Feasibility of Community-Based Businesses in Kamand Valley

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An Interactive Qualifying Project
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfilment of the requirements for the
degree of Bachelor of Science

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Date:
29th April 2015

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Abstract

Community-based businesses (CBBs) are important in developing rural areas. This project evaluated the feasibility of CBB's in Northern India's Kamand Valley. Through interviews with fifty-seven respondents, we obtained information on resources, interest in participating in a CBB, and products purchased in the market. Our findings indicated potential for the development of a CBB in the Kamand Valley, and an assortment of products. We made recommendations for two prospective CBB's: producing soap made from soapnuts, and creating handwoven products.

Acknowledgements

Our team would like to acknowledge the following individuals and institutions for their invaluable contributions to the success of this Interactive Qualifying Project and Interdisciplinary Socio-Technology Project:

- The Worcester Polytechnic Institute and the Indian Institute of Technology, Mandi for the opportunity to execute this project.
- The faculty and students of the Indian Institute of Technology, Mandi for their hospitality throughout the course of our stay.
- Our mentors: Ingrid Shockey, Lorraine Higgins, Priscilla Gonsalves, and Jaspreet Kaur Randhawa for their guidance and support throughout the course of this project.
- Everyone who provided us with valuable information used in this report, including all the villagers we interviewed, Ritu Sharma of the IIT, and Officer D.R. Busheri of the District Rural Development Agency.
- Raj Kumar for his enthusiasm in acting upon our recommendation to develop a business around soapnut bar soap.

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Executive Summary

Potential for Community-Based Businesses in Villages of the Kamand Valley

Community-based businesses (CBBs) have added significantly to the quality of life for families in rural India ("NRLM SKILLS :: Success Stories,"). They typically involve a small group of local residents who use their own knowledge, equipment, and skills to develop and sell a product, which makes them easily adaptable to rural settings. All production is done within the community, and business operations are generally local. CBBs fall under the general category of Micro Small Medium Enterprises (MSMEs), a term in India used to classify businesses based on size. In recent years, India has seen consistent success and documented growth in the number of these enterprises, as seen in Figure 1.

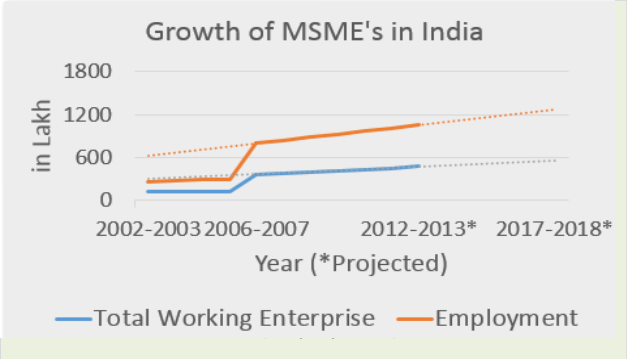

Figure 1. Overall and projected growth of MSME's in India, 2001-2018 (India, 2014).

MSMEs account for a large percentage of exports and are growing faster than the industrial sector of the Indian economy (Deshpande, 2013). Minimal requirements in business experience and low input costs make CBBs an efficient model for entrepreneurs, particularly in rural areas.

This project investigates the potential for CBBs in Himachal Pradesh, a northern Indian state that includes part of the western Himalayas. In the heart of the state, the rural Kamand Valley is a hilly region composed of approximately twenty villages outside the town of Mandi. This area has an abundance of natural resources, agricultural products, and dense forests. The introduction of a CBB could provide the opportunity for villagers of this region to develop locally derived products that can generate a reliable source of income.

The goal of this project was to investigate the feasibility of developing a community-based business in villages of the Kamand Valley. In order to accomplish this goal, we identified five objectives. First, we explored the available resources of the Mandi district, including raw materials, skill sets, and government programs that could offer support. Next, we assessed villagers' interest in participating in a business of their own. We then applied criteria to raw materials and products to determine the most promising material and product to be sold in the Kamand

Figure 2. CBB owner selling woolen clothing in Mandi Market.

Valley. Afterwards, we identified a village with the highest interest and potential, and re-visited to introduce the possibility of a CBB and solicit feedback from its residents. This helped us determine the feasibility of starting community-based businesses in the selected village.

Understanding Community-Based Businesses

Micro Small Medium Enterprises (MSMEs) account for 45% of India's manufacturing output and 40% of its total exports (Deshpande, 2013). In the past ten years, both the number of these businesses and people employed increased approximately fourfold (India, 2014). The community-based business (CBB) model, a subset of MSMEs, has the potential to benefit communities by providing supplemental income, the opportunity for better education and nutrition, and the ability to contribute to the local economy (Azid, Aslam, & Chaudhary, 2002).

Community-based businesses are operated locally, giving residents the opportunity to manage a business alongside daily responsibilities, whether it be household duties or any other employment. Materials are gathered and processed in the area, minimizing material costs, then sold in neighboring villages and markets. Typically, fewer than thirty people are employed, each of whom has some training, skills, or knowledge contributing to the success of the business. CBBs encompass the business models of cottage industries, cooperatives and collectives, which are represented in Figure 3. Each has the goal to improve their participants' quality of life; however, they accomplish them through different business structures.

Cottage industries operate within the home, where each worker has a role in the hierarchy of the business, whether it be managing the organization or producing the product. Cooperatives bring together participants from a community with a common

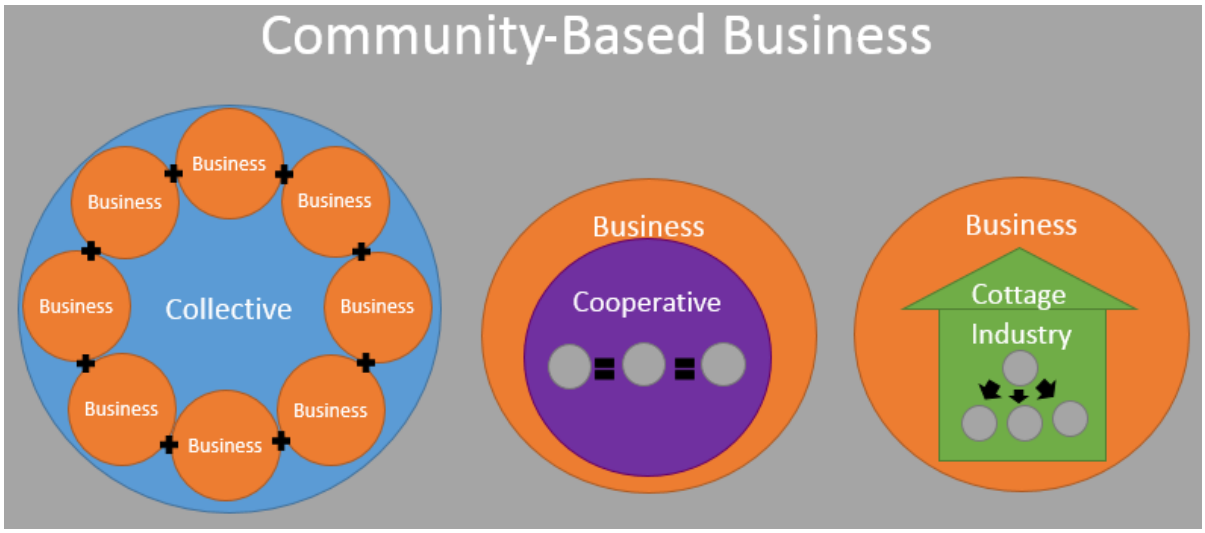

Figure 3. Differences in structures of collectives, cooperatives and cottage industries.

business purpose, which tends to be values-based and supportive of local empowerment. These organizations are owned equally by all employees, resulting in a shared decision-making process (Datta & Gailey, 2012; "Lijjat Homepage," 2015). Finally, collectives are

groups of businesses--which could include cottage industries and cooperatives--that share a common interest and utilize each other's resources to target larger markets.

