

2014 Global Enterprise Experience: TEAM 52

# Nepal's Sanitary Napkin Revolution

Combating Chaupadi Tradition



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## EXECUTIVE SUMMARY

This report outlines the impact of the Chaupadi tradition on young women in rural Nepal. Chaupadi is a Hindu practice which prohibits women from participating in normal family activities during menstruation because they are considered impure. They cannot attend school, are forbidden from consuming nearly all food products for fear they will mar those goods and are forced to live in a small shelter intended for animals. This happens for 4-7 days every month.

Our project proposes setting up sanitary napkin-making facilities in rural villages to provide a low cost sanitation pad for these women to use. This will help combat the issues surrounding the Chaupadi tradition. The main objectives are: (1) to improve the health conditions to which these women adhere to. (2) As a result, improve school attendance by removing the 'impure' stigma through the use of sanitary napkins. (3) Ensure sustainability. This will enable us to expand and reach women in other areas facing the same problems. (4) Raise awareness through partnership.

Discussed later in the report is the financial aspect of the project. In our first year, we make no profit but by the end of year 5, and having expanded into two other villages, we expect to make a total profit of \$7,950.6 (USD). This profit will be invested straight back into the project with plans of expanding into more villages and diversifying into the production of baby nappies.

## THE PROBLEM

In rural areas of Nepal, the literacy rate for males is about 30% while the figure drops to negligible numbers for females. Males head their household and are primarily engaged in agriculture. Some of them act as porters to the tourists and trekkers visiting the nearby Annapurna region. Females are bound to household activities limited to domestic household works and parenting children. Trading locally produced agricultural products and porter charges are the only sources of monetary income to

the people in this region. The general education system is gaining momentum but many females face significant challenges in this area. One considerable challenge is the issues surrounding menstrual health in young women and the effect and the effect this has on their education.

There is rampant social malpractice of Chhaupadi System in Nepal. Chhaupadi is a social tradition prevalent in nearly all of rural Nepal where women are prohibited from participating in normal family activities during menstruation because they are considered impure. Females are cast out of the house and are forced to live in a shed, often sharing the space with cattle. This lasts between five to seven days each month.

Chhaupadi System, despite being outlawed by the Supreme Court of Nepal in 2005, has been slow to change. Due to their low income, these women cannot afford expensive, but necessary, sanitary items. Instead using old rags, leaves and ash, leaving them embarrassed and susceptible to numerous health issues. The issue is compounded when their living conditions leaves them repulsive to the rest of society as they are deemed hideous and foul smelling.

The problem has been aggravated among adolescent females. They are barred from going to school during menstruation period – easily five days of every month. Even in some societies where Chhaupadi System is less practiced, girls remain absent during these times due to lack of proper latrine and clean water facilities at their schools. The adoption of sanitary habits would enhance her health and encourage societal change. Furthermore, school attendance levels would increase by roughly 20%.



*Above, Lalita, 14, poses for a photo inside the household chaupadi shelter, a squat crawlspace under the home shared with the family's animals.*

## THE BUSINESS MODEL

We propose to set up sanitary napkin production units in the rural villages of Nepal. Each napkin-making machine will be operated by three females who will be paid for their services. The materials needed for production will come via our supply network, discussed below. The end price of the sanitary napkin will be 8 Nepalese Rupees (US\$ 0.105), which is equivalent to the price of two boxes of matchsticks in the Nepalese Rural Market. The product will be sold throughout the local region.

## THE MACHINE



*A woman in India making a sanitary napkin*

Arunachalam Muruganatham, a young Indian entrepreneur, has already designed a sanitary napkin making machine to address similar issues in India. He has openly stated his interest in selling the machines to support similar causes. We will purchase the machine from him at a price of 115, 000 Nepalese Rupees (US\$ 1210.52). The raw material required for the production of a napkin is wood fibre and thermo bonded non-woven fabrics (i.e. polyethylene), which will be supplied by Deurali Pharmaceuticals, Chitwan.

The process of making is surprisingly simple. There are four stages involved. First, the wood fibre is converted into pulp. Second, the pulp is then compressed and shaped into the napkin. Next, the pads are sealed. And finally, the sealed pads are passed through a dedicated sterilization unit, which contains a closed container with UV lamps. After the completion of sterilization process the pads are ready for trimming, packing and dispatch.

