

Menstrual Health  
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# Strengthening decentralized menstrual product access models

Powering what works for low- and  
middle-income countries



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# Acronyms

BCC	behaviour change communication
BIS	Bureau of Indian Standards
B2B	business-to-business
B2C	business-to-consumer
CoP	cost of production
DfG	Days for Girls
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ISO	International Organization for Standardization
KII	key informant interview
LMICs	low- and middle-income countries
NGO	non-governmental organization
NRLM	National Rural Livelihoods Mission
O&M	operations and maintenance
PTFV	Pacific Trade Finance Vehicle
QC	quality control
RHSC	Reproductive Health Supplies Coalition
SHG	self-help group
SoP	standard operating procedure
SROI	social return on investment
TAG	Technical Advisory Group
UNICEF	United Nations Children's Fund
WASH	water, sanitation and hygiene

# Executive summary

Menstrual health is significant for the health and human rights of all those who menstruate. It requires a comprehensive approach that spans accurate information, access to products of choice, adequate water, sanitation and waste facilities, supportive health services, and the dismantling of stigma and discrimination. Access to menstrual products is one element of this broader approach, and the focus of this report. Millions of girls, women and others who menstruate across low- and middle-income countries (LMICs) have an unmet need for safe and effective menstrual products, and with some resorting to unsafe materials instead. Commercial markets are yet to reach certain populations, often those who face socio-economic vulnerabilities and marginalization. Free distribution programmes, while popular, are rarely scalable to meet the needs of all menstruators and are financially unsustainable in the long term.

In this context, **decentralized menstrual product access models** have emerged as a promising and complementary approach to commercial markets and free distribution efforts. By bringing production and sales closer to the point of need, and placing these processes in the hands of the communities themselves, this approach can expand access, generate local livelihoods (especially for women) and foster community ownership.

This report explores the landscape of decentralized access models in LMICs through a multi-method study comprising literature reviews, key informant interviews across multiple countries, and field visits in India and Kenya. It draws upon practical insights to propose considerations for actions for those seeking to design, implement or invest in such models.

## Three archetypes of decentralized access models

This study identifies three core archetypes of decentralized models, analysed through a value chain and business model lens.



### Decentralized manufacturing of single use pads

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Archetype A brings production of single-use pads to the community level using manual, semi-automatic, or automatic machines. This approach can meet local product needs, offers the benefit of product familiarity and aspiration for users, as well as opportunities for women's employment in manufacturing and sales. However, it faces key challenges.

This model is capital and operations intensive, has limited flexibility in product offerings, and struggles to compete with commercial products due to higher cost per unit and variability in quality. Commercial viability is limited, as sales are primarily to institutional buyers like government agencies and non-governmental organization (NGOs), and sales can remain low unless implemented at scale with robust quality control and compelling marketing.

This model can hold value in certain humanitarian settings with broken supply chains that have regular or long-term product needs (e.g., communities displaced by war and conflict), and where financial viability is not a consideration. In these circumstances, this model needs to be sufficiently resourced through multi-year grants and supported by technical intermediaries to ensure consistent production of quality products. Sustained donor or government support is often needed for this model to operate in the medium and long term.



### **Decentralized manufacturing of reusable pads**

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Archetype B uses tailoring equipment (ranging from simple to advanced) and can build on economies of scope by co-producing other textile goods. This model demonstrates greater responsiveness to product needs and potential for cost-efficiency and financial viability, using the same infrastructure for other textile products. When well-executed, this archetype can foster additional income opportunities, increase community ownership, and respond to community needs.

Key considerations for this model are design and quality control issues, the high upfront cost of reusable products for users, ongoing behaviour-change communication to generate demand for this product category, quality assurance of reusable products, and the need to bundle reusable products with other goods to enhance its financial viability. For instance, some implementing organizations shared that sales from reusable pads are up to 25 per cent of the total value of products sold. Strong intermediary and donor support is required to address these requirements.

This model offers potential for quality products that meet user needs and preferences, but to do so requires significant investment in user education, and overcoming socio-cultural and practical barriers to reusable products. In addition, this model requires product research, development and quality assurance.



### **Community-led sales of menstrual products**

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Archetype C focuses on marketing and sales of centrally manufactured products through local networks. Centring on procurement and sales (and not production), this archetype has the fewest infrastructure requirements and has the greatest potential to respond to user preferences. It enables implementers to select and pivot between product types based on community demand, making it a strong candidate for commercial viability.

This archetype is especially effective in introducing a basket of products through community-based distribution networks. Although less focused on job creation in manufacturing, it creates income-generating opportunities through sales and offers a scalable, market-based approach to menstrual product access. Its success, however, hinges on selection of menstrual products that meet community needs and preferences, promote effective behaviour-change communication, and offer robust training of community entrepreneurs or sales agents. This archetype offers the most flexibility to respond to user preferences and adapt the product basket, with lower capital investment. Its success relies on strong marketing and entrepreneurial capacity among community sales agents.

## The role of intermediaries

Across all the three archetypes, intermediaries, such as social enterprises, NGOs, United Nations agencies and trade facilitators, play a vital role in developing robust, contextually relevant and viable models. These intermediaries provide technical assistance for:

- Research, design and development of models and product formats
- Aggregation of inputs and quality assurance, potentially enabling access to raw materials and machinery at lower cost and higher quality
- Robust and consistent training and capacity building to boost manufacturing and sales
- Brokering market linkages with vendors, and downstream distributors and retailers
- Advocacy and market facilitation, including negotiating with governments and organizations to procure in bulk, strategizing demand creation, and positioning decentralized models as a market-building strategy in low-resource settings
- Advocacy for enabling policies and standards
- Blended financing mechanisms, such as subsidized working capital or pooled procurement, to enhance financial sustainability and reduce long-term dependence on grants

## Benefits and limitations of decentralized access models

### Advantages of decentralized models

When strategically designed, and adequately supported and resourced, decentralized models bring several distinct advantages:

- Last-mile product access is significantly enhanced by leveraging community networks, door-to-door sales, and embedded distribution networks in schools, workplaces, remote communities and humanitarian settings.
- Livelihood generation, particularly for women, is a notable co-benefit across all archetypes, although the intensity and nature of the opportunity vary.
- Decentralized models often introduce product options and menstrual health messaging in underserved areas, creating demand and sensitizing communities, thereby laying the groundwork for broader market expansion.
- These models can potentially offer a decentralized supply base that can be supported to be more resilient to supply chain disruptions caused by conflict, disasters, or health emergencies.
- Commercial viability can be strengthened through a hybrid approach that blends centralized manufacturing with decentralized distribution and sales led by communities (especially for Archetype C), or through economies of scope (Archetype B).
- Closer and regular access to menstrual products for underserved and marginalized populations can be enhanced through a decentralized model.
- There is potential to tailor products and approaches to cultural and contextual needs in Archetypes B and C, while simultaneously providing platforms for menstrual health education and stigma reduction across all archetypes.

## Limitations of decentralized models

Decentralized models face a number of structural and operational limitations:

- High startup and operational costs, particularly for production-based models (Archetypes A and B).
- Limited ability to achieve economies of scale, especially for single-use pad units.
- Inconsistent quality and limited control measures, often due to fragmented supply chains, limited technical expertise for quality control, and resource constraints.
- Dependence on donor funding, which threatens long-term sustainability and limits market responsiveness.
- Lack of regulatory alignment and difficulties in obtaining quality certifications and approvals in some countries.
- Insufficient needs assessments and local market landscaping, which undermines the design and implementation of appropriate models and selection of appropriate, contextually relevant products.
- High costs of marketing and competition branded commercial products, especially low-cost single-use products in growing LMIC markets.

Owing to these challenges, decentralized models can struggle to be contextually responsive and financially viable. Given this, there is an emerging approach which combines the scale required for manufacturing efficiency with the flexibility of Archetype C. Such a hybrid model includes centralized manufacturing, quality control and support functions combined with decentralized sales and community engagement. Using this approach, Zana Africa, Be Girl and AFRIPads are examples that have had financial success and have achieved the intended outcomes.

Decentralized menstrual product access models are **not a one-size-fits-all solution**. When strategically designed and adequately supported, they can complement commercial markets and free-distribution efforts, expand choice, advance menstrual health equity, and catalyse contextual, market-based solutions in LMICs. To achieve this, design and implementation of decentralized models should take into account **fitness-for-purpose including context and market status, target population and their needs and preferences, intended outcomes and budget, timelines, and operational feasibility**. To maximize impact and efficiency, programmes should strengthen value chain activities through continuous research and evaluations, leveraging innovative financing, participation in ecosystem advocacy and integration with broader programming on health, WASH, education, etc.

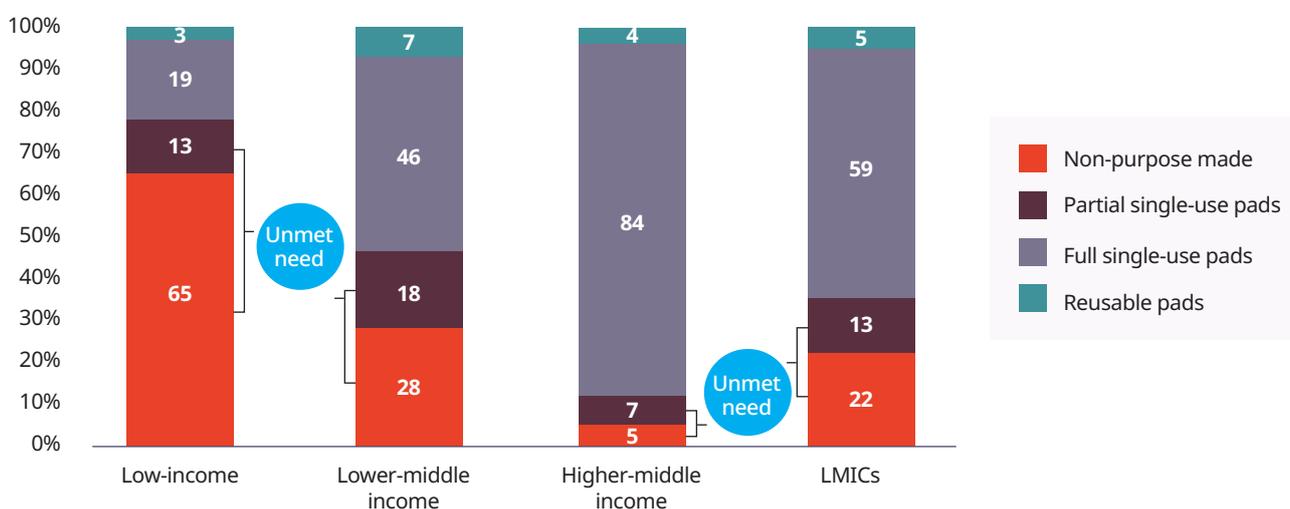
# 1

## Introduction

Across low- and middle-income countries (LMICs), an estimated 1.72 billion girls, women and people with diverse gender identities<sup>1</sup> menstruate – yet millions face persistent challenges in managing their periods with dignity and safety. Inequitable gender norms, low body literacy, inadequate WASH infrastructure, and limited access to safe, affordable menstrual products continue to undermine menstrual health, with far-reaching consequences on health, education, workforce participation and gender equality.<sup>2, 3, 4</sup>

Addressing menstrual health requires comprehensive investments across multiple domains to improve awareness and body literacy, expand product access, strengthen WASH and waste management infrastructure and health services, and reduce stigma.<sup>5</sup> This report focuses on one of these domains – access to safe, effective menstrual products for all those who menstruate, across the reproductive life course. Currently, 387 million menstruators (22 per cent of all menstruators in LMICs) still rely entirely on non-purpose made materials such as old cloth and tissue paper, and in extreme circumstances, even hay and sand, to manage their menses. These materials are uncomfortable, unsafe and unhygienic for users, placing them at risk for infections. Further, an additional 13 per cent (226 million) use such materials some of the time, due to limited access to purpose-made menstrual products.<sup>6</sup> The burden of this unmet need is disproportionately concentrated in LMICs (see **Figure 1**).

**Figure 1. Proportion of menstruators in LMICs using menstrual materials**



<sup>1</sup> We acknowledge that all people who menstruate are not girls and women, and that not all girls and women menstruate. In this document, the term people who menstruate or menstruator is used to refer to all those who experience menstruation. Weinberger M, Eva G, Bellows N, Reidy M, Sanders R, and Ahsan, S. LEAP: Landscape and Projection of Reproductive Health

<sup>2</sup> Supply Needs. Reproductive Health Supplies Coalition. 2024.

<sup>3</sup> Dalberg (2023). Menstrual Health and Hygiene: A cross-cutting impact opportunity. Accessible at: <https://dalberg.com/wp-content/uploads/2023/08/Dalberg-Menstrual-Health-and-Hygiene-A-Cross-Cutting-Impact-Opportunity-2023.pdf>

<sup>4</sup> The Sanitation and Hygiene Fund. Impact of Investment in Menstrual Health and Hygiene (MHH) on Socio-Economic Well-Being - Research Brief - [Economic Impact](#), [Education Impact](#), [Health Impact](#), 2023.

<sup>5</sup> Hennegan J, Winkler IT, Bobel C, Keiser D, Hampton J, Larsson G, Chandra-Mouli V, Plesons M, Mahon T. Menstrual health: a definition for policy, practice, and research. *Sex Reprod Health Matters*. 2021 Dec;29(1):1911618. doi: 10.1080/26410397.2021.1911618. PMID: 33910492; PMCID: PMC8098749.

<sup>6</sup> Ibid 2

Although commercial markets for menstrual products have expanded in LMICs over time, they do not guarantee availability, affordability, or accessibility for all. Global and national supply-chain limitations and disruptions, as well as inadequate retail penetration in rural and low-income areas are key supply-side barriers. Socio-economically vulnerable communities (e.g., those in remote areas and in extreme poverty), those facing humanitarian crises, and people with disabilities and gender diverse identities are some of the groups that face the most significant physical, social and financial access challenges. In response to these realities, some governments and civil society organizations have relied on free or subsidized product distribution, particularly in schools and communities, to fill the gap. While these efforts have made a tangible difference in the short term, free distribution models are limited in their ability to meet diverse community needs and are financially unsustainable in the long run.

## The rise of decentralized menstrual product access models

In response to limited commercial markets for menstrual products in LMICs, a new approach began to take shape between 2005–2010: **localized, decentralized models** for menstrual product access. These models sought to meet product needs closer to the point of demand, while simultaneously creating employment for community members, and challenging menstrual stigma within the communities they serve. The earliest and most iconic iteration of this model was pioneered by Arunachalam Muruganantham (referred to as the “Padman of India”), who established low-cost sanitary pad production units operated by local women in rural India. These units made single-use pads more available and affordable, filling a sizable market gap at that time, while sparking much-needed conversations around menstruation in conservative communities.

Since then, a diverse range of decentralized models has emerged: from reusable cloth pad production and hub-and-spoke systems (a central manufacturing hub with localized distribution points or spokes) to procurement-focused microenterprises, and social enterprises. Although these models go by many terms – community-based, locally driven, distributed supply chains, cooperative models and micro-entrepreneurship – they share key features: community-based and led production, or procurement of menstrual products, engagement of local actors (often women) in operations and sales, and a commitment to affordability, accessibility, menstrual equity and community ownership.<sup>7</sup>

Crucially, these models were seen as fundable, with tangible cost structures: machinery and equipment, raw materials, production space and labour.<sup>8</sup> This made them attractive to donors, philanthropies, NGOs and governments seeking dual returns of product access and women’s economic empowerment. In India, the National Rural Livelihoods Mission (NRLM) supported self-help groups (SHGs) with catalytic funds to set up community sanitary pad production units. Globally, momentum accelerated after the 2018 Oscar-winning documentary *Period. End of Sentence*, which led to the formation of The Pad Project, a global nonprofit organization working with local NGOs to establish production units for single-use and reusable pads.<sup>9</sup>

<sup>7</sup> Days for Girls International: <https://www.daysforgirls.org/blog/locally-owned-and-led-menstrual-health-enterprises-uniquely-positioned-to-drive-deep-and-lasting-change/>

<sup>8</sup> The Case for Her. (2021). Making the case for investing in menstrual health and hygiene. PSI Europe, Simavi, WASH United. <https://thecaseforher.com/reports/>

<sup>9</sup> <https://thepadproject.org/wp-content/uploads/2021/08/Fact-Sheet-The-Pad-Project.pdf>

Several notable organizations and programmes have since evolved the model:



**UNICEF** has been a vital intermediary, providing technical and financial support to establish and assess decentralized menstrual product access models in several countries in South Asia and Sub-Saharan Africa.<sup>10</sup>



**WaterAid's HerWASH initiative** has tackled menstrual product supply shortages in LMICs (Liberia, Sierra Leone, Burkina Faso, Pakistan) by building networks of women and youth entrepreneurs producing and selling reusable pads.<sup>11</sup>



**Days for Girls International (DfG)** shifted from having a centralized production model at their offices in Kenya, Nepal and Uganda to supporting 62 locally owned enterprises manufacturing reusable pads in 22 countries.<sup>12</sup>



**Loving Humanity** set up micro-factories in refugee camps and conflict zones, producing both single-use and reusable pads.<sup>13</sup>



**Real Relief** developed “ready-to-make” reusable pad making kits for fragile contexts like Afghanistan, working with women with limited mobility and purchasing power.<sup>14</sup>



In the Pacific region, **Red Hat Impact**, through the Pacific RISE programme, piloted a trade finance vehicle to ease bulk procurement of reusable pad materials for micro and small enterprises operating across several countries.<sup>15</sup>

## Navigating an evolving marketplace

Menstrual products are consumer products accessed primarily through retail markets. Increase in access has also largely been driven by private sector investment and an increase in purchasing power of consumers. However, these markets remain limited by structural barriers that limit access to a basket of safe and affordable menstrual products. Market-based approaches can address these barriers in a systematic manner. These include regulatory reforms to increase efficiencies and reduce barriers to trade, e.g., improved product standards and tax reforms.