Resource Base for Community-Based Businesses

A strong foundation for a CBB depends on its available resources. Basic resources, shown in Figure 4, include raw materials used in production, skills required for production and sale, and government programs that provide training and funding.

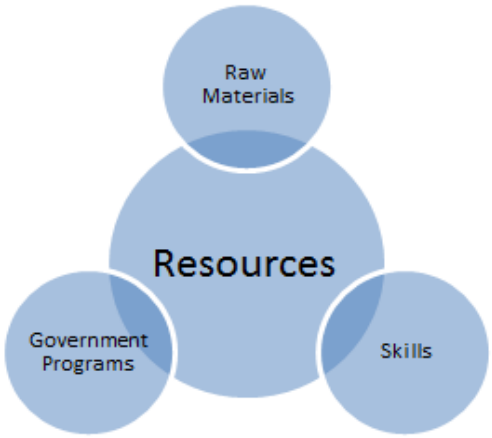

Figure 4. Elements of basic resources.

Communities can identify appropriate raw materials and products by following specific criteria: availability, collection, and production ("About - Tbag Shop," 2015; "Lijjat Homepage," 2015; Lysen et al., 2013; Peterson & Anthropology, 2014). Availability means that enough raw materials can be locally sourced. Collection means that raw materials can be gathered quickly and easily. Production means the raw materials can be developed into a product with little time, effort, new equipment, and capital.

Our preliminary research on Mandi District, which encompasses the Kamand Valley, showed that 43% of the area is covered in forest, providing many natural raw materials. Over ninety plant species can be found in this region, with properties ranging from edible to medicinal to hygienic (*Himachal Forest Statistics 2013*, 2013). The abundance of these resources offers many possibilities for locally derived products.

Beyond raw materials, skill sets should be considered. Useful skills include general business knowledge about management, sales, and organization, as well as production and crafting skills ("About - Tbag Shop," 2015; "Lijjat Homepage," 2015; Lysen et al., 2013; Peterson & Anthropology, 2014). Women in the Kamand Valley traditionally possess food processing, handicraft, and crop cultivation skills due to their roles in the home and their agrarian lifestyle (Deshpande, 2013; Garg, et al., 2013). More specific skills were identified in our on-site research.

Finally, government organizations that aim to assist the growth of rural areas can support the development of CBBs. One such Indian organization is called the National Rural Livelihoods Mission (NRLM). It strives “to reach out to all poor families, mobilize them into [community-based businesses], link them to sustainable livelihoods opportunities and nurture them till they come out of poverty and enjoy a decent quality of life” ("Brief About NRLM"). The organization’s objectives are carried out on the district level, by the District Rural Development Agency (DRDA), and on a smaller level, through the Block Development Organization (BDO) (*NRLM Annual Action Plan 2014-2015 Himachal Pradesh*, 2014). The NRLM guides impoverished villagers through every step required to start a CBB. This includes training on product development and business skills, and financial assistance through low interest loans. The NRLM can be a valuable resource to people in impoverished communities looking to establish a CBB.

Market Potential for Community-Based Businesses

The market potential of a CBB can be identified primarily through the number of prospective buyers (Mundy & Bullen, n.d.). The Kamand Valley is located twenty-one kilometers away from the town of Mandi, a major marketplace in the Mandi district, which is shown in Figure 5.

Figure 5. Several CBBS selling products in the Mandi Market.

Mandi is home to over 26,000 people, according to the 2011 Census, providing a large customer base ("Mandi [Mandi, Himachal Pradesh, India] - Population Statistics and Location in Maps and Charts"). Additionally, the introduction of the Indian Institute of Technology-Mandi in Kamand will bring a large population of students, faculty, and staff. The growing population will "add to the development of consumerism and in turn [create] new markets and [increase] job creation opportunities" (Garg et al., 2013). The positive market potential and available resources of the region show promise for introducing a CBB in the Kamand Valley.

Preliminary research provided a baseline of potential resources that could prove useful for the introduction of a CBB. The next section discusses our methods for further investigation, which were completed on site.

Methodology: Collecting Data and Identifying Potential

The goal of this project was to investigate the feasibility of developing a community-based business in villages of the Kamand Valley. In order to meet our goal, we identified the following objectives and data collection strategies for each, as seen in Table 1.

Table 1. Objectives and corresponding data collection strategies.

Objective	Data Collection Strategies
Explore Resources of the Mandi District	Scholarly Research: Raw Materials Skills Government Programs Semi-Structured Interviews: Village Community Kamand Forest Department
Assess Local Interest	Semi-Structured Interviews: Village Community
Apply Criteria to Raw Materials and Products	Scholarly Research: Collection of Raw Materials Production of Raw Materials Cost of Production Profitability Semi-Structured Interviews: Village Community Small Business Owner
Identify a Village with Potential Success	Semi-Structured Interviews: Village Community Observation: Population Supporting Infrastructure
Solicit Feedback from Identified Village	Focus Group: Village Community

Scholarly research was primarily done before we arrived onsite. We investigated the raw materials in the Kamand Valley and skills of the residents. On-site we researched available government programs related to CBBs, and we delved deeper into scholarly research on the collection and production of a range of raw materials.

To determine village interest and understand their skills and raw materials, we conducted semi-structured interviews with a minimum of five villagers in nine villages,

chosen by a sample of convenience: Neri, Navlay, Chahal, Doohuki, Katindhi, Kataula, Sirum, Kara, and Nishu.

Each interview was conducted in Hindi and took forty-five minutes to one hour. Each took place in the interviewee's home or business, with IIT students acting as translators. Questions addressed what raw materials are available in the area (crops, animals, and so forth), what they do on a daily basis and what skills are required, how often they go to the market in Mandi and what they purchase, whether they sell anything in the market, and finally, if they would like to participate in a CBB and if they have enough time; the full interview can be seen in the Supplemental Materials: Methodology section. Semi-structured interviews were ideal for two reasons: we maintained control over the subject matter, and most importantly, we were able to ensure completeness, that all desired information was gathered (Fitt & Cohen, 2014). When choosing individuals to interview, we used a sample of convenience targeting adults that were outside their homes and closest to the road.

Figure 6. Interview at Mandi Market.

Based on our initial research on raw materials and products, we chose one raw material and product that seemed feasible. To do this, we conducted scholarly research on the collection processes of the raw materials identified to us by villagers. We then detailed the production processes for products that can be produced from these materials by noting time, effort and any material and associated costs. We also determined potential profits through research on costs required to process the material into the product, and through observation of local costs of similar products. Market potential was determined through our interviews where we asked the villagers what they went to the market in Mandi to buy. Lastly, we spoke to a small business owner who produces and sells our chosen product to confirm our research and obtain information on the success of this product in a CBB in the Kamand Valley. These criteria allowed us to narrow our products down to one which could result in the most successful CBB in the Kamand Valley.

Once we determined a feasible product, we focused on a particular village based on interest, infrastructure and population. Interest was identified through interviews, transportation was noted through observation and interviews, and population size was found using the 2011 Census. Our idea was to return to the village to conduct focus groups in order to gather supplemental feedback on our product ideas, connect interested parties, and facilitate early business planning with the community.

Results and Discussion

Our objectives were to explore available resources of the Mandi District, assess local interest and baseline capacity of villages, identify the most promising material, product and village for a CBB, and assess whether it will be feasible to introduce a CBB in that village. Here we outline our key findings by objective.

Objective 1. Resource Base

To assess local resources and capacity for CBBs, we asked our fifty-seven interviewees, from nine villages, to think about the materials that are available locally. By "resources", we solicited both raw materials that could be gathered and processed, as well as skills that could be utilized. We also considered government programs that have the ability to provide financial and training resources for local entrepreneurs.

Available Raw Materials

Our interviews revealed a range of raw materials that are available in the Kamand Valley, which are shown in Figure 7. These included resources from which potential agricultural, animal, and plant products could be derived. All are commonly found or easily grown in the region.

