KAUTILYA
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PUBLIC POLICY

Issue Brief Series

“Menstrual Hygiene in Rural India - A Design Thinking Lens”

Issue Brief: IB-2025-34

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Cite this Report as Contractor, S. (2025). Menstrual Hygiene in Rural India – A Design Thinking Lens. [online]. Available at: https://kspp.edu.in//issue-brief/menstrual-hygiene-in-india-a-design-thinking-lens

Menstrual Hygiene in Rural India - A Design Thinking Lens

Abstract

Only about 42% of adolescent menstruators in rural India use hygienic methods, reflecting persistent gaps in awareness, accessibility, and affordability. Despite government initiatives such as the Menstrual Hygiene Scheme and Jan Aushadhi Suvidha pads, implementation challenges, social stigma, and infrastructural barriers hinder progress. This policy brief applies a design thinking approach to analyse policy delivery and explore user-centric solutions that enhance awareness, affordability, and acceptance. By integrating empathy-driven design with policy implementation, it proposes community-based interventions that can bridge the gap between policy intent and on-ground realities, ultimately promoting equitable menstrual health management in rural India.

Introduction

Only about 42% of adolescent menstruators in rural areas use hygienic methods during menstruation (Singh et al., 2022). This reflects the existing gap in implementing policies to increase hygiene for menstruators, the gap in awareness, affordability, and access to quality products or even no access to menstrual products altogether. This reality is compounded by the systematic taboo pervasive in society and a lack of safe disposal options, which forces many menstruators to adopt unhygienic practices that jeopardise their health and affect their mental Ill-being as Ill (UNICEF, 2019).

Menstruation is not a personal issue; it is a societal one. When adolescent girls miss school as they lack pads, the ripple effects impede educational gain, and women avoid community events

out of shame, affecting inclusion in society, economic participation, and overall societal equity. As Chandra-Mouli and Patel (2017) note:

> "Adolescent girls in LMIC are often uninformed and unprepared for menarche. Information is primarily obtained from mothers and other female family members who are not necessarily Ill-equipped … consultation, girls tend to miss school, self-medicate, and refrain from social interaction. Also problematic is that relatives and teachers are often not prepared to respond to the needs of girls."

To address these, there are two government initiatives, such as the Menstrual Hygiene Scheme (MHS) which subsidizes sanitary napkins for adolescent girls and raises awareness about menstrual hygiene (PBI, 2022) and the Jan Aushadhi Suvidha Sanitary Napkins under the Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP) which offer pads at just ₹1 per piece and aim to bridge these gaps (IBEF, 2018). Yet on-the-ground experiences are different for the menstruators; the impact of these transformative policies is not as they aim to have, with feudal, logistical, cultural, and informational gaps in the policy.

What is Design Thinking & Why It Matters

This is where I would like to look at the gap from a design-thinking lens to gain a fresh perspective. The design thinking process is grounded in empathy more than data, follows iterative problem-solving methods, and user co-creation; it promises a people-centric path to strengthen the research. It helps to uncover the hidden cultural barriers, fosters stakeholder collaboration, and ensures the solutions that actually resonate with actual user needs (Lewis et al., n.d.).

It follows six stages, but not in linearity, which starts from defining the problem, understanding the pain points while empathizing and mapping the users, refining the problem statement based on user insights, following which multiple innovative solutions are generated to address the identified challenges, making a prototype, and testing the prototype for success.

Arunachalam Muruganantham (popularly known as *Padman*) exemplified design thinking by iterating low-cost sanitary pad prototypes based on continuous feedback from women in rural India. Despite social ridicule and taboo, his user-centric approach led to an affordable pad-making machine that empowered self-help groups, ultimately transforming menstrual hygiene practices in numerous communities.

Policy Brief Objective

Through this policy brief, I aim to look at the current menstrual hygiene situation in rural areas of India, with a focus on the town of Padra and surrounding small villages in Vadodara, Gujarat, and how the benefits of the two schemes aimed towards hygiene reach the target groups. Then assess the problems and apply a design thinking approach to come up with ideas and solutions to overcome the said problems.

Literature Review

In our society menstruation is enveloped by taboos that are reinforced by patriarchal norms, effectively confining women to the private sphere—isolated (Kirkegaard, 2020). Such beliefs label the menstruators as "impure," stifling any possibility of open dialogue on sanitary issues (Chandra-Mouli & Patel, 2017), and often prevent women from accessing water or sanitation facilities during

their periods. The result is a profound exclusion from social, educational, and economic activities—an exclusion that is both a cause and consequence of broader gender inequalities.

Across the studies, menstruation is overwhelmingly associated with the feeling of shame and distress. The stigma and misinformation compel women to self-regulate their own behaviour, restricting women's participation in everyday life, as they internalize the shame attached to menstruation (Hennegan et al., 2019). This leads to exclusionary practices that result in menstruators not even having access to basic necessities such as pads and/or rest during their cycles. Such taboos and misconceptions lead to a loss of consideration for menstruators themselves while making policies for them. For example, there are schemes that subsidize the prices of menstrual products, which aim to eradicate "period poverty." Research consistently demonstrates that affordability alone is not enough. According to van Eijk et al. (2016), using commercial pads does correlate with higher levels of school attendance, yet various socio-cultural barriers often negate these gains.

Moreover, water, sanitation, and hygiene (WASH) experts overlook menstrual management, neglecting the specific needs of school girls and women, as those experts are mostly men (Sommer et al., 2015). At the same time, water and sanitation projects do not receive the funds like other global health issues, and donors and global health experts themselves believe that the onset of menses and such talks should be a private matter. This prevents a public response to challenges for menstruators. It reflects the existing stigma and also systematic biases playing a role when implementation is accounted for by the policy initiatives aimed at menstruators' welfare.

My own on-field experiences in rural villages corroborate these findings: the majority of women do not wish to engage in talking about the topic of menstruation due to the stigma and

shame attached to it; out of 50 women present in one campaign, 36 menstruators, only 6 used pads, and none of them Ire aware of Jan Aushadhi Suvidha pads.

Taken together, these studies and on-the-ground observations underscore a multifaceted challenge. On one hand, the low-cost pads do ease the economic burden; on the other hand, prevalent cultural and religious myths plus inadequate infrastructure continue to impede real change.