Decentralized models offer parallel solutions that can address gaps in last mile access by demonstrating support for cost-effective and equitable delivery of a range of menstrual products across socio-economic settings. These models offer context-specific, inclusive and equity-centred solutions in areas where centralized systems and commercial markets continue to fall short. They can partially support livelihoods, build awareness and foster community dialogue around menstruation. Importantly, when implemented thoughtfully and strategically, they can localize menstrual health solutions in ways that

<sup>10</sup> KIIs with UNICEF team from Kenya, India, and headquarters.

<sup>11</sup> WaterAid Her WASH initiative: KII with Her WASH team in Pakistan and case study documentation shared by WaterAid.

<sup>12</sup> Direct communication with DfG team.

<sup>13</sup> Loving Humanity: KII with Amy Peake.

<sup>14</sup> Real Relief: KII with Karthik Thangavel.

<sup>15</sup> Pacific RISE: KII with Cameron Neil and review of report – Menstrual Health Trade Finance Vehicle Case Study: [https://tradefinancevehicle.online/wp-content/uploads/2022/08/3f-Case-Study-MHTFV-July-2021\\_FINALWeb-1.pdf](https://tradefinancevehicle.online/wp-content/uploads/2022/08/3f-Case-Study-MHTFV-July-2021_FINALWeb-1.pdf)

are culturally appropriate and resilient to external shocks (to some extent), critical advantages in humanitarian and hard-to-reach settings. For example, in Afghanistan, where global supply chains are constrained and social norms severely restrict women's movement, local women produce reusable pads (in collaboration with Real Relief) and make them available to women in their communities. In Vanuatu and the Solomon Islands, remote island communities are cut off from commercial markets, but local small and social enterprises are able to reach them with reusable products.

Despite the many potential benefits, most decentralized initiatives still rely heavily on grants and donor support, producing products of varying quality, raising concerns about their long-term viability and scalability, and responsiveness to user needs and preferences. Due to a lack of understanding of the context, they are often pitted against commercial products that benefit from captivating marketing campaigns, economies of scale and standardized quality at lower prices. Hence, it is important to consider which models should be implemented where and supported by different types of funding.

As we consider the future of menstrual health in LMICs, decentralized models must be assessed for their economic sustainability and their social return on investment, especially in light of persistent inequalities, fragile systems and evolving market dynamics. This report maps the landscape of these models, distils their achievements and challenges, and offers a strategic lens to guide future investments, partnerships, and policy actions.

Decentralized models emerged from the point of accessibility and affordability – making low-cost and good quality products available to the girls as close to their homes as possible. And the local livelihood element was there as well – giving an additional opportunity for community members.

Dr. Pratibha Singh, UNICEF (India)

# 2

## Approach and methodology

### 2.1 Goal and objectives

The overarching goal of this study is to inform and strengthen the implementation of decentralized menstrual product access models to facilitate sustained access to quality, affordable products for all those in need in LMICs.

The objectives of this study are to:

1. Map stakeholders supporting and implementing decentralized models.
2. Define and identify types of decentralized models.
3. Examine the capacities of decentralized models in delivering sustained access to menstrual products in low-resource settings, ensuring quality, affordability and informed choices in relation to other access approaches.
4. Capture details of promising models to present as case studies.
5. Propose recommendations to inform and strengthen the design and implementation of decentralized models in LMICs.

The data collection and collation to meet these objectives used the following methodology.

### 2.2 Methodology

This study used a mixed-method approach to understand decentralized menstrual product access models in LMICs. This approach included:

- **Desk review:** Review of 49 documents and 52 websites to map model typologies, case studies and evidence gaps.
- **Key informant interviews:** Conversations with 56 stakeholders across sectors and regions (South Asia, Sub-Saharan Africa and the Pacific), representing various product types and decentralized approaches.
- **Field visits:** On-site observations at six manufacturing units (three each in Kenya and India) to assess production, distribution and community engagement.
- **Technical Advisory Group (TAG):** A seven-member expert group provided input on the study design and validated findings through two virtual meetings and review of the report.

## 2.3 Data analysis

Findings from the literature review, interviews and field visits were analysed using two complementary frameworks: the value chain framework and the business model canvas (BMC).

### 2.3.1 Value chain framework

The value chain framework<sup>16</sup> (**Figure 2**) is a strategic tool used to analyse an organization's activities and understand how value is created at each stage of producing and delivering a product or service. It helps organizations identify core strengths, understand cost drivers and optimize operations to achieve desired outcomes.

This framework distinguishes between two types of activities:

- **Primary activities**, which directly contribute to value creation and intended outcomes.
- **Enabling activities**, which support and enhance the efficiency and effectiveness of the primary activities (value chain optimization).

**Figure 2: Value chain framework for decentralized menstrual product access**

#### Primary activities



#### Enabling activities



For decentralized menstrual product access models, the value chain framework was used to:

- Categorize decentralized model archetypes based on where decentralization occurs within the value chain.
- Examine activities carried out across different archetypes.
- Identify enabling factors that strengthen the performance of value chain activities.

<sup>16</sup> Developed by Michael Porter, a professor at the Harvard Business School for the analysis of comparative advantage of business models

**Primary activities** include:

1. **Research and development (R&D):** Designing and developing menstrual products.
2. **Inputs:** Procuring machinery, raw materials and semi-finished goods, and setting up the required infrastructure for production.
3. **Operations:** Manufacturing and packaging of menstrual products.
4. **Outbound logistics:** Identifying distribution points or stakeholders, and transporting products to these locations.
5. **Marketing and sales:** Generating demand through menstrual health education, raising awareness about product usage and care, and deploying strategies to promote uptake by both end users and institutional buyers. Various marketing strategies for decentralized models include:
  - Business to government (B2G) – Sales through government, including NGO tenders for free distribution in educational institutions, communities and/or humanitarian settings
  - Business to business (B2B) – Sales to corporations, hospitals for either free or subsidized distribution
  - Business to consumer (B2C) – Sales direct to consumers through community-based sales agents, self-help groups and/or retail stores.

**Enabling activities** are:

1. **Quality assurance:** Ensuring all inputs, processes and outputs meet established standards (national or global), including certifications and standard operating procedures (SOPs).
2. **Human resources:** Recruiting, training and mentoring individuals responsible for core functions, especially in operations, sales and marketing.
3. **Financing:** Supporting both producers (through startup capital, grants, subsidized loans and working capital, etc.) and consumers (via subsidies or credit mechanisms) to enable production



and access.

4. **Advocacy:** Engaging with local, national and global stakeholders, particularly decision-makers and funders, to:
- Recognize certain menstrual products (especially reusable ones) as viable options
  - Support the development and adoption of product standards
  - Promote tax reforms for menstrual products
  - Encourage the adoption, adaptation, or scaling of contextually relevant decentralized models

## 2.3.2 Business model canvas

The business model canvas (BMC) is a strategic management tool that supports the design, description and analysis of business models. It provides a visual framework with nine building blocks that together describe how a business creates, delivers and archives value or outcomes.

The BMC nine building blocks are:

- |   |                                  |
|---|----------------------------------|
| 1. Key stakeholders                       | 6. Consumer engagement           |
| 2. Key activities (value chain framework) | 7. Channels to sell to consumers |
| 3. Key resources                          | 8. Cost structures               |
| 4. Value proposition (outcomes)           | 9. Revenue streams               |
| 5. Consumer segments                      |                                  |

Details of BMC are outlined in **Annex 3**.

We applied BMC to analyse each archetype identified. This analysis explored the feasibility (does the model work?), viability (will the model work in the long term?) and potential impact of these archetypes in diverse contexts.

**Key stakeholders** discussed for each archetype are:

- **Implementing organizations**, which operate the model in the community. These include community groups like SHGs, community-based organizations, and NGOs.
- **Intermediaries**, which provide technical support across the value chain, including United Nations agencies, NGOs and social enterprises.
- **Manufacturers and vendors** for machinery and raw materials.
- **Government** (from national to local levels)
- **Funders**, including financial institutions and blended finance intermediaries (e.g., corporate social responsibility, philanthropic, others).

**Costs structures** discussed for each archetype are:

- **Fixed costs:** Expenses that do not change with the level of production or sales volume. They remain constant regardless of how much is produced. Examples include rent, salaries and equipment depreciation.
- **Variable costs:** Expenses that change in proportion to the level of production or sales. The more produced, the higher the variable costs. Examples include raw materials, packaging and direct labour costs.
- **Economies of scale:** Refer to the cost advantages gained when production increases, leading to a lower cost per unit. This happens because fixed costs are spread over more units, and bulk purchasing or process efficiencies reduce costs.

- **Economies of scope:** Occur when a business reduces costs by producing a variety of products together rather than separately. Sharing resources like infrastructure, technology, or distribution channels lowers overall costs.
- **Cost of capital:** Cost of equity and debt for infrastructure, operating expenses and working capital.

The revenue streams included for each archetype are:

- **Sales** (whether the product is sold at cost, at a subsidized price or full price)
- **Donor grants**

### 2.3.3 Outcomes of decentralized models

The literature review and discussions with key informants and TAG members were analysed to identify core and common outcomes of decentralized models related to:

- Product access
- Income and employment generation
- Menstrual health and hygiene awareness
- De-stigmatization
- Community ownership of the issue

The identified outcomes are highlighted in **Section 3.4** in this report. The examination of outcomes achieved by the archetypes draw upon insights pooled together from the literature review and KIIs. They are not based on assessments or evaluations of existing interventions.

## 2.4 Limitations of the study

- **Geographic representation**  
Most models studied were based in South Asia, East Africa and the Pacific. Representation from West Africa and Latin America was limited.
- **Cost-effectiveness data**  
Reliable data on costs and revenues were difficult to obtain, as most models operated under grant funding. Free or subsidized product distribution further complicated assessment of financial viability.
- **Evidence gaps**  
While a substantial number of documents were reviewed, in-depth evaluations of decentralized models remain limited. Few studies offered rigorous or comparative assessments of their effectiveness or sustainability.

- **Limited user perspectives**  
The study primarily captured insights from implementers, technical experts and supporting organizations. End-user perspectives – particularly those of adolescents, women in systemically marginalized communities and users in humanitarian contexts – were not systematically captured, limiting the ability to assess user satisfaction, preferences, barriers and impact across different models.
- **Attribution challenges**  
Given the presence of multiple overlapping interventions in many settings (e.g., simultaneous WASH, education, or health programmes), it was not possible to isolate the specific impact of decentralized menstrual product access models.
- **Bias in self-reporting**  
Interviews with implementing organizations may have been subject to social desirability bias, with respondents more likely to emphasize successes and underreport challenges or failures, especially in grant-supported and government-led programmes.
- **Short observation duration**  
Field visits, though valuable, were limited in duration, which constrained the ability to observe model operations over time, capture seasonality in demand, or assess supply chain consistency.



### 3.1 Defining decentralized menstrual product access models

Decentralization typically refers to the transfer of authority, responsibility and decision-making powers from a central agency or body to local agencies or bodies.<sup>17</sup> Decentralization is a popular approach for community-driven development as it empowers communities by giving them a “voice and choice to influence decisions that affect their lives”, enables local decision-making bodies to better respond to community needs, and facilitates allocative efficiency (i.e., local markets are efficiently able to meet local needs and preferences).<sup>18</sup>

The proposed conceptualization of decentralized menstrual product access models draws on the above framing, implementation and expert insights from the key informant interviews and field visits, and the existing literature:

**Decentralized menstrual product access models locate salient aspects of the value chain in or near the communities they serve, and involve the redistribution of decision-making power, resources and implementation capacity to community-based and community-led groups or institutions.** Community groups or institutions may be informal (e.g., self-help groups, women’s groups), or formal (e.g., grassroots organizations, local government). In addition to bringing the product value chain closer to the communities they serve, decentralized access models seek to create more contextually responsive, equitable, locally led and sustainable systems for menstrual health and hygiene.

### 3.2 Types of decentralized access models

Three archetypes of decentralized access models were identified using the value chain framework to locate the locus of decentralization.

1. Archetype A – Decentralized manufacturing of single use pads
2. Archetype B – Decentralized manufacturing of reusable pads
3. Archetype C – Marketing and sales of menstrual products

Each archetype is described below, using the value chain framework and insights from the business model canvas. Each model has been plotted on the business model canvas in **Annex 3**. Relevant case illustrations are noted for each archetype.

<sup>17</sup> World Bank Brief on Decentralization: <https://www.worldbank.org/en/topic/communitydrivendevelopment/brief/Decentralization>

<sup>18</sup> ibid16

### 3.2.1 Archetype A – Decentralized manufacturing of single use pads



#### Locus of decentralization: Operations (manufacturing)

This archetype involves localized production of disposable menstrual pads using manual, semi-automatic, or automatic machines. It aims to make affordable pads accessible in underserved areas while generating local employment, particularly for women.

**Number of models studied:** 14 (4 through KIIs and 10 through the literature review)

**Location:** This model is popular in South Asia, especially in India. The Government of India, for example, under the National Rural Livelihoods Mission (NRLM) and through the National Bank of Agriculture and Rural Development (NABARD) has supported decentralized production, installing manual or semi-automatic machines in rural areas, employing self-help group members, and providing access to finance. International and national NGOs have also implemented Archetype A in their intervention areas through grant support.

#### Key insights and considerations for core activities

**Archetype A encompasses decentralized manufacturing of single-use pads, with manufacturing as the locus of localization.** While the key activity in this model is pad production, the implementing organization also has to engage in raw material sourcing, marketing, distribution and post production services arising from inherent interdependencies.

Insights and considerations by value chain activity are as follow.



#### a. Research and development

Implementing organizations usually select and adapt appropriate pad designs and production technologies, machine vendors or other external agencies, such as Saral Designs or Loving Humanity, to undertake the R&D for product design and development. Implementing organizations may choose a product type (e.g., ultra-thin, compostable) and corresponding machinery depending on community preferences, budget constraints and scale of operations. However, once defined, their ability to innovate or respond to evolving user needs (e.g., changing product size, materials) is limited and requires additional investment and support from machine vendors or other technical support agencies. This makes R&D an externally driven activity with dependence on external technical support and additional funds, with limited local involvement or capacity for product iteration.

As implementing and intermediary organizations plan and budget for a decentralized model, they need to consider the type of single-use pad to be manufactured, the machinery and raw materials required for the production of that type of product, the machine manufacturers and raw material vendors available in the country and the region, and ensure that the expertise and budgets needed for future improvements are considered.



#### b. Input sourcing

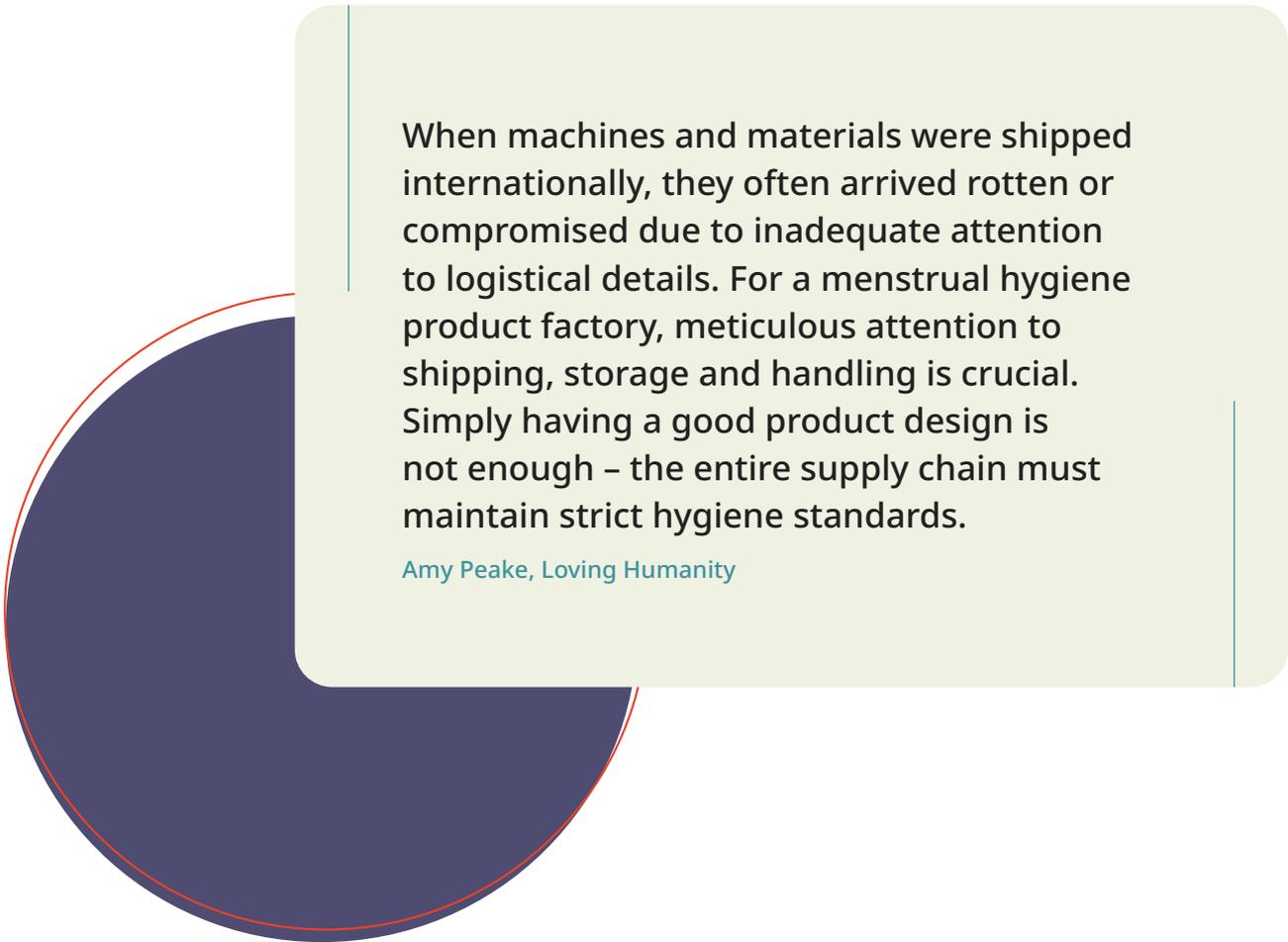
Critical steps for Archetype A are identification and management of vendors for manufacturing machines and raw materials, as well as for ongoing procurement.