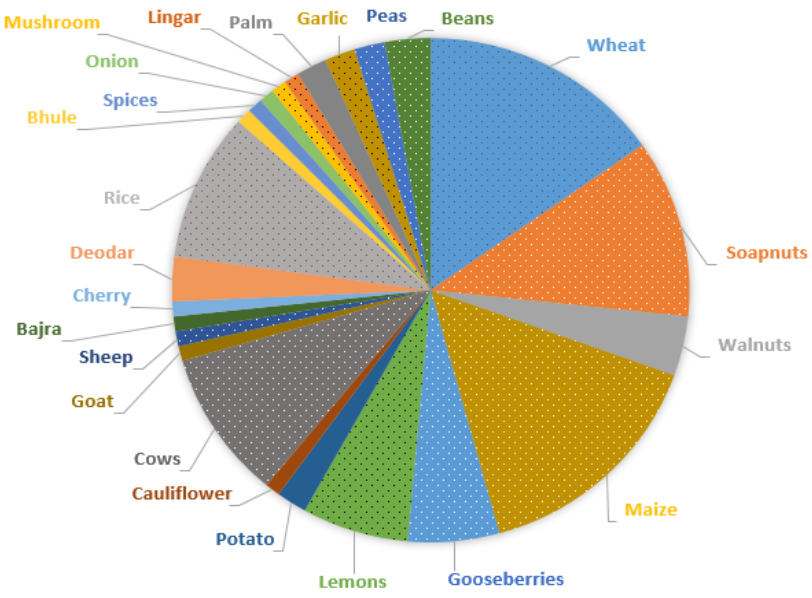

Figure 7. Resources identified through interviews.

Villagers frequently identified the crops they grew, along with animals they raised as a raw material available to them. Wheat, maize, rice, and cows were some of the most identified materials by respondents—all of which are used by villagers to feed themselves and their families. Agricultural products were mainly used in the home, with surplus maize and milk sold to the markets in Mandi. Naturally found materials such as soapnuts, gooseberries and walnuts were also identified by villagers, but were not often used for any purpose outside of the home.

Soapnuts were the highest identified non-agricultural material, but were not commonly used by villagers. There were three instances of soapnuts being gathered and sold raw to the Mandi market in Neri and Navlay, and two instances of soapnuts being used by villagers as a soap product, limited to Doohuki and Navlay. Although a couple villagers

knew how to use soapnuts to produce a soap product, seventeen who identified soapnuts as an available raw material indicated that they were unaware of the process by which to produce them into soap. Gooseberries were commonly used by villagers in the production of pickles and chutney, with families making gooseberry jam in the home. In the Kamand Valley, these products were used in the home only, although we found a women's cooperative in Mandi, formed through the DRDA, selling these products at profitable rates. Lemons were identified by seven respondents, but no villager shared their use in the home or suggested any potential products derived from them. Walnuts were never processed into a product, but we did find two occasions of walnuts being collected by villagers in Navlay and sold raw to the Mandi market.

Available Skills

Local skills identified by respondents include farming, weaving, sewing, and knitting. These skills were prominent across the Kamand Valley, regardless of village, and were primarily used in the home.

Twenty-one of the thirty-one adult female respondents identified weaving, sewing, and knitting as skills. They explained that these skills were used to make clothes, blankets and mats for their families and children. One respondent from Navlay occasionally sells hand woven blankets to local villagers. Another respondent, in Neri, told us that every girl in the area knows how to weave, and while adult women are content using these skills in the home, younger girls are looking for employment.

Beyond these primary skills found across the region, we found infrequent mentions of English speaking skills, basic business skills, teaching skills, and rope making skills. English speaking and teaching were identified twice, business six times, and rope making eight times. Respondents with these skills were more educated; for example, one woman in Neri is currently getting her masters in English at a local university. Along with other educated individuals, she was highly enthusiastic about the possibility of introducing a CBB in the area, expressing that work needed to be brought to her village.

Available Governmental Support

Interviews with officials from the Block Development Office (BDO) of Kamand, and the district livelihood officer of the District Rural Development Agency (DRDA) for Mandi district, revealed how assistance is provided to rural entrepreneurs. When a group of villagers identify a product they would like to sell in a business setting, they can submit a proposal to the NRLM. Once the proposal is approved at the state level, it is brought to the village's DRDA and BDO to oversee implementation of the business. To date, this program has assisted the growth of over 9,000 CBBs in the Mandi district.

If the proposal is accepted, then training is provided by the DRDA. Training programs include business skills such as financial responsibility, and technical training, based on the product selected. Financial support is provided by connecting the group with a bank for loaning services. Interest rates on loans in Himachal Pradesh are 7%; however, through this program, loans are offered at an interest rate of 3%. If the CBB complies with the policies set by the BDO and pays back their loans on time, they have the opportunity to increase their credit line annually. These policies stipulate:

1) weekly worker meetings
2) regular contributions to the group's savings account
3) regular loaning from the group's savings account
4) regular repayment of loans
5) regular recording of meetings

The first loan offered is for a maximum of 50,000 rupees with the possibility of borrowing up to 100,000 rupees.

Objective 2. Identified Interest

To assess local interest, we introduced respondents to the structure of a CBB and inquired whether they would like to participate in one and the motives behind their decision. Of our fifty-seven completed interviews, forty-one respondents were interested in participating.

Interested villagers specified increased income as a reason to participate in a CBB, but mentioned that training in the production of a product would be necessary under most circumstances. They did not express preference, but said they would do any type of work to increase their quality of life. On average, villagers claimed they would have two to three hours available per day that they could commit to the business, but mentioned that it would vary according to season and child responsibilities. Those who were not interested either said that they were content with their income or that they did not have enough available time. Interest on a village-by-village basis is shown in Figure 8.

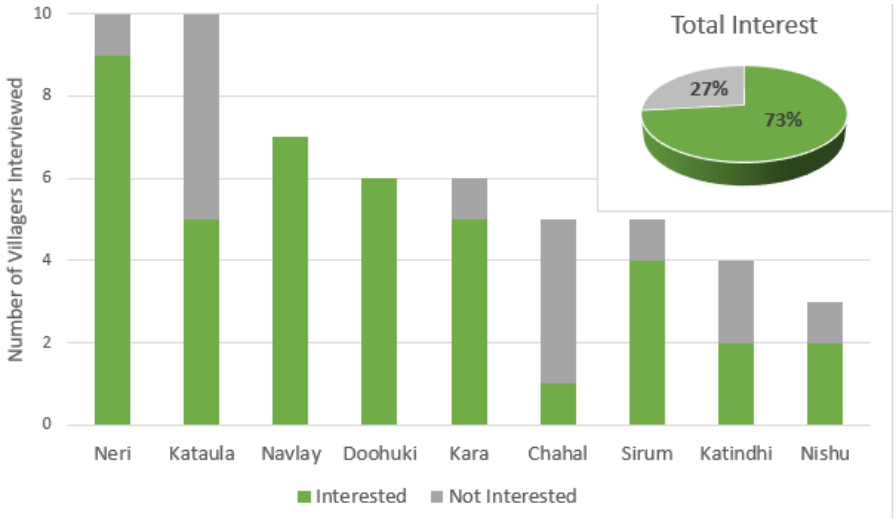

Figure 8. Interest in participating in a CBB by village in the Kamand Valley.

In Neri, the only respondent who was not interested in participating in a CBB was a woman who said she was too old to get involved, but many of her relatives would most likely be interested. We found that many villagers in Kataula were already part of successful businesses and therefore were not interested in participating in a CBB. One respondent identified people who work in CBBs and make natural products as being 'backwards;' meaning that it is senseless not to purchase goods made from factories at lower costs. All of the seven Navlay villagers we interviewed expressed interest, and they indicated that many of their neighbors might also be interested in participating. In Doohuki a number of villagers, mostly women, did not want to be interviewed or interact with us, which left our group feeling the assessment was incomplete. In Kara, five out of six respondents expressed interest, with one specifically mentioning community development and

livelihood improvement as reason for participating. Chahal respondents did not demonstrate much interest in a CBB. The only woman who was interested mentioned that she had a small child and would not be able to give much time to the business until her child was older. Residents of Sirum were interested in the development of a CBB for employment opportunities. One respondent, an adult male who had received no formal education, said he would be interested, and that it would be a great opportunity for a better life for his children. Similar to Kataula, residents of Katindhi were involved in successful businesses, and only two out of five expressed interest in a CBB. Although not many individuals were interviewed in Nishu, twenty-six adults and children were present during the interviews. Often times the other villagers nodded or verbally agreed with what was said by the respondent, and occasionally, someone other than the interviewee would respond, giving our group a feeling of a complete assessment.