Design Thinking Framework

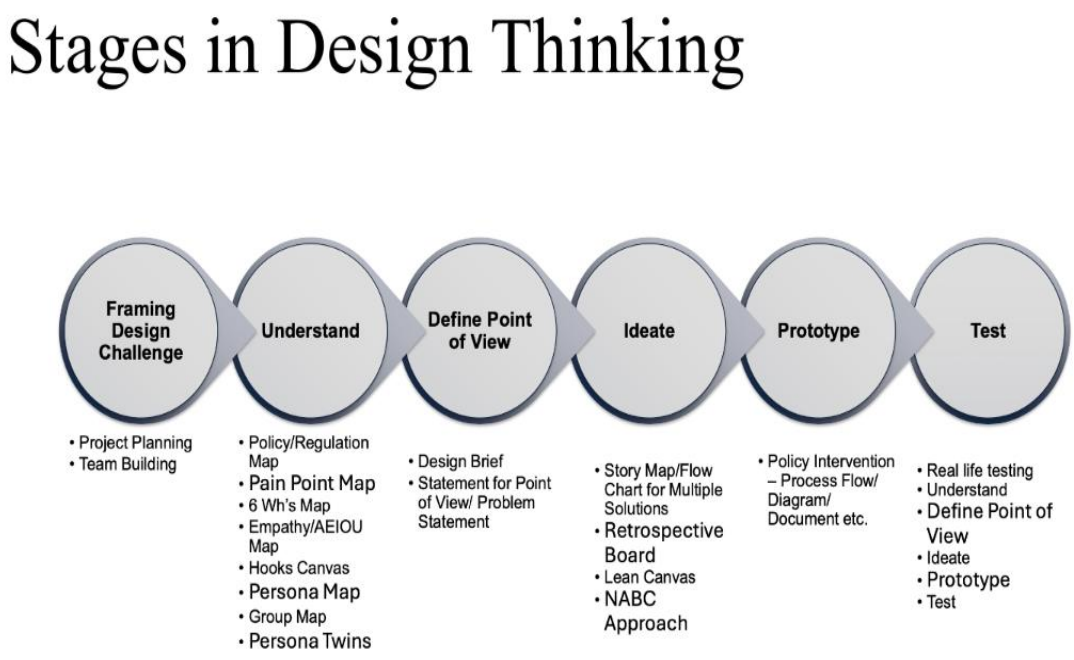

Figure 1: Stages of Design Thinking, Source: Ideo.com

I will analyse the Menstrual Hygiene Scheme (MHS) and Jan Aushadhi Suvidha Sanitary Napkins scheme's implementation issues using the following six stages of Design Thinking; please note that these stages do not assume a strict linear process.

I will start with the first stage:

Stage 1: Framing Design Challenge

Here, I will clarify the core problem which I initially identified and set a basic idea about the problem to be looked at.

Identified Policy Challenge

With the above literature review I notice that despite the availability of low-cost menstrual napkins under MHS and PMBJP, social stigma, limited outreach, and inadequate disposal infrastructure still hinder women's menstrual hygiene practices.

"**Fixing the Frame**": Menstrual hygiene in itself is a wide topic covering a lot economic social and political arenas, and policy deals with various aspects as Ill, for the limited scope of the study I will be dealing with the distribution of these pads and the access to menstrual products.

The policy achieves giving pads at a nominal cost of Re. 1 per pad (sold in packs of 4 for Rs. 4 at PMBJK). But there is a big implementation shortfall noticed while buying these pads as Ill – The Jan Aushadhi stores tend to sell pads at ₹15 per packet, instead of ₹4 ideally according to the scheme, at the same time there is not enough penetration of these stores, due to lack of awareness– about 40% of the public is unaware about the stores, affecting its utilization (Vayalambron & O C, 2025).

Setting the Scope: I will be focusing on rural context where campaigns took place for awareness of menstrual hygiene and reduction of period poverty by distribution of free biodegradable pads by the NGO's and the users are the rural menstruators. The "success"

mentioned in this paper, is a measure of improved awareness and increased uptake of sanitary pads.

Stage 2: Understand

Under this, I will explore user experiences, policy details, and on-ground data to uncover real needs and constraints to better understand what the experiences of the target group of the policy are.

Policy Analysis

Policy Goals and Objectives:

The Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP) is a scheme to provide high-quality generic medicines at affordable prices to increase accessibility, under which I are focusing on Jan Aushadhi Suvidha Sanitary Napkins, launched in 2019 by the Department of Pharmaceuticals. Its objective is to ensure affordable menstrual hygiene products for Indian women, and they sold pads at Rs. 1 per pad in packs of 4 for Rs. 4. Around 47.87 crore pads have been sold since inception as of November 23, and these are oxo-biodegradable pads, which decompose when exposed to oxygen, reducing the environmental impact. It also aims to reduce RTIs, UTIs, and cervical cancer by providing hygienic menstrual products.

The Menstrual Hygiene Scheme was launched by the Ministry of Health and Family Ilfare, and the target group is adolescent girls in rural areas. The objective is to increase awareness about menstrual hygiene and improve access to high-quality subsidized sanitary napkins and ensure that they learn about safe disposal of sanitary napkins in an eco-friendly manner. They sell sanitary napkins at Rs. 6 in a pack of 6. The pads are distributed by ASHA workers who earn Rs. 1 per

pack as an incentive, and they have to do monthly menstrual hygiene awareness meetings at Anganwadi centers using the Information, Education, and Communication (IEC) materials, which use a 360-degree approach that is audio, video, and reading material.

Policy Type: Both schemes can be termed as distributive policies as they allocate resources and benefits to specific individuals at no cost to others. They incentivize behaviors of using hygienic menstrual practices but do not impose strict rules. The coercion method is remote as these policies do not rely on fines or penalties; instead, they rely on incentives and subsidies. Often, logrolling or electoral motives; parties may champion these schemes to gain popular support.

Policy Model: These schemes follow the rationale model as the policymakers aimed to choose the best option and strived to maximize the net social Ilfare by selecting the most efficient policy alternative. The government identified a gap and then; by comparing the best alternatives, it opted for a highly subsidized approach that seemed cost-effective. The minimum user fee was deemed feasible given the high social returns of the implementation. Although there was less consideration of the behavioral barriers and the social stigma associated with menstruation due to bounded rationality.

Post-facto, the scheme can also be analyzed through a public choice model lens, as it highlights the self-interested motives behind the scheme's expansion—political popularity, bureaucratic scope, and interest group influences. While the scheme's official rationale is public health, underlying political/bureaucratic incentives also shape its design and rollout. Politicians champion these schemes to gain popular support, especially among women and rural communities. Rational Ignorance: Voters may not be deeply informed about all policy intricacies, but they do notice direct personal benefits (cheap sanitary pads).

Policy Framework: The MHS and Suvidha Napkins PMBJP can be understood through the garbage can model lens. Originally proposed by Cohen, March, and Olson in 1972, it describes the organizational decision-making in organized anarchies, where problems, solutions, and participants float relatively freely until they occasionally combine into decisions. The organizations often lack stable or clearly articulated goals. In our context, both policies strive for healthy dignity and environmental friendliness, but the emphasis shifts continuously betIen cost-effectiveness, distribution targets, or behavioral change. The “how” to ensure universal compliance with the nominal cost and “how” to deliver consistent awareness remain unclear while the system is learning via trial and error. At the same time, the participants and their environment are fluid in nature. There is no single stable group orchestrating the entire policy cycle from top to bottom. There are multiple stakeholders, such as central ministries, local ASHA workers, NGOs, rural panchayats, and store owners, as Ill as end-users, but there is inconsistency in outreach and monitoring.

