Report on

Feasibility Study of Community Based Livelihoods options in Thembang and Zemithang Villages, Arunachal Pradesh.

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Contents

Executive Summary

WWF India is proposing to promote alternative conservation-based livelihoods for local communities in two villages - Thembang and Zimithang located in:

1. **Chander-Thungri** area of West Kameng district of Arunachal Pradesh under Dirang CD Block. The area is traditionally owned by Thembang Village.
2. **Nyamjang Chu Valley** Tawang district of Arunachal Pradesh. The area is part of Zemithang CD Block and the customary right over the area is with Zemithang village.

Both villages, located under the Zemithang circle and Chander Thungri area, have come together to declare their forest areas as "protected" in the form of community conserved area. Aided by the World Wide Fund for Nature (WWF), India, and its Western Arunachal Landscape programme, the villagers are learning to earn their bread from conservation incentives.

In both villages, the demarcated areas have been divided into two zones. The buffer zone includes areas for sustainable extraction of firewood, bamboo and timber to meet household requirements. These areas are near the villages and will also be used for grazing. The rest of the area has been demarcated as a "core zone", where hunting and extraction of any kind of forest produce have been banned.

The communities residing in these villages have traditionally been carrying out various livelihood activities. In year 2003, WWF- India introduced organic farming and cultivation of fodder as two activities for complementing community incomes. In order to find out the viability of these options in long term as well as to explore other livelihood options, a feasibility analysis for setting up a community based enterprise for these communities was carried out.

The traditional skill of the villagers at both these places is primarily farming, making craft items, weaving and animal husbandry. The villages have abundance of natural resources in terms of forest, land and water. There is a large number of livestock, mainly cows with the villagers which is primarily used for ploughing and very little

extraction of milk is done (this is due to the religious practices). The major source of cash income for majority of the villagers has been participation in road maintenance and construction activity carried by Border Road organisation. Some of the farmers with large agricultural holding also earn cash income by selling there surplus agricultural produce, but this number is very small.

In the feasibility study carried out in Thembang, Lumpo and Muchot village, an assessment of all the existing and possible livelihood activities was done which included vegetable cultivation, handicraft, weaving, fruit processing unit, handmade paper, Handmade aggarbatti, milk based products, fodder cultivation and farming. The villages are similar in terms of cultural and religious practices. The socio-economic condition is also similar but they differ in terms of livelihood practices due to natural conditions and external factors. For example, farming is the primary activity in both Thembang as well as Lumpo and Muchot villages, but in Lumpo and Muchot it is practiced at a very small scale due to problems caused by wild animals. Besides this in Zimithang circle tourism is well developed compared to the Dirang circle. Government has also come up with new projects to develop tourism infrastructure further in Zemithang. With higher tourist traffic, the Zemithang circle has comparatively a better well developed tourism market which will further boost any kind of livelihood activity in this area.

The feasibility study carried in Thembang village shows that vegetable cultivation is a viable activity in the village given the local demand and the conditions. There can be a cluster based livelihood approach were the big farmers having sufficient land can engage in vegetable cultivation with the marketing part being handled by the Committee set up for the Community Conserved Area. This will create a win-win situation for all, creating income for both the farmer as well as the committee. The remaining households can participate in fruit processing unit. The ample availability of Rhododendron from January to March and the richness of Arunachal Pradesh in terms of fruits makes it viable to start a fruit processing unit. But the challenges involved in terms of infrastructural facilities are quite high for operating a fruit processing unit at Thembang village. Alternate options have to be explored regarding the setting up of unit and Dirang can also be considered given its connectivity and proximity to the village. The seasonal calendar clearly shows that from November to March, farmers are relatively less involved in agricultural activities. It is at this time of year that they can be provided alternate employment in these fruit processing unit.

Similarly in Lumpo and Muchot village under the Zemithang circle, setting up a handmade paper and aggarbatti unit seems to be a viable option, because of a well developed local demand for such produce. Handmade paper and aggarbatti is used by the villagers for religious purposes and is also in high demand by the monasteries. Besides this tourism is also well developed in the Tawang district. Aggarbattis and value added handmade paper positioned as a product of the local area can be a hot selling item amongst the tourists. These areas have a huge army base thus expanding the market further for such products, primarily aggarbattis. Any kind of farm based activity is difficult to promote in these villages due to problems caused by wild monkeys and pigs.

WWF India is also promoting to start community based tourism at the project sites of Thembang in Dirang block of West Kameng District and Nyamjang Chu valley in the Zemithang block in Tawang District. With the setting up of a community based tourism there is going be dual impact. The local market demand will expand with an increased tourist inflow and secondly some of the households will get direct employment and benefit from this activity through homestays, working as porters, etc. The market for vegetables and aggarbattis will increase with an increase in tourist traffic thereby helping in making the venture sustainable in the long run.

The livelihood enterprises along with community based tourism project will lead to an involvement of the entire households in these villages in income generation activities. This will lead to an increase in income of the households. Since most of the livelihood activities mentioned above are dependant upon forest for the supply of raw materials like handmade paper unit, aggarbatti unit, fruit processing unit and tourism there will be an increased awareness amongst the villagers regarding conservation of natural resources since the income of the villagers will become directly correlated to the availability of natural resources.

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Chapter One

Introduction

Situated on the north-eastern tip of the country, the picturesque Arunachal Pradesh is a part of the eastern Himalayan ranges located between 26` 28' to 29` 30' N latitude and 91`30' to 97`30' E longitudes. The state is bounded by Bhutan on the west, China in the north and north-east, Myanmar on the east and the Indian states of Nagaland and Assam in the east and South-east. In the north eastern region of India, Arunachal Pradesh occupies the largest area (83,743 sq. km) and consists of the submontane and mountainous ranges sloping to the planes of Assam. Physiographically the state is divided into three sections: the flood plains, the foothills and the greater Himalaya. The flood plains are in the southern portion of the state, the foothills also known as the lesser Himalaya are located between the greater Himalaya and the sub-tropical region. The greater Himalaya comprises areas under permanent ice fields and temperate regions. The mountain peaks show a great variation in height from 1,829 m to 6,400 m. highest peak in Tawang is 7,090 mts.

The five major rivers flowing through the state are Kameng, Subansiri, Siang, Lohit and Tirap, which along with many tributaries finally drain into Brahmaputra. There are 13 districts in the state. The climate varies sharply with changes in topographical and altitudinal aspects. Three broad climatic zones are recognizable viz. hot and humid subtropical area of foothills, cooler microthermal zone of the lesser Himalaya, and alpine zone of the greater Himalaya. The state is one of the heaviest rainfall zones of the country. The average rainfall is more than 3000 mm, being as high as 4,500 mm in the foothills and 800mm in upper reaches. Due to its hilly terrain, the soils in major part of the state are rocky, mainly of Himalayan type: shales, schist and conglomerate. The derived soils are sandy and clayey in the lower elevations of the valleys. Due to high rainfall, the soils are acidic, and because of the extensive vegetal cover also contain humus rich in nitrogen and organic matter.

Land use:

In Arunachal Pradesh as in the other north-eastern states of India, the land use pattern is considerably influenced by jhum cultivation or shifting cultivation. Before the settled cultivation practices were adopted, agriculture was carried out in the form of shifting cultivation. This traditional practice, well rooted in the cultural ethos of tribal

societies, is one of the major causes of deforestation in the hills. Due to increasing population pressure, the period of shifting cultivation has now been reduced barely to 4-6 years as compared to 10-15 years not very long ago.

Economy in brief:

Agriculture is the mainstay of the people. Shifting cultivation or jhumming is largely on the slopes of hills and riverine tracts. The slopes are rainfed, while the foothills are irrigated by means of small gravity channels and diversion weirs. Rice is the main crop while the others are maize, millet, wheat, pulses, sugarcane and oilseeds. Besides, fruits such as citrus, plum, apple, pear, peach, cherries, walnut, almond, etc. are grown in about 1,400 horticulture gardens. Arunachal Pradesh has been bestowed with abundant forest, mineral and hydle power resources, which provides high potential for industrial development. Natural reserves of coal, crude oil, dolomite, limestone, graphite, quartzite, mica and copper have been under commercial exploitation for the past two decades. Small and Medium scale industries are essentially forest-based and are the main source of income for people having knowledge of traditional arts and crafts.

1.1 Study area:

1.1.1. Chander Thungri area of West Kameng district of Arunachal Pradesh under Dirang CD Block. The area is traditionally owned by Thembang village. A brief profile of the West Kameng district is discussed below:

West Kameng is a district of Arunachal Pradesh in India. It accounts for 8.86% of the total area of the state. The name is derived from the Kameng River, a tributary of the Brahmaputra.

West Kameng lies approximately between 91° 30' to 92° 40' East longitudes and 26° 54' to 28° 01' North latitudes. The district shares an international border with Tibet in the north, Bhutan in the west, Tawang District in the northwest, and East Kameng district in the east. The southern border is shared with Sonitpur district and Darrang district of Assam.

Topography

The topography of the district is mostly mountainous. A greater part of it falls within the higher mountain zone, consisting a mass of tangled peaks and valleys. In West Kameng there are three principal mountain chains - part of Sela range, Bomdila range and Chaku range. The Sela range consists a series of mountains arranged in the form of big line from Tibet in the north, Bhutan in the west and thus forming a tough terrain to pass through it. The altitude of Sela range varies from 14000 to 15000 feet and Sela pass is 13714 feet high. The Bomdila range having an average height of 9000 feet, South of Bomdila range lies the Chaku range (foot-hills range) having hills of quite low altitudes and is full of tropical forests with trees of great economic value.

Tenga, Bichom and Dirang Chu are the main rivers flowing through the district. All these rivers are tributaries of the river Kameng which flows through Bhalukpong circle of the district.

The inhabitants of the district comprises mainly of Monpa (Dirang, Boot, Lish, and Kalaktang monpa), Miji (Sajalong), Sherdukpen, Aka, and Bugun (Khawa). The Monpas belong to the Tibeto-Mongoloid stock and are the largest tribe of the district, inhabiting mainly in Dirang and Kalaktang circles. The Mijis are settled in Nafra and Akas in Thrizino circle. The Khawas inhabit in Wanghoo, Kaspi, Singchung and Tenga areas. The Sherdukpens are mainly settled in 4 villages of Rupa, Jigaon, Sergaon, Thongre and also in Doimara area. By and large the inhabitants are Buddhists though Akas, Khawas and Mijis believe in indigenous religion and follow partly Buddhist and Hindu practices. Every tribe has its own society and village council.

The district is divided into three administrative sub-divisions *viz*. Bomdila, Thrizino, and Rupa and one independent Additional Deputy commissioner's office at Singchung. All the circle head quarters of the district are connected with the district head quarters (Bomdila) by roads. Regular passenger services to Guwahati, Tezpur, Itanagar, Tawang and all the circle head quarters of the district are being provided by State Transport and private buses. Bhalukpong is the nearest railway station in the district situated at about 100 km from the Bomdila, while Salonibari (Tezpur, Assam) is the nearest airport about 160 km from the district head quarters.