Another question posed to villagers was whether they were interested in purchasing locally made products. One respondent explicitly answered no, and another said it would depend on the quality of the products. Though the majority wanted to support the local community through the purchase of locally made products, and reasoned that it would be more convenient to purchase products that were locally sold rather than traveling to Mandi.

Objective 3. Identifying Potential-Promising Products

We initially identified five raw materials from our interviews that were locally available and easy to collect: soapnuts, walnuts, gooseberries, maize, and dairy. We chose these materials because they require minimal ingredients and equipment, and have a simple production process. These raw materials, their associated processing, and the resulting products are condensed in Figure 9.

Figure 9. Resources suitable to a CBB.

We further narrowed this list to the potential products soap, walnuts, and gooseberry jam, by determining profitability. For the profitability assessment, we identified startup costs, one-time expenditures such as equipment, and unit costs, which account for ingredients, packaging, and processing costs, which can be found in Supplemental Materials: Project Outcomes. From there, we identified the market value for each product and a competitive price to maximize profit. Profit was calculated by subtracting unit cost from selling price. Although startup cost was not

included in profit calculations, we determined the number of units that needed to be sold in order to pay off the initial investment. A summarized profitability assessment is shown in Figure 10; the full profitability assessment can be found in our Supplemental Materials: Results section.

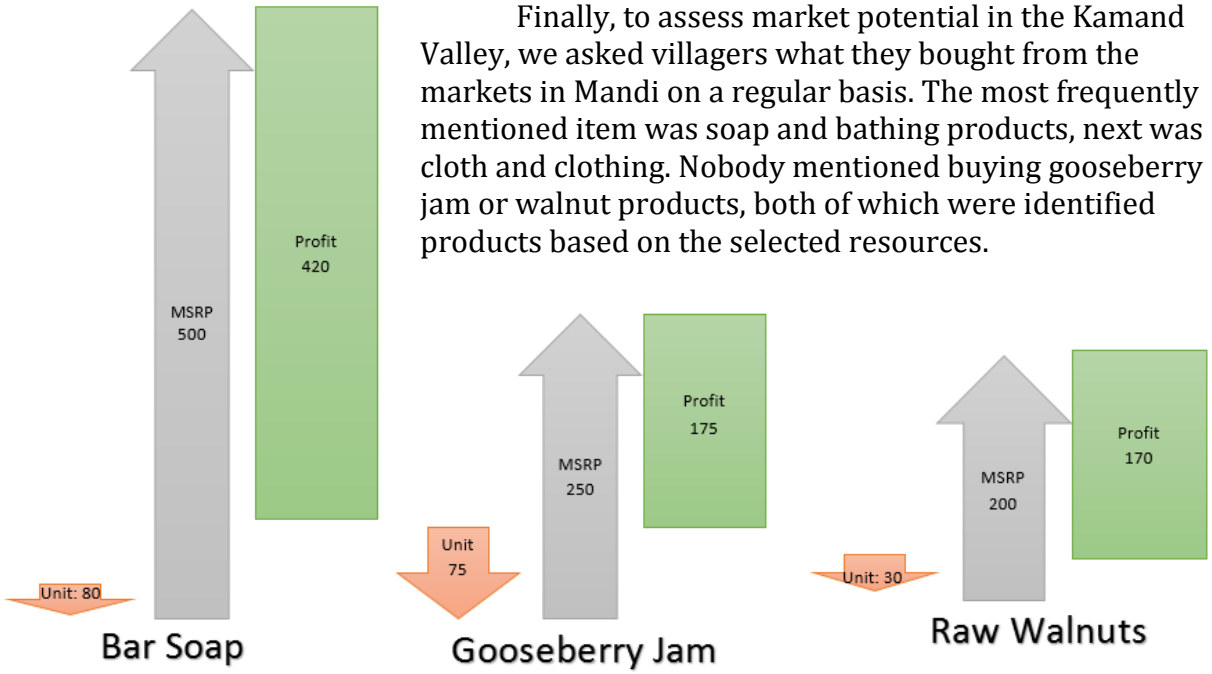

Figure 10. Profit assessment of suitable products, all numbers are expressed in rupees.

Finally, to assess market potential in the Kamand Valley, we asked villagers what they bought from the markets in Mandi on a regular basis. The most frequently mentioned item was soap and bathing products, next was cloth and clothing. Nobody mentioned buying gooseberry jam or walnut products, both of which were identified products based on the selected resources.

This indicated to us that soap, as shown in Figure 11, had the highest market potential out of the three choices in the Kamand Valley. We interviewed the owner of a small handmade soap store in Mandi, who makes and sells approximately three tons of bar soap per month. In this interview, he confirmed our research on the production of soap and detailed associated costs. Although he did not make bar soap from soapnuts, he told us that his business was successful and that a business selling locally made soapnut bar soap would have potential as locals are drawn toward naturally derived products. A profit analysis of bar soap can be seen in Table 2, while a profit analysis of the other raw materials can be found in Supplemental Materials: Project Outcomes.

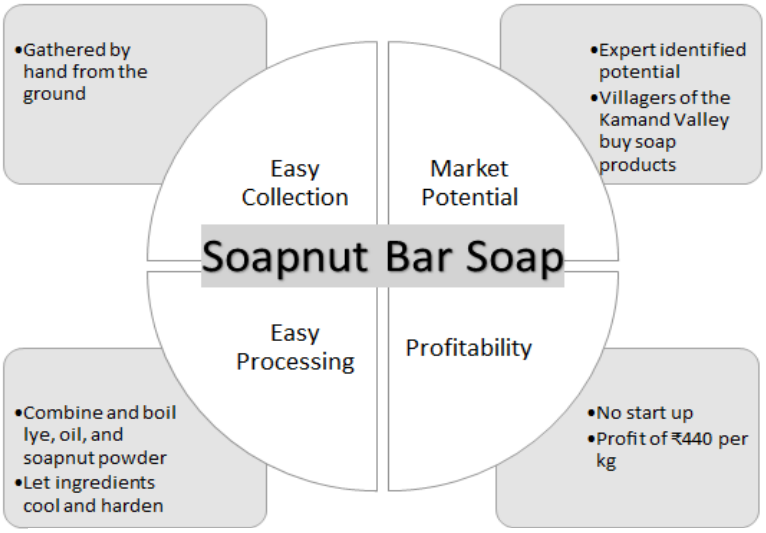

Figure 11. Soapnut bar soap: criteria assessment.

Table 2. Bar soap profit analysis.

Startup Costs (₹)		Unit Cost	(₹)	Labor Time	(Hrs)	MSRP (₹)	Profit (₹)	Number Sold to Break Even
Pot	5000	Bag	10	Collection	1	500	410	13
		Lye	10	Production	3			
		Oil	70					
Total	5000	Total	90	Total	4			

Objective 4. Identify Village with the Highest Interest and Potential

The village that showed the highest potential for the introduction of a CBB was Navlay, considering all seven respondents expressed interest in participating. There is a proper road running through Navlay with bus service available to other villages, the IIT-Mandi, and the city of Mandi—all of which are potential markets that could be accessed. In relation to the other eight villages, Navlay had a medium size population with two hundred thirty-one people, which is suitable for a CBB because it allows for an ample amount of potential workers and customers.