The scheme's final shape depends upon which problem is getting attention at a given time, and the scheme's outcome depends upon timing and who is in charge. A typical characteristic of the chaotic fluid environment is described in the model. Hence, the policy processes exhibit organized anarchy. Goals are fluid, only partially understood, and participants or choice opportunities fluctuate. Problems and solutions often collide by chance rather than through a linear rational process. Making garbage can model a fitting theoretical lens.

Policy Stakeholder Mapping:

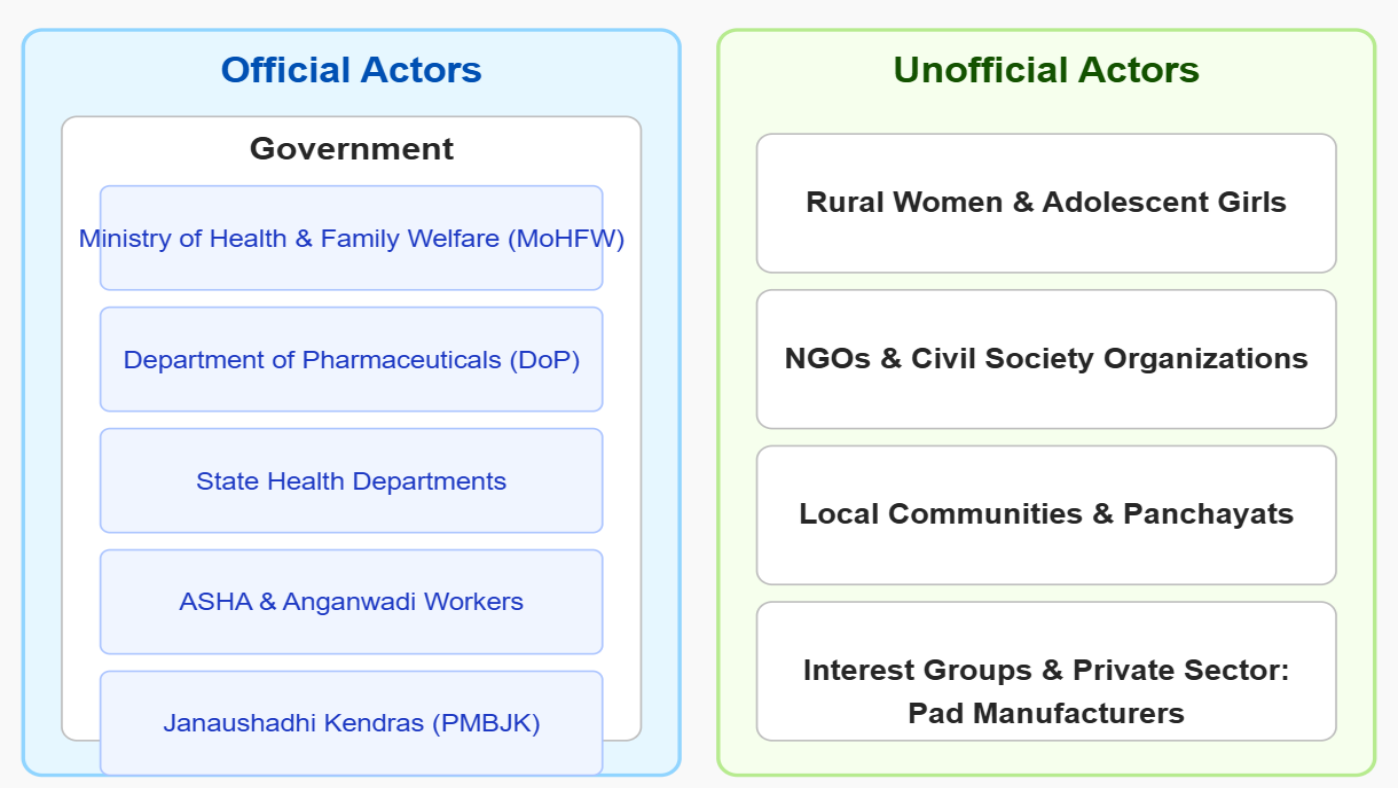

Figure 2: Stakeholder Mapping, Source: Canva

Elements of Public Policy

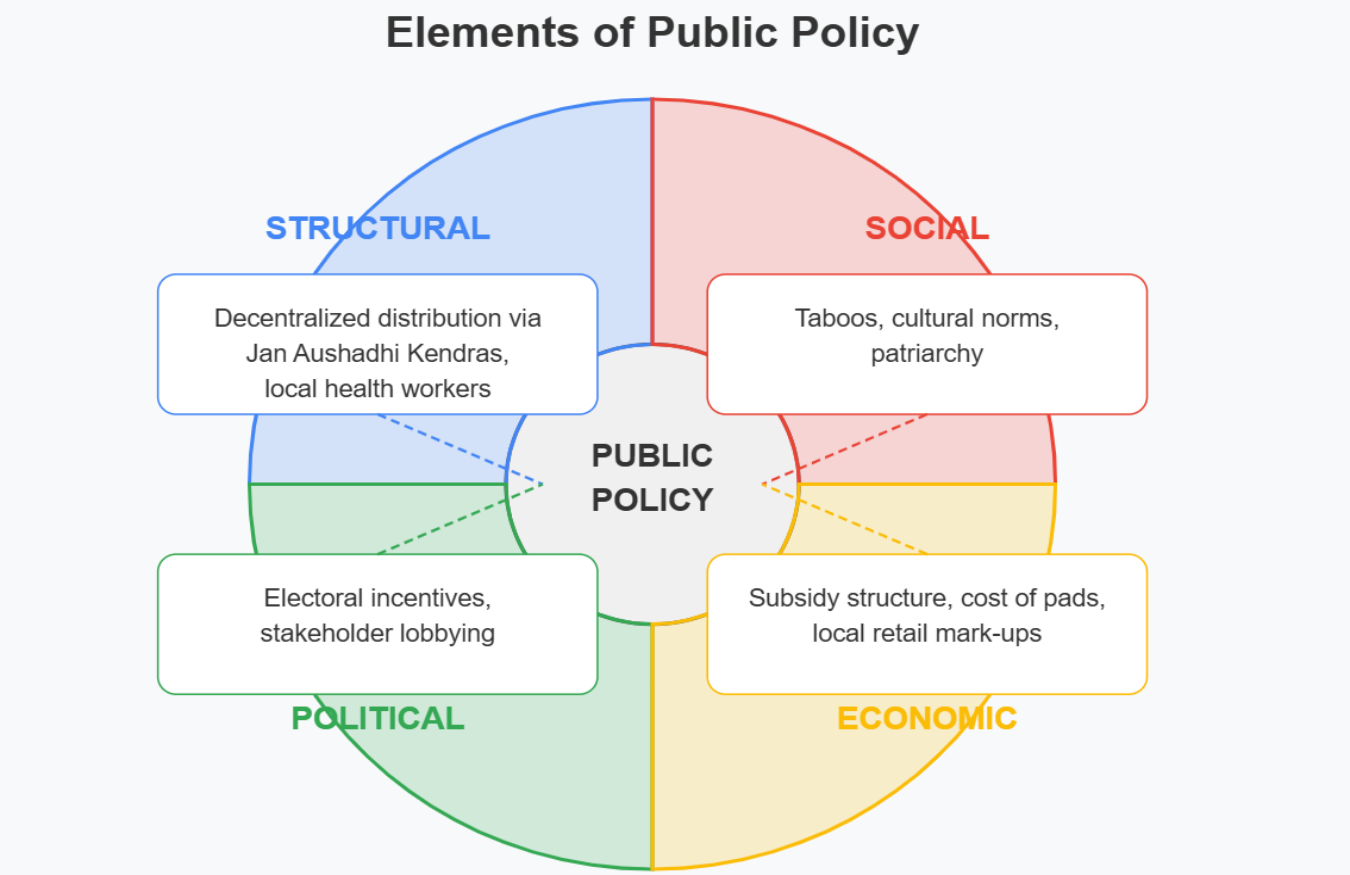

Figure 3: Elements of Public Policy, Source: Social Science Space

All of these factors together shape how effectively pads would be distributed and how much awareness is generated; for instance, a lack of funding (economic) can limit store expansions and bottlenecks in the supply chain, while the local poIr dynamics (political) can undermine transparent pricing.

Mapping the Extreme User

Both the schemes aim to ensure affordable and accessible menstrual hygiene products for economically disadvantaged rural menstruators. However, within the broad target group, certain users face extreme exclusion, while others have partial or full access.

Extreme users: The profoundly excluded are the women and adolescent girls who experience severe barriers to accessing affordable sanitary products.

a. women in remote hamlets, such as Hussaipur and Medhad lack access to Jan Aushadhi Kendra's as they are 40-50+ Kilometers away from their residence.
b. Adolescent girls without parental support and high stigma in the environment of the village.
c. Disabled menstruators, inaccessible distribution points towards lack of solutions which prevent their participation in availing the benefits.
d. Rural women near the Kendra's as Ill are very often unaware of these services, which prevents availing the scheme's benefits, also the shopkeeper might charge a higher price due to unawareness of the scheme.
e. Another extreme user are the transgender men who would want to avail the benefits of these schemes but then there is an added level of bias against them due to their gender identity as Ill.

With concise and defined extreme users, focusing on them while making polices, often drives improvements for everyone as solutions generated for extreme conditions are robust and inclusive.

Pain Point Mapping with 5W1H

WHAT	WHO	WHY	WHERE	WHEN	HOW
What is the problem? Mismatch between policy design (affordable pads) and real-world distribution & stigma.	**Who is involved?** Formulation: central government, last-mile distribution by ASHA workers, local store owners, and NGOs	**Why is the problem important?** rural women either use unsafe alternatives or face social stigma.	**Where does the problem occur?** Rural areas with limited stores, overpriced pads, and social stigma around buying menstrual products.	**When did the problem begin?** Since policy inception, but more noticeable when studies were conducted.	**How could this problem be an opportunity?** building community awareness amongst ever one.
