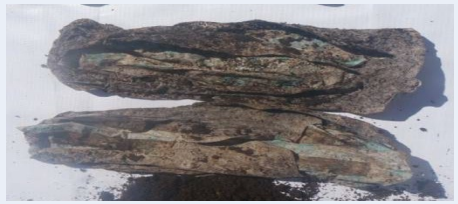
ORANGE (Single Use- Regular Commercial)

Tray	Code	Product Type	Week 1(12th April)	Week 21(20th Sep)
Tray 5a	T5O1	Commercial Pad (Regular) Plastic with SAP		
Tray 5b	T3O2	Commercial Pad (Regular) Plastic with SAP		

RED (Single Use – Ulrathin Commercial)

Tray	Code	Product Type	Week 1(12th April)	Week 21(20th Sep)
Tray 6a	T6R1	Commercial Pad (Ultrathin) (Plastic with SAP)		
Tray 6b	T6R2	Commercial Pad Ultrathin Pad (Plastic with SAP)		

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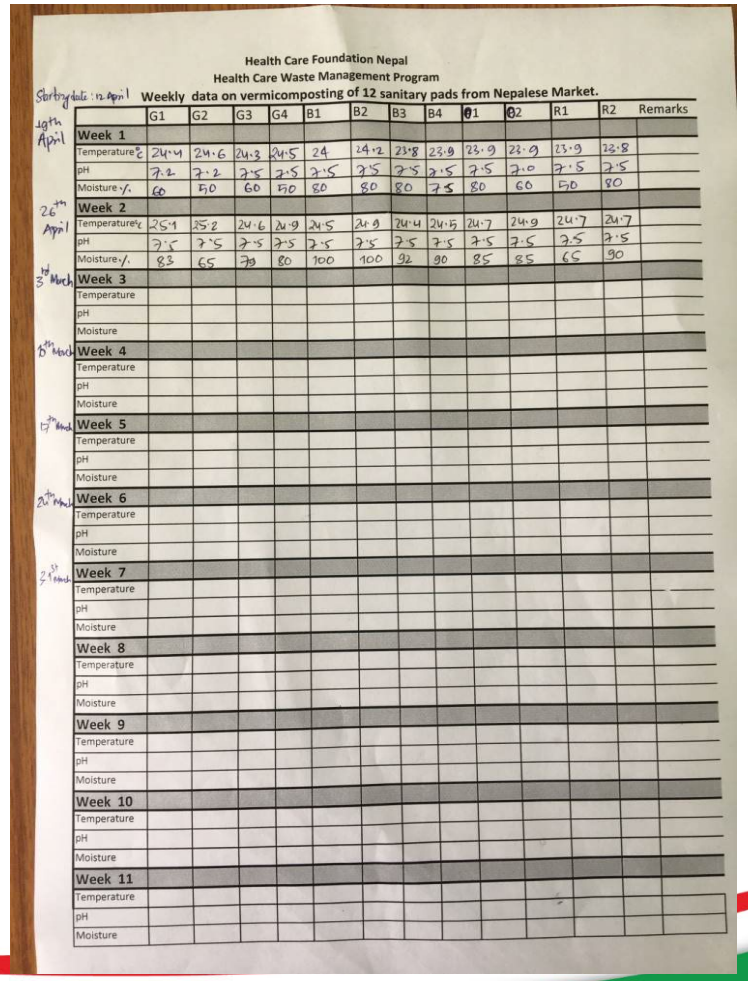
Data Recording : Weekly recording of Environmental parameters



Health Care Foundation Nepal
Health Care Waste Management Program
Start by date : 12 April Weekly data on vermicomposting of 12 sanitary pads from Nepalese Market.

		G1	G2	G3	G4	B1	B2	B3	B4	R1	R2	Remarks
12th April	Week 1											
	Temperature°c	24.4	24.6	24.3	24.5	24	24.2	23.8	23.9	23.9	23.8	
	pH	7.2	7.2	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	
	Moisture %	60	50	60	50	80	80	80	75	60	80	
26th April	Week 2											
	Temperature°c	25.1	25.2	24.6	24.9	24.5	24.9	24.4	24.5	24.7	24.7	
	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	
	Moisture %	83	65	70	80	100	100	92	90	85	65	90
3rd March	Week 3											
	Temperature											
	pH											
	Moisture											
10th March	Week 4											
	Temperature											
	pH											
	Moisture											
17th March	Week 5											
	Temperature											
	pH											
	Moisture											
24th March	Week 6											
	Temperature											
	pH											
	Moisture											
31st March	Week 7											
	Temperature											
	pH											
	Moisture											
	Week 8											
	Temperature											
	pH											
	Moisture											
	Week 9											
	Temperature											
	pH											
	Moisture											
	Week 10											
	Temperature											
	pH											
	Moisture											
	Week 11											
	Temperature											
	pH											
	Moisture											