Objective 5. Solicit Feedback from its Residents

With a raw material, product, and village selected, our original approach specified a return to a selected village to introduce the possibility of a CBB and solicit feedback in a focus group format from the community. After engaging with the stakeholders, however, we scaled back our approach to identify just one villager that expressed interest in participating in a CBB. This allowed for a deeper conversation to get an honest opinion on the potential, and the challenges that a CBB would face in this village. Additionally, we believed that the introduction of the CBB would be better received by the community if presented by one of their neighbors.

We identified Raj Kumar, a 32 year old male from Navlay, as a potential leader in implementing a soapnut-based CBB. We presented our research on the potential of soapnuts as a business and asked him what his thoughts were on the business idea, what his concerns were in starting this business, and whether he was interested in organizing such a business. Raju's responses were very positive; he believes this business has a very high potential in the Kamand Valley. His concerns were funds for the business, the time and labor involved in production, and marketing the product.

In his home, Raju produces and uses a powdered form of soapnuts for washing clothes and blankets. To create powdered soap, he collects soapnuts, grinds them against a stone one at a time by hand, and collects the powder for use—an arduous process. In order to create larger quantities of soap to form a business, an innovation in this process would

be beneficial. After collaboration with Raju, we identified this innovation to be a large-scale grinder, allowing multiple soapnuts to be ground into powder at once with minimal labor, which would greatly expedite the process of grinding soapnuts.

When asked to clarify his concern of marketing, Raju said it could prove difficult to collect the material, produce the product, advertise and sell. To alleviate his concern, we discussed potential organizational structures for the business. We identified the best position for him based on his strengths and discussed possible employee roles. He said he would be happy to gather a group of interested people for this business, and that he would prefer to be involved in all aspects during its infancy before shifting his focus to marketing. He felt that with his vast connections both in the Kamand Valley and in Mandi, he would be better suited for growing the business.

Discussion

Throughout our project, we struggled with optimizing the scale, breadth, and order of our approach to best meet the needs of rural Kamand Valley villages. We first needed to decide the order of events: when a villager would be identified, and when products would be picked. We decided that focusing on the products and available materials through conducting interviews was the appropriate path because it informed us of what the region has to offer, and identified potential participants of the business. The sample size used in our baseline capacity assessment of resources and interest was relatively small compared to the total population of the Kamand Valley, giving us a snapshot of interest in the entire Kamand Valley. We visited a total of nine out of approximately twenty villages chosen by a sample of convenience due to limitations in time, and interviewed five to ten villagers per village regardless of population size. Once we determined a product, we reached out to the villager who seemed the most interested and was willing to initiate the business. Although we originally planned to meet with the community as a whole, narrowing our focus to one villager made the process less complicated and intrusive, and more meaningful for both parties. It gave us the opportunity to identify several of the challenges the business may face, what a CBB would need to startup, and enabled us to share this information with local communities. Our decisions worked well for us considering time constraints and available resources and we feel that our process, shown step-by-step in the Supplemental Materials: Project Outcomes section, would be effective for local entrepreneurs seeking to implement a CBB in their communities.

An interesting trend found in our data was the classification of livelihoods for villagers across the Kamand Valley: small business-oriented and agriculturally-oriented. The small business-oriented villages are Katindhi and Kataula, while the other seven are agriculturally-oriented. While access to the main village was not the only factor in a community being agriculturally-oriented, it was a major part. Other factors depended on the geography of the village and wealth of its residents.

The small business-oriented villages had several shops and markets that were sufficient for the villager's shopping needs, as a result they rarely had to go into Mandi. Since they tended to be better off due to successful businesses of their own, there was low interest in a CBB, and therefore we focused our efforts on agriculturally-oriented villages.

The agriculturally-oriented villages had residents who possessed the same skills, grew the same major crops, and purchased the same products from the markets in Mandi, which they could not produce on their own. A skill identified by nearly every respondent was farming, with women identifying skills in weaving, knitting, and sewing. Villagers with these skills grew most of their own food and made their own clothes, only traveling to Mandi periodically to buy soap and fabric. This self-sufficient lifestyle needed to be considered in the selection of a product, considering it is inconvenient for villagers to get to Mandi. By producing these necessities in the Kamand Valley, it reduces the need to travel to Mandi as frequently. These trends were explicit to our data; however, we believe that it extends to the entirety of the Kamand Valley due to lifestyle similarities.

As previously established, the DRDA and BDO offer many services under the NRLM scheme to aid in starting a CBB. We concluded that this program would be essential in the development of a CBB in the Kamand Valley. Through our interviews, we discovered that many villagers were unable to identify any local CBBs. This indicates that this program is not widely advertised and villagers are unable to benefit from its support. This unawareness could be a potential problem in empowering villagers to start their own CBB.

After assessment of current markets, we identified that bar soap had the highest potential of success in the Kamand Valley. Interestingly enough, the only respondents who seemed aware of the market potential associated with the IIT-Mandi were established businessmen. Currently, the IIT-Mandi is home to six hundred students; the school is in the processes of finishing construction of its North Campus, which would allow it to grow to approximately 6,000 students in just a matter of years. This rapid growth will establish a new sustainable market building off of students, faculty, and tourists. Although the incoming market could not be assessed at this time, an initial presumption would be to join similar skillsets of the region to create a product and develop a business selling to people not native to the region. Initial results from our baseline capacity assessment identify weaving, sewing, and knitting as skills many women of the region possess, pointing towards a high potential to introduce a handicraft CBB across villages of the Kamand Valley. This future market will certainly provide villagers of the Kamand Valley with new opportunities to open CBBs based on a variety of products.

Project Outcomes

Recommendations

Based on our findings, we have two short and two long term recommendations that can promote the development of CBBs in the Kamand Valley. In the short term, we recommend to:

1. Develop a customized business plan with one resident to pilot and model a CBB startup.
2. Create a Valley-based CBB guide that will outline identified products, startup costs, production costs, and estimated profits; as well as other materials to jumpstart CBB planning.

In the long term, we recommend to:

3. Enhance government-village cooperation around schemes covered by the NRLM.
4. Re-analyze the potential for a weaving based CBB based on the changing markets associated with the growth of the Indian Institute of Technology, Mandi.

Develop a customized business plan with one resident to pilot and model a CBB startup

In our meeting with Raju, we recommended future steps to develop a CBB based on the production of soap made from soapnuts. These steps are outlined by year for the next two years.

Fall 2015: Begin gathering soapnuts, purchasing required materials and producing small quantities of bar soap to find the perfect recipe. With a complete understanding of the production process, Raju can gather a group of villagers to assist with the daily operations of the business, and write a detailed project report to the NRLM to receive funding for the operations of the business.

Fall 2016: With funding hopefully received, Raju can begin producing soapnut bar soap in greater quantities and selling in local villages and Mandi town. Connect with villagers who own small shops in each village and have them begin selling his product. Raju is also friends with a shop owner in Mandi, to whom he can reach out to in order to sell his product or to connect him with other shop owners.

In addition to a timeline of business development, we recommend the introduction of a grinding technology to simplify the production process used to make bar soap from soapnuts. This technological innovation will be designed by students from the IIT, Mandi after the completion of the seven-week fieldwork.

Create a Valley-based CBB guide

As a result of our collected data, we have put together a guide for residents of the Kamand Valley, identifying potential products and providing key information on the steps required to start a CBB. The first portion outlines key steps in the planning of a CBB, including completing a cost analysis of the product the reader wishes to sell, identifying the

market potential of that product, and piloting the CBB on a small-scale. The next portion provides the reader with a template on how to write a report to the NRLM to receive proper training and funding for the business. The last portion of this guide includes products which can be easily produced using raw materials found in the region, each with their corresponding cost analysis and estimated profits.

Enhance government-village cooperation around schemes covered by the NRLM

In order for villagers to be more aware of the NRLM scheme, we recommend that village leaders are educated on the available assistance that the government could provide. With information on the scheme's background, its benefits, and how to apply for assistance, village leaders could then relay this information to villagers and assist with the community's development. In order to accomplish this, a workshop could be hosted by the DRDA for village leaders once a year.