What would we like to know? What are the real reasons behind low adoption?	**Who is affected by the situation?** The extreme users are most negatively affected.	**Why does it occur?** Due to low awareness, high stigma, supply-chain gaps, and inflated prices at Jan Aushadhi Kendra's.	**Where was it already resolved before?** NGO's who spread awareness, noticed if once aware women do go and buy pads again.	**When do people want to see results?** Immediately	**How could it be solved?** Through subsidized distribution via SHGs, stronger price regulation, and behavioral nudges to normalize menstrual hygiene.
What are the assumptions that are scrutinized? That all women are allowed to use pads.	**Who decides?** The government, but real influence lies with local store owners, health workers, and community leaders.	**Why was it not yet solved?** Lack of implementation oversight, cultural hesitancy, and weak monitoring of pricing & availability.	**Where did similar situations exist?** Similar challenges were faced in maternal health programs and contraceptive distribution efforts in rural India.	**When can the project be started?** Once the stakeholders are even informed of the issues.	**What has already been tried to resolve the problem?** Awareness campaigns, but without behavioral insights, pricing interventions, or alternative access points.

Figure 4: Pain Point Mapping, Source: Canva

This structured pain point analysis highlights the policy-to-reality gap and suggests targeted interventions to enhance accessibility, affordability, and awareness.

Field Notes: The exposer on field gave deeper insights into the actual target group. Some of the conversations are noted below:

- During one of the campaign the young menstruators Ire extremely shy and reluctant to speak when asked any questions, after building rapport with them with ice breaking activities they mentioned that such topics are never discussed by their elders or peers out of shame.
- Another 43-year-old women admitted she ""never knew about Jan Aushadhi Suvidha pads" until I discussed it, though she lived only 8 kms away from a Kendra. She later called a campaigner a month later to thank them for giving her relief by making her aware about the subsidized pads.
- One of the extreme cases noted by a campaigner was of a woman who had not received any medical help in the last 1.5 years after she had an infection due to which her menstruation stopped as Ill, upon further inquiry the women said that she used cow dunk to stop the blood to flow outside her skirt.

Such instances pain the campaigners, and show how misinformed and poor our rural women are.

Figure 5: Campaign in Mehdad village with more than 40+ beneficiaries from Suvidha Pad distribution.

Interface:

The touch-point where the policy interacts with the users and the implementation takes place.

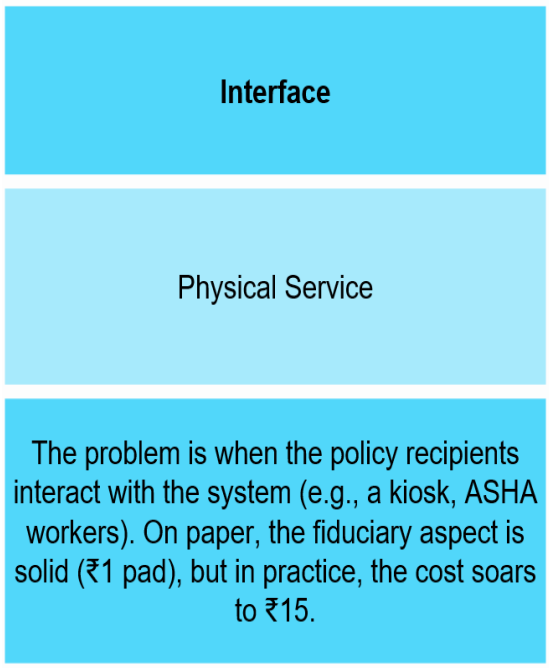

Figure 6: Interface, Source: Canva

Empathy Map / AEIOU Framework:

This framework ensures a structured, user-centric approach to evaluating menstrual hygiene policies, bridging policy intent and ground realities.