The KIIs revealed that implementing organizations find it challenging to undertake ongoing procurement and vendor management by themselves. Machine and raw material sourcing is typically supported by an NGO or a government agency. However, organizations offering such implementation support may face hurdles themselves as they have limited knowledge of the types of machines and raw materials required, and may operate under budgetary constraints.

Globally, only a handful of vendors, such as Saral Designs<sup>19</sup> and Loving Humanity, offers comprehensive, end-to-end services that include input sourcing as a key component. India, however, has a thriving ecosystem of machine manufacturers that not only cater to domestic implementers but also export to other locations like Nepal, East and West Africa, and the Middle East. Key players in this space include Saral Designs, Vatsalya Foundation and Aakar Innovations, alongside a large, fragmented market of local fabricators producing machines and raw materials of varying quality and specifications. Pad manufacturing machines are available for purchase directly from these companies or through digital business-to-business (B2B) platforms like IndiaMART. Notably, Saral Designs, Aakar Innovations and Loving Humanity have exported machines and raw materials to other countries in South Asia and Sub-Saharan Africa. However, the cost of machines is substantially higher outside India due to logistics, import duties and taxes – factors that increase the overall cost of setting up and operating decentralized product access models.

Transporting machinery and raw materials to other countries also presents shipping, logistical and administrative challenges, compromising the integrity and quality of machines and raw materials throughout the process. Navigating customs clearance in many LMICs is fraught with bureaucratic hurdles and poor coordination with import-export facilitators. These challenges often lead to unknown delays, and make equipment and material sourcing in any LMIC outside of India difficult and costly.

<sup>19</sup> Saral Designs was acquired in 2023, however, their contract manufacturer continues to produce their proprietary machines and provide input raw materials and maintenance to clients as needed.



When machines and materials were shipped internationally, they often arrived rotten or compromised due to inadequate attention to logistical details. For a menstrual hygiene product factory, meticulous attention to shipping, storage and handling is crucial. Simply having a good product design is not enough – the entire supply chain must maintain strict hygiene standards.

Amy Peake, Loving Humanity



### Operations

#### c. Operations (manufacturing)

- **Space:** A physical space for the manufacturing unit needs to be identified and upgraded as needed to accommodate the machinery, raw materials and finished goods. The manufacturing unit is often rented and located in or near the community. The size of the manufacturing unit and other requirements depend on the type of machine (e.g., manual, fully automatic) and utilities needed (e.g., water, electricity). The physical space should ideally include an area for the safe storage of raw materials and finished products, and enable hygienic conditions for production and storage. Manufacturing units may be established as a part of larger operations (e.g., field office, training centre, or existing factory set-up) or as a standalone unit.
- **Machinery:** Implementing organizations have to make a critical decision about the type of manufacturing machine – manual, semi-automatic, or automatic depending on the type of single-use pad to be made, the demand for the product and the budget available. Machine costs range between US\$10,000–US\$60,000, and their production capacity is between 250–6,000 pads per day. Manual machines require a lower upfront investment; yet require continuous donor funds to cover the cost of production due to the small scale of operations. While semi-automatic and automatic machines are expensive, they offer a lower cost of production

(CoP) per unit over a period of time due to economies of scale. However, automated machines require parallel investment in marketing to ensure that there is significant demand for the stock manufactured. A comparative overview of the different machine types is included in **Annex 4**.

Interviews and field visits related to single-use pad manufacturing units highlighted that machines, irrespective of the level of automation, were often operated only once a month. This was primarily due to the time taken to sell or distribute existing stock. Regular production would exceed storage and sales capacity, strain sales agents and place the stock at the risk of damage or expiry. Underuse of the machines had implications for the smooth functioning of the machines. Additionally, when semi-automatic and automatic machines were operated after a break, the first batch of products had to be discarded due to dust, grease and other contaminants in the machine and raw materials.



Manual machine for single-use products



The finished product



Automatic machine for single-use products



The finished product

We have not run our machine in 45–60 days. We have over 3,000 pads in stock and are unable to sell those. With the rainy season coming, we are worried that the finished pads and raw materials will catch fungus.

Kamala Joshi, NABARD's Almora Unit, India

Despite the significant infrastructure set-up costs, a manufacturing machine typically produces one type of product variant (e.g., regular pad, ultra-thin pad). Any variations require additional moulds or changes to the machine, which translate into additional costs. With the exception of India, where machines and machine parts can be fabricated at a low cost (and often low quality), implementors struggle to find the right suppliers for the proper moulds, as well as technicians to make changes to the machines.



Semi-automatic machine in India, with storage boxes



Filled with packaged sanitary pads

The machine only makes one type and size of pad (ultra-thin, regular), which has not been popular in the communities it serves.

- **Operations and maintenance (O&M):** Quality spare parts, regular servicing, facility maintenance and upgrading are needed to ensure smooth operations in the medium to long term. Spare parts and technicians are not locally available in many LMICs, hindering regular operations. While machine manufacturers and suppliers provide initial support to set up the unit, they offer limited ongoing support for O&M. This is particularly problematic for imported machines. Some implementing agencies have partially solved this through online consultations with original equipment manufacturers or undertaking make-shift repairs through local mechanics

#### d. Marketing and distribution

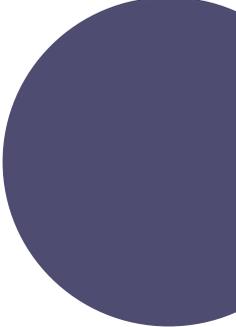
This value chain component is a critical yet overlooked and poorly managed aspect of decentralization. The LMIC menstrual product market is very price sensitive and competitive. Decentralized manufacturing units contend with cheap imports, and in some cases (like in India), commercially manufactured goods in the country. Organizations need to invest in marketing to be able to sell stock manufactured by the unit - both for business-to-consumer (B2C) sales through branding, promotion and distributor incentives, as well as B2B and business to government (B2G) or to corporations, institutions and NGOs through tenders and institutional procurement processes. Pads manufactured in decentralized units can have poor brand recognition compared to multi-national and national product brands, which are also considered aspirational.

Further, implementers producing single-use pads with additional benefits (e.g., compostable sanitary pads) are unable to highlight the unique selling proposition of the product in a compelling manner. Implementers lack the knowledge, skills, and financing to develop a strong brand and marketing campaign that is both attractive and aspirational for consumers. However, organizations like SumArth and the Desai Foundation have addressed these challenges, engaging with the community to develop an appealing brand identity for the product that supports sales. Furthermore, these organizations have trained their sales staff to highlight the benefits of their product particularly in terms of its affordability, comfort and security, and ease of access. A significant advantage of these decentralized models is their door-to-door sales approach, which counteracts mobility restrictions that girls and women face in some communities.

Awareness and behaviour change interventions with communities, schools and health centres, as well as advocacy with local and national governments helps with sustained uptake of these locally made sanitary pads. Beyond basic awareness, most models struggle to provide more information and support to consumers. Successful models weave sanitary pad sales into strong community engagement interventions for menstrual health promotion. However, funding streams for menstrual health and hygiene education and behaviour change, and pad production units can differ. For advocacy with local governments, implementers need to showcase consistent sales and distribution, which can be challenging due to cost and quality factors.

We keep our product in the local stores. Lots of girls and women come to these stores, but no one buys them as no one notices them. The packet is white and not attractive, and the product does not have a brand name like Whisper and Stayfree. This is a problem for us to sell the product.

SN Joshi, NABARD's Almora Unit, India



We know that girls and women want ultra-thin and longer pads. So we deliberately chose this model (automatic machine) to make such aspirational pads. We have given a brand name for the product to make it more appealing. We have priced it similarly to a local brand, but we know that to sell the product, we need to keep the price lower than the market brand. Plus – the sales agents give women pads at their door step – no need for them to go to a shop!

Surbhi Kumari, SumArth, India

Production in Archetype A is inflexible and cannot respond to evolving user needs and preferences. While implementers and intermediary organizations collate information and feedback on the product, they are unable to undertake significant changes to improve the product type and quality. Organizations like Saral Designs and Loving Humanity that provide machines and raw materials can also provide ongoing support to implementers, including for troubleshooting.

We have trained our SHG members thoroughly. However, from a marketing point of view, they face competition from the commercial brands available that are not biodegradable – highlighting the benefits of our biodegradable pads is challenging as the community is unable to understand that these pads are better for them than the ones in the market.

Saurabh Raj, Bihar Rural Livelihood Promotion Society, India

Production in Archetype A is inflexible and cannot respond to evolving user needs and preferences. While implementers and intermediary organizations collate information and feedback on the product, they are unable to undertake significant changes to improve the product type and quality. Organizations like Saral Designs and Loving Humanity that provide machines and raw materials can also provide ongoing support to implementers, including for troubleshooting.

## Support activities for value chain optimization



### a. Quality

Quality compliance with existing standards at a decentralized level requires knowledge of these processes, technical support for quality control in sourcing, production, storage and distribution, and financial investment for these components. Periodic testing (in-house or in external laboratories) and certifications are recurring costs that need to be considered.

Saral Designs developed proprietary designs for manual, semi-automatic and automatic machines, and supplied these designs to implementing organizations. Along with that, they also provided a suite of quality control services that partners were unable to undertake on their own including quality checks for raw materials sourced from trusted suppliers, pre-processing and in-house testing for materials before shipping, buy-back of faulty materials from partners, quality control SOPs, and trainings for partners for manufacturing, storage and maintaining quality control data for feedback into process improvements.

During the programme design, donors and implementers need to understand local regulations around testing and certification, as these contribute significantly to timelines and budgets. Interviews revealed that some implementers become aware of these considerations late in the process.

The Pad Project, a global non-profit, supports decentralized menstrual product access models across South Asia and Africa through small grants and partnerships with technical service providers. The Pad Project supported a single-use manufacturing unit in Sri Lanka for over five years of the project, providing multiple add-on grants to the partner to help them secure quality certification from the national regulator, getting the product tested and upgrading their facility to be able to meet the specified standards. These costs had not been part of the original budget due to lack of clarity on the partner's ability to sell in Sri Lanka without regulatory approval. This significantly affected budget and timelines. Learning from this, The Pad Project actively provided grants to support partners in other geographies for quality testing and certification.



### b. Human resources

- The production unit is operated and maintained by community members, with a focus on women (members of SHGs or women's groups). A unit can employ 5–10 people as operators in the production process. Formal training includes one-time intensive sessions and periodic refresher training, and peer-to-peer support is needed for engaging unskilled community members.



Pad Variables

SL NO	TEST NAME	CATEGORY	UNIT	MEASURING TOOL	TOLERANCE	TARGET	UPPER	LOWER
1	PAD COLOR	B	NA	VISUAL	WHITE	WHITE	WHITE	WHITE
2	PAD THICKNESS	B	MM	THICKNESS TESTER	0.5	2.5	0.5	0.5
3	PAD WEIGHT	B	MM	WEIGH MACHINE	7.3	7.8	8.3	8.3
4	PAD LENGTH	B	MM	SCALE	117	120	123	123
5	PAD WIDTH AT FRONT EDGE	B	MM	SCALE	98	100	102	102
6	PAD WIDTH AT CENTER	B	MM	SCALE	113	115	117	117
7	PAD WIDTH AT BACK EDGE	B	MM	SCALE	108	110	112	112
8	CORE LENGTH	B	MM	SCALE	267	270	273	273
9	CORE WIDTH	B	MM	SCALE	83	85	87	87
10	RELEASE TAPE LENGTH	B	MM	SCALE	218	220	222	222
11	MIDDLE AREA POSITIONING	B	MM	SCALE	267	270	273	273
12	ADHESIVE LENGTH	B	MM	SCALE	19	20	21	21
13	MIDDLE AREA POSITIONING	B	MM	SCALE	19	20	21	21
14	END OF BLUE STRIPS	A	MM	SCALE	-	2	-	-
15	WING AREA POSITIONING	B	MM	SCALE	57	60	63	63
16	LENGTH (O/S & D/S)	B	MM	SCALE	57	60	63	63

© The Pad Project

Snapshots of an online training to support quality that was conducted by Saral Designs for the implementing partner The Pad Project.

- For production, personnel are needed for supervisory tasks, accounts and book-keeping, and O&M. Personnel for these roles can be from the community but require a basic level of education and comfort with accounting and technical tasks.
- Underutilization of human resources is a concern with these models. While single-use pad production units seek to create jobs for community women, the units may fail to do so if they produce more than they can sell and have a poor marketing and sales strategy. Some models employed women only one to four times a month in the production line, and therefore, contend with regular and sufficient payment. Some models work around this by employing the same women as sales agents, but the skill-set requirements are different. Models that do well engage women part-time, giving them an opportunity to earn some income or additional income.
- Sales and marketing of pads is undertaken by community women with basic training in stock keeping, accounting and sales techniques, in addition to training in menstrual health and hygiene, and product use. These women often need ongoing coaching and mentoring on sales. Women who are experienced sales agents find it easier to sell pads compared to those who are first time sales agents. Some key informants emphasized the need to carefully recruit and build capacity of community sales agents given their external facing role. Models that recruit SHG members for sales leverage their existing network and rapport with community members to facilitate product sales, while those with untrained and inexperienced agents struggle.

SHG members are well known in the community, and they know the community well. We have them as our sales agents as they can sell the pads easily through their connections. They are used to convincing people – to eat iron tablets, to go to the hospital, and to use pads!

Surbhi Kumari, SumArth, India



## Funding

### c. Funding and financing

- Archetype A has significant costs. Upfront costs are high and typically include the cost of manufacturing equipment and setting up of the physical space for the unit. Operating costs include fixed costs (e.g., rent, utilities, salaries, facility upgradation, quality certification) and variable costs (e.g., raw materials, promotion material, spare parts, O&M support, sales commissions and other incentives, quality testing – in-house and external)
- CoP of products made on manual machines lack economies of scale and, therefore, are too high to be market competitive. Users are reluctant to pay for these products as they are of lower quality. Manual machine-based units require continuous donor support to cover operating costs and service donor-funded free distribution programmes. Automated machines can reduce CoP through economies of scale but require parallel investment in marketing to ensure there is enough demand to sell the manufactured product. The programme should also be designed to service a geographic area large enough to absorb the production from the unit.

Decentralized models require significant scale (e.g., 20,000+ girls and women) to make automatic machines viable.

Suhani Mohan, formerly with Saral Designs

- Many donors and implementing organizations invest in the initial set up of a decentralized unit, but do not plan for the working-capital needs, which undermines the model's success. India has examples of decentralized production units lying unused after donor projects have ended.

In addition to the initial capital, the total capital required should account for working-capital needs, which can be around two times the initial capital to ensure the unit's survival.

Suhani Mohan, formerly with Saral Designs

- Most of these models are supported by donors and/or government grants for both the set-up and operating costs. Revenue from sales is limited as many implementing organizations undertake free distribution of products. Even where commercial sales are attempted, they are usually at a loss as small-scale units are unable to compete with low-cost products available in the market. The study was unable to find any examples where decentralized production was commercially self-sustaining, even after years of operation. If free distribution is the objective, decentralized models are not needed and direct procurement can suffice. If decentralized models are supported with the objective of sustainability, then free distribution hinders the ability of these models to succeed.
- Use of blended finance for the machinery (subsidized loans) and raw materials sourcing (subsidized working capital) have not been explored to reduce donor dependence and increase efficiencies.



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#### d. Advocacy

Advocacy in this archetype is two-fold:

- Advocacy includes policy and regulatory advocacy that can support more cost-effective provision of single-use pads, e.g., for removal or reduction of taxes on single-use pads. However, this is usually done by intermediaries and organizations operating across different geographies due to the technical and financial input required for such advocacy efforts (e.g., Saral Designs was a key contributor to advocacy for zero VAT on single-use pads in India).

- Advocacy also supports marketing for B2G sales by championing locally produced single-use pads among governments and institutional buyers. This approach has been quite popular in India with SHG produced products being procured by the local government to distribute free of cost in schools. This advocacy is also built on decentralized manufacturing models as vehicles for women's empowerment and local economic development. However, there are concerns over product quality, high costs and inability to sustain the proposed outcomes.