Re-analyze the potential for a weaving based CBB based on the changing markets associated with the growth of Indian Institute of Technology, Mandi.

Although not the focus of this project, we recommend that a large-scale community-based business be started in the Kamand Valley around handmade weaving products in the next three to four years as a result of the changing market associated with IIT-Mandi Kamand Campus. Weaving is a prominent skill of the region, and these products could be geared towards this incoming market to maximize profit.

Conclusion

Community-based businesses have the potential to significantly increase the quality of life for families in rural regions of India. This project aimed to evaluate the feasibility of community-based businesses in the Kamand Valley, a cluster of villages located in Northern India. The project initially targeted the entire Kamand Valley in order to learn about available resources, potential products, and interest levels, but was then narrowed as the strongest possibilities emerged in our data. By narrowing the scope of the project to one product, and talking in depth with one villager, we were able to get much more detailed and honest information about what would be necessary to make this product viable in a CBB and what potential problems the selected villager perceived. We used this insight to determine feasibility. Having completed that step, we met with Raj to suggest the next steps he needs to take to establish a CBB, provided him with a plan to grow this business, and assisted him with the governmental resources provided by the NRLM.

Implementation of a full CBB was beyond the scope of the fieldwork we could complete in seven-weeks, but we were able to see through the planning required to develop a CBB and are optimistic about the results after our meeting with Raj. With the tools provided in this report, we hope to create new opportunities for residents of the Kamand Valley to increase their income through the CBB model. Villagers that follow through with the recommendations will have the tools necessary to write a detailed proposal to the NRLM of Himachal Pradesh to receive assistance to effectively implement a community-based business.

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Supplemental Materials: Methodology

Village Interview Guide

For villagers to gain perspective on available resources and interest in CBBs.

Date Interviewer & Team Present Location

This semi structured interview serves as a guideline for information we want to ask. It is not to be followed directly, but rather keeps conversations flowing in the right direction and be sure we get all desired information.

"Hello, my name is __ and this is ___. We are students working on a project sponsored by the IIT-Mandi, researching small community-based businesses.
Would you be willing to answer a few questions for us?"

Name: _____

Contact Info: _____

Gender: M F

Age Range: young-adult young-parent parent grandparent

"Community-based businesses are often small and operated by the community or family members. The products made are derived from natural resources in the area. The people involved would be responsible for gathering resources, making the product, and selling the product individually or as a group."

Are you aware of any community based business in the area? YES NO

Name and location: _____

Have you ever thought about starting a community-based business, or has anyone ever approached you about a community based business before? YES NO

What was your idea? _____

If so, who: _____

What was the result of that visit? _____

Do you currently have a job/source of income? YES NO

If so, what? _____

Can you describe a typical (work) day? What's involved?

_____

_____

What is the product/what service do you offer? _____

If applicable, where do you sell? _____

What types of tools and materials do you use for your skills?

_____

We've been looking at local resources that could easily be made into products for small businesses that local people would be interested in buying. Do you have any ideas for this? Like food products (corn, curd, tea), soap products (detergent, shampoo, cleaning products) or stone products (jewelry, mementos)?

_____

_____

Do you make any items for your home or business or do you buy most things from a store?

_____

What kinds of things do you make or give away as gifts? Where do you get the materials?

_____

_____

What plants do you use for medicine?

_____

What plants do you gather for food?

_____

What do you gather for making, clothing, ropes, baskets, etc.?

_____

_____

Are there any items you need at home or work that you can't find in a store? What are they? What could local stores sell that would make your life easier?

_____

_____

Would you be interested in participating in a new community based business? YES NO

Would any of your family members be interested? YES NO

IF YES

How much time could you devote to working in this type of business a week?

_____

Would this vary throughout the year? YES NO

Why are you interested in participating?

_____

IF NO

What are some of the reasons you are not interested?

_____

ALL

Do you know anyone who would be interested in participating in a community based business? YES NO

Name and contact: _____

_____

Supplemental Materials: Project Outcomes

Poster

Feasibility of Community-Based Businesses in the Kamand Valley

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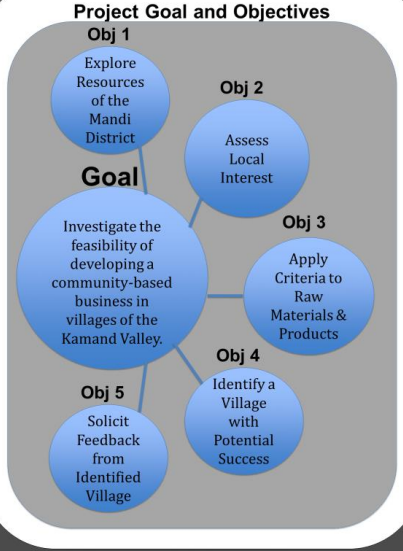
Abstract

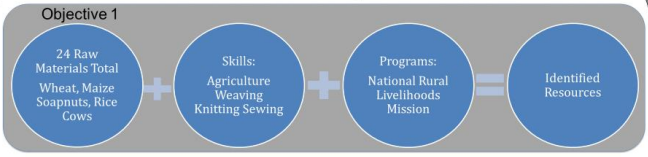
Community-based businesses (CBBs) are important in developing rural areas. This project evaluated the feasibility of CBB's in Northern India's Kamand Valley. Through interviews with fifty-seven respondents, we obtained information on resources, interest in participating in a CBB, and products purchased in the market. Our findings indicated potential for the development of a CBB in the Kamand Valley, and an assortment of products. We made recommendations for two prospective CBB's: producing soap made from soapnuts, and creating handwoven products.

Project Goal and Objectives

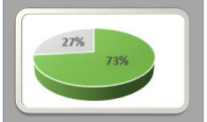


Findings

Objective 1



Objective 2



Community Interest

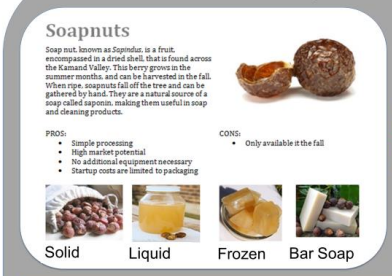
Objective 4

Village with Potential: Navlay

Objective 5

Soapnut Entrepreneur

Objective 3



Startup Costs (₹)		Unit Cost	(₹)	Labor Time	(Hrs)	MSRP (₹)	Profit (₹)	Number Sold to Break Even
Pot	5000	Bag	10	Collection	1	500	410	13
		Lye	10	Production	3			
		Oil	70					
Total	5000	Total	90	Total	4			

Recommendations

Short Term:

Develop business plan with resident to pilot and model a CBB

Create a Valley-based CBB guide that will outline planning.

Long Term:

Enhance cooperation around NRLM schemes.

Re-analyze potential for weaving CBB based on changing markets associated with IIT.

The Community-Based Business Planning Guide

WORCESTER POLYTECHNIC INSTITUTE – INDIAN INSTITUTE OF TECHNOLOGY, MANDI

Preface

This booklet will serve as a guide for villagers of rural areas in starting their own community-based business. While it targets the Kamand Valley, Himachal Pradesh it can be adapted to fit any community nationwide.

Community-based businesses are operated locally, giving residents the opportunity to manage a business alongside daily responsibilities. Materials are gathered and processed in the area, minimizing material costs, and then sold in neighboring villages and markets. Typically, fewer than thirty people are employed, however this type of business can grow to support more employees, each of whom has some skills, or knowledge contributing to the success of the business. Community-based business can be very flexible in their structure, whether it is hierarchal or equal ownership. The development of a community-based business has the potential to positively impact the region through providing families with increased income and encouraging the local economy.

The National Rural Livelihoods Mission (NRLM), is a government organization that strives "to reach out to all poor families, mobilize them into [community-based businesses], link them to sustainable livelihoods opportunities and nurture them till they come out of poverty and enjoy a decent quality of life" ("Brief About NRLM"). The organization's objectives are carried out on the district level, by the District Rural Development Agency (DRDA), and on a smaller level, through the Block Development Organization (BDO) (*NRLM Annual Action Plan 2014-2015 Himachal Pradesh*, 2014).