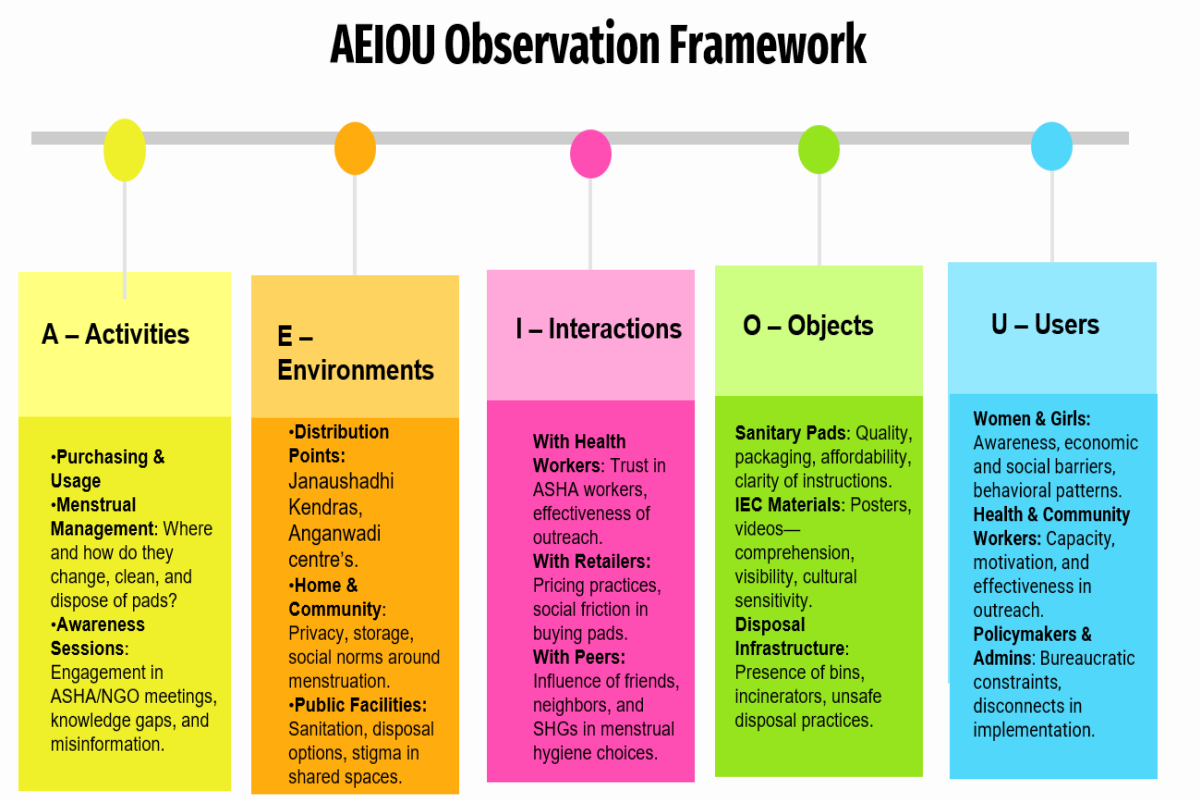

Figure 7: AEIOU Observation Framework, Source: Canva

Through this the structural, social, and behavioural barriers faced by women in accessing and using sanitary products are highlighted, which gives an emphatic lens to the users, to understand the users' problems better.

Building on these insights I will now move to define the problem structural, social, and behavioural barriers faced by women in accessing and using sanitary products

Stage 3: Define (Point of View)

In this section I will distil insights into a precise problem statement, reflecting the perspectives of rural menstruators and stakeholders. These insights form a precise problem statement, reflecting the perspectives of rural menstruators and stakeholders.

1. **Creation of Retrospective Board:** This simple grid or quadrant will help, categorize and reflect on what has been working and what has not worked out, what are the areas which can be improved and what can start new as Ill.