## PILOT REGION

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Our initial target market for this project is the village of Chyanpata which lies in the foothills of the Himalayas in the Lamjung district of western Nepal. The population is roughly six and a half thousand with more than 50% being female (CBS, 2011). This pilot-program styled approach will allow us to test and refine our business model and positions us well for expansion into neighboring areas.

## COMPETITORS

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There are two immediate alternatives to our sanitary napkins: other brands of sanitary napkins available in the market and the traditional practice of using old rags, sand, sawdust, leaves and even ash. The people of rural Nepal have an average monthly income US\$ 2 (Data Nepal, 2014). This makes other napkins extremely costly. This unaffordability forces females to continue with traditional, unhygienic methods. The low price of our sanitary napkin will help to penetrate the market and encourage change among females. This distinct price differentiation sets our product apart from our substitutes and competitors.

Globally, there are a number of organisations that operate in the provision of low-cost menstrual hygiene solutions. Examples of this include Sustainable Health Enterprises (SHE) and Forum for African Women Educationalists (FAWE) operating in Rwanda, Kenya and Uganda (Water Engineering and Development Centre 2012). Given that the productions of low-cost sanitary pads are dependent on the local resources and technologies available, the above mentioned organisations do not pose a threat. On the contrary, cooperation and information sharing with these organizations could be beneficial to both parties. ,

## FLYING FEMALES PROJECT

The Flying Females Project is an integral social initiative of our business for the promotion of improved hygiene habits amongst schoolgirls. Although the project's primary activity will be production of low-cost sanitary napkins in the rural communities of Nepal, its other activities will focus on menstrual health education and the improvement of latrine facilities.



Under this program, the adolescent students especially, females of school-going age (13-19 years) would be provided education related to sanitation, hygiene and reproductive health. The education would be in the form of guest lectures in their class by the experts and role models, street drama in association with local youth club or organizing workshops for school students concerning menstrual hygiene.

More than 59% of the schools in rural Nepal neither have proper latrine facilities nor access to clean water (Volunteer Aid Nepal, 2012). This causes problems amongst school students, in particular females

during their menstrual cycle. A long term objective of the Flying Females Project is partner with school management and local communities to build the sanitary latrines in every school with the access of clean water at the schools in rural Nepal.

## ESTABLISHING PARTNERSHIPS

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The social issue's our organization addresses gives us three types of organizations we can collaborate with.

Jayashree Industries and Deurali Pharmaceuticals: Jayashree, the organization run by Mr. A. Muruganantham (creator of napkin making machine), would be ideal for us to gain the technical skills related to machine handling and other aspects of the production process. The organization's keen interest in serving rural communities makes the partnership very likely to reap good results. Establishing partnership with Deurali Pharmaceuticals, our raw material supplier helps us in ensuring the quality of raw material and timely supply of it.

Water Aid and Nepal Youth Social Forum: They work in the sector of Youth development and personal hygiene, which would help us in knowledge transfer and level of impact.

Local Community, Schools, and Youth Clubs: The partnership with these bodies would help us in campaigns regarding sanitary pad usage and latrine construction. Not only would they help in the awareness process but as they are our end-users as well, this partnership would be a sound business decision.

## MARKETING

Most rural households have access to FM radio. For this reason, we will air commercials relating to our product on the most popular radio shows, such as Lok Dohori, Gaun Beshi.

Health activists, local teachers and community leaders will be the major channels to deliver awareness about health and sanitation. Door-to-door campaign will be conducted in the targeted villages. Female health activists will also meet the local females at their monthly meeting (these meetings are known locally as 'Aama Samuha') where they answer the queries of females about reproductive health and the use of sanitary napkins.

## FINANCIAL PLAN

Nepal is one of the poorest countries in the world, with 70% of its population below the poverty line (Data Nepal, 2014). Institutes such as the Grameen Nepal Cooperative offer financial services to community activities and, in particular, poverty stricken women to help break the social bonds of a male driven society and boost opportunity. They do this without any collateral, but do charge 15% interest. We intend to approach Grameen Nepal Cooperative with our business concept proposal and borrow \$7,800 (USD) to cover our start-up costs and re-pay that loan over 5 years with interest.