Climate: Like East Kameng, the West Kameng district experiences arid tundra or a cool temperate climate in the north. Snow fall occurs from mid-November to February.

Population/villages: As per 2001(provisional) population census, west Kameng district is having 170 villages with a total population of 74,595 comprising of 42,638 males and 31,957 females respectively. The district population accounts for 6.84% of total population of the state of Arunacahl Pradesh.

Literacy: The literate population of the district as per 2001(Provisional) population Census was 38,488 forming 61.67% of the total population. However, the literacy between male and female was recorded as 71.02% and 48.56% respectively. The percentage of literacy is worked out with reference to total population excluding the population of age group 0 to 6 years.

Density of population: The average density of population per square kilometer is 10 for the district as compared to 13 persons for the State of Arunachal Pradesh.

Sex Ratio: The Sex ratio indicates 749 females per 1000 males as per 2001 (Provisional) population Census.

Decennial growth rate: The decennial growth rate of population during 1991 to 2001(Provisional was recorded as 32.21 for the district.

Inhabitants and their Religion: The inhabitants of the district comprises mainly of 5(five) major tribes namely: (a) Monpa (b) Sajolang (c) Sherdukpen (d) Hrusso and (e) Bugun respectively

1.1.2. Nyamjang Chu Valley, Tawang District of Arunachal Pradesh. The area is part of Zimithang CD Block and the customary right over the area is with Zemithang village.

Moored high up in the mountain ranges of the Himalayas, at 3500 meters above sea level is Tawang-the beautiful land of Monpas. With sobriquets like: The Hidden Paradise or Land of Dawn-lit mountains; this land evokes images of awesome mountain views, remote hamlets, quaint and sleepy villages, magical Gonpas, tranquil lakes and a lot more. At Tawang, one can have a heavenly tryst with nature at its best and the heady mixture of history, religion and legends.

The area of the district is approximately 2,085-sq-kms bordered by Tibet in the North, Bhutan in the Southwest and Sela ranges separate West Kameng

district in the East. The name Tawang derives from some bearings on surroundings. But people's interpretation is that the name Tawang was given by Merak Lama in the 17th century.

The inhabitants of the districts are all of Monpa tribes. The Monpas belong to Mongoloid stock, are well built, and fair in complexion. Their houses are built with stones and timbers. Agriculture and Animal Husbandry are the fundamental means of the Monpas occupation.

Physiography:

Tawang is a thinly populated mountainous tract lying roughly between the latitude 27 º 45' N and the longitude 90º 15' E on the Northwest extremity of Arunachal Pradesh. The district is surrounded by the Tibet in the North East, Bhutan in south West and West Kameng district in the south East.

Climate: Owing to the rapid changes in the nature of the terrain there are variations in the climatic conditions within short distances. How ever, on the basis of agro-climate parameters such as, Physiography, soil, Climate, Natural Vegetation and prevalent cropping pattern, a major portion of Tawang district falls under Agro-climate sub-region Viz, Higher Himalayan region (Alpine), which experiences snowfall. Remaining of the portion of the district represents sloping mountainous of lesser Himalayan range which experiences a cool and pleasant climate.

Topography: The topography of the district represents:

1. The snow covered Himalayan ranges from 11,000ft.to 22,000 ft. which mostly include bare mountains and are mostly uninhabited.

2. The high altitude mountainous belt from 6000 ft. to 11000 ft., which contains plateau and narrow valleys and are sparsely, populated.

Rivers: 'Tawangchu' and 'Nyamyanjchu' are the two main rivers in the district. Majority of the villages are concentrated in the basin of these two river valleys.

Soils: The soils of this district is classified as under: - 1. Rocky and loamy skeletal texture with soil depth shallow to medium. 2. Sandy skeletal, Loamy, Fine loamy textured with soil depth medium to deep.

Land Use: Land use classification of Tawang district (Area in '000 Hect). 1. Total Geographical area 2085 Sq. Km 2. Forest area 1251 Sq. Km 3. Land not available for cultivation 577 Ha. 4. Net area sown 6655 Ha. 5. Area sown more than once 941 Ha. 6. Total cropped area 7596 Ha.

1.2 Context of the study:

The communities residing in the villages of Thembang, Lumpo and Muchot have traditionally been carrying out various livelihood activities. In all these places the primary activity in which the villagers are engaged is agriculture. The villages still follow the old barter system, in which they exchange there surplus produce with items of scarcity. Mostly the agricultural production in these villages is for self consumption. The main source of cash income for the villagers is working as labourer in the road maintenance and construction activities undertaken by the Border Road Organization.

WWF India has been working in the West Kameng and Tawang District for quite some time. Some of the activities undertaken by WWF, so far has been:

Organic farming for food security and biodiversity conservation in Arunachal Pradesh:

The aim of the project was to improve the traditional methods of replenishing soil fertility vis-à-vis organic farming for food security and biodiversity conservation in Dirang Valley, west Kameng District and Arunachal Pradesh. The project is being supported by the Department of Science and Technology, Government of India. The project beneficiaries have enhanced their earning by using organic manure and increasing the productivity. Additional income by selling the earthworms has given a new impetus to the conservation of natural resources.

Improvement of Fodder Resources in Western Arunachal Landscape (WAL):

The project aims to document the traditional fodder species utilized by the local communities of Western Arunachal Pradesh and promote cultivation of locally preferred fodder species; study and explore possibilities to reduce the adverse impact of grazing on high altitude grazing lands. The project is being supported by Department of Science and Technology, Government of India. Information pertaining to the role and existing threats and pressure to the traditional institutions for management of fodder resources has been documented. The high

altitude summer grazing area known as jak brook and winter grazing area known as gung brook have been mapped with the help of the local villagers.

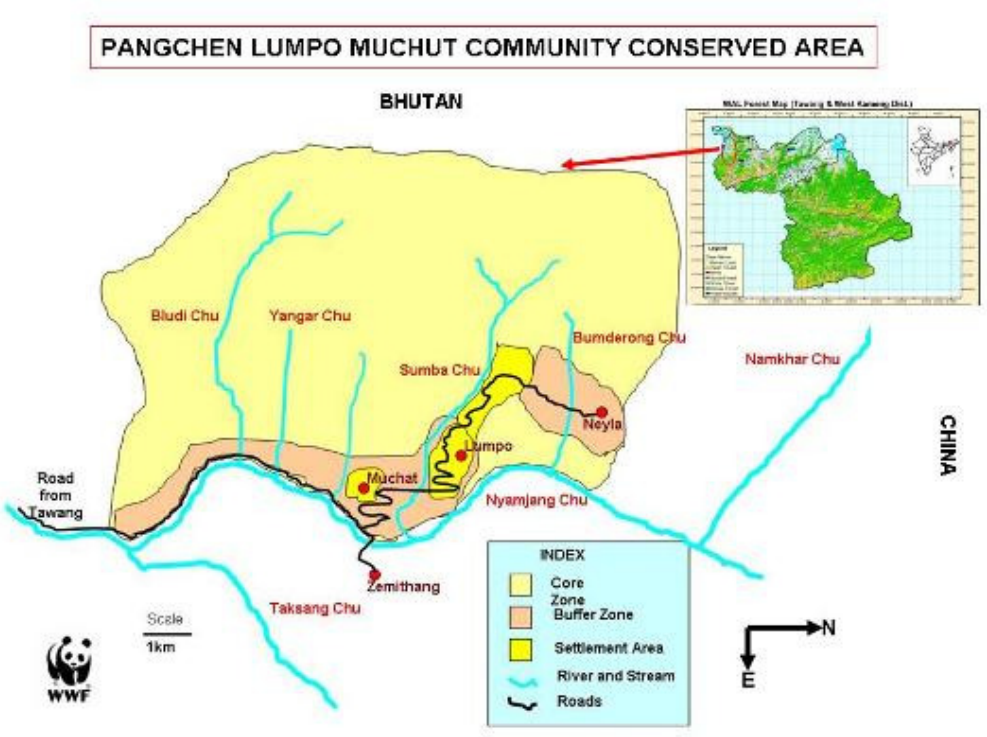
A fodder repository has been established in collaboration with Thembang Bapu Community Conserved Area Management Committee to develop seeds of important fodder species locally for the interested farmers. Four varieties of fodder seeds viz., rai grass, guinea grass and oat kent were procured from Uttaranchal Livestock Development Board, Dehradun, for this repository.

Conservation of Rhododendron in collaboration with Indian Army

Conservation of Rhododendrons in WAL in partnership with Indian Army has significantly helped to spread the message on importance of conservation of species among local people as well as army personnel. The 'environmental seminar' organized by the 5 Mountain Division of Indian Army at Tenga was attended by the officials of the Forest Department and academicians from the state. As a follow up of the seminar the Army had provided space to establish two Rhododendron information centre, one at Sapper Camp by the 40 Mountain Brigade and the other at Tawang by 191 Mountain Brigade. Thirteen highly informative Rhododendron posters have been developed to generate awareness among the people on the importance of this species.

In the ongoing effort of WWF-India to build up the capacity of local villagers for protection and management of the forest resources, Community Conserved area has been formed in the villages. It has been registered under Societies Registration Act (No.SR/ITA/3823). The Community conserved area has both buffer as well as core area. The villagers can have access to forest resources only from the buffer area. WWF India proposes to conserve the forest by complementing the source of income of the villagers with alternate livelihood options. In order to find out the viability of these alternate livelihood options in the long run, the feasibility analysis has been conducted for setting up a community based enterprise.

The community conserved area in the Lumpo Muchot village area is shown below. This Community Conserved area will be protected by the villagers through a committee. The idea behind introducing alternate livelihood options is to conserve the forest which faces serious threat as the population of the village will increase.



Source: WWF, India

1.3 Objectives of the study

- Study the current livelihood initiatives and assess their feasibility in terms of value-addition and maximizing returns
- Identify additional viable options for livelihood generation in the region including a cost benefit analysis of these
- Assess the capacity, skill and willingness of the local communities to undertake these activities
- Based on an analysis of the provision of state and central policies provide recommendations for putting in place adequate benefit sharing mechanism
- Identify the market. Assess the product, and carry out a preliminary cost-benefit analysis for setting up these enterprises (including costs of capacity building, infrastructure development, marketing, etc)
- Produce a report that includes all of the above and includes an assessment of risks and which clearly provides recommendations regarding the promotion of suitable alternative livelihood options for the area.

1.4 Methodology:

To conduct the study both primary data as well secondary data was collected from the site. A structured questionnaire was administered in the villages. There were to sets of questionnaire. The first set of questionnaire was focusing on collecting the socio-economic data of the village. This questionnaire was covered with all the households in the village. The second set of questionnaire focused on livelihood opportunities in the village. This questionnaire was administered to a sample size of 20% households. Random sampling was done in choosing the households. The entire study has been conducted in the sustainable livelihood framework.