## Case study

### **The Desai Foundation: A holistic, women-led model for menstrual health**

The Desai Foundation has developed a robust, decentralized model that integrates menstrual product access with women's empowerment, livelihood creation and stigma reduction – delivering impact across health, economic and social outcomes in rural India. At the heart of the model is the philosophy of “by women, for women.” All production and distribution roles are led by women, providing dignified employment and fostering agency in semi-rural areas.

#### **Decentralized production and sales**

Five semi-automatic production centres – strategically located 20–30 km from city centres across eight Indian states – produce a combined 25,000–30,000 pads per day. Sites were selected for consistent electricity, transport access, safety and cost effectiveness. High-quality pads are manufactured using standardized raw materials, fixed vendors and machinery that ensures uniformity and compliance with the Bureau of Indian Standards (BIS). On the sales side, 15 centres function as both operational hubs and supply points. The innovative Sangini system trains local women as door-to-door change agents, who sell pads (earning a commission per pack) but also provide demonstrations and menstrual health education – breaking stigma at the grassroots level.

#### **Affordable, high-quality products**

Pads are competitively priced at INR 5 per pad (compared to INR 3–15 per pad sold commercially), ensuring affordability without compromising quality. This pricing includes sales commissions and all the operational costs of production, including production women's salaries.

### **Key strengths**

- Holistic, community-centric approach. The model is “by women, for women”.
- Strategic decentralization, with production happening in select locations to ensure quality control and decentralized sales happening in more locations.
- Focus on quality brings clarity to the upstream components of the value chain (inputs and product processes).
- Comprehensive training programme for women sales agents supports their role as menstrual health educators and sales agents in the community.

### **Key challenges**

- Production centres are located in semi-rural areas with limited transportation infrastructure.
- Remote locations make consistent logistics management challenging.
- Family members often discourage women sales agents from participating in sales and marketing efforts.
- Initial challenges in maintaining product quality in decentralized units, and ensuring consistent pad quality across multiple production centres.
- Competition from government-led free distribution efforts and commercially available pads.

The Desai Foundation overcame early hurdles around logistics (especially transporting pads from a manufacturing unit to far-off villages and power outages that affected smooth functioning of machines), training, electricity and consistent production, adapting its operations while maintaining quality standards and community engagement.

### **Ongoing impact and future direction**

The model continues to evolve with a focus on lowering production costs, introducing biodegradable products and deepening rural outreach. It stands out not just for distributing menstrual products, but also for creating a scalable ecosystem of empowerment, health and dignity.

### **Key takeaways**

- Decentralization effectively bridges menstrual product gaps in underserved areas.
- Community ownership and local livelihood opportunities enhance sustainability.
- Quality and affordability are interrelated and need to be addressed in tandem.
- A bottom-up, holistic model can address intersecting social challenges.

Successful models need to invest in showcasing financial sustainability, compliance with quality standards, strong community engagement and meaningful contributions to other proposed outcomes (e.g., livelihoods, awareness generation) to make a compelling case to funders and policymakers.

### 3.2.2 Archetype B - Decentralized manufacturing of reusable pads



#### Locus of decentralization: Operations (manufacturing)

This model focuses on community-based production of reusable pads, typically using sewing machines and locally available spaces. It has lower startup costs and greater flexibility than Archetype A, and can be integrated with the production of other textile products to enhance sustainability. This archetype includes models that are supported by intermediary organizations (that work with local/community-based partners) and with manufacturing units focused solely on reusable pads, as well as units that are a part of a larger portfolio of textile products.

**Number of models studied:** 13 (3 through field visits, and 10 through KIIs)

**Location:** This archetype is observed in Sub-Saharan Africa, South Asia and the Pacific region. Its concept and implementation have been driven by the popularization of washable pads as an alternative to single-use pads, especially in regions where supply chains are severely constrained. Donor grants have supported these models, often from the lens of environmental sustainability.

#### Insights and considerations for core activities

**Archetype B is decentralized manufacturing of reusable pads, with manufacturing as the locus of decentralization.** Akin to Archetype A, implementing organizations have to engage in all value chain activities, in addition to key operations.

Insights and considerations by value chain activity are as follows.



##### a. Research and development

Reusable pads are not standardized products, unlike single-use pads, and require significant investment in design and development of prototypes, product formats (pads, panty liners, holders with changeable inserts, etc.), and selection of raw materials, development of the initial market-ready product and iterations based on user feedback. Small-scale and highly localized implementing organizations do have the technical or financial capacity for R&D, and often collaborate with technical experts, social enterprises, or intermediary partners to co-design or adapt designs to their contexts. Established social enterprises like Days for Girls, Livinguard and Real Relief actively seek community-based organizations to manufacture pads locally with their guidance and technical support. Additional features, such as anti-microbial properties and other properties, are intellectual property of these organizations and are shared with implementing partners under their brand. They also provide rigorous testing for ensuring product quality.

## b. Input sourcing

For reusable pads, input sourcing includes identification and management of vendors for tailoring machines and related equipment (e.g., press button machine) and raw materials like different kinds of fabric to make these pads.

For reusable pads, product design and development, including the materials to be used, can be a time consuming and technical process. Designs for simple reusable cloth pads made of cotton, a leak proof layer and buttons are available and can be replicated in decentralized models. Experts with knowledge of technical textiles and fibres are needed to develop a market-competitive and high-quality product, as well as products that are designed to overcome challenges characteristic of reusable pads (e.g., an anti-microbial reusable pad to counter the bacterial growth from inadequate washing and sun drying). Such products can also be made in decentralized manner, whereby the technical textiles or semi-finished products are procured from relevant manufacturers, and implementers are trained to make the final product (as in the case of Real Relief, Livinguard and Days for Girls).

Supply chains for technical textiles (e.g., polyurethane leakproof layer) are fragmented, with bulk material available from China and India at low rates. Fabrics from local markets are usually not of the required quality, nor are they available at comparable prices. Implementing organizations are unable to find the right global suppliers or negotiate good rates from vendors as they cannot buy in bulk. In Nigeria, for instance, a UNICEF-supported project making locally produced reusable pads highlighted significant challenges with the high cost of raw materials to make the pads.<sup>20</sup> Intermediary organizations, like Days for Girls International, Livinguard and Real Relief, step in with catalytic support, providing end-to-end services, including input sourcing for their units across LMICs or regionally.



Days for Girls (DfG) regional warehouse in Nairobi, Kenya which sources and provides raw materials to all DfG enterprises in East Africa.

<sup>20</sup> UNICEF (2024). Local Production of Reusable Sanitary Pads in DGIS-ASWA II States - A Rapid Survey Report.

c. **Operations (manufacturing)**

- **Space:** A physical space is needed to support a tailoring unit with the requisite number of machines, and safe and hygienic storage for raw materials and finished products. The size of the space varies with the number of sewing machines installed, varying from small home-based locations to a larger, more organized factory-style setups close to communities. Manufacturing units may be established as a part of larger operations (e.g., field office, training centre, or existing factory set-up) or as standalone units.
- **Machinery:** Equipment for an enterprise making washable pads can be as simple as a manually operated sewing machine. To streamline processes and increase quality and productivity, electric sewing machines, overlock machines, snap button fixing equipment and fabric cutters can be added. The total cost of equipment can range from US\$800–1,200 (excluding transport costs). The same machinery can also be used for other textile-based products (e.g., clothing, home furnishing, bags) and, therefore, can build on economies of scope.



Days for Girls home-based enterprise (Zariel) in a community in Nairobi 4 tailoring units.



Huru International's enterprise in an industrial warehouse in Nairobi with more than 50 tailoring stations, also engaging women from the surrounding communities.

- **Operations and maintenance (O&M):** Tailoring machines experience wear and tear, requiring repairs or new parts. Maintenance is needed on a regular basis to ensure seamless operations yet is less cost intensive for reusable pads than for single-use pads production. Given that many communities have tailors and sewing machines, technicians may be more easily available to undertake repairs.

#### d. Marketing and distribution

Marketing and distribution are key parts of the value chain of reusable pads. While communities may be familiar with menstrual cloth, readymade reusable pads face competition from single-use pads in the commercial market. Customer acquisition costs for reusable products tend to be higher than that for single-use products due to:

- Competition from low-cost single-use products (coming from China and other regional trade hubs).
- High upfront cost of products as fabrics like cotton are expensive.
- Lack of repeat/monthly sales as a reusable pad can last 12–18 months.
- Need to build category awareness for reusable products and overcome social norms around reusable products, aspirations for single-use products, discomfort with washing and drying of reusable products, and concerns/reservations about the comfort and security offered by these products.
- Need for continued engagement for sustained and hygienic use and maintenance – critical to overcome concerns and challenges related to their use.

Successful organizations invest in customer engagement and marketing for B2C sales through category awareness, product branding, promotions and distributor incentives, as well as for B2B and B2G sales through tenders and institutional procurement.

Ongoing service support to enable continued sales takes three forms in Archetype B. First, community sales agents support users with menstrual health and hygiene education, imparting critical information on the product and its hygienic use and maintenance. Second, they encourage sustained use of reusables, offering practical solutions for use, washing and drying. Third, they seek user feedback, communicating insights on usage patterns and preferences to those designing and manufacturing the product. This helps to improve the product design to better meet user needs and aspirations. In WaterAid's HerWASH programme in Pakistan, community sales agents imparted menstrual hygiene education, providing contextually relevant guidance on washing and drying reusable pads, and preventing infections. They also shared printed brochures to girls and women with this information.

## Support activities for value chain optimization



### a. Quality

The quality of reusable pads produced in decentralized units vary widely. It is dependent on the existence of quality standards in the country, knowledge of quality standards by implementers and the capacity of implementing organizations to adhere to quality standards.

In the absence of quality standards, small units may overlook quality parameters and focus on design. Models that value quality in countries lacking national quality standards (for example in countries in the Pacific) may draw upon global standards or develop their own quality control criteria or SOPs.

Solomon Islands does not currently have a specific standard for reusable menstrual products. Our company has its own internal quality control process – a reusable sanitary pad production ‘Bible’. We implement a grading system, assessing product quality as Grade A and Grade B. Quality assurance is essential to safeguard our products and meet community needs.

Mary Elizabeth Ramosaea, Kaleco SteiFree, Solomon Islands

Quality compliance with standards is possible at a decentralized level. This requires significant financial investment and technical support to check for quality in sourcing, production, storage and distribution. Periodic testing (in-house or external) and certification are ongoing costs that must be considered, budgeted for and built into operations. For small units embedded within the community, quality control comes at a much higher additional cost per unit as compared to larger units. While designing a programme and considering the level of decentralization, donors and implementors should proactively consider integrating quality control within all processes.

Raw materials are pre-cut and checked for physical parameters at the Days for Girls warehouse in Nairobi before sending to decentralized unit.



Huru International ensures quality checks in raw material procurement and in the manufacturing process, and has developed an in-house sanitization and testing facility to comply with the Kenya Bureau of Standards' requirements.



We have our own SOPs which manufacturers need to follow. That means every pad made in every nook and corner around the globe will have the same quality as pads made in our factory as well as another decentralized unit, even if the woman or girl is not technically sound. We invest in training our teams to understand the meaning of quality, and to stitch good quality products. We centrally manufacture the fabric used to make pads so that there is no variation in the materials used in the local production units. All this can make our product a bit more expensive, but also of better quality.

Karthik Thangavel, Real Relief



Human  
resources

**b. Human resources**

- The tailoring unit is often operated and maintained by community members, including influential individuals, self-help groups or women's groups. A production unit can employ as few as five people and as many as 50 people in the production process, and can be scaled further by expanding the number of tailoring units.
- Sewing/tailoring are transferable skills that can be used by community members for starting their own business or finding employment in other textile factories.
- Production processes can be scheduled to align with the availability of women or others from the community and may not be time-bound.
- At least one person is needed to manage overall administrative and finance tasks related to the unit.



Funding

**c. Funding and financing**

- Archetype B has much lower upfront costs (equipment, space and utilities) compared to Archetype A. These costs can be spread over time, starting with basic sewing equipment and adding additional appliances like an overlock machine or snap button machine at a later time. Operating costs include fixed costs (e.g., rent, utilities, salaries, facility upgrading, quality certification), and variable costs (e.g., raw materials, promotional materials, spares, sales commissions and other incentives, quality testing – in-house and external).

- While it is difficult to reduce CoP through economies of scale, Archetype B has the advantage of building on economies of scope by using the same infrastructure for other textile-based products. Some of the models observed manufacturing and selling other products like handcraft products, bags, dresses, cloth diapers, and t-shirts. One organization even produces underwear for boys (as a parallel offering to period underwear for girls) to support boy's engagement in menstrual health awareness. Some implementing organizations seeking financial sustainability shared other items for sale with the sale reusable pads, which were less than 25 per cent of the total value of products sold. This is critical, as reusable pads and underwear are push products that require marketing investment over a period of time before significant demand can be generated. The production and sales of other fabric-based products with latent demand can help support the enterprise in the immediate, short and long term.
- Most reusable pad units are donor funded. However, some models (e.g., Kaleco SteiFree, Solomon Islands; Queen Pads, Papua New Guinea; and Real Relief units in Afghanistan and Uganda) expect to break even through commercial sales, especially B2B sales. While there is potential to achieve financial sustainability, a business-oriented approach from the very beginning is necessary to do this. Implementers shared that a completely community-led decentralized approach with very small units may not be able to achieve financial sustainability and, hence, a balance between the scale of operations and level of decentralization is important.

Organizations are trying to find the right balance between centralized and decentralized approaches, recognizing the need for both quality control and community engagement. We are trying to figure out to what extent we can decentralize without losing out on the quality and the economies of scale.

Robert Nyamweya, Days for Girls

- Access to finance has an important role to play in supporting financial sustainability. While the use of blended finance for equipment and infrastructure (subsidized loans) has not been explored, the Pacific Trade Finance Vehicle has demonstrated an alternative blended finance model for raw material sourcing with subsidized working capital. Blended finance can be an important facilitator for achieving financial sustainability for such programmes.

**The Pacific Trade Finance Vehicle (PTFV)** is an initiative by Red Hat Impact to reduce the high cost of input materials faced by menstrual health enterprises in the Pacific. Initially launched in 2020 as a US\$50,000 pilot, it pooled funds to purchase and ship input materials in bulk to local manufacturers. The initiative also helped enterprises pay for the raw materials and shipping from their future revenues by working-capital support. These actions lowered the cost of entry into menstrual health markets for local enterprises. Red Hat Impact has now designed Trade VFinance Vehicle 2.0 - TFV 2.0, featuring:

1. A not-for-profit organization of women's micro, small and medium enterprises that aggregates member orders to secure better supplier deals.
2. A permanent capital vehicle that raises blended finance to provide the not-for-profit with loans to finance its member orders.



**d. Advocacy**

Like for single-use pads, advocacy for Archetype B is also two-fold and includes:

- Policy and regulatory advocacy for cost-effective provision of reusable pads, e.g., for removal or reduction of taxes.
- Support for marketing for B2G sales by championing reusable pads among government and institutional buyers as a cost-effective and environmentally friendly alternative to single-use pads.

Similarly to single-use pads, such advocacy is usually done by intermediaries and organizations operating across different geographies due to the technical and financial inputs required (e.g., Days for Girls, Livinguard, Real relief and Afripads have been active contributors to advocacy for creating quality standards for reusable pads in many South Asian and African countries). However, advocacy for reusable pads requires much more organized and concerted efforts by these stakeholders due to a lack of awareness of reusable products compared to single-use products, and misconceptions among policymakers about the use of cloth-based products. Strategic organized advocacy, backed by quality assurance and user insights, can help support the offer of reusable products as a sustainable alternative to single-use pads, which have fragile supply chains and for which waste management is limited.

### Real Relief – Decentralized manufacturing of quality reusable pads in fragile and underserved markets

Real Relief, a Denmark/India-based social enterprise, has pioneered the Safepad – an antimicrobial, reusable sanitary pad.

#### Women-led, locally anchored manufacturing

Women are trained to manufacture, sell and distribute reusable pads, earning supplemental income. While not full-time employment in most cases, the model provides a meaningful income stream, particularly in low-resource settings.

#### Geographically diverse operations

Real Relief's model is implemented in nine countries (Afghanistan, Bangladesh, India, Tanzania, Nigeria, Malawi, South Africa, Uganda and Rwanda) and tailored to local contexts:

- Afghanistan: 60 women producing ~5,000 pads/day
- Tanzania: Combined production of sanitary pads and textile goods
- Uganda and Rwanda: Emerging and growing units
- Myanmar: Early-stage market exploration

Real Relief provides technical assistance, product standards and knowledge transfer to ensure quality and consistency across geographies.

#### Donor funded and mission aligned

This model relies heavily on donors, such as GIZ and the World Bank, to support programmes. Pricing is adjusted by country, with pads generally priced between US\$1–\$1.50.

#### Emphasis on quality and flexibility

While production is decentralized, quality control is centralized to ensure all products meet a consistent standard. The model also allows for flexibility in production, often integrating other textile items to improve profitability and address broader market demand. Real Relief acts not only as a supplier but as a strategic partner, supporting implementation teams with training, education materials and ongoing product adaptation to suit the local context.

#### Operational model and sales strategy

- Sales agents create community-level demand and product awareness.
- Real Relief facilitates market linkages and ongoing training.
- Despite grants for upfront fixed costs and marketing costs, Real Relief covers other operating costs through revenue (often through B2G and B2B sales). In this context, breaking even for the unit implies fully covering such operating costs without year-on-year donor grants.
- Timelines for breaking even vary by country; Afghanistan was breaking even in a year, while Uganda has yet to break even after 1.5 years.