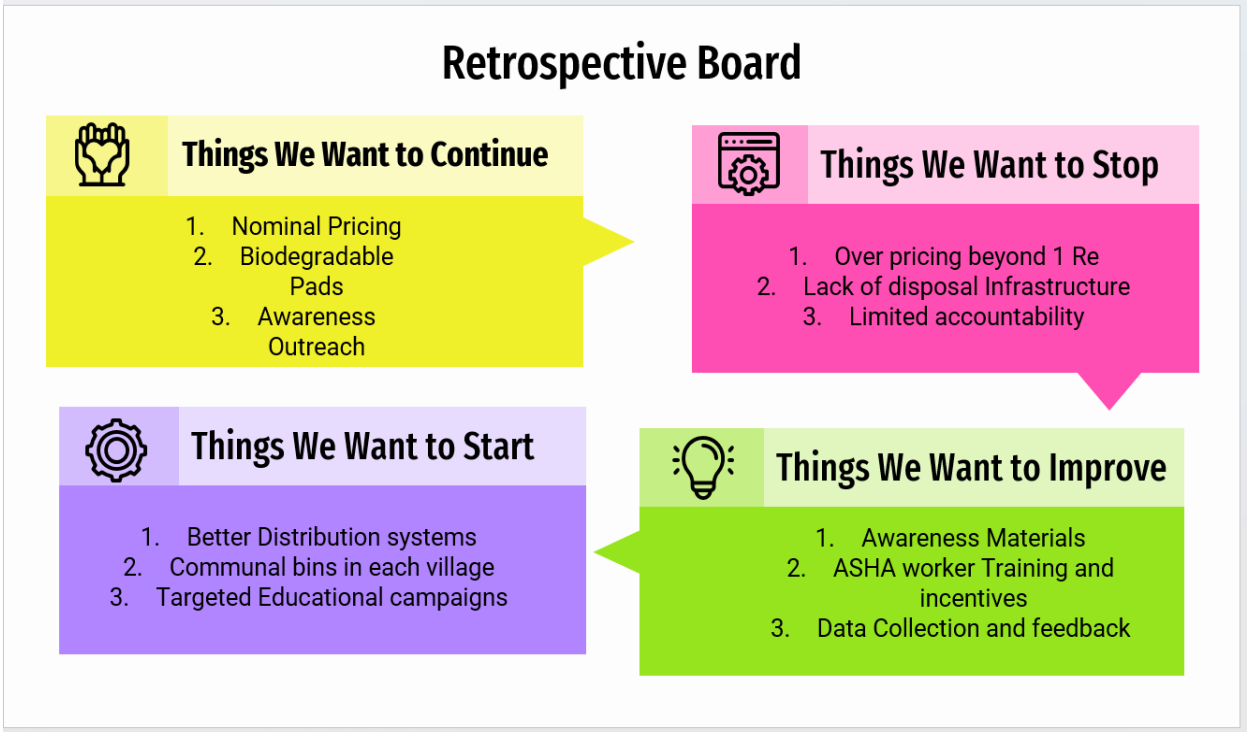

Figure 8: Retrospective Board, Source: Canva

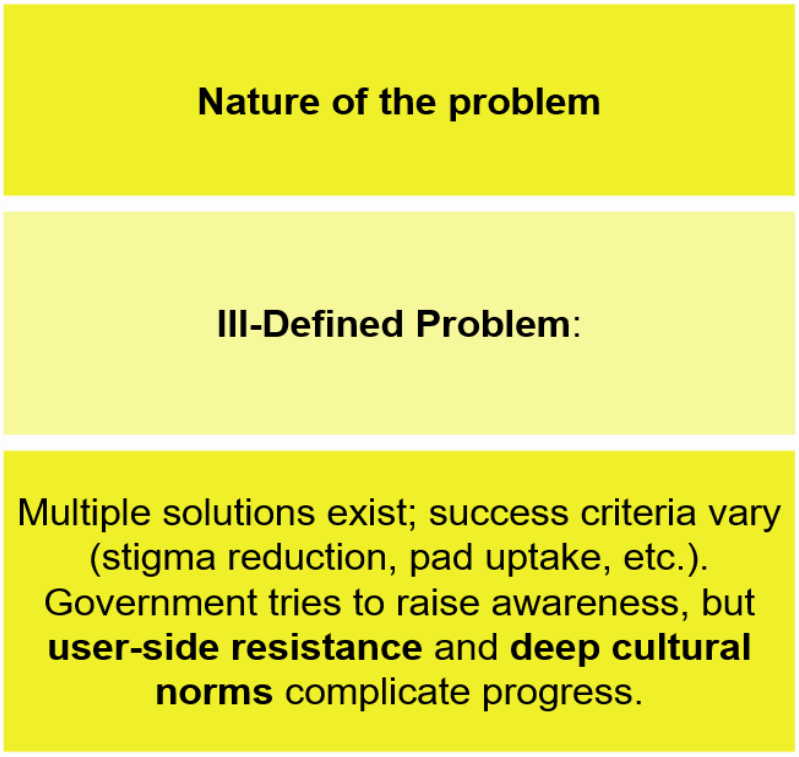

Figure 9: Ill-Defined Problem, Source: Canva

2. **Mapping Problem Statement** – Problems can be categorized into a Ill-defined problem, an ill-defined problem, and a wicked problem. Below I categorize our problem into an ill-defined problem.

3. Defining Point of View: Finalizing Problem Statement

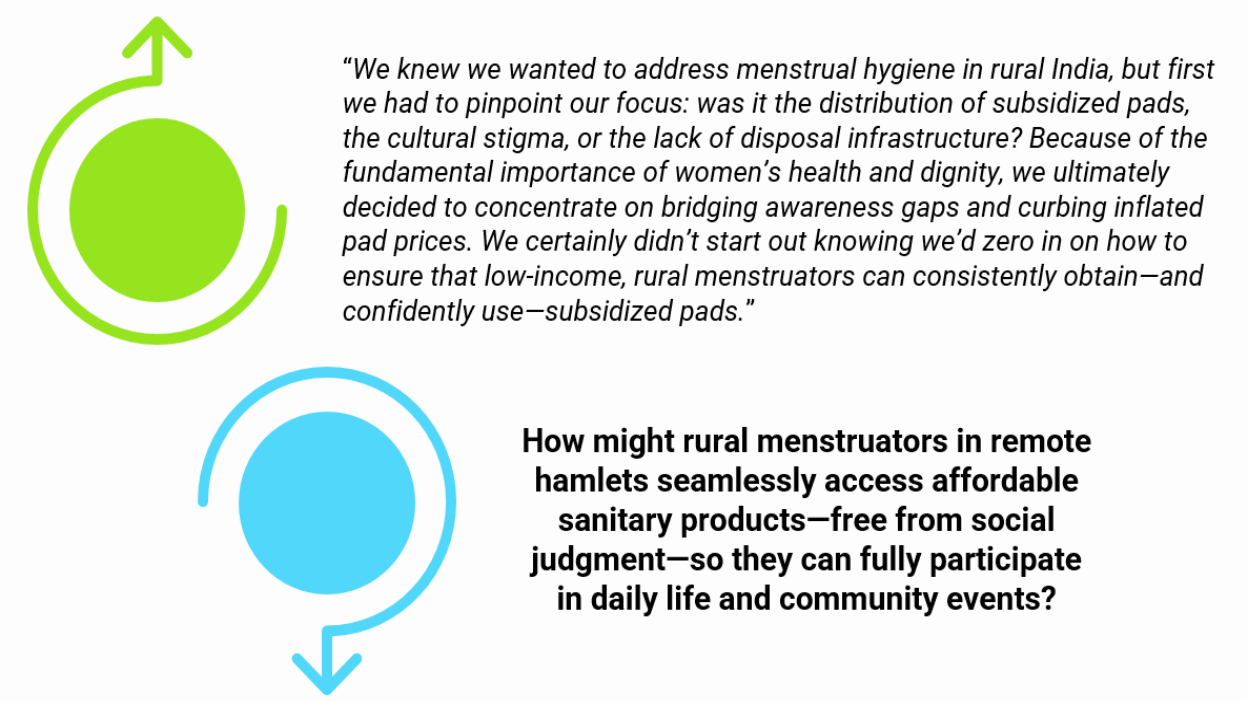

Figure 10: Defining Point of View, Source: Canva

Having clearly defined out problem statement and user insights, I will move to stage 4, where I will brainstorm a range of possible solutions directly addressing the challenges identified in the 2nd stage.

Stage 4: Ideate

In this section, I brainstorm multiple creative solutions, considering both practical and cultural dimensions of menstrual hygiene.