When an applicant identifies a product they would like to sell they can submit a proposal to the NRLM for training and funding. Training programs include business skills such as financial responsibility, and technical training, based on the product selected. Financial support is provided by connecting the group with a bank for loaning services that offer lower rates. If the community-based business complies with the policies set by the BDO and pays back their loans on time, they have the opportunity to increase their credit line annually. These policies stipulate:

1) weekly worker meetings
2) regular contributions to the group's savings account
3) regular loaning from the group's savings account
4) regular repayment of loans
5) regular recording of meetings

Included is a Community-Based Business Planning Guide, NRLM Application Guide and Product Catalog.

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Community-Based Business Planning Steps

This section includes the six recommended steps to develop a community-based business. This guide was established through research done in the Kamand Valley, Himachal Pradesh.

Choose a product

- Communities can identify appropriate raw materials and products by following these criteria as a guideline: availability, collection, and production.
  - Availability: enough raw materials can be locally sourced.
  - Collection: raw materials can be gathered quickly and easily.
  - Production: raw materials can be developed into a product with little time, effort, new equipment, and capital.
- Although it is important to consider your skills when establishing a CBB, the NRLM scheme can provide training. *Elaborated on in Instructions for Writing a Detailed Project Report to Apply for NRLM Support, page 6.*

Identify people who would be interested in working with you

- Each worker has a role in the business, whether it be managing or producing the product. Useful skills include general business knowledge about management, sales, and organization, as well as production and crafting skills.

Complete cost analysis

Template can be found on page 5.

- Identify startup cost, unit, sale, and profit
  - Identify startup costs: one-time expenditures such as equipment.
  - Unit costs: ingredients and packaging.
  - Processing costs: energy costs, and labor time.
- Identify the market value; take into consideration what other business are selling your product for.
- Identify a competitive price, based on relative quality and value, to maximize profit.
- Calculate potential profit by subtracting unit cost from selling price.

Identify market potential

- Identify target market; to whom and where you plan on selling your product.
- Determine if your product is already being sold by visiting your chosen market.
  - Understand how other businesses would affect competition and sales.
- Determine if your product is already being bought.
  - Speak to potential customers to gage interest.

Begin business on a small-scale

- Begin gathering and purchasing required materials or ingredients.
- Produce small quantities of your product to determine correct process.
- Begin selling at small scale to identify and address problems and predict success.
    - Potential Problems could include: transportation, government regulations, child-care and time constraints.
    - Success can be indicated through initial sales.
- Reevaluate profitability of business based on actual costs and sales.

Write detailed report to your branch of NRLM program

- Detailed steps can be found in the following section.

Cost Analysis Template

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
Total		Total		Total					

- Startup Costs cover any one time costs such as equipment.
- Unit Cost cover the cost of all ingredients, packaging and so forth that are required to make one product.
- Labor Time is the time associated with the collection and production of one product.
- Market Price is the cost the product is currently being sold at in local markets.
- MSRP is the cost at which you plan to sell one product for.
- Profit is the MSRP minus the total unit cost.
- Number of Units Sold to Break Even is the total Startup Costs divided by the Profit.

Instructions for Writing a Detailed Project Report to Apply for NRLM Support

A detailed project report (DPR) is a paper written to the applicant's state's NRLM branch to apply for government assistance in developing a community-based business. Government assistance could be provided in the form of product and business training, and financial assistance. An effective DPR is composed of seven sections, each of which is stated below with a brief explanation.

Background

- This section describes the desired business structure, reasons for establishing this business, and in-depth information on the product(s) chosen.

Present Status

- This section provides information on the availability of materials or ingredients required in the processing of the chosen product(s).

Benefits of Business

- This section identifies the beneficiaries of this business and describes the benefits they will receive.

Opinions of the Introduction of the Community-Based Business

- This section expresses the applicant's views on opening this business and the opinions of those who could be affected. A valuable attachment for this section is a blank survey that was completed by individuals who are not involved in the business, expressing their thoughts and opinions about the introduction of this business. *A sample survey can be found on page 8.*

Marketing

- This section compares the proposed business plan to similar businesses that exist in the immediate area. These comparisons cover topics such as, but not limited to, product line and sale prices.

Details of Request

- This section explicitly states what support the applicant would like to receive, such as loans, equipment, or training. This section should be written in detail, with clear explanations and expectations for each request.

Compare Standards of Life

- This section portrays the current standard of living of the applicant and his or her community and details how it is expected to change with the introduction of a community-based business.

When the DPR is completed, either in English or Hindi, the applicant should have it revised by the local District Industry Center (DIC). Here, the document will be reviewed and either sent back to the applicant for edits or sent directly to the state level of the appropriate National Rural Livelihoods Mission (NRLM) branch.

Sample Survey

This survey serves as a guideline to obtain the opinions on introducing a community-based business.

[Introduce your business and product idea.]
Gender: M F

Do you currently buy this product? YES NO

If NO, would you be interested in buying this product from my business? Why/Why not?

_____

If YES,
Would you consider buying from my business? Why/Why not?

_____

What price would you be willing to pay?

_____

Are you aware of any similar businesses in the area? YES NO

Name and location: _____

What is your opinion of the establishment of this new business? GOOD NEUTRAL POOR

If good,
Why do you see this as positive?

_____

If neutral,
Why? What would need to be done to better your opinion?

_____

If poor,
Why? What would need to be done to better your opinion?

_____

How do you think this business will impact the community?

_____

Would the community benefit from the sale of this product?

_____

Product Catalog

This section identifies five raw materials that are locally available and easy to collect in the Kamand Valley: soapnuts, walnuts, gooseberries, maize, and dairy. These materials require minimal additional ingredients and equipment, and have a simple production process. Each resource is accompanied with potential products, a general overview of the associated production processes and a cost analysis.

Soapnuts

Soap nut, known as *Sapindus*, is a fruit, encompassed in a dried shell, that is found across the Kamand Valley. This berry grows in the summer months, and can be harvested in the fall. When ripe, soapnuts fall off the tree and can be gathered by hand. They are a natural source of a soap called saponin, making them useful in soap and cleaning products.

PROS:

- Simple processing
- High market potential
- No additional equipment necessary
- Startup costs are limited to packaging

CONS:

- Only available it the fall

Solid

Process: Use soap nuts raw
Shelf Life: 6 washes (in washing machine)
Associated Costs: packaging
Uses: Laundry detergent

Liquid

Process: Soak in water and squeeze soap out
Shelf Life: 2 weeks
Associated Costs: packaging
Uses: Shampoo, hand soap, body wash, and laundry detergent

Frozen

Process: Freeze liquid form
Shelf Life: 4 weeks
Associated Costs: packaging
Uses: Laundry detergent

Bar Soap

Process: Blend liquid soapnuts and lye. Mix oils and heat. Add soapnut mixture to oils and allow to cool.
Shelf Life: 1.5-3 years
Associated Costs: additional ingredients and packaging
Uses: general cleaning

Liquid Soap (750mL)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
		bottle	60	Collection	1	234	200	140	0
				Production	1				
Total	0	Total	60	Total	2				

Bar Soap (1kg)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
Pot	5000	HDPE Bag	10	Collection	1	500	500	410	13
		Lye	10	Production	3				
		oil	70						
Total	5000	Total	90	Total	4				

Dairy (cow milk)

Cows can be milked twice a day at twelve hour intervals after they've given birth to a calf. Udders should be sterilized before milking.