Besides the questionnaire, Participatory tools like Participatory Rural Appraisal, Resource mapping, 3-E exercise, seasonality calendar, activity charts were drawn with the help of the villagers. While conducting these participatory assessments separate group of men and women were made so as to take into consider the gender factor as well.

Field visits were also made to the sites in the first and second week of July. The field visits were accompanied by the WWF-India Arunachal unit team members. Their presence in the trip facilitated discussion and allowed information exchange to understand the proposed project sites in a better manner. Furthermore the team's presence was also instrumental in organizing the local meetings and also taking care of the local logistics.

Individual meetings and discussions were also held with key informants from the village. Visits were also made to the Lead Bank in Tawang, District Rural Development office, and Forest department' office to understand there perspective.

An in depth survey of the markets in Dirang, Bomdilla, Tawang, Itanagar, Nahar Lagun was also done were the retailers were randomly interviewed to assess the market demand.

1.5 Limitations:

- The time period of the study collided with the agricultural season. As a result of this there was difficulty in gathering the villagers for the meetings and the group meetings could be conducted only late in the evening
- Due to heavy rain, socio economic survey in lumpo village could not be completed on time. The analysis has been done on the basis of group discussions held in Lumpo and the data of Muchot village.
- The secondary source of information for Arunachal Pradesh is also limited.

Chapter Two

2.1 Livelihood intervention

Livelihood interventions are conscious efforts by an agency or an organization to promote and support livelihood opportunities for a large number of people (other than those directly or indirectly employed by them.) Government of India has been one of the largest agencies involved in such livelihood promotion efforts. However, the co-operative sector, the corporate sector as also the NGO sector have also contributed to promoting livelihoods.

Examples include

- Government program for development of irrigation: India has added over 40 million hectares of irrigation since independence, the largest in human history. This has generated or stabilized the livelihood of millions of people.
- In agriculture, the predominant livelihood interventions covered irrigation through large dams and canals till the 1960s, followed by the introduction of the high yielding varieties package during the green revolution, impacting the livelihood of over 40 million farmers and a similar number of landless laborers.
- Government programs such as the erstwhile National Rural Employment Program (NREP), refashioned as the Sampoorna Gram Samriddhi Yojana (SGSY), to guarantee wage-employment to the poor in the lean season through public works such as road building.
- Government programs such as the erstwhile Integrated Rural Development program (IRDP), refashioned as the Swarna Jayanti Grameen Swarojgar Yojana (SGSY), to promote self employment among the poor through acquisition of an income generating asset with the help of bank loan and a government subsidy.
- Special government programs, run in specific states, to promote both wage employment, such as Employment guarantee Scheme (EGS) of Maharashtra and to promote self employment through highly subsidized asset acquisition, such as the World Bank sponsored District Poverty Initiative Program (DPIP) in AP, MP and Rajasthan.

- Programs run by sectoral institutions such as the National Dairy Development Board, the Central silk Board, the coir board, the National Horticulture Board, and the Development commissioner for Handloom and Handicrafts.
- Programs run by non-governmental agencies, for promoting livelihoods in different regions and sectors, such as by SEWA, BAIF, MYRADA, AKRSP, PRADAN, RGVN and BASIX.
- The Self Employed Women's Association (SEWA) works with over 750,000 self employed women of low income households.
- Bhartiya Agro Industries Foundation's (BAIF) program supports one million livelihoods, comprising cattle cross-breeding, pasture development, horticulture, etc.
- Venkateswara Hatcheries intervention to develop the poultry sector, culminating in the National Egg Council which serves over 200,000 poultry producers.
- Various Micro Finance interventions by banks and NGOs have influenced the livelihoods of more than twelve million people.

2.2 Livelihood and Local Economy Development:

Any livelihood intervention aims at the improved well being of the people in the local economy. Many Livelihood experts feel that linking poor producers to the market is the key factor. But some differ. While access to these markets can increase the share of consumer's rupee to rural producers, it often pushes the locus of control and decision making away, and reduces their role to mere suppliers of labour from equity holders in their own small little business.

There have been many cases when, when the rural producers, especially the smaller ones have fallen pray to market vagaries. Thousands of farmers were forced to burn there sugarcane crops. Several hundred cotton farmers committed suicides when the crops failed. Tons of Malta was thrown into the Ganges when the prices collapsed. Similarly, the carpet industry in Rajasthan faced a serious set back, when the European market stopped buying carpets, due to a change in their import policy in relation to child labour.

In countries like Mexico, Argentina, Indonesia, the impact of too much dependence on outside market and generation of little wealth within has been seen. These countries had become entirely dependant on exporting a small

number of specialized goods and services. The local economy was no longer diverse, and therefore highly vulnerable to external shocks, as almost nothing was sold in local markets. The effects were devastating. When nothing was produced for local markets, no money circulated within the local economy.

All earnings from exports were spent on goods and services that were imported into the community- money simply flowed in and immediately out again, generating no further income and employment within the community. Let us look at an example which illustrates that how making an economy self reliant makes the money go longer.

If the income of one person is spent within the local economy itself, it becomes the income of another within the same economy. For example, if a dairy farmer, Ram buys the fodder from a neighboring farmer, Shyam, the money Ram spends on buying fodder becomes income of Shyam.

This can have a perceptible implication for the economy as a whole. Let us examine how. Let us assume that Ram, Shyam, Laxman and Bharat live in a village where only 50 percent of the goods required by anybody are available within the local economy. So, in this village, when Ram spends Rs 100, he buys goods worth Rs 50 from within the village itself, say from Shyam, Thus Shyam has an income of Rs 50. Taking this logic further….

	Total Income	Amount spent within the economy	Amount spent outside the economy
Ram's Income	100.0	50.0	50.0
Shyam's income	50.0	25.0	25.0
Laxman's Income	25.0	12.5	12.5
Bharat's income	12.5	6.25	6.25
Total income generated	187.5		

Table 1. Illustration of Local Economy Development

Thus by this Rs 100 generates an income of Rs 187.5 for the four of them. Therefore, by producing more and more of the local requirements locally, income can be enhanced.

If Ram could buy more fodder locally instead of buying cattle-feed from the town, the economy would have become stronger. To move towards this, someone could be trained to produce better fodder locally. Someone can also be trained to use the cow dung to make compost, which in turn could be used fodder production by other farmers. A local boy can also be trained locally to cut chaff. This would keep the money flowing within the local economy and generate more income than before.

The underlying principles of such a model are to:

- Use local resources to meet local needs
- Maintain diversity within the local economy to reduce risks
- Ensure money circulates within the local community
- Enhance the control that the community has over its local resources
- Enhance financial and other assets within the community that can generate future income streams
- Reducing the risk arising from the vagaries of distant market faced by poor producers
- Organizing poor producers so that they have greater control over their livelihoods now and in the future
- Increase the bargaining power of the producers.

The above model has been discussed in detail because in the villages in the study area in Arunachal Pradesh, the local economy was self sufficient initially with barter system in practice, which is still being largely practiced. Any intervention in these villages should not try to disturb the self sufficient economy of these villages.
Besides this, the villages in study are forest villages. The villagers depend on forest for there day to day requirement. The possibility of setting up a forest based small/ medium enterprise ids high.
So, before we proceed, Let us examine the important features and policies pertaining to forest based industries:

2.3 Small scale forest Enterprises:

The Indian SSFE sector is very diverse and encompasses a wide range of activities ranging from production or collection of products such as fuelwood, poles and NTFPs; their processing either by hand (e.g. leaf plate stitching) or by modern machinery, and marketing at every level ranging from barter at the local level to export to international markets. The Indian SSFE sector produces a wide range of products such as poles, fuelwood, charcoal, sawn timber, furniture, veneer, plywood, blackboard, fireboard, particle board, paper, safety matches, sports goods, handicrafts, herbal medicines and other non-timber forest products.

Due to the diversity of products, markets and policies, it is difficult to make generalizations for the entire SSFE sector. Still, there are certain features of the sector that are clearly discernible.

- A feature of the Indian SSFE sector is that while most of the forests are owned by the

  Government, the bulk of SSFEs is in the *private sector*. It is estimated that more than 90% of India's wood-based products are presently manufactured in the private sector (GoI 1999).
- SSFEs are an important *player in the forestry sector*. For example, 98% of the sawmills in India are small, which produce as much as 82% of the sawn timber in the country. About 87% of plywood factories and 94% of paper mills also fall in the small enterprise category. It is estimated that the wood processing industries in India process about 24 to 30 million m3 of wood per annum (GoI 1999), the bulk of which is processed by SSFEs.
- *Farmers and communities are important producers* though their contribution is not widely recognised or acknowledged. JFM Communities are now protecting over 18% of India's forests and half the industrial wood supply is coming from non-forest sources, mainly farms.
- There are several *very small enterprises that cater to local demand*. For instance, it is estimated that 2.1 million bullock carts are constructed each year, as are 50 million yokes, 100 million wooden ploughs and 30 million wooden seeders. Most of this demand is met by local artisans who utilise local raw materials and traditional skills.
- Generally SSFEs are by nature *location specific*, which is determined on the basis of the availability of resource, labour and markets. For instance, most safety matches are manufactured in Tamil Nadu, whilst the bulk of sports goods are manufactured in just two cities.

SSFEs play an important role in the national economy, especially rural sector. While it is difficult to obtain national figures, available industry wise figures do indicate large-scale employment in SSFEs. For example, it is estimated that up to 10 million people are directly involved in beedi industry and up to 30 million are indirectly dependent on it. Nearly half a million people are employed in safety match making, sawmilling and wood carving. Some SSFEs also earn valuable foreign exchange e.g. medicinal plants and wood carving industries. The contribution of the household based SSFEs to the livelihoods of the rural poor is perhaps even more significant than that of the organised sector. It is estimated that there are 147 million people that live in close proximity to forests in India (FSI 1999). Many of these are poor and indigenous peoples, who are dependent on forests for their livelihood. An idea of the immense contribution of forest products to the national economy can be gauged from the fact that an estimated 600 million tonnes of forest produce valued at Rs. 300 billion is collected annually from India's forests (GoI 1999).

The **policy environment** for small scale industries in India is generally very favourable. SSIs enjoy protection as well as a number of concessions. A number of items are reserved for SSIs and they are entitled to special excise concessions, preferential treatment from banks for obtaining credit and various export incentives. However, with economic liberalisation and changes in the trade policy, SSIs have started facing increased competition from foreign companies. The labour law framework is also quite stringent though its implementation is rather weak.