### Key strengths

- Combines menstrual health access with income generation for women.
- Tailored to different geographic, cultural and market contexts.
- Prioritizes quality control and flexible operations.
- Scales through donor funding and local partnerships.
- Advocacy through documentation of lessons learned and policy dialogues.

### Challenges

- Donor support for product production but not for marketing and sales.
- Lack of promotion and delivery resources.
- Expansion into new geographies hindered by import duties, competitive markets and cultural dynamics.

### Future directions

- Exploring ways to improve sustainability beyond donor support.
- Strengthening franchise-like models to expand reach.
- Continuing research on market viability and optimal product mix.

This case underscores the potential of **decentralized, donor-supported manufacturing models** to deliver menstrual equity and economic opportunity – especially in **fragile and underserved markets**.

## 3.2.3 Archetype C – Procurement and sales of menstrual products



### Locus of decentralization: Operations (manufacturing)

This archetype centres on the decentralized distribution and sale of centrally manufactured menstrual products – both reusable and single use. It leverages women’s groups, women-led businesses, community health workers, female volunteers or promoters to market and sell products while providing menstrual health education directly to users. Models under this archetype include those led by manufactures or social enterprises, as well as community entrepreneurs (supported by NGOs) or SHGs (supported by NGOs or governments).

**Number of models studied:** 6

**Location/Where these models are located:** This model has been observed sporadically across different geographies including in India (Maharashtra, Delhi, Bihar), Nepal and Ethiopia. In some instances, this model is built on existing distribution and retail models or consumer group networks for health and/or WASH products.

## Key insights and considerations for core activities

**In Achetype C, the locus of decentralization is marketing and sales of menstrual products as a standalone or part of a basket of products.** Manufactured products are procured from vendors, with programme investments focused on outreach through community-based distribution networks and building capacity of community members as sales agents. Input sourcing and manufacturing are not part of the core value chain activities undertaken in this model and, thus, free up resources to focus on marketing and sales, distribution logistics and behaviour change communication within the community.

Models typically identify community requirements and select products that can fulfil unmet needs. This process can be informed by community-focused assessments or more informal community engagement. At times, the choice of products is informed by a government or NGO initiative that seeks to provide a particular type of product in the community. Consequently, some models provide a specific product and others may present a basket of products for communities to choose from.

## Value chain activity



### a. Research and development

R&D in this archetype is focused on market research, understanding user preferences and needs, and user feedback on products to inform product selection. Since the products are procured from external manufacturers, implementing organizations or intermediaries play a key role in identifying which products (single-use pads, reusable pads, menstrual cups or a product basket) best meet the needs and preferences of their focus communities. Implementers or intermediaries use these insights to refine their product mix, bundle offerings, or switch vendors if the initial product does not perform well. While R&D is not a core function, this archetype enables a feedback loop from users to vendors/manufacturers, supporting iterative improvements and even introduction of new products in collaboration with manufacturers, as seen in the Tata Trusts model.



### b. Input sourcing

Input sourcing includes selection of a single product type or a basket of products (if more than one product). This is guided by either donors/governments/implementing organization priorities or community inputs. Implementing organizations identify vendors/manufacturers for the selected products, and need technical inputs to select the right type of products and quality control criteria. Market-sensitive costs, quality, ability to provide post-sales support for reusable products and consistency of supply are some considerations shared by implementing organizations for finding the most appropriate vendors. Moreover, if the products procured are imported into the country, import tax is likely to drive up the cost of the product, having implications for this model.

In some cases, a product manufacturer liaises with implementing organizations across locations, providing financial and technical support, to sell the product and provide menstrual health and hygiene education. In such cases, vendor identification is not required – however, identification of and capacity building of implementing partners becomes key. For example, Project Baala (India) centrally manufactures reusable pads, and collaborates with a network of community-based organizations and sales agents working in remote areas across India to sell their pads, while simultaneously imparting menstrual health and hygiene awareness.



### c. **Outbound logistics**

Managing a cost-effective supply chain is integral to the success of this model. Procured products are received at a central point. A physical space is needed for storage of products along with any office space, which is not usually very large. Here, they may be repackaged and branded, added to a kit or combined with educational materials, or left as is, and then products are provided to sales and distribution community agents or retail points like stores for consumer goods, pharmaceuticals, textiles or other types of stores. Agents or distribution centres have specific outreach communities or operational areas that they cater to. Implementing organizations also need to develop distribution partnerships with appropriate incentives for all actors in the supply chain.



### d. **Marketing and sales**

Marketing and sales are the mainstays of this model. These involve developing a comprehensive marketing strategy for last mile engagement with distributors, retailers and community members, particularly linking community-based women entrepreneurs with formal supply chains and leveraging their community presence to make products available in safe spaces and close to the doorstep of consumers.

- Some models use community-based sales agents, often women, for both physical distribution and promotion of the products, especially for reusable products that require community engagement. Community-based agents are often well-known, respected and trusted by their community, and leverage their position, network and personal experiences to sell the products. Sales agents go door to door to promote their product, allowing for deeper engagement with community members, as well as outreach to systemically vulnerable groups, and girls and women with limited mobility. In work settings, sales agents may be selected from among workers themselves to make products accessible to their peers. In the context of reusable cloth pads and menstrual cups, community sales agents are often users themselves, sharing their personal experiences to encourage community members to try the product, support its use and offer solutions to overcome barriers to use.



The factory-based model [for menstrual cups sales] is a great example of where women share social capital. They have that purchasing power and they have a steady and reliable source of information from their peers to make the decision to transition to the cup.

Radhika Chabria, *The CupRising*

- Programmes may promote a single product or a basket of menstrual products. Bundling reusable products, which are slow moving and may have limited demand, with fast moving products, like soap, underwear, make-up, etc., allows retailers or sales agents to earn some income while demand for reusable products picks up. Bundling can also help in reaching more people with diverse menstrual product offerings (e.g., a mother may purchase a cloth pad or cup, and her adolescent daughter may select single-use pads). Bundling also allows the programme to leverage economies of scope to reduce cost of sales per product.
- Models are built on financial sustainability as a goal, selling menstrual products at cost or with a small margin for commission. Models that sell products at a subsidized rate are grant supported, which requires continued financial support. Free distribution by individual community sales agents is not common unless it is part of a promotion drive or a specific donor-funded programme. Free or subsidized distribution is more common where local government agencies, educational institutions and workplaces procure and distribute menstrual products to girls and women in their communities, schools and worksites.
- Community-based staff members or sales agents are also trained to impart information on menstrual health and product use through a dedicated behaviour change communication (BCC) strategy and curriculum. For reusable products, vendors also need to support the implementing organization with collateral or training specific to the product, which addresses the challenge of limited category awareness. This should also include content on supporting product use through regular follow-ups. A prominent advantage of this model is that implementing organizations, based on feedback from retailers, sales agents and the community, can change the product(s) based on community needs, preferences and experiences. This also allows this model to be used as a testbed for new product innovations, especially where design iterations are needed.

Livinguard partnered with Tata Trusts in India to leverage community insights for product development in rural India and, similarly, Asan Cups partnered with the Self-Employed Women's Association (SEWA) to test acceptability of their menstrual cups in rural Gujarat.

We initially sold a particular type of reusable pad in the community because of its anti-microbial features. But the community, especially adolescent girls, shared that they did not find the pad comfortable for various reasons. They also wanted single-use pads, so we pivoted. We identified vendors and put together a new product kit – a basket of choice. We retained the original reusable pad as adult women liked it, and introduced another reusable pad, single-use pad and even the menstrual cup. We saw that this approach really helped our sales – especially reusables!

Tanvi Aher, Tata Trusts

## Support activities for value chain optimization



### a. Quality

Implementing organizations need technical support to identify and select quality products, including knowledge of existing quality standards at the national and global levels, and requesting quality certifications from potential vendors/manufacturers. Quality control also needs to be ensured while handling and storing the products in the supply chain. However, the primary responsibility of ensuring quality is that of the manufacturer and does not require significant consideration from the implementing organization. Implementing organizations bear the responsibility to seek user feedback on the products sold, and to communicate this information to intermediaries or vendors to improve the product or change vendors.

We first started working with local tailors to make reusable pads, but the material and quality were not liked by the community. We shifted to a centralized manufacturer (Mela for Her) to source quality pads.

Martha Gebeyehu, iDE Ethiopia



Human resources

**b. Human resources**

Given the focus on sales and distribution, community sales agents are selected based on their motivation to increase access to menstrual products in their community, their mobility and agency to engage in the work, and their comfort and confidence in engaging with necessary stakeholders to purchase the products. They are trained on the products they sell, as well as on menstrual health and hygiene. Some models offer more intensive training on marketing, sales and accounting, and essential entrepreneurial skills to equip community sales agents with robust skills that are transferable. However, a good mix of menstrual-health-specific training, basket of menstrual products (including informed choice) and basic entrepreneurial skills training are essential to equip sales agents. iDE, drawing from their experience building sanitation markets, suggest that effective sales agents are respected within their communities, interested in creating social change, and actively engaged in community activities and mobilization efforts, in addition to being driven by financial prospects. These women often have other income streams and are not dependent on sales commissions for their primary income. Instead, they see menstrual product sales as an opportunity for diversification and for social good. iDE supports them through training and coaching.



Funding

**c. Financing and funding**

Sales-focused Archetype C models are less cost-intensive than production-focused models in Archetypes A and B. Fixed costs are limited to staff costs, utilities for storage facilities and costs of marketing, including development of educational materials and training of sales agents, which can be supported through grants. However, grants are only used to cover part of the product costs if products are being sold at subsidized rates. Variable costs include distribution and sales incentives (including commissions for sales agents) and working-capital costs for procurement of products. Blended finance instruments can be leveraged to support the working-capital needs of such programmes.



#### d. **Advocacy**

In Archetype C, advocacy efforts are centred on expanding consumer choice, improving affordability and fostering enabling environments for community-based entrepreneurs. Organizations advocate with local governments, schools and workplaces to procure a diverse basket of menstrual products, including reusable products. They also engage with manufacturers to ensure product improvements based on community feedback.

At the policy level, implementers and intermediaries advocate for tax reforms, quality standards, public-private procurement partnerships and financing support for menstrual product enterprises. This archetype is particularly well-positioned to generate evidence on user preferences and real-world uptake, which can be used to influence procurement criteria and national policy on menstrual product sales as opposed to free distribution. For newer product categories, these models can help build buy-in at community, local government and policy levels, and enable the market to offer more choices to consumers.

### **Case study**

#### **IDE Ethiopia – Empowering Women as menstrual health entrepreneurs**

iDE Ethiopia, in partnership with Mela for Her, has developed a community-rooted menstrual product distribution model that combines women's economic empowerment with improved access to sustainable menstrual health solutions in rural Ethiopia.

##### **Women-centred, market-driven distribution**

At the core of the model is the recruitment and training of local women as sales agents, selected based on their community engagement, trustworthiness and motivation to create social impact. These agents are trained to sell reusable pads, and to educate and support menstrual product adoption through door-to-door outreach and community demonstrations.

##### **Smart product and financing strategy**

The model began with the GIZ-funded “Jobs for Her” initiative, providing each sales agent with a free starter stock of reusable pads. Agents then order directly from Mela for Her (a reusable pad manufacturer in Ethiopia) for ongoing supply, operating on a commission-based income model that encourages entrepreneurial ownership. Training covers product usage, communication, financial management and business development.

### **Expanding product options and reach**

Currently focused on reusable menstrual pads, the model is exploring expansion into period underwear, menstrual cups and eventually disposable pads to meet diverse user needs and to ensure sales agents see financial benefit for continuing to promote. Integrated with broader sanitation programmes, this approach ensures alignment with health and hygiene education efforts.

### **Innovation in scale and sustainability**

To reduce distribution costs and deepen reach, iDE Ethiopia is exploring a franchise-based model, potentially establishing mini-production units in rural, hard to reach areas. These efforts aim to localize supply chains, improve quality control and enhance sustainability.

### **Key strengths**

- Women-led distribution model with income generation and health awareness.
- Aligned with existing WASH programmes for holistic impact.
- Commission-based, sustainable financial model.
- Focus on community preferences, training and long-term agent retention.

### **Key challenges**

- Recruiting and retaining sales agents who are driven by both social and economic (business) interests.
- Supporting multiple income streams of sales agents.
- Social and gender norms that affect the mobility of sales agents in conservative communities.

### **Future directions**

- Ongoing research on sales agent retention and consumer preferences.
- Diversification of the menstrual product basket.
- Feasibility assessment of decentralized manufacturing in rural areas.

This model demonstrates how women's entrepreneurship, health education and localized product access can be woven together to advance menstrual equity in underserved settings.

### 3.3 Role of intermediaries

Across all three archetypes, intermediaries were found to play a significant role in creating and sustaining robust decentralized access models. Intermediaries are organizations that bring technical support to design decentralized models, explore and build partnerships with relevant stakeholders (including vendors, implementing organizations, donors and governments), build capacity among implementing organizations, raise funds and facilitate market access. Intermediaries can be large NGOs (national and international), established social enterprises, United Nations agencies and trade facilitators.

Fully decentralized models are challenging. To work, they need a centralized 'brain' and 'boots on the ground' in each geography to address contextual differences.

Diana Sierra, Be Girl

#### Intermediaries play a multifaceted and enabling role for decentralized models



R&D

a. **Research and development**

Intermediaries conceptualize and design decentralized access models, undertake and/or support assessments to understand community needs and preferences for menstrual products, develop several aspects of the business model canvas and identify resourcing needs (such as capital and operational costs). They drive decisions about the kind of model to be implemented and key aspects of the value chain (e.g., types of machines, products, sales strategies), informing and shaping how these models are developed, implemented and financed. Intermediaries also play a pivotal role in thinking through how a model can be adapted or replicated in varied contexts, scaled, or sustained over time. A few intermediaries work with implementing organizations to develop and hone a revenue-generation plan to make units independently financially viable, or to offer continued assistance to raise grant money.

 **Inputs****b. Input sourcing**

- Feedback on product design and development, including iterative changes based on consumer feedback.
- Identification of quality assured suppliers regionally and globally for manufacturing equipment and raw materials.
- Bulk procurement on key inputs to reduce costs of raw materials and manufacturing equipment.
- Pre-processing of inputs to simplify manufacturing processes at the community level.

Saral Designs, Livinguard, Real Relief, Days for Girls and the Pacific Trade Finance Vehicle undertake pooled procurement of raw materials for all their implementing partners across regions. Saral Designs, Livinguard, Real Relief and Days for Girls have further invested in the design and development of menstrual products, identifying quality-controlled suppliers for materials specific to their products. They provided pre-processed materials (multi-layered raw materials for Saral and pre-cut textiles for Livinguard and Real Relief) to simplify the processing required at the decentralized unit.

 **Operations****c. Outbound logistics**

- Development of SOPs for decentralized manufacturing, material storage and facility design.
- One-time training and handholding support for community members engaged in production.
- Ongoing maintenance support for service and spares.

Saral Designs and Real Relief have SoPs for implementing partners for all key processes, including budgeting, facility identification and design, manufacturing, storage and handling, book-keeping, etc. They also provide ongoing support for maintenance including for service and spares.

 **Outbound logistics****d. Outbound logistics**

- Identification of traditional and innovative distribution networks (consumer goods distributors, textile stores, community-based networks and agents, etc.).
- Development of distribution incentive packages (like consumer goods companies) and negotiation of deals to support placement of goods in appropriate retail stores (consumer goods, pharmaceutical, textile or other).
- Development of technological tools to enable incentive tracking for distributors, retailers and community-based sales agents.

We facilitate online orders and payments for enterprises, enabling them to reach a wider customer base that they may not be able to access on their own.

Melani Wilson, Days for Girls



#### e. Marketing and sales

- Development of an overarching marketing strategy that includes comprehensive branding, uniform and attractive packaging, promotional tools and collateral, distribution and sales approaches, etc.
- Buy back of products from decentralized units for institutional or other sales.
- Capacity building of community-based organizations on sales and marketing for B2C sales within the target community.
- Development of BBC strategies, including training materials and communication collateral for menstrual health and informed choice.
- Facilitating user feedback on products in terms of quality, affordability, acceptability and accessibility, and using that information to further refine the model.

Days for Girls (DfG) and Livinguard actively participate in setting standards for menstrual products in the countries they operate in (DfG in Uganda, Kenya and South Africa; Livinguard in India) and are both now represented on the ISO technical committee for menstrual product standardization to inform global standards for reusable products.

Tata Trusts provides in-depth training to community-based entrepreneurs (women) through their implementing partners on financial literacy, market exposure, and business planning for first-time and experienced entrepreneurs. Implementing partners are also trained on a field-tested multi-module curriculum developed by Tata Trusts for BBC on menstrual health and informed choice.

UNICEF supports governments and partners across Africa and South Asia to advance decentralized menstrual health models that reach the last mile. They help assess feasibility, design and pilot interventions, and integrate proven approaches into national programmes. Working with local organizations, they strengthen localized production through funding and technical support, drive national standards and tax reforms, and conduct market analyses. For example, UNICEF and UNPFA partnered to conduct a [landscape of menstrual products](#) in West and Central Africa to inform stronger, more sustainable menstrual health markets in this region.

UNICEF, in several countries in Africa and South Asia, provides catalytic support to national governments and implementing partners on decentralized models. UNICEF strategizes whether decentralized models can overcome last-mile access challenges in specific country contexts, informs the design and implementation of pilot interventions, and provides technical support to the government to incorporate successful pilots within large-scale initiatives where relevant.