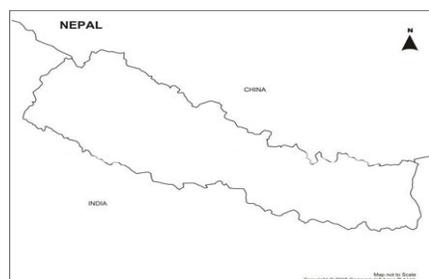
As mentioned, our pilot village for this project is Chyanpata. In our second year of operation, we intend to expand into the neighboring village of Lamjung and after 5 years, the village of Achham. Table 1, below, provides an indication of the financial aspects we would expect to be involved and subsequent revenue.

Wages have been calculated for three women earning 8,000 Nepalese Rupee a year (well above the poverty line). Raw materials have been averaged to 2 rupees per unit. Transportation has been calculated as 10% of the total cost of materials. Total output is assumed for three workers producing 200 napkins per day, five days a week, 52 weeks. We predict every unit produced will be sold. This equates to, on average, 1,000 women purchasing between four and five napkins per month. We believe this is reasonable demand to expect given the population figures. The price of 1 napkin will be 8 rupees (0.08 USD).

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Expenses*</b>					
Napkin Machine	1,190.5	1,190.5	N/A	N/A	1,190.5
Wages	248.2	496.5	496.5	496.5	744.7
Raw Materials	1,076.6	2,153.2	2,153.2	2,153.2	3,229.8
Transportation	155.3	310.6	310.6	310.6	465.9
Marketing	310.5	621	621	621	931.5
Loan repayments	2,730	2,730	2,730	2,730	2,730
<b>Turnover</b>					
Output (units)	52,000	104,000	104,000	104,000	156,000
Demand (units)	52,000	104,000	104,000	104,000	156,000
Yearly Costs	5,711.1	7,501.8	6,311.3	6,311.3	9,292.4
Yearly Revenue	4,306.4	8,612.8	8,612.8	8,612.8	12,919.30
Yearly Profit	-1,404.7	1,111	2,308.7	2,308.7	3,626.9
<b>Total Profit end of Year 5.</b>				\$7,950.6	

Table 1 \*All figures are in US dollars

## SCALABILITY



The business will grow from Chyanpata to other regional villages of Lamjung, Achham, Bajura, and Baitadi. The production plants will be established in each of these villages and a similar method of operation will be followed. After the introduction of sanitary napkins, our long-term goal is to introduce the baby nappy. It uses similar raw materials, a variation of the machine and more or less the same process for production. However, this is not our primary goal, but is something we would access the feasibility of in the

future.

## VALUE CREATION – HOW YOUTH AND CHILDREN BENEFIT

- ✓ The major intended positive effect would be seen in the school-going females. The use of sanitary pads and adaptation of healthy hygiene habits would allow higher attendance rates among school-going girls. Increase in school attendance by 5 days every month would mean avoidance of over 20% in unnecessary absenteeism helping the female education system in the medium and longer term.

- ✓ Flying Female project aims to improve healthy hygiene habits of young females during their menstrual periods. Adoption of cleaner and healthier hygiene habits would see a decline in the practice of Chhaupadi, allowing females to enjoy the freedoms of life.
- ✓ Infant and Child mortality rate in Nepal still stands high. One of the major causes is the poor hygiene habits during infancy. Baby nappies would promote healthy hygiene habits, thereby helping the reduction of the infant and child mortality rate.

## SWOT ANALYSIS

A SWOT analysis is a structured framework used to evaluate the Strengths, Weaknesses, Opportunities and Threats in a business venture. Below, a SWOT analysis is applied to our business proposal.

	HELPFUL	HARMFUL
INTERNAL	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Cost Advantages: derived from low cost of fixed asset (machine), targeting the rural market saves heavy advertising and promotion expenses</li> <li>• Low Price: acceptable and accessible price for low/middle level income families in rural Nepal</li> <li>• Innovation: first of its kind product/project in the country, product is able to serve the actual customer need, helps us become the market leader in rural Nepal</li> <li>• Government support: Female health and Sanitation included as key flagship programs of the Government of Nepal. Our operation is focused in rural areas, which helps us with tax and policy related issues at a government level</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• The females may be skeptical about the napkins. This will mitigated through education.</li> <li>• As we are new venture just beginning operation, our 'brand awareness' is low</li> <li>• Access to rural villages is often difficult. We must be realistic with time-frames and logistics</li> </ul>
EXTERNAL	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Improving Education system in rural Nepal helping people gradually realize the importance of personal health</li> <li>• Females in other LDCs face similar issues. An opportunity to extend the business in Bangladesh, Sudan, Kenya and Zambia</li> <li>• Raise awareness to these types of issues women are facing and what can be done to help those in need.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Chaupadi is accepted as tradition in many areas. Over social norms such as this may be difficult</li> <li>• Although not a large threat in rural, we must still be mindful of competitors in the market</li> </ul>