As far as the forestry enterprises are concerned, there is a range of government policies which are of relevance: these include the industrial, labour, trade, forest and environment policies. Some of these such as industrial and labour policies are generally applicable to all SSIs though in some highly labour intensive industries such as *beedi*, safety match making, etc. labour laws have much greater importance. SSFEs are more directly affected by forest and environment policies. While the access to forests has been increasingly getting difficult for the organized industry sector, new opportunities are emerging for household and community level enterprises e.g. through the Joint Forest Management programme.

The forest produce production enterprises (e.g. farm forestry plantations) face other restrictions, such as requirements of felling and transit permits and land ceiling laws. The policy environment also varies according to the industry. For instance, while there are special environment protection provisions for hazardous industries such as

paper mills, certain trade restrictions are applicable to the medicinal plants and herbal medicine industry.

The great diversity of products that they produce and process makes it impossible to define **overall trends in small-scale forestry enterprises**. However, just examining three industries (small paper mills, lacquer ware and safety match) show that there has been a general increase in activity in SSFEs, sometimes encouraged by government incentives, sometimes because of the inherent comparative advantages of small-scale units over larger ones – for example the ability of small-scale paper mills to make use of limited volumes of agricultural residues available locally. However, increased activity can also signal a change in the employment structure – for example in the lacquer ware industry, increased mechanisation led to a greater proportion of men being employed. Finally the impression given by numerous small-scale enterprises can be misleading: they are not necessarily autonomous but might be controlled and owned by wealthy, powerful organisations – as is evident in the case of safety matches.

It is difficult to get a clear picture regarding **imports and exports of forest products**, as the data is categorised in such a way that often, several forest and non-forest products are clubbed together in one commodity class. However in general terms over the period 1996-2002, forestry imports have fluctuated between approximately 2% and 3% of total imports, whilst exports have always remained around 1% of total exports. Certain SSFEs such as wood carving industry and medicinal plants contribute significantly to exports while others such as sawmills, plywood and panel industry and paper industry uses significant quantity of imported raw material.

Like any other sector, there are a number of **opportunities and threats** facing the SSFE sector.
The main opportunities available to the SSFE sector are:

- Government *incentive schemes,* which are available to SSIs in general.
- *Government protection measures* such as the reservation of a large number of items for exclusive purchase from SSIs.
- There are also several *emerging or rapidly growing markets* such as herbal medicines and packaging, where SSFEs can play an important role.
- *Dwindling supplies of raw material* from government forests on account of degradation and/ or green felling bans have also created opportunities for new producers such as farmers and communities. The growth of farm

forestry in certain areas e.g. the *Tarai and* coastal Andhra Pradesh has, in turn, opened up new opportunities for establishing *new processing industries* in these areas. For instance, a number of processing industries have been established in Yamuna Nagar (Haryana) due to the growth of farm forestry in the area.

The key *threats* faced by SSFEs in India are:

- A *growing shortage of quality raw material* due to felling bans and restrictions on extraction in several states. However, while this is certainly a threat to processing industries, as noted above it is actually also an opportunity for production enterprises such as farm forestry plantations.

- Growing *concerns over environmental and labour issues* are also significant threats. In recent years, many court rulings have also resulted in the closure of many forest produce processing industries on account of enhanced environmental concerns. The industries in the north-eastern states and the Andaman and Nicobar Islands have been particularly badly affected.
- Since economic liberalisation there has been *growing competition from cheap imports* and a trend towards removal of protective policies, such as reservation. Indian SSFEs are generally quite inefficiently run, the quality of products is poor and there is lack of standardisation – thus they are quite uncompetitive internationally.
- Stringent application of an international *intellectual property rights regime* is also likely to affect Indian SSFEs, especially processing industries, adversely.

There are a number of **federations and associations** that have been formed by forestry enterprises. While some focus their attention only on small enterprises, others have membership from across the industry. Most are focused on a particular industry or even a particular group within the industry e.g. *beedi* (country cigarette) workers. Most associations and federations act as pressure groups to further the interests and welfare of their members. Some even actively try to influence policies – for example the Indian Paper Makers Association lobbied in favour of leasing degraded forest lands. Workers' associations (which are usually affiliated to a particular political party) also try to influence policy decisions through actions such as conventions, rallies and protests – whether the issue is globalisation, the national minimum wage or the threat posed to the tobacco industry from bans on smoking in

public places. However, not all associations are as active: some associations see their aim simply to "set rates" for payment to government inspectors and other officials.

SSFEs can play an important **role in improving rural livelihoods**, especially of the poor. This not only reduces pressure on scarce agricultural land but also decreases stress out-migration from rural areas into cities, where the poor often end up living in slums under sub-human conditions. Some of the characteristics of SSFEs that indicate their suitability for generating local livelihood opportunities for the poor and other vulnerable groups are:

- they are small in size and are often household based;
- they are predominantly rural and frequently seasonal;
- they are labour intensive and use simple technologies;
- they require very low capital inputs;
- they are accessible to low income and socially disadvantaged groups;
- they provide direct benefits to the local economy; and,
- Women are heavily involved, often forming a majority of the labour force.

Yet the contribution of SSFEs to rural livelihoods as well as its potential in improving resource management is poorly understood and not adequately recognised by resource managers and planners alike:

- Those involved in collection and household level processing based enterprises (e.g. leaf plate stitching, rope making, etc.) face serious policy bottlenecks that limit their returns. For instance, most commercially important non timber forest products are nationalised and collectors are not allowed local processing for sale.
- Farmers, although now major producers of industrial wood in India, face constraints such as requirements for felling and transit permits and restrictions on growing and sale of certain forest products.
- Over 63,000 community groups are protecting and managing over 14 million hectares of forests (over 18% of all state forest lands). They have begun to produce millions of tonnes of forest produce annually but their production role has received scant policy attention. Many joint forest management groups are facing serious marketing problems and this is threatening the future of the entire joint forest management programme.

One reason for this poor understanding is that data is scattered and there is a **lack of aggregated information** at the national level. The information that is available is scattered in different departments and ministries, industry associations, etc. Published information is often out of date and contradictory; in addition, a large number of SSFEs are in the unorganised or informal sector for which no "official" data is available. The informal sector plays an important role in the economy but its role is often poorly understood or appreciated. While, there is some understanding regarding enterprises based on "forest goods", there is little or no understanding of the status or potential of enterprises based on "forest services" such as ecotourism, carbon trading, watershed services, etc. There is a need to sensitise planners regarding the potential of these services.

Chapter 3

Thembang

3.1 Introduction:

Thembang village is in Dirang circle of West Kameng District. Thembang is a monpa tribal village. The village is beautiful and so are the people. This is one of the oldest Monpa village of the West Kameng district and the home of the rulers of the Monpa tribe. Local people carry out sedentary agriculture growing crops like maize, potato, barley and few leafy vegetables.

Panchayat are elected under the new village administration system however the traditional system of Gaon Bura (Village Headman) still exists. Major decisions and leadership is provided by the Gaon Bura,

Local people are traditionally Buddhist by faith. There are four upper castes in the village and the generic name given to people belonging to upper caste is “Bapu”. The four different upper castes are Sherchokpa, Dirkipa, Atejapu and khochilo. Similarly there are four lower caste groups in the village, namely Lupsunga, Mirakpa, Neemsonga and Tsarmu. The traditional caste system of the village has been that the land owners of the village are usually people from upper caste and people from lower caste help upper caste people in carrying there day to day work.

The total Community Conserved Area that has been marked in the Thembang Village is 350 sq. km. Out of this 350 sq km; 50 sq. km has been earmarked as buffer area after discussion with the villagers.

3.2 Resource Base of the village:

- River: A river(Satsi)

  The main use of the water is for:
  - Fishing for own consumption. 10% of the people in the village are into fishing, but it is solely for own consumption.
  - For running flour mill. There are ten such flour mills in the village with different households which run on hydle energy

- Forest: Thembang is a forest village. The main uses to which forest resources are being put in the village are:
  - Firewood

- Timber for construction of own house
- Fencing
- Medicinal Plant: Some of the medicinal plants that are found in the village are: Taexus, Litchi, Kutki, Peela Zari, Pamposh, etc.
  The medicinal plants and there uses are mentioned below:

Sr. No.	Medicinal plant	Uses
1	Taexus*	Anti-cancer
2	Litchi	spice
3	Kutki	Gastro problems
4	Peela Zari	
5	Pamposh	perfume
6	Rubina cordifolio	Traditional dye
7	chironta	fever

* (extraction of Teaxus has been banned by the forest department due to over extraction for commercial purposes)

Medicinal plants are collected from the forest only for self consumption and occasionally for trade if a buyer places order. The orders have been very sporadic from traders from Assam. If an order is placed, villagers collect the concerned medicinal plant and sell it.

- Rhododendron: Rhododendron plant is available in ample between January to March. There is abundance of Rhododendron available in wild and around 52 varieties of Rhodo species has been found in Arunachal Pradesh till date. Rhodo is usually found from January to March.
- Fodder: The forest provides the village cattle with grazing material.
- The raw material required for making handmade paper and aggarbatti is available in ample in the wild. Villagers in the past have been using it for making handmade paper for self consumption.

- Agriculture Land: The crops being grown by the villagers are wheat, maize, chilly, Barley. The vegetables grown in the village are pumpkin, potato, brinjal, cauliflower, onion, ginger, cucumber, cabbage, pea, etc.
  - Villagers cultivate 15 different types of agriculture crops
  - Maize is the main staple food crop cultivated by nearly 98% of the total households.

- Chilly is also cultivated by more than 94% of total households
- Barley and Soyabean are two crops cultivated by nearly 85% of the total households
- Nearly 25 – 30% of total households have started cultivating cash crops like potato, cabbage, radish, garlic, etc.

- Livestock: Most of the villagers are into animal husbandry. Some of the animals kept by the villagers for rearing are cow, goat, sheep, horse and chicken. Few families in the village make Paneer and sell it for commercial purpose. This is the only source of revenue being generated from cow. Due to religious practices (Buddhism), the villagers refrain from indulging into hunting or extraction of milk from cows and Yak. Extraction of milk is at a very minimal level. Else cow is used for ploughing the field. Families which have sheep extract wool from the sheep thrice a year and the wool so extracted is used for making handbag, carpet, cap, etc. Besides the sheep wool, they have to also purchase wool from the market as the local supply is not sufficient to meet the demand for internal consumption.
  - Nearly 69% of total household's rear horses and the average number of horse per household are about two. The income generated from these hors
  - Nearly 40% of total households rear cows and average number per household is about eight.
  - Nearly 13% of the total household rear sheep and the average number per household is about nine.