**f. Quality assurance**

- Technical and financial support for quality control in sourcing, manufacturing and distribution.
- Testing (in-house and external) and certification as per national standards and guidelines.
- Technical and financial support for development of in-house testing facilities at the regional level (at least for absorbency and pH).
- Development of SoPs and training of implementing organizations on key quality-control processes across the value chain.



**g. Financing**

- Leverage blended finance for working-capital support for raw material, if possible, combined with bulk procurement of materials for all implementing partners.
- Facilitate blended finance for infrastructure financing for machinery, equipment and facilities to defray donor support for upfront costs in partnership with a financial institution.
- Integrate consumer financing to enable the purchase of reusable products (high upfront costs) in partnership with microfinance or other consumer finance providers. While microfinance for menstrual products alone may not be cost-effective, bundled loan options for menstrual products and other health products like water filters, toilets and solar lamps have been demonstrated to work. They can also be combined with traditional microfinance offerings like loans for farm. Equipment and household upgradation with menstrual products as a bundled offering.
- Fundraising, partnership development and implementation support for creating appropriate blended finance instruments for implementing organizations.

Red Hat Impact provides trade finance and procurement support to help menstrual health enterprises overcome challenges like high-input material costs, enabling them to scale up. Red Hat Impact plans to create buying cooperatives to empower the enterprises.

WaterAid Pakistan used grant funding from Her WASH to provide equipment and materials for the first 1,000–2,000 reusable pads to be produced by the women entrepreneurs they were supporting. This acted as an in-kind working capital loan for the women entrepreneurs.

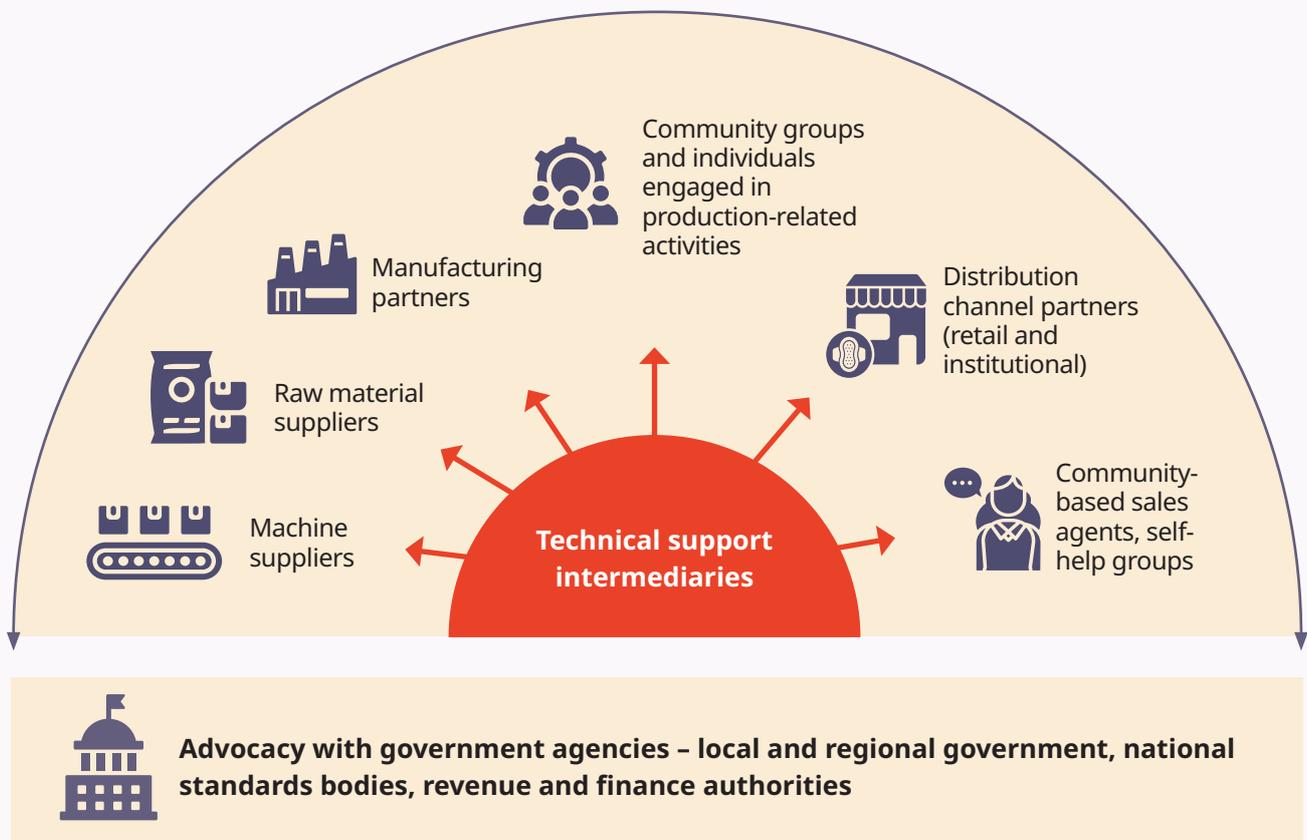


#### d. Advocacy

- Advocacy for inclusion of products in government and institutional procurement and technical support for ensuring choice and quality are integrated in procurement processes.
- Advocacy for streamlining taxes, duties and levies, including import duties.
- Participation in national and global menstrual product standards development.

The importance of intermediaries in defining the success of decentralized programmes and maximizing efficiency of all stakeholders cannot be overstated. This is demonstrated in **Figure 3**.

**Figure 3. Intermediaries supporting decentralized access models**



The goal is to transition women's enterprises from 'market takers' to 'market setters' by building sufficient scale and volume to become attractive suppliers.

Cameron Neil, Red Hat Impact



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### 3.4 Outcomes of decentralized menstrual product access models

Decentralized access models are intentionally designed to deliver multiple, interconnected outcomes, often blending social impact with economic opportunity. These models typically aim to achieve one or more of the following:

- **Expand equitable access to menstrual products**, particularly for low-income, marginalized, or vulnerable populations, and those in humanitarian contexts who face challenges accessing products through conventional commercial markets. On the **supply side**, this includes ensuring consistent availability of good quality and affordable products, with reduced dependencies on centralized supply chains and commercial (often multi-national) product brands. On the **demand side**, it refers to tailoring products and distribution methods to meet local needs and preferences, and the ability to respond to these changes over time.

We look at the level of vulnerability; we look at the kind of access they have and the types of menstrual products near them. It's best to bring the service nearer to the people who do not have what they need.

Lillian Bagala, Irise Institute East Africa

- **Decent jobs for communities through livelihood opportunities**, especially for women. By engaging local actors, many of whom may be unemployed or underemployed, some models offer pathways to first-time employment or supplementary income for those already employed, while building local entrepreneurial capacity. Notably, these incomes are often supported by grant funds under Archetypes A and B, alongside commission from sales, and are not financially sustainable without continuous donor support.

They never thought about this – that this can also be a business opportunity like selling pads at the community level.

Raheema Panhwar, WaterAid Pakistan

- **Foster menstrual health and equity through awareness, product choice and stigma reduction.** By engaging community members, these models can support access to relevant and culturally acceptable information and products. They can improve menstrual health and hygiene awareness and help shift harmful social norms, enabling individuals to speak openly about menstruation and counter entrenched taboos. This can contribute to better physical, mental and social well-being related to menstruation, alongside other interventions.

It's really about impact, just being there when the opportunity arises, being among the women and young girls – hearing them share their challenges... We give them pads, we give them information, we give them support, we address taboos – there's so much more to consider than just products.

Anne-Shirley Korave, Queen Pads, Papua New Guinea

- **Strengthen community ownership and local accountability for menstrual health**, by aligning interventions with community priorities and realities. This local anchoring supports service delivery, as well as advocacy, through de-stigmatization at the grassroots level and by influencing local governments to recognize menstrual health as a priority and to invest in scalable, inclusive solutions.

We know tailoring, and we know how to make so many other products like bags, curtains, clothes for which we get good money. But with these reusable pads, we feel that as women, we are giving back to our sisters, we are supporting them when they really need it. That is why we make reusable pads.

Khushboo, Gulmeher Production Unit, India

While decentralized models often articulate these outcomes, monitoring information systems typically capture output-level performance indicators, such as the number of units established, number of products produced and distributed, the number of girls and women reached, and the number of people employed and trained. Few assessments or evaluations examining progress towards these four outcome categories listed above exist or are available. The paucity of this evidence limits the potential for these models to be adapted, replicated or scaled in relevant contexts.

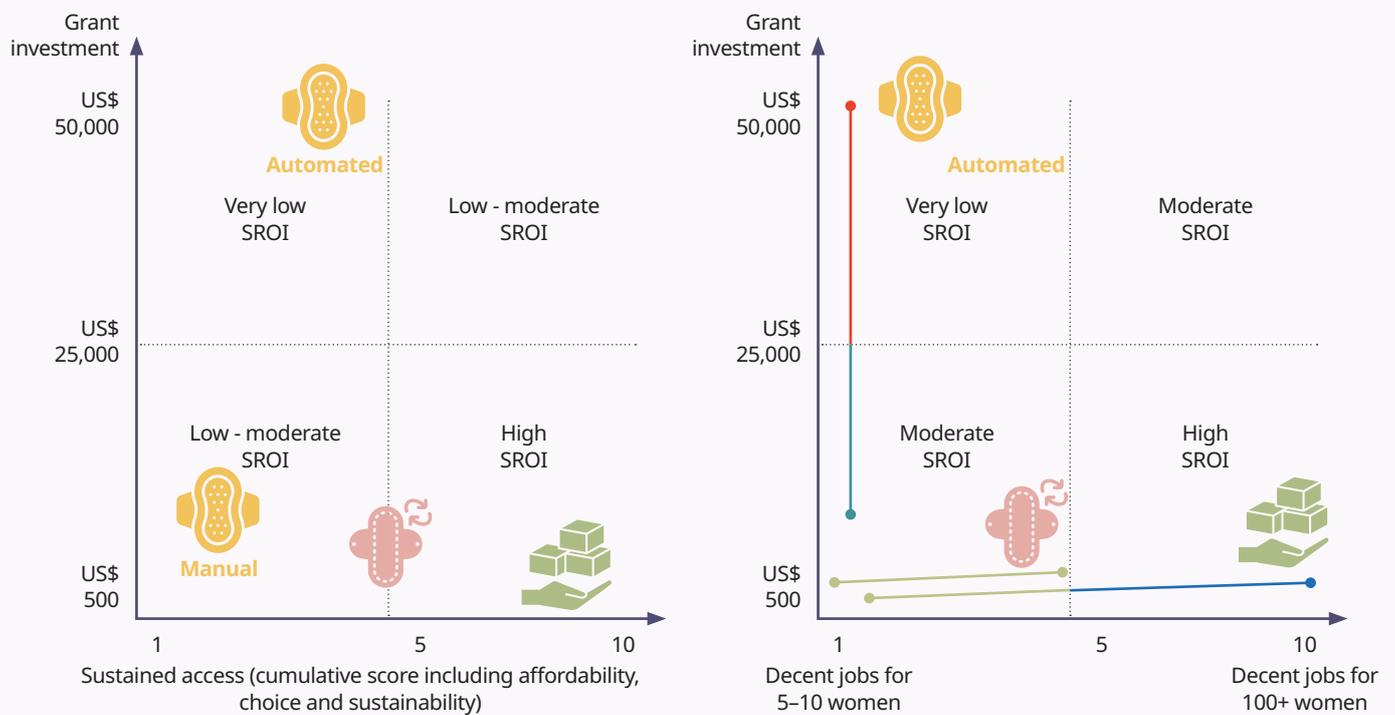
Discussions with experts revealed that decentralized models do achieve the four outcomes listed above, though to varying extents. Archetype A – Single-use pad production fares poorly compared to Archetype B – Reusable pad production and Archetype C – Marketing and sales across many outcomes. The clear benefits of models under Archetypes B and C are enabling access to menstrual products that meet user needs and preferences, and support choice. **Archetype C** consistently demonstrates the strongest potential across outcomes, especially for product relevance and menstrual equity. **Archetype B** performs well in product affordability, job creation and menstrual equity, but has limitations on quality and affordability of products. **Archetype A** can be a stronger model for community ownership, but significantly weaker in responsiveness to consumer needs and affordability, especially in fast evolving menstrual markets. **Table 1** presents factors affecting the ability of each archetype to achieve the key outcomes described above.

**Table 1. Decentralized models by archetype: The ability to achieve intended outcomes**

Intended outcome	 <b>Archetype A</b> Decentralized manufacturing of single-use pads	 <b>Archetype B</b> Decentralized manufacturing of reusable pads	 <b>Archetype C</b> Community-led sales of menstrual products
<b>Sustained access (choice, quality and affordability)</b>	Sustained access depends on donor support <ul style="list-style-type: none"> <li>• Face stiff competition from single-use pads in the market</li> <li>• Per-unit costs are high due to lack of economies of scale</li> <li>• Quality is possible but adds significantly to cost</li> <li>• Unable to offer choice to users without significant additional investments</li> </ul>	Sustained access is possible if a business approach is integrated from the start <ul style="list-style-type: none"> <li>• Face stiff competition from single-use pads in the market</li> <li>• Upfront costs are high, despite long-term gains</li> <li>• Units can leverage economies of scope by adding other textile products to reduce costs</li> <li>• Varying quality of reusable pads</li> <li>• Quality and choice can be enhanced through small additional investments</li> </ul>	Sustained access possible with a basket of products (menstrual and other products) <ul style="list-style-type: none"> <li>• Single-product offerings of reusable products struggle to compete with market prices; however, a basket of products can be more effective in offering choice in products and prices</li> <li>• Can enable access to a choice of quality and affordable products, if the right product vendors are selected</li> <li>• Vendors can be changed to respond to user needs and feedback</li> </ul>
<b>Decent jobs</b>	Can employ 5–10 unskilled community members in production <ul style="list-style-type: none"> <li>• Need intensive training and skills are non-transferable</li> <li>• Most units run below capacity; hence, engagement is part-time</li> </ul>	Can employ 10–50 community members in production, and can be increased <ul style="list-style-type: none"> <li>• Training needed but transferable skills can be used elsewhere for employment</li> <li>• Most units produce other textile products, increasing engagement and income</li> </ul>	Flexible depending on scale (some programmes have 10–15, and others may have hundreds of sales agents) <ul style="list-style-type: none"> <li>• Per person income from the sale of menstrual products is limited</li> <li>• Can only be secondary income source</li> </ul>
<b>Menstrual health education</b>	Requires dedicated investment in behaviour change communication and often, additional resources for impact		
<b>Community ownership</b>	Intensive engagement of community in supply chain enhances ownership	Since engagement is limited to sales and few community members, ownership can be low	

While considering the priority outcomes, programme designers, especially intermediary organizations, can also consider the social return on investment (SROI),<sup>21</sup> i.e., expected change in key value-related outcome metrics in relation to the total grant investment required to achieve these outcomes over the programme period. An illustrative example of the use of SROI for decision-making is given in **Figure 4**, where the three archetypes (A – decentralized manufacturing of single-use pads, B – Decentralized manufacturing of reusable pads and C - Procurement and sales) are compared with access to menstrual products and decent jobs as priority outcomes, with indicative scoring. The decent jobs outcome has been taken as a range estimate and sustained access is taken as absolute cumulative scores (combination of affordability, choice and sustainability). Programme design and evaluation teams can develop internal scoring for their priority outcomes and compare the SROI to assess the viability of decentralized models they should invest in.

**Figure 4. Intermediaries supporting decentralized access models**



	<p><b>Archetype A</b> Decentralized manufacturing of single-use pads</p>		<p><b>Archetype B</b> Decentralized manufacturing of reusable pads</p>		<p><b>Archetype C</b> Community-led sales of menstrual products</p>
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<sup>21</sup> <https://www.socialvalueint.org/guide-to-sroi>

# 4

## Conclusion and recommendations: Toward a fit-for-purpose, market-aligned approach to decentralized models

Decentralized menstrual product access models have emerged as a contextually relevant response to the persistent challenge of inadequate product access in LMICs. These models also seek to create livelihoods, address menstrual stigma through menstrual health and hygiene education, and enhance community ownership of the issue by making menstrual health economically advantageous for the community. Within market-based approaches, they have the potential to fill last mile gaps in the value chain and make solutions contextually relevant. When strategically designed and adequately supported, they can complement commercial markets and free distribution efforts. As menstrual health markets evolve, these models can serve as testbeds for innovative last mile approaches and vehicles for menstrual equity. Decentralized menstrual product access models are **not one-size-fits-all solutions**. To ensure that the models are fit for purpose, funders and programme designers should:

- **Match model to context:** Select archetypes based on market status, community needs, available infrastructure and intended outcomes.
- **Strengthen quality and market appeal:** Invest in quality assurance, branding and aspirational marketing to improve competitiveness of products.
- **Leverage blended finance:** Use innovative financing (e.g., subsidized loans, pooled procurement) to reduce costs and dependence on grants.
- **Integrate with broader menstrual health strategies:** Link decentralized models with education, WASH and health interventions to bolster uptake and impact.
- **Support intermediaries:** Fund and partner with organizations that provide technical, financial and market facilitation services in addition to implementing organizations.
- **Foster enabling ecosystems:** Advocate for product standards, tax reforms and procurement policies that include diverse menstrual product options, as well as innovative blended financing solutions to support these models.
- **Understand what works:** Limited assessments and evaluations of decentralized models exist. Investments are needed to identify practical, context-responsive, cost-effective and sustainable models for community-led and community-based product access.