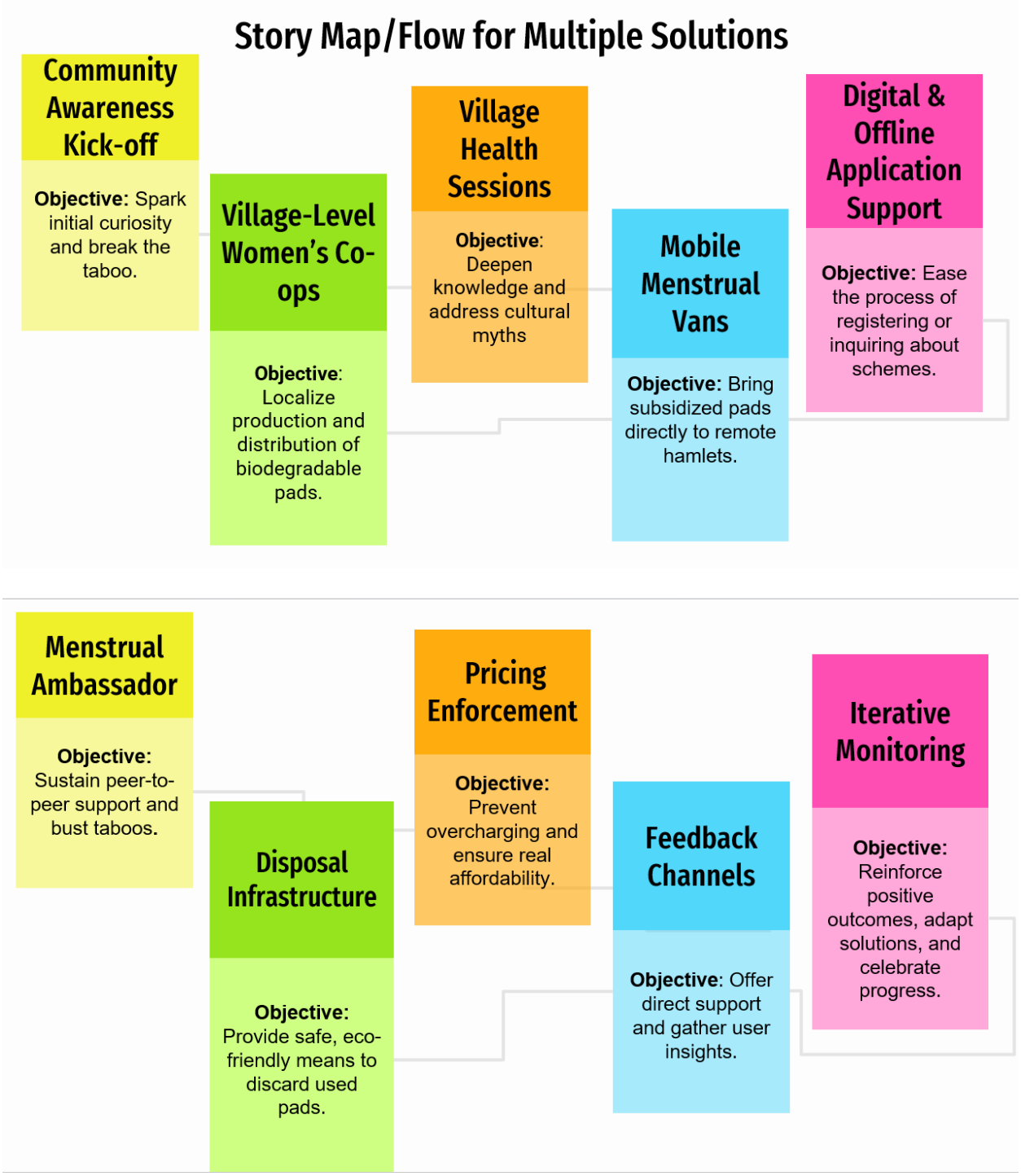

Figure 11: Story Map, Source: Canva

This story map outlines different solutions which address the key barriers to menstrual hygiene, including awareness, distribution, pricing and even disposal. Each solution is structured

to target a specific stage of the user journey—from initial awareness and access to long-term behavioral change and monitoring.

NABC Approach

I now select a few feasible solutions, merging distribution-focused interventions (Mobile Menstrual Vans or Village-Level Co-ops) with an awareness-centric approach (Menstrual Ambassadors). This would tackle both the practical barriers to pad access and the central stigma that deters women from using them.

After which I apply the NABC (Need, Approach, Benefit, Competition) framework and analyse social, political, and economic feasibilities, along with challenges.