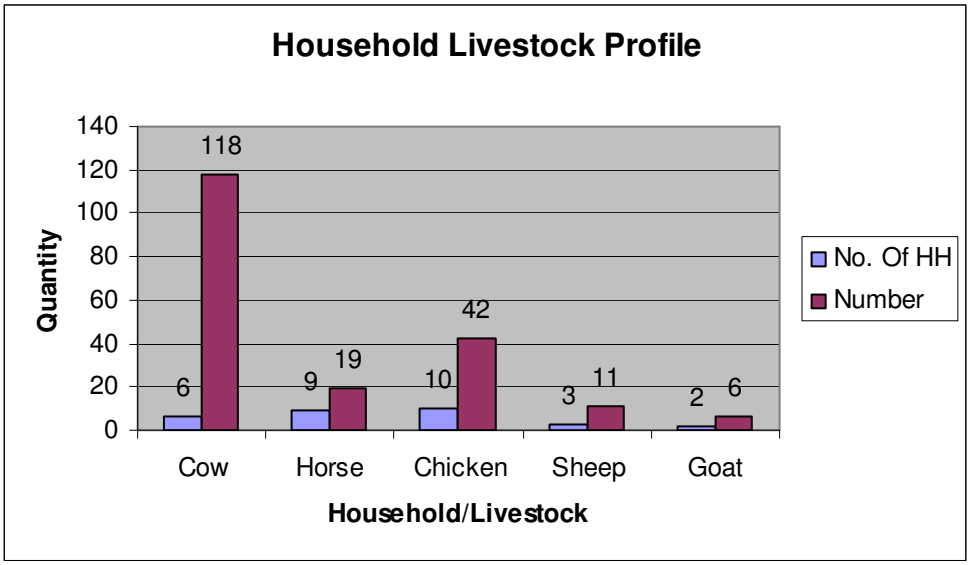


Chart 1.

The diagram below shows the ownership status of assets in the village:

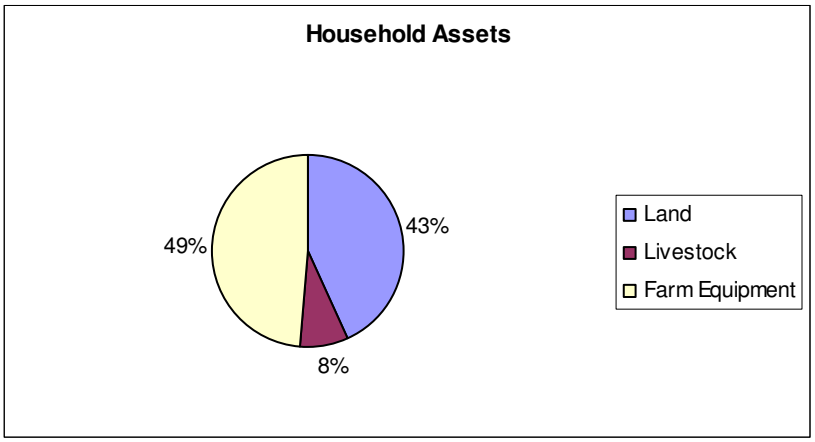


Chart 2.

The ownership status of the villagers clearly shows that land is the major asset in the village. It will be easier to promote any land based activity in the village since a majority of the family own land in the village. Please note that the total land ownership in the figure also includes 8% of the household having farm equipments, thus taking the figure to 57%.

3.3 Skill base of the villagers:

- Agriculture: Agriculture is the main activity in the villages and the entire family participates in the process.

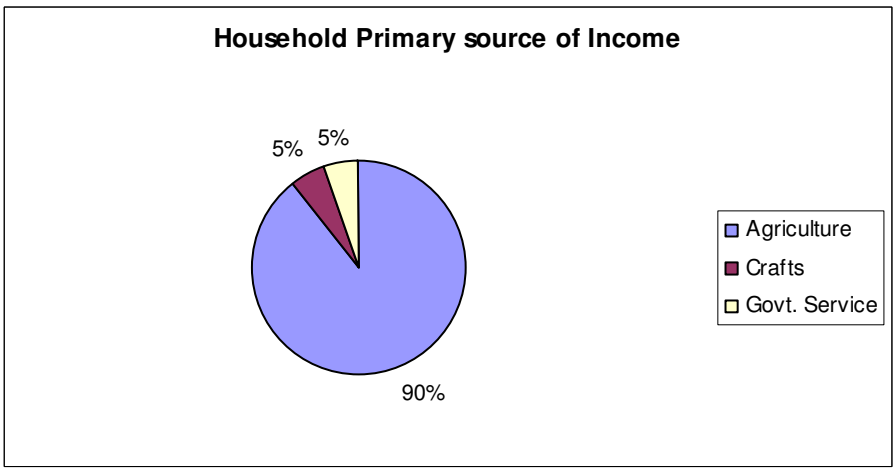


Chart 3.

90% of the village is engaged in agriculture. Some of the villagers are also engaged as contract labourer in the road and other public works under taken by the government and Border Road Organization.

- Handicraft: The villagers have the traditional skill of craft making, but over a period of time, the skill has been lost. Very few households in the village possess this skill now. Some of the traditional handicraft items made by the villagers were wooden plate, cup, cupboard, mask, grinder, basket, saddle. The male members in the village were very good in this traditional skill and mostly the production was for self consumption. The raw material required for making the handicraft items is available locally from a tree called "Tsomsing" tree.

  This traditional skill has been lost over a period of time and now the villagers buy these items from the market. Only two households in the village now have the know how for making handicraft items.
- Handloom: Most of the women in the village have the skill of making handloom products like handbags, carpets and cap. Gradually this skill is also dying and whatever production is there is need based and solely for personal consumption.

3.4 Potential Livelihood enterprises

. Some of the possible ventures that can be started in Thembang village are:

1. **Handmade Paper:** Initially the villagers had the traditional know how of making handmade paper in the village. But the process being very labour intensive, gradually the villagers have stopped making handmade paper at home and prefer to buy it from the market.
   1.1. Raw material: The raw material needed for making the paper (local name of the plant is "Sokchok", is available locally in the village and is in abundance. In the village maximum number of Sokchok clan is owned by Dirkipa and Sherchokpa caste, and to collect the bark, permission from the clan owner is required.
   1.2. Market: There is an internal demand of the paper in the village. On an average every household spends around Rs 4500 for buying handmade paper per year with the maximum consumption being at the time of Losar. The handmade paper is available in the retail outlets in nearby markets and

is made by some entrepreneurs locally or comes from Kalimpong. Internal demand is high since in the West Kameng district and Tawang district all the residents are Buddhist and they use handmade paper primarily for worship and making flags.

Besides the internal market demand, there also exists an external market for the value added handmade paper. Value addition in the handmade paper can be in the form of making notebooks, folders, files, covers, gift wraps, lampshade, etc. There are special retail outlets in the major metro cities apart from the state emporiums and handicraft stalls which store handmade paper based products. Some of the example of such special kind of retail outlets are The Bombay store (branches in Mumbai, Pune, Bangalore and Hyderabad). They store only specialized kind of handmade products. The tribes store in Delhi also has a varied range of handcrafted products. In Delhi specialized kind of retail outlets in Khan Market and Cannought place has such products.

1.3. Feasibility: Both raw material and market demand for handmade paper exists in the area. But, the major challenge lies in design intervention since the current handmade paper available in the local market is very basic. A huge demand for handmade paper exists for decorative purposes like folder cover, notebook pages, etc. With proper design intervention, the paper can be made more marketable. With value addition, the market will expand thereby making the venture sustainable.

Feasibility Analysis for Setting up a handmade paper unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of raw material**	Adequate	Rare
b.	Seasonality of raw material	**Available all year round**	Moderate	Extreme
c.	Proximity to raw material	Far	**Moderate**	Nearby
2.	**Human Resources**			
a.	No. of Households the activity can engage	**Majority**	Almost half of the household	Very few
b.	Skill of the villagers for the enterprise	Indigenous	**Some basic skill**	Acquired

c.	Skill gap in terms of existing and required	Low	Medium	High
d.	Degree of difficulty to create/ build new skills	Low	Medium	High
e.	Willingness to adapt new enterprise	High	Moderate	Low
3.	**Social Factors**			
a.	Gender most likely to be impacted	Both men and women	Mostly women	Mostly men
b.	Is there any barrier to the proposed activity in terms of caste	No	Yes	
4.	**Economic Impact/Markets**			
a.	Income impact on the household	Discontinuous	Incremental	Small
b.	Size of market	Large	Moderate	Small
c.	Seasonality of markets	None	Moderate	Extreme
d.	Markets	National	Regional	Local
e.	Geographic distance from markets	Low	Moderate	High
f.	Presence of competition in the market	None	Few	Many
5.	**Enterprise Characteristics**			
a.	Is the enterprise doing sufficient value addition	Significant	Moderate	Low
b.	Technological complexities involved	Low	Medium	High
5.	**Macro Environment**			
a.	Government policy	Supportive	Neutral	Hostile
b.	Sources of Finance	Financial institutions	Civil Society Organisation	Community
c.	Financial Resources available	Yes		No
d.	Status of existing infrastructure	Good	Average	Poor

Enabling factors Neutral factors Key Challenges

Inference: The key challenge involved in setting up a handmade paper unit is the size of the market and existent of a seasonal market. The local use of the paper is restricted primarily to religious purposes. To mitigate this handmade paper unit has to diversify into a range of products like lampshade, wrapping paper, etc which have a good demand in the market. Locally, the unit does not have much competition, but at the national level there exists a huge competition in the hand made paper segment.

2. Local Handicraft:

2.1. Raw Material: The raw material required for making the craft items is available locally. It is obtained from Tsomsing tree. The villagers use the timber from this tree for there own use and they do not have to pay royalty for own consumption. People who do not belong to the village are not allowed to extract tree from the village forest. The current system that exists is that some families carry the wood to Bomdilla Craft centre where the handicraft utensils are made. They have to pay according to the respective utensil desired to be made.

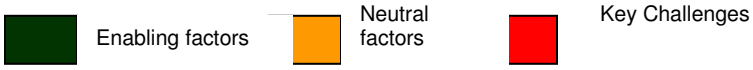
2.2. Market: Market for local handicrafts is fast disappearing. Most of the handicraft items made by the villagers were utensils for own consumption. Steel has substituted wooden vessels. Besides this the skill level of the villagers is not very high to make sophisticated products which could grab the attention of the tourists.

2.3. Feasibility: Due to lack of market and substitution from steel, handicraft based enterprise does not seem to be a viable option. Besides this, the bamboo handicraft of Nagaland and Meghalaya has already established a name for themselves in the market, and so there exists fierce competition for the products made in Arunachal Pradesh.