Data Recording : Result of Environmental parameters

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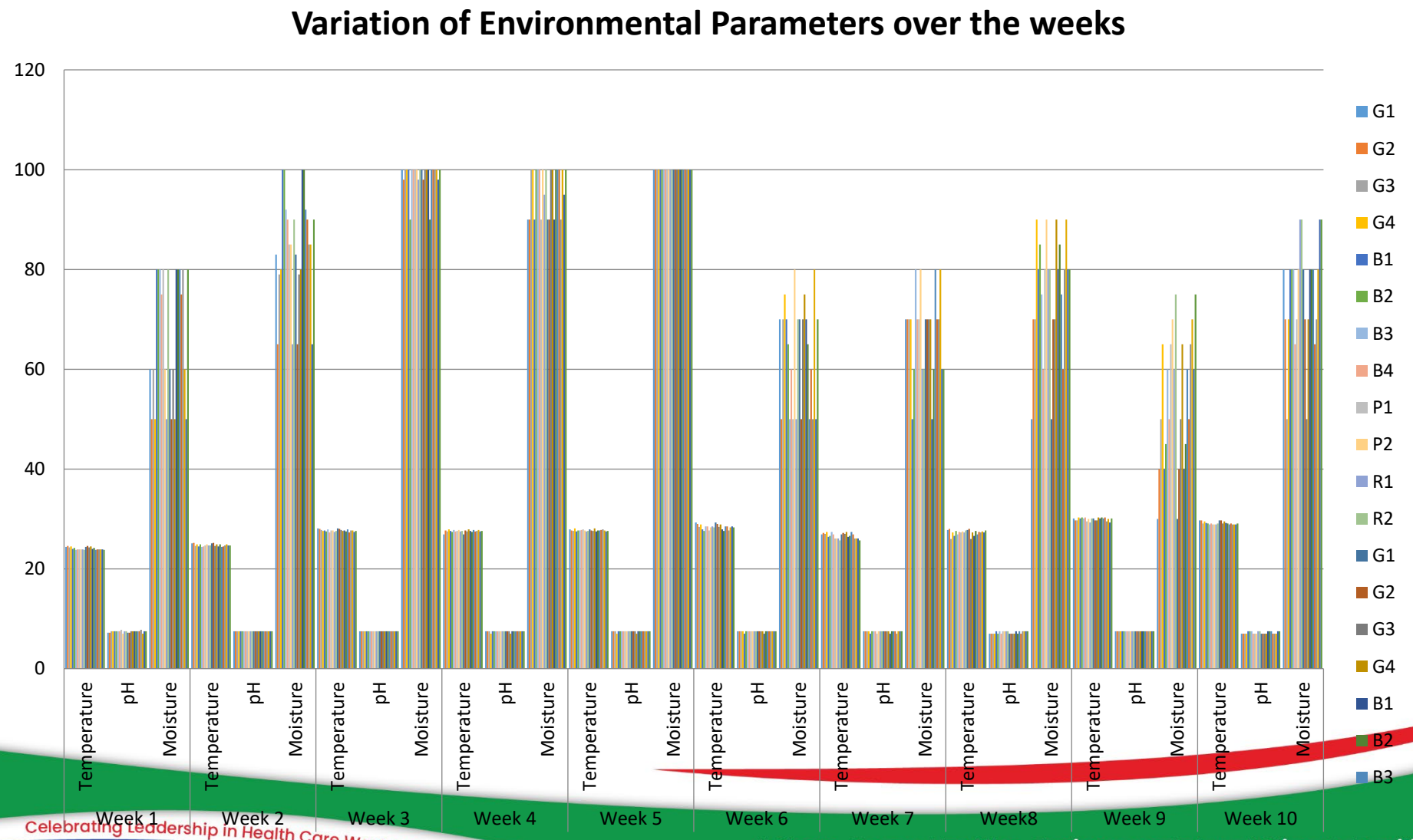
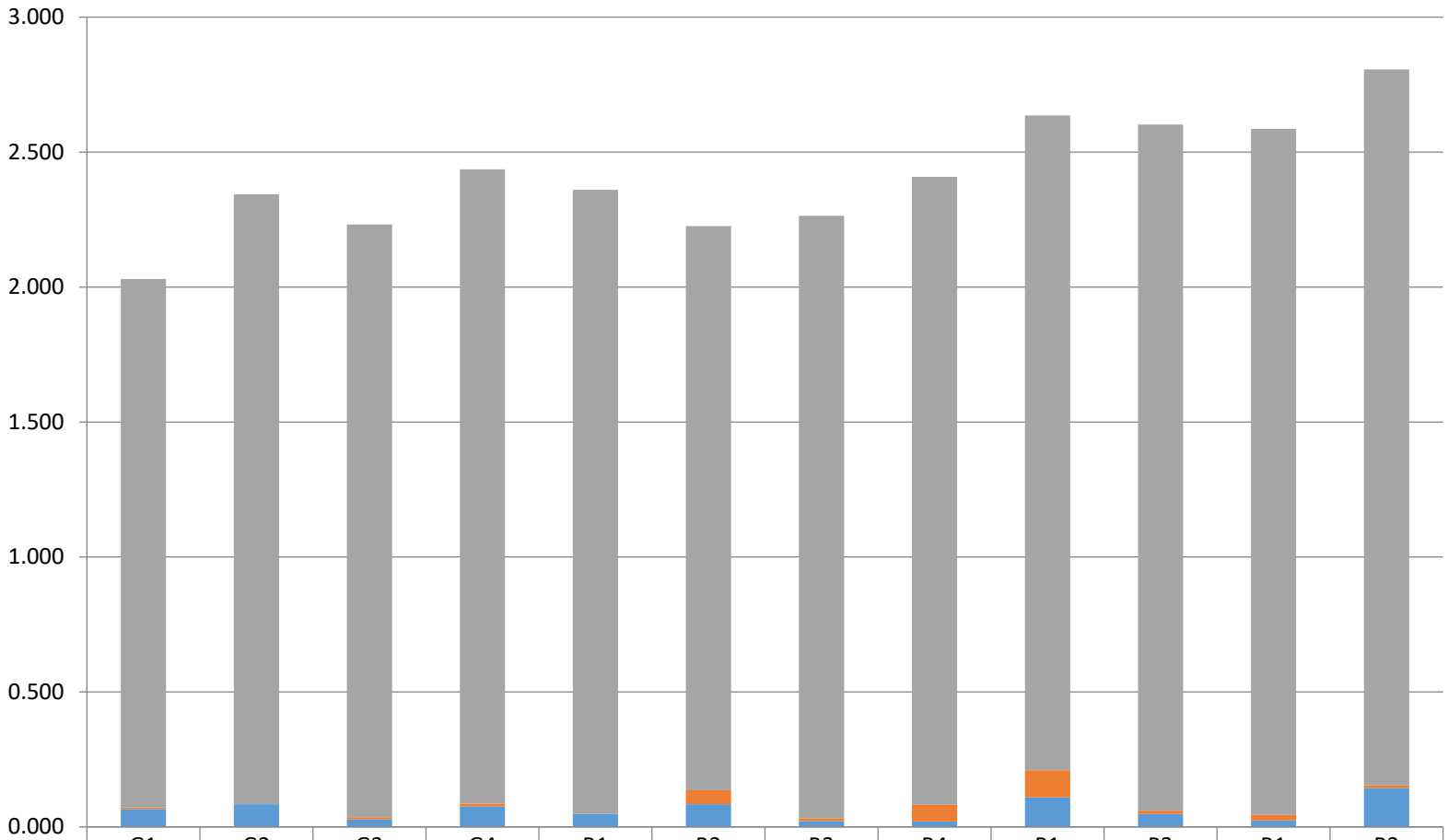