PROS:

- Most people own at least one cow
- Variety of products can be made
- Simple processing
- Market potential

CONS:

- Limited surplus milk
- Long processing time (excluding milk)
- Products have to be refrigerated

Milk

Process: Milk cow as appropriate
Shelf Life: Refrigerate 7-10 days
Associated Costs: packaging

Butter

Process: Either turn blender on low speed then raise to medium, or shake jar. Once solidified pour off buttermilk, rinse butter by pouring ice water over it and pressing the rest of the buttermilk out with spatula or spoon, repeat process until water runs clear
Shelf Life: Refrigerate 2 weeks
Associated Costs: packaging, salt and blender or glass jar

Paneer

Process: Mix lemon juice with water, add to boiling milk, when curd separates from whey turn off heat and strain, wrap curd in muslin cloth, rinse under cold water and squeeze, compress wrapped paneer for one hour
-optional: add spices and salt for flavor
Shelf Life: Refrigerate 1-3 days, can keep frozen for months
Associated Costs: packaging, lemon, boiling pan, strainer and muslin cloth

Khoya

Process: Bring milk to a boil and stir every few minutes removing top layer that forms, scrape sides, remove and bring to room temperature when it begins to leave the sides of pan
-optional: add flavoring
Shelf Life: Refrigerate 4-7 days, can keep frozen for weeks
Associated Costs: packaging and boiling pan

Milk (1L)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP(₹)	Profit(₹)	Number of Units Sold to break even
		Bag	2	Collection	0.5	50/kg	45	43	0
				Production	0				
Total	0	Total	2	Total	0.5				

Paneer (1kg)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP(₹)	Profit(₹)	Number of Units Sold to break even
Boiling Pan	5000	Lemon	2	Collection	0.5	220/kg	200	196	26
		Bag	2	Production	1.5				
Total	5000	Total	4	Total	2				

Khoya (1kg)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP(₹)	Profit(₹)	Number of Units Sold to break even
Boiling Pan	5000	Bag	2	Collection	0.5	240/kg	225	223	23
				Production	3				
Total	5000	Total	2	Total	3.5				

Butter (1kg)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP(₹)	Profit(₹)	Number of Units Sold to break even
Boiling Pan	5000	Paper	2	Collection	0.5	200/kg	180	178	43
Churning Machine	2500			Production	2				
Total	7500	Total	2	Total	2.5				

Gooseberries

Gooseberry, known as amla, is a fruit found around the world, which grows naturally in the Kamand Valley. Gooseberries grow during the summer months and can be harvested in the fall. When ripe, gooseberries fall from the tree and can be gathered by hand. They have tremendous health benefits, including preventing constipation, lower cholesterol, and improving vision, nervous system, muscular system, and cardiovascular health. It contains high contents of vitamin C, antioxidants, flavonoids, potassium, and fiber, making them valuable in food products (Ipatenco, 2015; Sexton, 2014).

PROS:

- Highly nutritious
- Variety of products can be made
- Minimal equipment

CONS:

- Limited availability
- Many additional ingredients needed
- Long processing time

Jam

Process: Boil gooseberries, lemon juice and water until soft. Reduce heat. Add sugar. Stir. When sugar dissolves, return to a boil, and skim surface. Let cool.
Shelf Life: Refrigerate 6 months
Associated Costs: Pot, additional ingredients, and packaging (jar)

Pickles

Process: Boil gooseberries in water and salt. Heat oil in pan with spices. Add oil and spice mixture to salted gooseberries. Let favors be absorbed for 3 days.
Shelf Life: Refrigerate 4-5 months
Associated Costs: pot, pan, additional ingredients, and packaging (jar)

Chutney

Process: Deseed berries. Roast seeds in peppercorn. Add coconut. Add seasoning. Blend. -
Optional: add a little water.
Note: many variations of this recipe
Shelf Life: Refrigerate 2 weeks
Associated Costs: pan, additional ingredients, and packaging

Candy

Process: Deseed berries. Boil water with half the amount of desired sugar. Remove from heat and add gooseberry pieces. Let sit for 24 hours. Drain and discard extra syrup. Add sugar. This process may be repeated multiple times. When done let dry for 3-5 days
Shelf Life: up to 6 months
Associated Costs: Pot, strainer, additional ingredients, and packaging

Jam (1kg)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
		Jar	50	Collection	2	300	250	175	0
		Sugar	25	Production	1				
Total	0	Total	75	Total	3				

Pickles (1kg)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
		Jar	50	Collection	2	100	90	12.12	0
		Salt	0.08	Production	1.5				
		Spices	27.8						
Total	0	Total	77.88	Total	3.5				

Candy (0.5kg)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
		Jar	50	Collection	1.5	200	180	116	0
		Sugar	6	Production	2				
		Spices	8						
Total	0	Total	64	Total	3.5				

Chutney (0.5kg)

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
		Green Chilly	2	Collection	1.5	50	45	43	0
				Production	2				
Total	0	Total	2	Total	3.5				

Walnuts

Walnuts are harvested in the fall from the walnut tree. When ripe, walnuts fall to the ground or can be shaken from the tree. These nuts are high in nutritional value due to the variety of antioxidants and aid in heart and brain health.

PROS:

- Readily available
- High nutritional value

CONS:

- Limited market
- Messy processing
- Machinery necessary (excluding raw walnuts)

Raw Walnuts

Process: Husk. Roast in oil at 175◦ C for 10 minutes or until golden brown. Or dry in shade for 3-4 days stirring daily.
-Optional: add spices
Shelf Life: store in air tight container for 1 year
Associated Costs: packaging, and oil

Butter

Process: Husk. Put nuts in a food processor and blend until it has a paste consistency.
-Optional: spices and flavorings may be added
Shelf Life: 3 weeks
Associated Costs: food processor, and packaging

Flour

Process: Roast nuts at low temperature and let cool. Grind.
Shelf Life: limited
Associated Costs: grinder, and packaging

Oil

Process: Husk. Grind nuts into a paste and put in a screw press.
Shelf Life: 1 year
Associated Costs: screw press, and packaging

Oil (0.5L)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP (₹)	Profit (₹)	Number of Units Sold to break even
Oil Press	8000	Bottle	158	Collection	3	630-750	700	542	15
				Production	2				
Total	8000	Total	158	Total	5				

Flour (0.5kg)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP (₹)	Profit (₹)	Number of Units Sold to break even
Food Processer	4000	HDPE Bags	30	Collection	3.6	200	150	120	42
Sifter	1000			Production	3				
Total	5000	Total	30	Total	6.6				

Butter (8oz)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP (₹)	Profit(₹)	Number of Units Sold to break even
Food Processor	5000	Salt	0.2	Collection	1.5	1000/8oz	900	619.8	9
		Walnut Oil	280	Production	1				
Total	5000	Total	280.2	Total	2.5				

Roasted (100g)

Startup Costs	(₹)	Unit Cost	(₹)	Labor Time	(Hrs)	Market Price (₹)	MSRP (₹)	Profit(₹)	Number of Units Sold to break even
		HDPE Bags	10	Collection	1	250	200	190	0
				Production	2				
Total	0	Total	10	Total	3				

Maize

Maize is a cultivated crop commonly grown by villagers of the Kamand Valley. Maize is grown in the summer months, and is generally harvested just before the onset of monsoon season. When ready to be harvested, maize can be gathered by hand simply by pulling it off the stalk. Maize is a staple of Indian diet and is commonly grown by villagers of the Kamand Valley.

PROS:

- Highly available in Kamand Valley

CONS:

- Not a simple production process
- Additional equipment necessary

Corn Chips

Process: Shell the corn and grind the shells until fine. Take this product, called cornmeal, and mix with flour, baking powder, water and salt. Roll dough on a pan and cook over fire until crispy.
Shelf Life: 3 months
Associated Costs: grinder or milling, additional ingredients, and packaging

Corn Chips

Startup Costs	(₹)	**Unit Cost**	(₹)	**Labor Time**	**(Hrs)**	**Market Price (₹)**	**MSRP(₹)**	**Profit(₹)**	**Number of Units Sold to break even**
Grinder	35000	Oil	10	Collection	3	85	70	33	1061
		Salt	5	Production	2.5				
		Flavors	10						
		Bag	5						
		Plain Flour	7						
Total	35000	Total	37	Total	5.5				

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