Feasibility Analysis for Setting up a Handicraft unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of raw material**	Adequate	Rare
b.	Seasonality of raw material	**Available all year round**	Moderate	Extreme
c.	Proximity to raw material	Far	**Moderate**	Nearby
2.	**Human Resources**			
a.	No. of Households the activity can engage	**Majority**	Almost half of the household	Very few
b.	Skill of the villagers for the enterprise	**Indigenous**	Some basic skill	Acquired
c.	Skill gap in terms of existing and required	Low	**Medium**	High
d.	Degree of difficulty to create/ build new skills	Low	**Medium**	High
e.	Willingness to adapt new enterprise	High	Moderate	Low
3.	**Social Factors**			
a.	Gender most likely to be impacted	Both men and women	Mostly women	**Mostly men**
b.	Is there any barrier to the proposed activity in terms of caste	**No**	Yes	
4.	**Economic Impact/Markets**			
a.	Income impact on the household	Discontinuous	Incremental	**Small**
b.	Size of market	Large	Moderate	**Small**
c.	Seasonality of markets	None	**Moderate**	Extreme
d.	Markets	National	Regional	**Local**
e.	Geographic distance from markets	**Low**	Moderate	High
f.	Presence of competition	None	Few	**Many**

	in the market			
5.	**Enterprise Characteristics**			
a.	Is the enterprise doing sufficient value addition	**Significant**	Moderate	Low
b.	Technological complexities involved	**Low**	Medium	High
5.	**Macro Environment**			
a.	Government policy	**Supportive**	Neutral	Hostile
b.	Sources of Finance	Financial institutions	**Civil Society Organisation**	Community
c.	Financial Resources available	**Yes**		No
d.	Status of existing infrastructure	Good	**Average**	Poor



Inference:

The major challenges involved in setting up the craft based unit are:

- Small Size of market
- Mostly local demand
- High competition from the producers in other sister north east states. All the north east states have the indigenous skill of making good handicraft items mostly bamboo and cane work.
- The gender to be impacted by this activity is going to be mostly men since traditionally this skill has been practiced by them only.

Setting up a handicraft unit does not seem to be a feasible option solely because of a very very small size of the market for such produce and the complexities involved in marketing which makes it an unviable option.

3. **Handloom based enterprise:**

3.1. Raw material: The raw material required for making bags, coat, gale (local dress worn by women) is bought from the local market. Some families who own sheep have there own supply of wool. Most of the handloom items are made for self consumption. The Economics of bag making is illustrated below:

Size of the Bag	Raw material cost	Time required/Bag	Market Price(Rs)
Small	Rs 55	16 hrs(Rs 160, taking Rs 80 for one man days work)	200
Medium	Rs 70	24 hrs (Rs 240)	400
Large	Rs 110	32 hrs(Rs 320)	500

Table 2.

From the above figures, it is obvious that with the current cost structure, making small bags is unviable.

3.2. Market: Since most of the homes, make there own bags, the only market available for these bags is the tourists. The tourist inflow is not very high in Arunachal Pradesh and is seasonal. Besides this, a survey conducted in the Dirang market showed that the domestic tourists were very price sensitive and they considered the bag to be very expensive.

3.3. Feasibility: The Handloom enterprise does not seem to be a viable business because of lack of demand for the product in the market locally and high cost involved in making the produce. Tourism is still not well developed in Arunachal Pradesh due to lack of proper tourism infrastructure and unfriendly government policies like permits which makes the market size for such produce very restricted.

4. **Vegetable Cultivation:**

4.1. Crops: Some of the vegetables grown in the village are cabbage, cauliflower, pea, chilly, potato, tomato, etc.

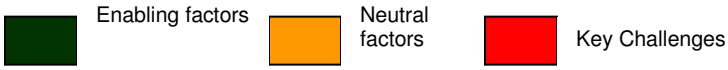
4.2. Market: There exists a huge demand for vegetables locally as well as with defense establishments who have a huge presence in the area. The local vegetable need of the area is met by vegetables from Tezpur in Assam. The army has agreed to buy all the vegetables supplied by the villagers.

4.3. Feasibility: There exists tremendous potential for growing and selling the vegetables. Infact, in Namshu village (a nearby village) some Households' have been making around Rs 70,000 per annum from selling vegetables.

Feasibility Analysis for promoting vegetable cultivation unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of raw material**	Adequate	Rare
b.	Seasonality of raw material	Available all year round	Moderate	**Extreme**
c.	Proximity to raw material	**Nearby**	Moderate	Far
2.	**Human Resources**			
a.	No. of Households the activity can engage	**Majority**	Almost half of the household	Very few
b.	Skill of the villagers for the enterprise	**Indigenous**	Some basic skill	Acquired
c.	Skill gap in terms of existing and required	**Low**	Medium	High
d.	Degree of difficulty to create/ build new skills	**Low**	Medium	High
e.	Willingness to adapt new enterprise	**High**	Moderate	Low
3.	**Social Factors**			
a.	Gender most likely to be impacted	**Both men and women**	Mostly women	Mostly men
b.	Is there any barrier to the proposed activity in terms of caste	**No**	Yes	
4.	**Economic Impact**			
a.	Income impact on the household	**Discontinuous**	Incremental	Small
b.	Seasonality of markets	**None**	Moderate	Extreme
c.	Markets	National	Regional	**Local**
d.	Geographic distance from markets	**Low**	Moderate	High
5.	**Enterprise Characteristics**			

a.	Is the enterprise doing sufficient value addition	Significant	Moderate	**Low**
b.	Technological complexities involved	**Low**	Medium	High
5.	**Macro Environment**			
a.	Government policy	**Supportive**	Neutral	Hostile
b.	Sources of Finance	Financial institutions	**Civil Society Organisation**	Community
c.	Financial Resources available	**Yes**		No
d.	Status of existing infrastructure	Good	**Average**	Poor



Inference:

Promoting vegetable cultivation seems to be a viable option. The large farmers in the village can divert land to growing vegetables, since there exists a high local demand for vegetables. Currently the market demand is being serviced from Assam which is very erratic and the vegetables are expensive as well.

The local traders have expressed there willingness to buy from the villagers, since it will be a cheap option and a regular supply can be ensured. Army has also presently agreed to buy vegetables from the villagers. Though army generally issues contract, and in future they may not buy from the villagers, still the local demand is very high. To ensure a regular demand from the army, an MoU can be signed thereby ensuring that a constant demand. WWF and army are going to sign upon a "Joint Action Plan" very soon for Arunachal Pradesh in which providing marketing support to the livelihood ventures is a key point. If this happens, it will ensure to some extent that all the produce made by the future livelihood ventures promoted by WWF will have a strong buyer in the form of army.

Besides army, there exist other security agencies in the area like Seema Suraksha Bal and Indo Tibetan Border Police, who can also be contacted for vegetable supply.

In West Kameng district there is no use of pesticides and thus the farmers can go for organic certification as well.

It was difficult to calculate the economics of vegetable cultivation since mostly last year seeds are used or else one can buy it from the local market or get it from

horticulture department. The process is highly labour intensive, but there is no dearth of labourers in the village for this activity. The labour service is usually paid for in kind.

Growing vegetable is also a viable option because there is immediate realization of cash.

A suggested arrangement can be that the Village conservation committee buys back all the vegetable grown in the village and then does the marketing of it, thereby earning something in between for the services provided. This will generate income at two levels and will benefit the overall conservation activity of WWF.

5. **Fodder:** Fodder cultivation can be done around the year. The fodder cultivation project was started by WWF to supplement the income of the villagers. The project is titled "Improvements of fodder resources in western Arunachal Pradesh, Eastern Himalaya". The duration of the project is from April, 05 to March, 08. The project is funded by Department of Science and Technology. Under this project WWF is trying to encourage the farmers to grow fodder with a buy back arrangement made with the CCA body. The CCA buys the fodder from the farmers at Rs 0.80/kg and sells it to the buyers (currently the main buyer is the Yak Research Centre) at Re 1/kg.
   5.1. Species: Fodder cultivation can be done around the year. Two variants of fodder have been introduced so far. One is the Oat which is sown in October and can be harvested three times till February. The other specie is the Maize which is sown in March and Harvested in September. This can also be harvested three times a year.
   5.2. Market: There exists a huge demand for fodder with the Yak Research Centre as well as with the army. The demand is very high and all the fodder produced in the village can be easily bought by these bodies.
   5.3. Feasibility: Inspite of the high demand for fodder, vegetable cultivation can be preferred over fodder cultivation on a commercial scale because of lesser realization from selling fodder than vegetables.

6. **Fruit processing unit:**
   6.1. Raw Material: Arunachal Pradesh is home to some 52 rhododendron species and they are available in wild and in abundance. This is an ideal condition to start a jam unit in the village which will be a unique product offering from this region and will create multiplier effect by generating employment for large number of people. The availability of the flowers is

between January to March, thus adding seasonality characteristic to the entire business.

6.2. Market:

In North East states jam is very popular and its consumption has been increasing year after year. Presently, there are around 20 small units in Assam alone producing these products. But, there exists a wide gap between demand and supply which has to be met by the manufacturers from outside the region. The north East states have a huge deployment of security personnel. Jam is an integral part of there breakfast and thereby creating a huge local demand for these products. Army has agreed to buy all the squash and jam that will be produced in the area. Besides this the number of tourists going to Arunachal has been increasing continuously, who would again be the potential buyers for such produce. There exists a huge demand for jam and squash.

Feasibility Analysis for Setting up a fruit processing (jam, crushes, preserves) unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of Rhododendron**	Adequate apple, plum, etc.	Rare
b.	Seasonality of raw material	Available all year round	Moderate	**Extreme**
c.	Proximity to raw material	Far	**Moderate**	Nearby
2.	**Human Resources**			
a.	No. of Households the activity can engage	Majority	**Almost half of the household**	Very few
b.	Skill of the villagers for the enterprise	Indigenous		**Acquired**
c.	Skill gap in terms of existing and required	Low	Medium	**High**
d.	Degree of difficulty to create/ build new skills	Low	**Medium**	High
e.	Willingness to adapt new enterprise	High	**Moderate**	Low

3.	**Social Factors**			
a.	Gender most likely to be impacted	**Both men and women**	Mostly women	Mostly men
b.	Is there any barrier to the proposed activity in terms of caste	**No**	Yes	
4.	**Economic Impact/Market**			
a.	Income impact on the household	Discontinuous	**Incremental**	Small
b.	Size of market	**Large**	Moderate	Small
f.	Presence of competition in the market	None	Few	**Many**
b.	Seasonality of markets	**None**	Moderate	Extreme
c.	Markets	National	**Regional**	Local
d.	Geographic distance from markets	Low	**Moderate**	High
5.	**Enterprise Characteristics**			
a.	Is the enterprise doing sufficient value addition	**Significant**	Moderate	Low
b.	Technological complexities involved	Low	**Medium**	High
5.	**Macro Environment**			
a.	Government policy	**Supportive**	Neutral	Hostile
b.	Sources of Finance	Financial institutions	**Civil Society Organisation**	Community
c.	Financial Resources available	**Yes**		No
d.	Status of existing infrastructure	Good	**Average**	Poor

Enabling factors Neutral factors Key Challenges

Inference:

The key challenges faced in setting up a fruit processing unit are:

- The road infrastructure is very poor. The road leading to Thembang village is kuccha road for quite a ling stretch which goes worst at the time of monsoon. Since setting up a fruit processing unit requires the packaging material to be transported to the unit, there can be a high amount of breakage involved. Besides this there is no public transport facility to the village and one has to hire vehicle every time, thus increasing the cost of transportation involved. The possible option can be that in the absence of an improvement in these conditions the unit can be set up in Dirang, but provides employment to the villagers from Thembang only.
- The seasonality involved with rhododendron is very high and it is found only for three months in a year i.e. January to March. To utilize the capacity of the unit other fruits from nearby has to be brought so that different variants of jam/jelly can be made throughout the year.
- Fruit procurement from adjoining districts will lead to high costs. These factors need to be carefully accounted for and the cheapest source with a competitive quality needs to be identified to procure fruits, if at all the unit has to run all year around.
- Training and Capacity Building: The training and capacity building for this entire process can be done with the help of specialists who are already in the jam making activity. Institute of Himalayan Education and Research based at Dehradun has done a good amount of Research and Development for making Rhodo Jam and Squash. They can be consulted for guidance and capacity building. CFTRI, Mysore, has successfully developed the technical know-how. Compliance with FP and PFA Act is necessary. IS standard for these products is 5861:1970.