## FUTURE OUTLOOK

As noted by multiple sources, stigma concerning the menstruation period is not only present in Nepal and India, but also in other countries such as Rwanda, Uganda and Kenya. In geographical proximity to Nepal, the countries of India, Pakistan and Bangladesh also face similar issues.

In Pakistan, Aslam (2011) notes that 50% of girls do not attend school during their menses and 45% do not have access to protective material. Of those who did have access to protective material, approximately 75% used cloth whilst the other 25% had access to pads. This highlights the need for low-cost sanitary napkins, compounded further by the fact that 52% of respondents affirmed that financial constraints prevented their purchase.

The situation in Bangladesh is less severe than Pakistan; however, the use of cloth protection during menstruation is still widespread, as 52% of schoolgirls do not have access to affordable sanitary napkins (Muhit & Chowdhury 2013, 61). An increased availability of low-cost sanitary napkins is among the list of recommendations made by Muhit and Chowdhury (2013, 61).

The above-mentioned are only two instances in which menstrual hygiene amongst females is an issue. There are other developing countries with this issue, especially those in which females are suppressed due to cultural and religious beliefs. The production of low-cost sanitary pads should be employed wherever possible. Beyond the Flying Female Project, our long-term goal is to work with like-minded organizations to promote menstrual hygiene in developing nations.

## ROADMAP

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Outlined below is a roadmap of where we see our business heading.

(1) **Gather Support from Partners** – Earning the trust and gaining the support of key stakeholders, namely the partners outlined, will help gather momentum and propel our project forward.

(2) **Begin Trial Pilot Phase:** The village of Chyanpata will serve as a base for our pilot trial.

(3) **Review and Refine:** A reflective look on our project, what's worked, what hasn't worked, what can be adjusted and improved.

(4) **Expansion:** After a successful trial period, we will expand into neighboring village of Lamjung and in year 5 Achham, and access the plausibility of manufacturing nappies for babies as well sanitary napkins.

(5) **Change Agents:** With the support of our partners and more importantly the users of our product, we hope to raise awareness and ultimately abolish the Chaupadi practice in Nepal.

(6) **Going Viral:** If we are able to bring change at a national level in Nepal, there is no reason that we cannot achieve the same elsewhere and apply our business in other countries.

## REFERENCES

(2014). *Data: Nepal* Retrieved from <http://data.worldbank.org/country/nepal>

Aslam, M, (2011). *Menstrual Hygiene Management of Schoolgirls in Pakistan*. Retrieved from [http://www.unicef.org/wash/schools/files/Pakistan\\_MHM\\_Conf.pdf](http://www.unicef.org/wash/schools/files/Pakistan_MHM_Conf.pdf)

Government of Nepal (2011). *National Population and Housing Census 2011*. Retrieved from <http://cbs.gov.np/wp-content/uploads/2012/11/National%20Report.pdf>

Muhit, I B, & S T Chowdhury. (2013). Menstrual Hygiene Condition of Adolescent Schoolgirls at Chittadong Division in Bangladesh'. *International Journal of Scientific Technology Research* 2(6): 58 – 62.

Oster, E. & Thorton R, (2012). *Menstruation; Sanitary Products and School Attendance: Evidance from a Randomized Evaluation*

Volunteer Aid Nepal. (2012). *Status of Sanitation in Nepal*. Retrieved from <http://volunteeraidnepal.org/community-aid-programs/toilet-building-projects/>

Water Engineering and Development Centre. (2012). *Mensuration hygiene management for schoolgirls in low-income countries*. Retrieved from [http://www.susana.org/docs\\_ccbk/susana\\_download/2-1569-fs007mhma4pages.pdf](http://www.susana.org/docs_ccbk/susana_download/2-1569-fs007mhma4pages.pdf)