Varying in structure, processes, outcomes and scope, the three archetypes examined in this study provide valuable insights into what works, where and why. Their selection depends on multiple factors, including **context and market status**,<sup>22</sup> **target population** and their needs and preferences, intended outcomes and **funding and timelines**. **Table 2** presents a comparative overview of the three decentralized access archetypes according to key variables.

<sup>22</sup> Context varies from humanitarian and remote settings with weak supply chains and markets, to areas with existing consumer market penetration and product availability

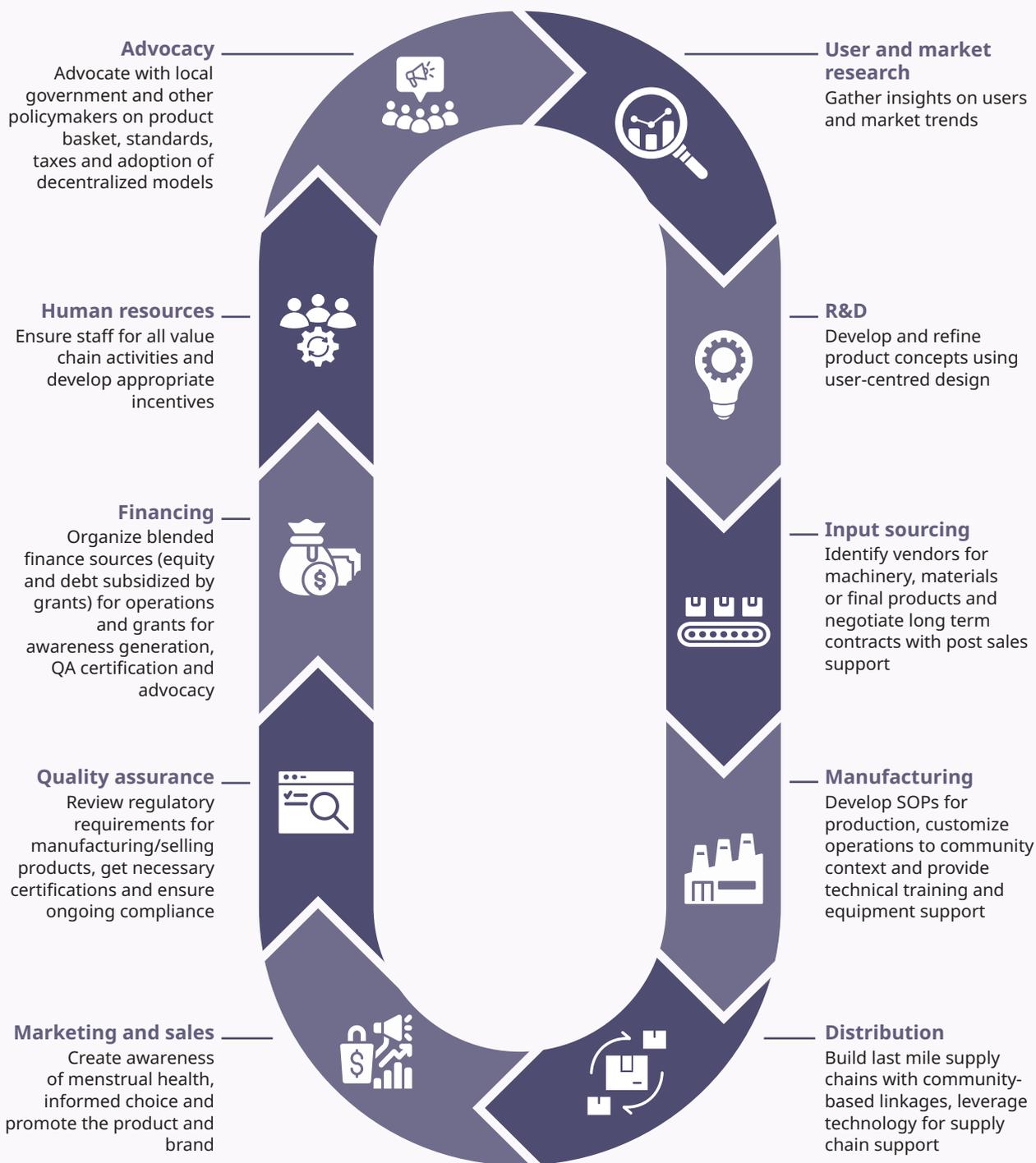
<sup>23</sup> Such as improved access, decent jobs, menstrual destigmatization, and community ownership

**Table 2. Archetypes of decentralized models**

Key variable	 <b>Archetype A</b> Decentralized manufacturing of single-use pads	 <b>Archetype B</b> Decentralized manufacturing of reusable pads	 <b>Archetype C</b> Community-led sales of menstrual products
<b>Focus of localization</b>	Small-scale <b>manufacturing</b> using customized machinery	Small-scale <b>manufacturing</b> using tailoring units	<b>Marketing and distribution</b> using community-based sales agents and groups
<b>Product type</b>	Single-use pads (usually single design/size)	Textile-based reusable pads, period underwear	Any menstrual product or basket of products
<b>Supporting activities</b>	Research and development (R&D), raw material sourcing, marketing and distribution		Vendor identification and sourcing logistics
<b>Upfront cost</b>	US\$10,000–60,000+	US\$800–1,200	Flexible with budget (short-term pilots of 9–12 months can be considered)
<b>Overall budget</b>	At least 2 times the upfront cost per year for 2–3 years Project budgets should plan for at least 3 years of support for operating costs		
<b>Capacity</b>	250–6,000 pads/day, varies by type of machine (manual, semi-automated or automated)	500–10,000 pads/day, depends on the number of tailoring units, and can be increased easily	Flexible as per demand and supply
<b>Minimum target population for viability</b>	Manual units – 5,000; Automated units --100,000+ upgrade in capacity and/or product design requires additional investment	Size of the unit can be decided based on demand and can be increased as demand grows	Can start with 5–10 sales agents for a population of 5,000 and can be increased
<b>Outcome potential</b>	<ul style="list-style-type: none"> <li>• Sustained access depends on donor support</li> <li>• Can employ only 5–10 community members</li> <li>• Dedicated investment in BCC needed</li> <li>• Intensive community engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained access possible with product diversification and if business lens is integrated from the start</li> <li>• Can employ 10–50 community members and can be increased</li> <li>-Dedicated investment in BCC needed</li> <li>• Intensive community engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained access possible with bundling of other menstrual and non-menstrual products</li> <li>• Can employ 10–100+ community members and is flexible, per person income is limited</li> <li>• Dedicated investment in BCC needed</li> <li>• Low community engagement</li> </ul>

To realize their full potential, stakeholders designing, implementing, or supporting decentralized models must align model selection with the key variables and undertake critical value chain activities highlighted in **Figure 5**.<sup>24,25</sup>

**Figure 5. Considerations for fit-for-purpose decentralized models across the value chain**



<sup>24</sup> For user and market research, data sources like the [RHSC Landscaping and Projection of Reproductive Health Supply Needs \(LEAP\)](#) data, study on [landscaping of menstrual product supply chains in LMICs](#), study on the reusables market in LMICs by Hystra and other regional or country specific market landscaping studies should be used.

<sup>25</sup> For quality assurance, resources like the [Global Standards Database](#) developed by the Reproductive Health Supplies Coalition (RHSC), and the [ISO TC 338 website](#) (technical committee for menstrual product standardization), can be used to gather relevant information on applicable regulations along with websites of national standards bodies.

In each aspect of the value chain, technical support intermediaries are critical to the success of the programme. Programme design and planning should also ensure that relevant intermediaries for all the activities are engaged. This includes product design and development, end-to-end supply chain support needed for machines, service and spares, raw material procurement (including pre-processing), vendor identification, and management, distribution logistics and use of technology to enable efficiency. Intermediary roles also include identification of community members for income generation roles, skill building, mentoring and coaching, development of a sales and marketing strategy, quality control, and advocacy for standards and taxes. Decentralized access models offer a last-mile link for product access, as well as a platform to reimagine menstrual health systems that are equitable, resilient and community led.



## Annex 1: Methodology

This study employed a mixed-methods approach, combining a structured review of secondary sources with key informant interviews, field visits and expert consultations to build a comprehensive understanding of decentralized menstrual product access models across LMICs.

### Review of secondary sources of information

A scan of published and grey literature, organizational reports and websites was conducted to gather existing information on decentralized menstrual product access. This included:

- Typologies of decentralized models implemented in LMICs, covering both single-use and reusable menstrual products
- Evaluations and assessments of these models
- Documented case studies
- Conceptual frameworks or definitions of decentralized approaches

In total, 49 documents and 52 organizational websites were reviewed. This evidence base contributed to the identification of existing model archetypes and key gaps in the current literature.

### Qualitative key informant interviews (KIIs)

In-depth interviews were conducted with 56 experts engaged in various aspects of decentralized product access. These took place through a combination of virtual interviews and in-person discussions during field visits in **Kenya and India**.

- **Group interviews** were conducted in four online sessions and five field visits
- The remaining virtual discussions were **one-on-one interviews**

Participants included stakeholders directly implementing decentralized models, or those offering technical, financial, or policy support. Informants represented a diverse mix of:

- **Sectors:** Government agencies, NGOs and social enterprises
- **Geographies:** South Asia, Sub-Saharan Africa and the Pacific
- **Product categories:** Single-use pads, reusable cloth pads, menstrual cups and product baskets
- **Decentralized approaches:** Community-led production, local distribution and hybrid models
- **Supporting intermediaries:** Organizations supplying machinery, raw materials, research and advocacy guidance, and access to finance.

A detailed list of KIIs are in **Annex 2**.

## Field visits

Field visits were conducted to five decentralized manufacturing sites producing either single-use or reusable menstrual pads:

- **Kenya (two sites):** Reusable pad manufacturing units (NGO-led, grant-supported)
  - Days for Girls regional warehouse in Nairobi, Kenya
  - Days for Girls gold standard community-based enterprise (Zariel) in an urban low-income community in Nairobi, Kenya
  - Huru International's reusable pad manufacturing facility in an industrial warehouse in Nairobi, Kenya
- **India (three sites):**
  - Livinguard's implementing partner operating a reusable pad manufacturing unit (NGO-led, grant-supported) in an urban low-income community in New Delhi
  - SumArth's single-use pad manufacturing unit using automatic machinery (NGO-led, grant-supported) in Gaya, Bihar
  - NABARD's single-use pad manufacturing unit using manual machinery (NGO-led, government-supported) in a tier 3 urban centre in Almora, Uttarakhand

During these visits, the study team observed manufacturing processes and interacted with individuals engaged in production, sales, distribution and technical support. Distribution activities were directly observed at one site.

## Technical Advisory Group (TAG)

A TAG was convened to guide and validate the study methodology, findings and advocacy strategy. The group comprised seven experts, including representatives from:

- UNICEF and WaterAid
- A global coalition on reproductive health supplies
- Two organizations experienced in micro-enterprise and SHG-led livelihood initiatives
- A former sanitary pad machine manufacturer
- A menstrual health expert from East Africa

Two virtual TAG meetings were held:

- Meeting 1: Early in the project to review the methodology and identify key informants and case models
- Meeting 2: Post-fieldwork to present and validate preliminary findings

A list of TAG members is in **Annex 2**.

# Annex 2: List of key informant interviews and Technical Advisory Group

## Key informant interviews

Country/region	Organization	Name
Nepal	WaterAid Nepal	Binesh Roy Sajani Limbu Priti Mittal Umashankar Prasad Yadav Manju Bhatt
Pakistan	WaterAid Pakistan	Raheema Panhwar Toheed Bibi
India	The CupRising	Radhika Chabria
	Desai Foundation	Yati Desai
	Srujna	Jyotika Bhatia
	Gulmeher (Srujna's manufacturing partner)	Anurag Kashyap Kamla Joshi
	UNICEF India HO	Dr. Pratibha Singh Jennifer Selvraj
	UNICEF Bihar	Ontari Sudhakar Reddy Shushumalata, Mukhiya Ji, Gram Panchayat Dawan, Block – Jagdishpur, District Bhojpur, Bihar Saurabh Raj, Project Manager – HNS, Capacity Building & Enterprise Development, Bihar Rural Livelihood Promotion Society (Jeevika), Patna
	Project Baala	Soumya Dabriwal
	Saral Designs	Suhani Mohan
	Saukhyam Pads	Anju Bisht
	Anahat For Change	Purvi Tanwai Namrata Karamchandani
Jatan Sansthan	Lakshmi Murthy	

Country/region	Organization	Name
<b>India</b>	SumArth	Surbhi Kumari Mayank Sharma
	NABARD	S Joshi
	Real Relief	Karthik Thangavel
	Tata Trusts	Tanvi Aher Ketan Hingu Shaktiprava Maharana Anulekha Sharma Pallavi Gautam
<b>Uganda</b>	Irise Institute East Africa	Lillian Bagala
	Afripads	Sophia Grinvalds, Founder, now with UNOPS Sanitation and Hygiene Fund (SHF)
<b>Ghana/ Kenya/ South Africa/ Nepal</b>	Days for Girls International	Diana Nelson Melani Wilson Naana Abena Afadi/Ghana Robert Nyamweya/ Kenya
<b>Kenya</b>	Days for Girls - Kenya	Faith Murabwa Annete Muchondiza Millicent Moraa (Kenya office) Zariel Enterprises
	Zana Africa	Megan Mukuria Roopal Thaker
	Huru International	Velnah Moranga Pius Mathua
	UNICEF - Kenya	Albertine Uwimana
	Inua Dada Foundation	Romanus
	Independent consultant	Neville Okwaro
	<b>Mozambique</b>	BeGirl
<b>Ethiopia</b>	iDE	Elise Mann Martha Gebeyehu
<b>Papua New Guinea</b>	Queen Pads	Anne-Shirley Korave
<b>Vanuatu</b>	Mama Laef	Belinda Roselli
<b>Solomon Islands</b>	Kaleko SteiFree	Mary Elizabeth Ramosaea

Country/region	Organization	Name
Middle East, Africa	Loving Humanity	Amy Peake
East, West Africa, South Asia	The Pad Project	Sorelle Cohen Payal Tiwari
Pacific	Red Hat Impact	Cameron Neil

## Technical Advisory Group

Marije Broekhuijsen	UNICEF
Therese Mahon	WaterAid
Elise Mann	iDE
Susan Thomas	Self-Employed Women's Association (SEWA)
Neville Okwaro	Former-USAID Western Kenya Sanitation Project
Sarah Webb	Reproductive Health Supplies Coalition
Suhani Mohan	Saral Designs

# Annex 3: Business model canvas for model archetypes

## Business model canvas

<p><b>Key partners/ stakeholders</b></p> <p><b>Essential partners and suppliers</b> Organizations involved in carrying out key activities and bringing in key resources:</p> <ul style="list-style-type: none"> <li>• Implementing organizations that operate the model in the community. Includes community groups like SHGs, community-based organizations, and NGOs</li> <li>• Intermediaries providing technical support across the value chain, including UN agencies, NGOs, social enterprises</li> <li>• Manufacturers and vendors for machinery and raw materials</li> <li>• Government (local to national)</li> <li>• Donors, financial institutions and blended finance intermediaries (corporate social responsibility, philanthropic, others)</li> </ul>	<p><b>Key activities</b></p> <p><b>Critical actions taken to deliver the value proposition</b></p> <ul style="list-style-type: none"> <li>• Research and development</li> <li>• Securing inputs</li> <li>• Operations</li> <li>• Outbound logistics</li> <li>• Marketing and sales</li> <li>• Training/ capacity building</li> <li>• Funding and financing</li> <li>• Advocacy</li> </ul> <hr/> <p><b>Key resources</b></p> <p><b>Essential assets needed</b></p> <ul style="list-style-type: none"> <li>• Physical/ infrastructure</li> <li>• Intellectual</li> <li>• Human</li> <li>• Financial</li> </ul>	<p><b>Value proposition</b></p> <p><b>Value offered to the customer</b></p> <p>Outcomes</p> <ul style="list-style-type: none"> <li>• Equitable access</li> <li>• Decent jobs (employment and income opportunities)</li> <li>• Menstrual health and equity (awareness and de-stigmatization)</li> <li>• Community ownership of menstrual health</li> </ul>	<p><b>Consumer/User engagement</b></p> <p><b>The kind of relationship the business maintains with its customers to facilitate uptake and sustained use of products</b></p> <hr/> <p><b>Consumer/User segments</b></p> <p><b>The organization's target users or beneficiaries</b></p> <ul style="list-style-type: none"> <li>• Types of consumer/ user segments for whom the model is established</li> </ul> <p>Mass market, niche market, diverse market, segmented market</p> <hr/> <p><b>Distribution and sales channels</b></p> <p><b>Delivering value to customers</b></p> <p><b>Business to government (B2G)</b> – Sales through government, NGO tenders for free distribution in educational institutions, communities, humanitarian settings</p> <p><b>Business to business (B2B)</b> – Sales to corporations, hospitals for either free or subsidized distribution</p> <p><b>Direct to consumer (D2C)</b> – Direct to consumer sales through community-based sales agents, self-help groups, retail stores</p> <p><b>Channel phases:</b> Awareness to post-sales/ post distribution support to consumers</p>
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## Cost structures and implications

### Major costs involved in operating the model

#### Fixed costs

Expenses that do not change with the level of production or sales volume. They remain constant regardless of how much is produced. Examples: Rent, salaries, equipment depreciation.