Arunachal Pradesh is a fruit rich state and the table below shows the fruit production in the state:

Area and Production of Fruits (1980-81)

Sr. No.	Crops	Area(hectares)	Production (in M.T.)	Yield rate per hectare (in M.T.)
1	Apple	1920.1	4569.1	2.37
2	Pine apple	643.5	3861.0	6.00
3	Orange	704.5	645.1	0.91

4	Guava	88.8	177.6	2.00
5	Mango	50.0	58.3	1.17
6	Plum	110.0	92.5	1.17
7	Pear	90.7	64.5	0.84
8	Peach	51.5	28.0	0.71
9	Banana	439.3	1209.0	0.56
10	Papaya	144.5	341.2	2.75
11	Jack-fruit	130.0	460.0	2.36
12	Lemon	15.0	14.0	3.58
13	Promogranate	32.3	48.0	0.93
14	Lichi	48.0	33.0	1.49
15	Walnut	212.4	--	0.69

Table 3.

The table above clearly shows the fruit richness of the state, thus making it viable to carry on the production in the proposed jam unit for most parts of the year. In seasons other than the rhododendron one, other variants of jams can be made by sourcing fruits from other areas.

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3.5 Business Plan for setting up a jam manufacturing unit

A jam manufacturing unit can be set up at Thembang village. There is abundance of rhododendron found from January to March thus making it feasible to make rhodo jam and squash during this period. Out of the sixty rhodo species found in Arunachal Pradesh, the only edible specie is *Rhododendron Arboreum.* There is no data available on the exact quantity of this specie available in the wild, but discussion with the WWF field staff claimed that there is no dearth of raw material.

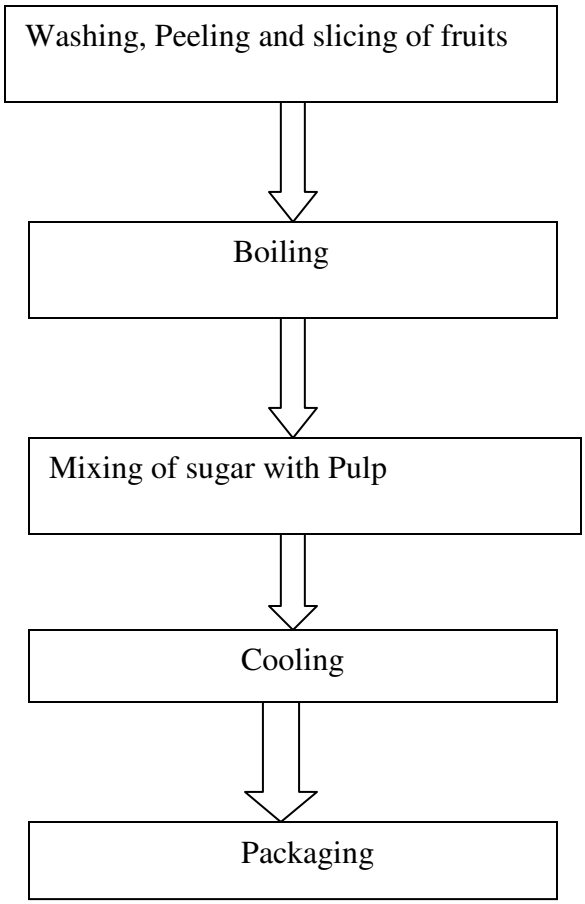
The agro climatic condition of Arunachal Pradesh favours the growth of fruits and a large variety of fruits is found in the state. The table below indicates the type of fruits and area under cultivation. Though the statistics is quite old, it clearly gives an estimate about the richness of the state in terms of fruits.

MANUFACTURING PROCESS

Jam

Fresh fruits/ flowers are washed in water and after removing their skin; they are cut or sliced in small pieces. These pieces are boiled with water. Appropriate quantity of

sugar is mixed with the pulp. When the temperature is around 60 degree C; citric acid, colour, essence etc. are added. This mixture is then stirred for a while, cooled and then packed in bottles. The process flow chart is as under:



CAPITAL INPUTS

Building

The unit is planned on a very moderate scale and hence one should try to obtain constructed area of around 70-75 sq.mtrs on rent. However, to ascertain the exact viability of the project, investment of Rs.1, 20,000/- is estimated for own building.

Plant and Machinery

It is envisaged that the conventional production techniques will be employed and hence there is no need to install a modern plant. Recommended installed production capacity is 30 tones per year on 2 shift working and 300 working days for which following machines/equipments costing around Rs.1, 25,000/- need to be installed:

Item Qty.

Item	Quantity
Pulper- 30kgs/hr	**1**
Mixer/ Grinder- 50 liters	**2**
Cap sealing machine	**2**
Slicers	**4**
Bottle washing Machine	**1**

Table 4.

Miscellaneous Assets

There will be requirement of some other assets like weighing scale, glassware, working Tables, canteen burners, stainless steel utensils, hand-gloves, cutters and graters, storage Racks etc. for which a provision of Rs. 50,000/- is adequate. Testing equipments like jell Meter, refractometer etc. would cost an additional amount of Rs.15, 000/-.

Utilities

Power requirement would be 5 HP whereas daily requirement of water will be around 1,500 liters. Around 300 cylinders of cooking gas shall be required at 100% activity level per year.

Raw Material

The major raw materials required will be Rhododendron and some other fresh fruits found locally in this region like pineapple, apple, plum, pear, peach, etc. Other materials like sugar, pectin, citric acid, food grade colors, flavors etc. are available locally without any difficult.

Manpower Requirements

Particulars	Numbers	Monthly salary(Rs)	Total monthly salary(Rs)
Supervisor	2	1800	3,600
Semi-skilled worker	2	1500	3,000

Helpers	4	1000	4,000
Technician	1	2500	2,500
Salesman	1	2000	2000
		Total	15,100

Table 5.

DETAILS OF THE PROPOSED PROJECT

Building

A built-up area of 70-75 sq.mtrs. would accommodate equipments leaving adequate space for Storage, packing etc. The construction cost is assumed to be Rs. 1, 20,000/-.

Plant and Machinery

As explained earlier, the total cost under this head is estimated to be Rs. 1, 25,000/-.

Miscellaneous Assets

Miscellaneous assets would cost around Rs.50, 000/- whereas a provision of Rs.15, 000/- is made for testing equipments. Thus, an expenditure of Rs.65, 000/- is assumed.

Preliminary & Pre-operative Expenses

A provision of Rs. 40,000 is made which can take care of expenses like establishment charges, interest during implementation, trial runs, etc.

Working Capital Requirement

Against annual capacity of 30 tonnes, the plant is expected to be operated at 60% in the first year. To achieve this capacity utilisation, the working capital needs would be as under:

Particulars	Period	Margin	Total	Bank	Promoters
Stock of packaging material and RM	½ month	30%	0.40	0.28	0.12
Stock of finished goods	1 month	25%	1.00	0.75	0.25
Receivables	1 month	25%	0.50	1.10	0.40
Working Expenses	1 month	100%	0.25	----	0.25
		Total	3.15	2.13	1.02

Table 6.

Cost of project and Means of financing:

Item	Amount(Rs in Lakhs)
Building	1.20
Machinery	1.25
Miscellaneous assets	0.65
P & P expenses	0.40
Contingencies @ 10% on Building and P&M	0.25
Working Capital Margin	1.02
Total	4.77
Means of Finance	
Promoters' Contribution	1.37
Loan from Bank/FI	3.40
Total	4.77
Debt Equity Ratio	2.48:1
Promoters' Contribution	29%

Table 7.

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

PROFITABILITY CALCULATIONS

Production Capacity and Build-up

The installed production capacity at 100% shall be 30 tons of jam considering 2 shift working every day and 300 working days every year. The plant is envisaged to be operated at 60% in the first year and 75% thereafter.

Sales Revenue at 100%

As explained earlier, jam from different fruits including some locally grown and popular fruits shall be prepared and hence it is not feasible to arrive at the exact sales mix. This, in turn, means that the selling price has to be worked out on an average basis. Therefore, the average selling price is assumed to be Rs.100/per kg. or Rs.1.00 lac per ton. In other words, annual turnover at 100% could be Rs.30.00 lacs.

Raw Materials Required at 100%

It is suggested that jam should be made from some local fruits as this may be very well accepted by the natives. Fruits are grown during respective seasons and their prices vary depending upon availability. Hence, average price per ton is taken @ Rs.8000/-. Juice and pulp contents also vary from fruit to fruit. Hence, it is assumed to be 25%. Other materials like sugar, essence, pectin, citric acid shall be available locally. Packing materials like food grade plastic/glass bottles, polythene bags, corrugated boxes etc. shall be procured locally. Thus, at 100% activity level, the raw materials requirement shall be as under:

Products	Qty(Tonnes)	Rate (Rs/Ton)	Value
Fruits	120	8,000	9.60
Sugar	15	17,000	2.55
Pectin, Citric acid, etc	----		0.50
Packaging material	----		3.00
		Total	15.65

Table 8

Utilities

The total expenditure on power and water at 100% shall be Rs. 24,000/- per year whereas about 300 LPG cylinders would cost Rs. 90,000/-. Thus, total would be Rs. 1, 14,000/-.

Selling Expenses

In view of competition from existing products, a provision of 17.5% of sales value is made towards these expenses. They include selling commission, transportation and quick market Survey on regular basis, etc.

Interest

Interest on term loan of Rs.3.10 lacs is taken at 12% per annum assuming repayment in 4 years including a moratorium period of 1 year. Interest on working capital is computed @ 14% per annum.