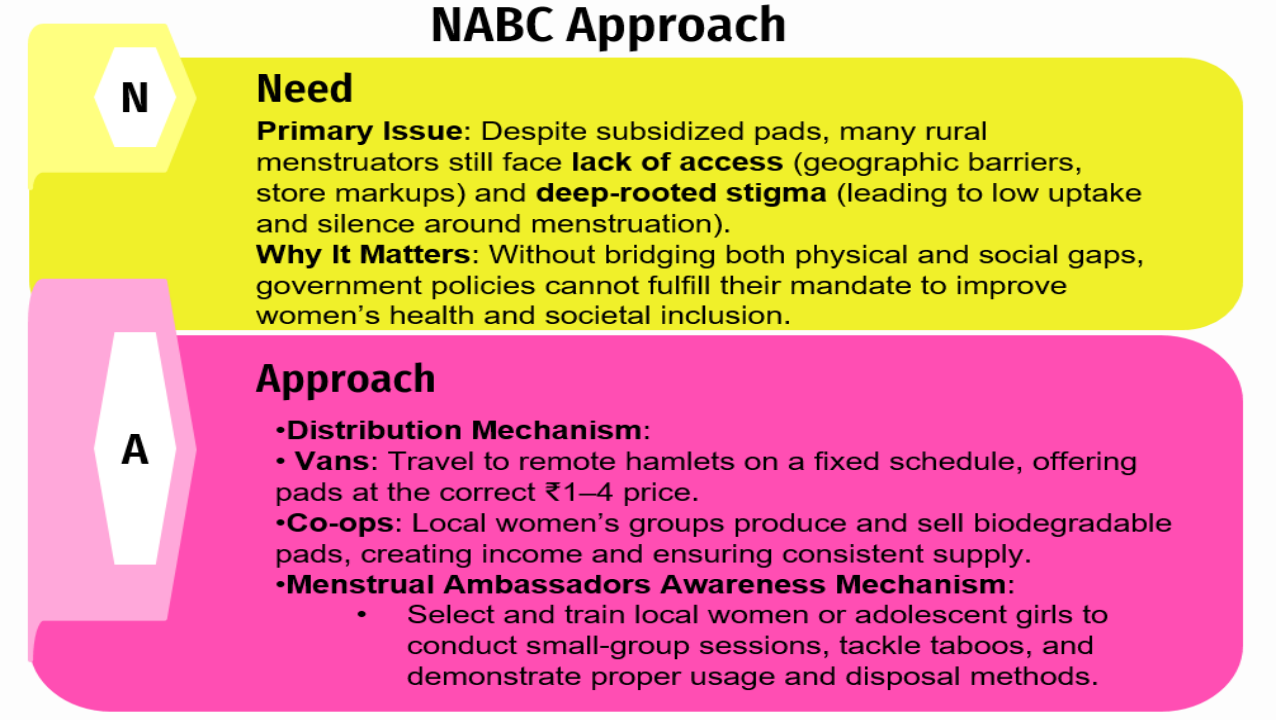

Figure 12: NABC Approach, Source: Canva

Figure 13: Benefit and Competition, Source: Canva

Feasibility & Challenges

Aspect	**Social Feasibility**	**Political Feasibility**	**Economic Feasibility**	**Challenges**
Mobile Vans or Village Co-ops	- High social acceptance if local leaders endorse it. - Women appreciate the convenience and	- Potentially popular among elected officials seeking to show direct benefits to constituents. - Must align with local	- Vans need recurring funding (fuel, staff). - Co-ops need seed capital & machinery.	- Risk of local store backlash due to lost revenue. - Quality control and supply chain

	potential for livelihood (in co-ops).	governance structures (e.g., panchayats).		management for co-ops.
Menstrual Ambassadors	- Peer-led approach resonates Ill with cultural norms if ambassadors are from the same community.	- Minimal friction if integrated with ASHA/Anganwadi efforts. - Could gain strong political goodwill by showcasing community empoIrment.	- Training costs are modest (one-time or periodic refreshers). - No expensive infrastructure needed.	- Resistance from conservative groups. - Maintaining ambassador motivation & avoiding burnout over time.

Table 1: Feasibility and Challenges

After narrowing the ideas based on NABC approach I will craft a model for the idea to take place on-field, a prototype. Creating simple process flows or mock-ups to test how these solutions might function in actual community settings.

Stage 5: Prototype

In this section I develop simple models or process flows to test how these ideas might work in real community settings.

Concept-level prototype

Proposed Flow:

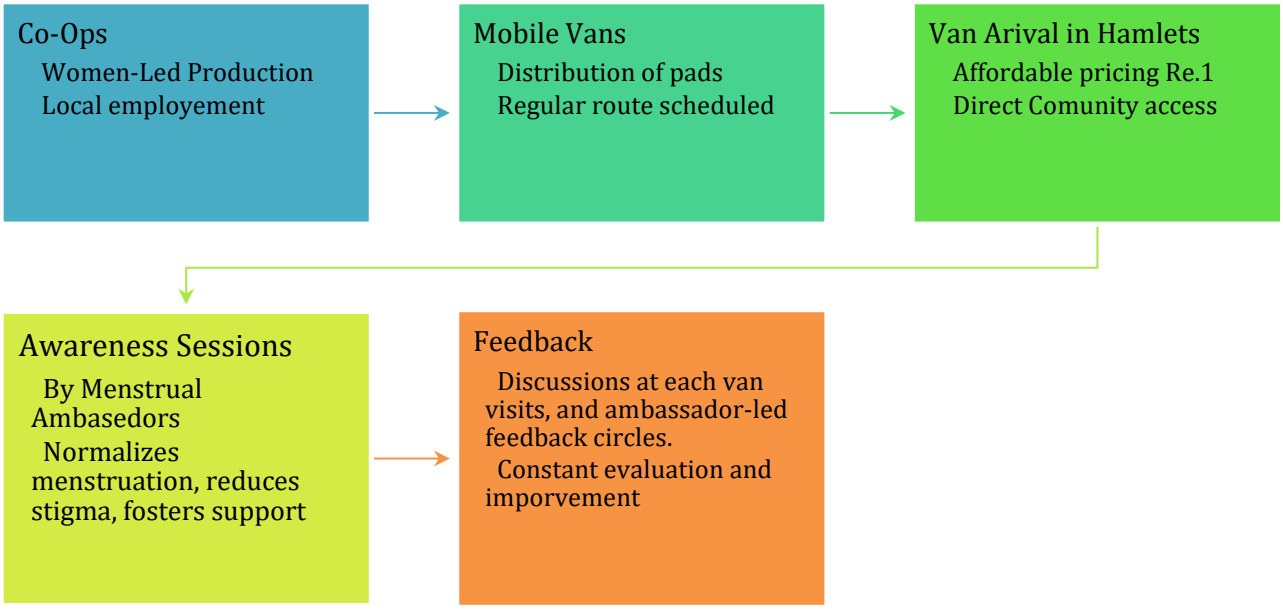

Figure 14: Proposed Flow, Source: Canva

This flow chart illustrates a simple, integrated model where the co-ops by women, locally produce pads, mobile vans transport them to remote hamlets on a regular schedule, and in-hamlet distribution tends to ensure the economic affordability aspects. Meanwhile the ambassadors conduct awareness sessions to dispel myths and demonstrate proper usage. While feedback and evaluation loops gather insights for ongoing refinement. This links the production, distribution, cultural acceptance, and iterative improvement to close the gap betIen policy intent and everyday realities.

Stage 6: Testing

In this section I will gather feedback on prototype, refine the solutions and assess the readiness for a large-scale implementation.

For the prototype testing, I propose a small-scale pilot project in at least two villages that would implement all the above-mentioned steps of the conceptual prototype, and the most important aspect of this would be focusing on the impact this prototype would have. A way to go about this would be that the two villages will be "adopted" by the stakeholders, meaning that all the steps from the manufacturing of the pads to the distribution and awareness would be conducted over a year. There would be an evaluation of the level of awareness and the usage of pads by the menstruators post- and pre-implementation of the prototype, and then the results would be compared to find evidence if this prototype is working or not. I'll collect feedback through short surveys, group interviews, and observation of daily usage habits, measuring pad uptake rates and cost compliance. By tracking user satisfaction and any stigma reduction, I can refine our approach before broader rollout. Actual testing is beyond the current scope, but the framework is in place for future real-world application.

Conclusion

MHS and Janaushadhi Suvidha are good intentioned but usually do not deliver on last-mile delivery and stigma reduction. Government objectives are undermined by low coverage, irregular pricing enforcement, and inadequate disposal infrastructure. Synching the design thinking with MHS and Janaushadhi Suvidha can strengthen distribution, normalize menstruation, and

encourage green disposal. Coordination among government, NGOs, local leaders, and communities is necessary in order to translate policy goals into ground reality.

In essence, providing menstrual hygiene to all is a social responsibility—one that needs collaborative solutions from government, NGOs, and community organizations. While this paper has hypothesized potential interventions, future studies can investigate the long-term implications of community-based manufacturing or more sophisticated disposal systems. Ultimately, the hope is that all readers are left with a deeper understanding of how thoughtful, user-led design can bring policy from an abstract ideal to a lived experience for rural menstruators—and, in doing so, for rural communities.

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