#### Variable costs

Expenses that change in proportion to the level of production or sales. The more produced, the higher the variable costs. Examples: Raw materials, packaging, and direct labour costs.

#### Economies of scale

Refer to the cost advantages gained when production increases, leading to a lower cost per unit. This happens because fixed costs are spread over more units, and bulk purchasing or process efficiencies reduce costs.

#### Economies of scope

Occur when a business reduces costs by producing a variety of products together rather than separately. Sharing resources like infrastructure, technology, or distribution channels lowers overall costs.

#### Cost of capital

Cost of equity and debt for infrastructure, operating expenses and working capital

## Revenue streams

### Means by which the business earns revenue or sustains itself

- Sales (whether the product is sold at cost/ maximum retail price, or at a subsidized rate).
- Donor grants

## Archetype A – Decentralized production of single-use pads

<b>Key partners/ stakeholders</b>	<b>Key activities</b>	<b>Value proposition</b>	<b>Consumer/User engagement</b>
<p>Manufacturing machine suppliers</p> <p>Raw material vendors</p> <p>Implementing partners for demand generation: NGOs, CBOs, SHG, local government</p> <p>Purchasers (bulk): Government, NGOs, CSR, intermediaries</p> <p>Distribution and retail partners: NGOs, CBOs, community sales agents (individuals and groups), community-based institutions (e.g., schools), retail outlets</p> <p>Donors</p>	<p><b>Inbound logistics</b> Procurement of raw materials, equipment, semi-finished materials (+ ensuring quality of raw materials)</p> <p><b>Operations</b> Manufacturing of single use pads using machines and related capacity building</p> <p>Ensuring quality of manufacturing unit, packaging of finished products</p> <p><b>Outbound logistics</b> Identification of the most appropriate sales and distribution points, and placement of products accordingly</p> <p><b>Marketing and sales</b> Capacity building and curriculum for awareness generation</p> <p>Brand building and promotion</p> <p><b>Fund raising</b> Covers costs of awareness generation, free or subsidized product distribution</p> <p><b>Key resources</b> Physical/Infrastructure Raw materials, manufacturing equipment, manufacturing and storage space and facility</p>	<p><b>Locus of decentralization</b></p> <p><b>Operations</b></p> <p><b>Access to products – Supply side</b></p> <p><b>Availability</b> – Increased local availability of single use products, especially for marginalized, remote communities lacking access</p> <p><b>Affordability</b> – Products either given free of cost or at highly subsidized rates (made possible by grant support)</p> <p>Significant competition primarily from other single use products in the market</p> <p><b>Quality</b> – Varying quality of single use pads</p> <p><b>Access to products – Demand side</b></p> <p>Ability and willingness to pay – Ability to pay may be limited for low-income communities</p> <p>Willingness to pay for the product, if of a similar quality, at cost</p>	<p><b>Trust</b> – Manufacturers and sales agents are known to the community</p> <p><b>Locally-led</b> –Community members are perceived as supporting their community, based on expressed needs and market gaps</p> <p><b>Active outreach</b> to vulnerable and marginalized groups</p> <p><b>Awareness generation</b> Distribution or sales often accompanied by awareness efforts</p> <hr/> <p><b>Consumer/User segments</b></p> <p>Adolescent girls and young women, who aspire to use single use products instead of cloth, and those who may have limited access to single use products</p> <hr/> <p><b>Distribution and sales channels</b></p> <p><b>B2G</b> – Sales through governments, NGO tenders for free distribution in educational institutions, communities, humanitarian settings</p> <p><b>B2B</b> – Sales to corporations, hospitals for either free or subsidized distribution</p> <p><b>D2C</b> – Sales through community-based sales agents, self-help groups, retail stores</p>

	<p><b>Key activities</b></p> <p><b>Intellectual</b></p> <ul style="list-style-type: none"> <li>• Product standards</li> <li>• Good manufacturing practice certification</li> <li>• Registration iwth government</li> <li>• United Nations agencies procurement portals</li> </ul> <p><b>Human resources</b></p> <p>Those engaged in production, distribution, sales, demand generation and awareness generation, and those providing technical support</p> <p><b>Financial</b></p> <p>Donor funds for fixed and variable costs</p>	<p><b>Value proposition</b></p> <p>lower than products available in the market</p> <p><b>Acceptability –</b></p> <p>Relevant and acceptable in contexts where the use of single-use pads is aspirational or seen as the hygienic option, access to markets is limited, access to and affordability of market available single-use pads varies.</p> <p>Acceptability is limited when single-use pads do not meet comfort and security parameters, and branding is not aspirational (compared to market products)</p> <p><b>Employment and income generation –</b></p> <p>Employment and income generation are primarily supported through grants, marginally through product sales.</p> <p>The number of women engaged in production is limited (5–10) and does not increase with increased production. Cost per person employed is significantly high.</p> <p><b>Destigmatization of menstruation –</b></p> <p>Women engaged in the model from production to sales have greater awareness of MHH, and impart MHH information in the community (quality and comprehensiveness of information varies)</p>
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## Cost structures and implications

### Fixed costs

Upfront investment in infrastructure – machinery, facility preparedness, marketing costs (see customer engagement), brand development, brand visibility, distribution margins for B2C sales, operation and maintenance (annual contracts, etc.)

### Variable costs

Raw materials, labour, utilities, in-house testing and processes for quality control, operation and maintenance associated with wear and tear

### Economies of scale

**Potential** – Manual machines are cheaper than automated machines but can produce only a few hundred units per month. Lack of economies of scale leads to much higher cost per unit of production. Automated machines, on the other hand, while more expensive upfront, can achieve such economies of scale if operated continuously. However, these require much higher investments in marketing (brand promotion and distribution) to sell the larger quantities produced, also over a larger geography. Therefore, CoP per pad for currently operating units is far higher than market prices (5–6 times higher), without even considering costs for awareness and behaviour change.

### Economies of scope

**Challenging** – Some players have experimented with adding masks or diapers to the same production lines, but it requires additional machinery upgradation and simultaneous investments in marketing.

## Revenue streams

**Primary:** Grant funds

**Secondary:** Product sales – marginal (unless sales are through B2G/B2B)

## Archetype B – Decentralized production of reusable pads

Key partners/ stakeholders	Key activities	Value proposition	Consumer/User engagement
<p>Manufacturing machine suppliers</p> <p>Raw material vendors</p> <p>Implementing partners for demand generation: NGOs, CBOs, SHG, local government</p> <p>Purchasers (bulk): Government, NGOs, CSR, intermediaries</p> <p>Distribution and retail partners: NGOs, CBOs, community sales agents (individuals and groups), community-based institutions (e.g., schools), retail outlets</p> <p>Donors</p>	<p><b>Inbound logistics</b> <b>Procurement of raw materials, equipment, semi-finished materials</b> (+ ensuring quality of raw materials)</p> <p><b>Operations</b> Manufacturing of reusable pads using machines and related capacity building Ensuring quality of manufacturing unit, packaging of finished products</p> <p><b>Outbound logistics</b> Identification of the most appropriate sales and distribution points, and placement of products accordingly</p> <p><b>Marketing and sales</b> Capacity building and curriculum for awareness generation  Brand building and promotion</p> <p><b>Fund raising</b> Covers costs of awareness generation, free or subsidized product distribution</p>	<p><b>Locus of decentralization:</b> <b>Operations</b></p> <p><b>Access to products – Supply side</b></p> <p><b>Availability</b> – Increased local availability of reusable products, especially for marginalized, remote communities lacking access</p> <p><b>Affordability</b> – Products either given free of cost or at highly subsidized rates (made possible by grant support)</p> <p>Significant competition primarily from (cheaper) single use products in the market</p> <p><b>Quality</b> – Varying quality of single use pads</p> <p><b>Access to products – Demand side</b></p> <p><b>Ability and willingness to pay</b> – Ability to pay may be limited for low-income communities</p> <p>Willingness to pay for the product, if it meets needs and aspirations, and is available at a cost lower than products available in the market</p>	<p><b>Trust</b> – Manufacturers and sales agents are known to the community</p> <p><b>Locally-led</b> –Community members are perceived as supporting their community, based on expressed needs and market gaps</p> <p><b>Active outreach</b> to vulnerable and marginalized groups</p> <p><b>Awareness generation</b> Distribution or sales often accompanied by awareness efforts</p> <hr/> <p><b>Consumer/User segments</b></p> <p>Adolescent girls and young women, who aspire to use single use products instead of cloth, and those who may have limited access to single use products</p> <hr/> <p><b>Distribution and sales channels</b></p> <p><b>B2G</b> – Sales through governments, NGO tenders for free distribution in educational institutions, communities, humanitarian settings</p> <p><b>B2B</b> – Sales to corporations, hospitals for either free or subsidized distribution</p> <p><b>D2C</b> – Sales through community-based sales agents, self-help groups, retail stores</p>
	<p><b>Key resources</b></p>		
	<p><b>Physical/ Infrastructure</b> Raw materials, manufacturing equipment, manufacturing and storage space and facility</p> <p><b>Intellectual</b> Product standards, good manufacturing practice certification, registration on government, United Nations agencies procurement portals</p>		

## Key resources

### Human resources

Those engaged in production, distribution, sales, demand generation and awareness generation, and those providing technical support

### Financial

Donor funds for fixed and variable costs

## Value proposition

### Acceptability

- Relevant and acceptable in contexts where the use of traditional cloth is prevalent, cloth use is perceived to be acceptable and comfortable, access to markets is limited, access to and affordability of single use pads varies
- Acceptability is limited when single use pads are aspirational, cloth pads do not meet comfort, security parameters

### Employment and income generation –

Employment and income is primarily supported through grants, marginally through product sales

However, number of people employed can be increased with production by adding tailoring units

### Destigmatization of menstruation

– Women engaged in the model from production to sales have greater awareness of MHH, and impart MHH information in the community (quality and comprehensiveness of information varies)

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## Cost structures and implications

### Fixed costs

**Upfront investment in infrastructure** – machinery, facility preparedness

**Marketing costs** (see customer engagement) – brand development, brand visibility, distribution margins for B2C sales,

**Operation and maintenance** – annual contracts etc.

### Variable costs

Raw materials, labour, utilities, in-house testing and processes for quality control, and operation and maintenance associated with wear and tear

### Economies of scale

**Challenging** – Textile based reusable pads and underwear in decentralized production facilities are unable to achieve economies of scale to reduce cost per unit, due to the manual nature of the process

### Economies of scope

**Potential** – Possible to leverage the same infrastructure for manufacturing and distribution to manufacture other textile-based products. This can reduce fixed costs per unit and increase efficiency.

Awareness related costs can also be minimized by replicating resources across geographies.

## Revenue streams

### Primary:

Donor grants to cover cost of subsidized products and create awareness of menstrual health and reusable products

### Secondary:

Product sales – marginal. High upfront costs, lack of repeat sales and lack of awareness of reusable products among consumers are barriers to sales

## Archetype C – Distribution and sales

Key partners/ stakeholders	Key activities	Value proposition	Consumer/User engagement
<p>Vendors/ manufacturers of relevant menstrual products</p> <p>Implementing partners for demand generation: NGOs, CBOs, SHG, local governments</p> <p>Purchasers (bulk): Government, NGOs, CSR, intermediaries</p> <p>Distribution and retail partners: NGOs, CBOs, community sales agents (individuals and groups), community-based institutions (e.g., schools), retail outlets</p> <p>Donors</p>	<p><b>Inbound logistics</b> – Procurement of menstrual products from vendors/ manufacturers (and quality assurance)</p> <p><b>Operations</b> – None</p> <p><b>Outbound logistics</b> – Identification of the most appropriate sales and distribution points, and placement of products accordingly</p> <p><b>Marketing and sales</b></p> <ul style="list-style-type: none"> <li>• Capacity building and curriculum for awareness generation</li> <li>• Brand building and promotion</li> </ul> <p><b>Fund raising</b> Raising funds to cover costs of awareness generation, free or subsidized product distribution</p>	<p><b>Locus of decentralization:</b> <b>Distribution and sales</b></p> <p><b>Access to products – Supply side</b></p> <p><b>Availability</b> – Increased local availability of reusable products, especially for marginalized, remote communities lacking access</p> <p><b>Affordability</b> –</p> <ul style="list-style-type: none"> <li>• Products either given free of cost or at highly subsidized rates (made possible by grant support)</li> <li>• Significant competition primarily from (cheaper) single use products in the market</li> </ul> <p><b>Quality</b> –</p> <ul style="list-style-type: none"> <li>• Varying quality of menstrual products, especially if the nodal organization is unfamiliar with product standards or lacks the capacity to assess quality standards during procurement.</li> <li>• However, potential to establish standard operating procedures in procurement to ensure quality</li> </ul>	<p><b>Trust</b> – Manufacturers and sales agents are known to the community</p> <p><b>Locally-led</b> –Community members are perceived as supporting their community, based on expressed needs and market gaps</p> <p><b>Active outreach</b> to vulnerable and marginalized groups</p> <p><b>Awareness generation</b> Distribution or sales often accompanied by awareness efforts</p> <hr/> <p><b>Consumer/User segments</b> Adolescent girls and young women, who aspire to use single use products instead of cloth, and those who may have limited access to single use products</p> <hr/> <p><b>Distribution and sales channels</b></p> <p><b>B2G</b> – Sales through governments, NGO tenders for free distribution in educational institutions, communities, humanitarian settings</p> <p><b>B2B</b> – Sales to corporations, hospitals for either free or subsidized distribution</p> <p><b>D2C</b> – Sales through community-based sales agents, self-help groups, retail stores</p>
	<p><b>Key resources</b></p>		
	<p><b>Physical/ Infrastructure</b> Storage space for procured products</p>		
	<p><b>Intellectual</b></p> <ul style="list-style-type: none"> <li>• Knowledge of product categories and product standards</li> <li>• Knowledge of vendors/ manufacturers</li> <li>• Understanding of community needs</li> </ul>		

<b>Key activities</b>	<b>Value proposition</b>
<p><b>Human resources</b> For sales, demand generation and awareness generation</p>	<p><b>Access to products – Demand side</b></p>
<p><b>Financial</b> Donor funds for fixed and variable costs</p>	<p><b>Ability and willingness to pay</b></p> <ul style="list-style-type: none"> <li>• Ability to pay may be limited for low-income consumers without cost subsidization</li> <li>• Willingness to pay for the product at a lower cost is present, especially if the product is novel, and overcomes barriers/ challenges posed by other products</li> </ul>
	<p><b>Acceptability</b></p> <ul style="list-style-type: none"> <li>• Offering a product basket can promote choice and acceptability</li> </ul>
	<p><b>Employment and income generation</b></p> <ul style="list-style-type: none"> <li>• Employment and income is primarily supported through grants, marginally through product sales</li> <li>• However, number of people employed can be increased with production by adding tailoring units</li> </ul>
	<p><b>Destigmatization of menstruation</b> –Sales agents have greater awareness of MHH, and impart MHH information in the community (quality and comprehensiveness of information varies)</p>

## Cost structures

### Fixed costs

**Marketing costs** – brand building and promotion, technology costs (where applicable), distribution management costs

### Variable costs

Cost of sourcing products, sales and distribution costs (labour, logistics, distribution incentives and other point of sales marketing)

### Economies of scale

**Potential** – Through expansion of points of sale e.g., expanding sales agents across multiple geographies while leveraging the same marketing and distribution management infrastructure

### Economies of scope

**Potential** – Can offer a wider basket of menstrual products or bundle the product with other products needed by the community such as underwear, personal care products

## Revenue streams

**Primary:** Donor grants to cover cost of subsidized products, and create awareness of menstrual health and products (especially reusable products)

**Secondary:** Product sales – marginal

**Tertiary:** Economies of scope – Potential – sell a basket of other (non-menstrual) products with menstrual products as a part of the offering (revenue not entirely dependent on the sale of menstrual products)

## Annex 4: Comparative presentation of types of decentralized machines for single-use production

Feature	Manual machine	Semi-automatic machine	Automatic machine
<b>Estimated cost</b>	US\$3,000–7,000	US\$15,000–30,000	US\$60,000–120,000
<b>Space requirement</b>	Small	Moderate	Large
<b>Electricity requirement</b>	Minimal (only for sealing, sterilization)	Regular electricity needed for motor functions	Uninterrupted electricity essential
<b>Pad types produced</b>	Single type (regular fluff pad)	One type (fluff or ultra-thin), different sizes	One type, multiple sizes
<b>Daily production capacity</b>	250–1,000 pads	1,000–3,000 pads	3,000–6,000 pads
<b>Labour intensity</b>	High – fully manual operations	Medium – some automation	Low – mostly automated
<b>Personnel required</b>	3–10 (3 operators and 3–7 for packing)	3–10 (operators and packers)	8–10 (technical operators and packers)
<b>Training requirements</b>	Basic, and operations and maintenance	Machine handling and maintenance training	Technical training essential
<b>Ideal settings</b>	Remote, low-resource, humanitarian settings	Semi-urban/rural with moderate infrastructure	Urban/industrial with strong infrastructure
<b>Suitability</b>	Moderate demand, low electricity access	Moderate and regular demand, power available	High-volume production, consistent demand

## **United Nations Children's Fund (UNICEF)**

Water, Sanitation and Hygiene (WASH), Programme Group  
3 United Nations Plaza  
New York, NY 10017, USA  
[www.unicef.org](http://www.unicef.org)

## **WaterAid**

6th Floor, 20 Canada Square,  
London, E14 5NN, United Kingdom  
[www.wateraid.org](http://www.wateraid.org)

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