Data Recording : Result of Physical parameters



	G1	G2	G3	G4	B1	B2	B3	B4	P1	P2	R1	R2
Wt. of manure	1.958	2.260	2.196	2.350	2.312	2.090	2.232	2.326	2.426	2.542	2.540	2.652
Wt. of pad	0.006	0	0.008	0.01	0	0.052	0.01	0.062	0.1	0.012	0.022	0.01
Wt. of vermi (gm)	0.066	0.084	0.028	0.076	0.048	0.084	0.022	0.020	0.110	0.048	0.024	0.144

Wt. of vermi (gm) Wt. of pad Wt. of manure

User Persepective: Direct Communication

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Scalability:

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Standard for Sanitary Napkins

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Sanitary Napkins — Specification

DRAFT STANDARD

Nepal Bureau of Standards and Metrology
TSC Final Draft Standards
Meeting Date 2076.11.23
Signature

1 Scope
This standard covers the requirements for disposable (non-reusable) sanitary napkins for external use.

2 References
The standards given in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

3 Materials
All types of sanitary napkins basically consist of three major components:
a) cover or the top sheet;
b) absorbent core, and
c) the barrier or bottom sheet.

3.1 Cover/Top sheet
The cover/top sheet is the material which comes under contact with skin during use. The cover of sanitary napkin shall be of good quality cotton, rayon knitted sleeve or gauze, non-woven fabric or any other materials with sufficient porosity to permit the assembled pad to meet the absorbency requirements.

3.2 Absorbent Core
An absorbent core forming the middle layer(s) shall consist of filler materials, such as cellulose pulp, cellulose wadding, tissue, cotton, wood pulp, other absorbent and super absorbent materials or combination of these materials, etc. It shall be free from lumps, oil spots, dirt or foreign material.

3.3 Barrier or Bottom Sheet
The barrier shall be made of suitable leak proof material so that it meets the requirement specified in **7.2**.

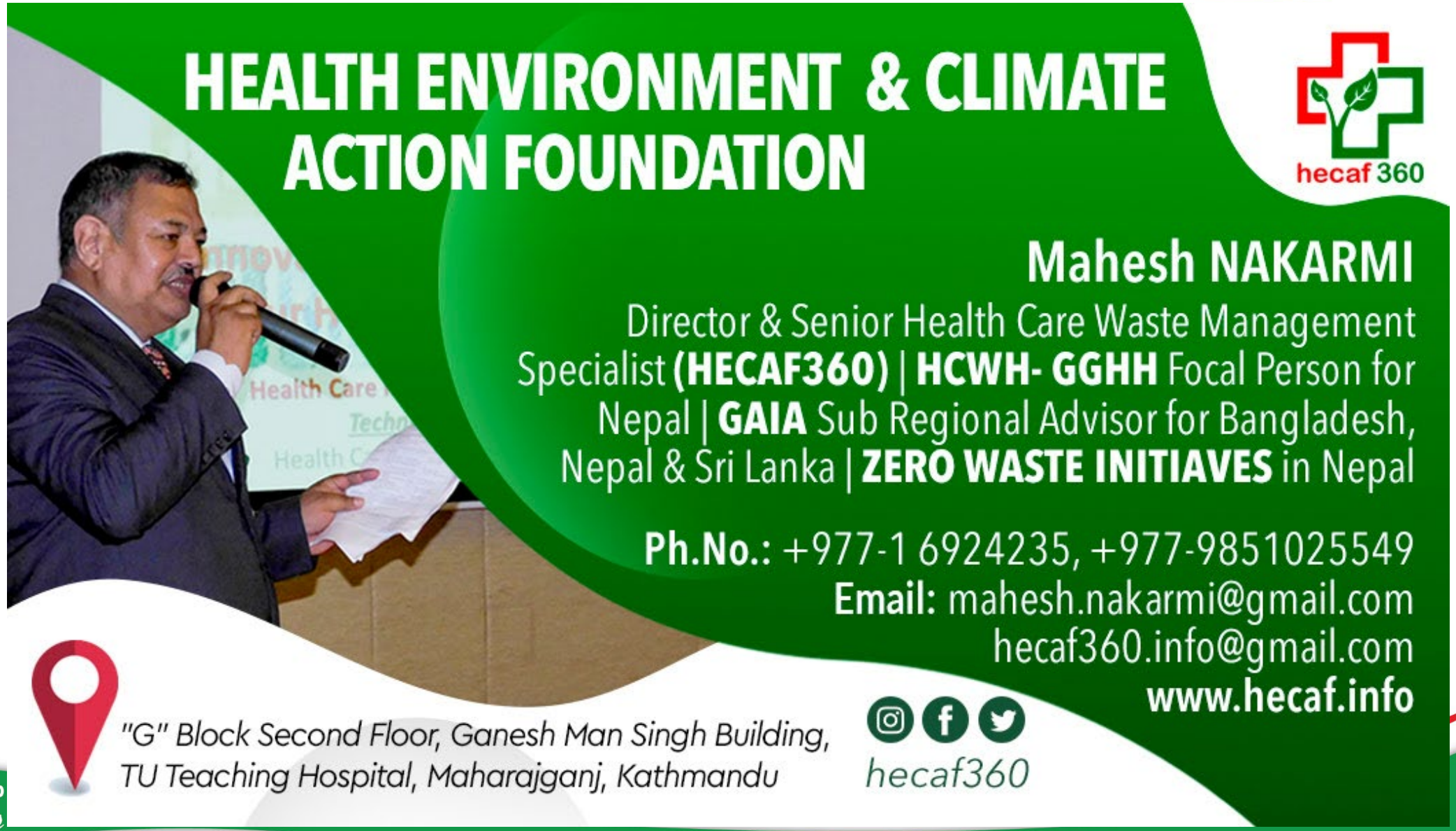
4 Type and Shapes of Sanitary Napkins
4.1 The sanitary napkin shall be of following types:
a) Thick napkins; and
b) Thin napkins

NOTE — The thin napkins contain a compressed sheet of absorbent material in the core, whereas thick napkins are referred as fluff pulp napkins.

4.2 Sanitary napkins can be of various shapes and design such as wings/no wings, tab/tab-less etc. or as per purchaser's needs.
NOTE — Sanitary napkins with wings provide better grip on the undergarments so that napkin remains in its position under dynamic conditions. Some napkins can also be folded to be carried in a small pouch.

Nepal Bureau of Standards and Metrology
TSC Final Draft Standards
Meeting Date 2076.11.23
Signature

If you want to find me?



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