Depreciation

It is calculated on WDV basis and rates assumed care 10% on building and 20% on Equipments and miscellaneous assets.

PROJECTED PROFITABILITY

Rs in Lakhs

No.	**Particulars**	1st year	2nd Year
A	**Installed Capacity**	30 Tonnes	30 Tonnes
	Capacity Utilisation	60%	75%
	Sales Realisation	18.00	22.50
B	**Cost of Production**		
	Raw and Packing Materials	9.40	11.75
	Utilities	0.50	0.68
	Salaries	1.81	2.10
	Repairs and Maintenance	0.15	0.21
	Selling and Distribution Expenses. (17.5%)	3.15	3.93
	Administrative Expenses	0.24	0.33
C	**Total**	15.29	19.00
	Profit Before Interest & Depreciation	2.71	3.50
	Interest on Term Loan	0.37	0.25
	Interest on Working Capital	0.30	0.37
	Depreciation	0.50	0.37
	Net Profit	1.54	2.51
	Income-tax @ 20%	0.34	0.50
	Profit After Tax	1.20	2.01
	Cash Accruals	1.70	2.38
	Repayment of Term Loan		1.00

Table 9.

Some of the machinery suppliers are

1. M/s. Industrial Equipments, Guwahati
2. M/s. Archana Machinery Stores, Guwahati
3. Punjab Engg Works, Ramkrishna Samadhi Road, Kolkata
4. Engineers' (Overseas) Corpn Pvt Ltd, Raja Santosh Road, Kolkata

3.6 Conclusion:

Below is the seasonal diagram which shows the agricultural practice in the village:

	Jan	Feb	March	April	May	June	July	August	Sep	Oct	Nov	Dec
Sow	Potato		Chilly	Maize, Soya, Bean, Millet, Paddy,	Maize, soya, bean	Maize, soya, bean	Maize, soya, bean,Rajma				Pea, Barley	
Harvest					Pea, Barley, Wheat	Potato		Chilly, cabbage		Maize, soya, bean, millet, rajma		

Table 10.

The seasonal calendar above clearly shows, that from November to March, people are usually free from agriculture. This is the best time to introduce and carry a livelihood activity in the village. Also this time coincides with the Rhododendron season thus making it favourable to start a jam/squash unit in the area. Besides this at other time of the year vegetable cultivation can be done along with the staple crops so as to earn some cash income from these activities.

To conclude, a cluster approach to livelihood promotion can be introduced where some households who have larger land can engage in vegetable cultivation. The remaining households can get involved in the fruit processing unit. The fruit processing unit has the potential to provide employment at three levels: Raw material collection, Fruit processing and Marketing.

Chapter 4

Zemithang: Lumpo and Muchot village

4.1 Introduction:

Zemithang is a Monpa settlement in Tawang District and lies near the Indo – Tibet border. It is located at the head of a picturesque vale, created by the river Nyamjang Chu flowing in from Tibet. Zimithang lies in the remote and some times isolated north-western most corner of the district, sandwiched between Bhutan and China. Tawang the district headquarters is 93 km south-east. No permits are required to visit Zemithang, although it lies just 12 kilometers from the India/Bhutan/China triangular border. At many sites the village is located at an altitude of almost 1700 to 2000 meters and consists of a cluster of several villages which is dispersed in the Nyamjang Chu valley. Administratively it is under the Lumla block of Tawang district. The location of the village is strategic as it shares two international boundaries with Bhutan in the south west and China in the north.

The Nyamjang Chu cuts the valley of Zemithang and meanders downhill to eventually merge with the Tawang Chu and pass into Bhutan as the Manas river. For administrative purposes a Circle Officer is posted at Zemithang which looks after the government welfare schemes. Many centrally sponsored schemes of government of India are implemented and the Circle Office is the officiating agency. The Zemithang circle has an approximate population of 2300 odd people where more than 80% of the population falls under the Below Poverty Line category. Zemithang circle comprises of a cluster of many villages of which the villages of Gorsam, Kharephu, Socktsen, Khelengten, Lumpo and Muchot lie in the north western zone. There is electricity in the village and PHED supplies water. There is a BSNL tower manned by a single technician which offers about 55 odd telephone connections in the valley. The villagers of Muchot and Lumpo in collaboration with WWF-India program have designated a portion of their community forest into a community conserved area which would totally ban all hunting and resource extraction for the next 25 years. The total area marked as community conserved area is 98 square kilometer which consists of both buffer as well as the core area.

The upper ridges and border areas of Zemithang is occupied by the Indian army. The local villagers have good working relationship with the army personnel. The villagers

get employed on contractual basis to carry out petty jobs for the army, specially ferrying goods and other items whenever needed. The road maintenance is under the responsibility of the Border Roads Organization which has a unit in Zemithang, it provides employment to the local people as they are hired as daily wage laborers or taken on a contractual basis. The motorable road in the valley passes through the village of Muchot and Lumpo and finally terminates at Neyla which is an army settlement.

Zemithang headquarters has a small market place with telecommunication facilities and few provision stores selling basic items of local use. A middle school at this site provides education for the local children while for higher studies one has to proceed to Lumla or Bomdila. The village of Muchot and Lumpo each have their own Gaon Bura who provides the crucial leadership in the village. The Panchayat are also elected in the village and are involved in the local governance issues.
Both Lumpo and Muchot village have been clubbed together for the study purpose because they lie adjacent to each other and have a combined Community conserved area of 98 sq. km.

4.2 Resource base of the villages:

- Land: The land available in the village is primarily used for agricultural purpose. The crops grown in the village are Millet, wheat chilly, cabbage, seam, maize, pumpkin, cucumber, brinjal, onion, wheat and carrot.
  There is less agricultural activity in the village because of threat from wild pig and monkeys who destroy the crops.

- Water: The River flowing through the village is Nyamjang Chu. It is considered sacred by the villagers and is not used for fishing or for any commercial purpose.

- Livestock: villagers have cow, yak and chicken. They have a very interesting model of grazing the cows. There are huge common Property resources lying in the village which has been earmarked for grazing. Based on the number of livestock a family has, each household is allotted land for grazing every year in the village meeting. The household's have to pay fine if there cattle enters someone else's grazing land . Once the summer sets in, the villagers take there cattle to higher ranges in the mountains for grazing. During winters, they move down to lower areas around Zimithang circle.

On an average there are seven cows per family in the village. In total there are approximately 200 cows in the village. The villagers use the cows and the yak milk for making churpi and ghee.. Mostly the churpi and ghee is made for self consumption, though some households do sell it in the nearby market. I kg of ghee sells in the market at Rs 150.

- Forest: Lumpo and Muchot are forest villages. The main uses to which forest resources are being put in the village are:
  - Firewood
  - Timber for construction of own house
  - Fencing
  - Medicinal Plant: Some of the medicinal plants that are found in the village are: Texas, Litchi, Kuthi, Peela Zari, Pamposh, etc.

The diagram below shows that land is the main asset that the Household's have in the village. Both the villages are mainly dependant on agriculture, though some families do have livestock, but the products i.e. ghee and churpee made out of it is mainly for own consumption.

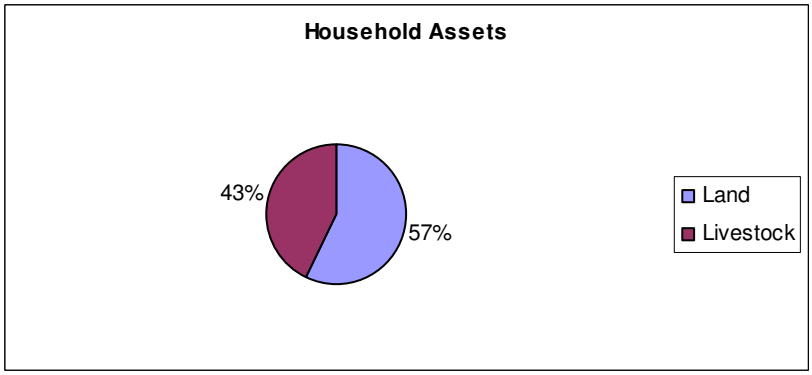
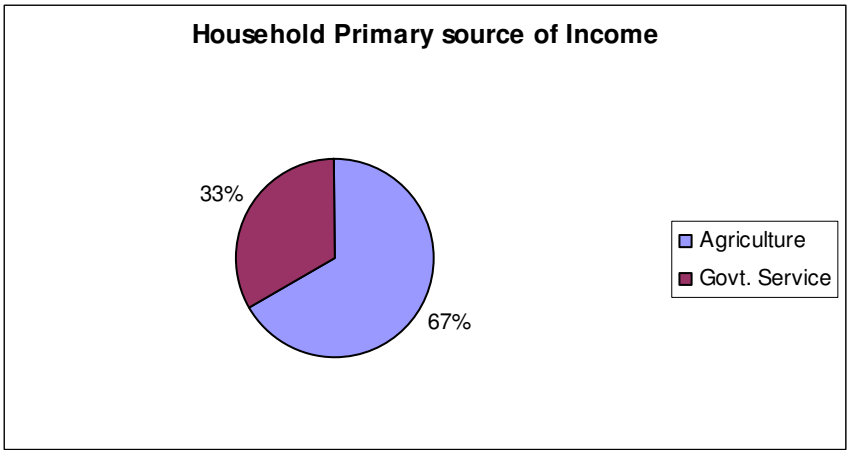


Chart 4.

4.3 Skill base of the villagers:

- Agriculture is the primary activity in the village. The agricultural production is solely for personal consumption, since the quantities produced in the village are very low due to menace caused by wild pig and monkey



Out of the household's interviewed, around 67% of the respondents mentioned that they were dependant or engaged in agricultural activities. To earn cash income, the villagers work as contract laborer in the road construction activities done by BRO. The per day payment for this is Rs 65. Most of the villagers earn by working as contractual laborer in the construction work carried by BRO.

Handloom:

Weaving is the occupation of the women folk in Arunachal Pradesh. Although there are a few tribes which have never had the art of weaving, handlooms are widely distributed throughout the area. The women of Arunachal Pradesh are very particular are black, yellow, dark blue, green, scarlet and madder. Originally they used natural dye but now-a-days synthetic dyes are available in the market. The designs are basically geometrical

type varying from a formal arrangement of lines and bands to elaborate patterns of diamonds and lozenges. These designs are sometimes enhanced by internal repetition, hachure and other decorations.

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The women in the village have the skill of making beautiful Pangchen cap. To make the Pangchen cap, the raw material required is sheep wool. The women also have the skill of making coat which is locally known as Khanjar

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a. Economics of making Pangchen cap:

Sheep Wool required to make one cap: 500 gm
Cost of 500 gm wool: Rs 90/kg
Total man days required for making a cap (stitching base cloth, stitching cap, making border of the cap): 10 mandays
Total labour cost: Rs 800 (Rs 80 for one man day)
Cost of colour required: Rs 5/cap

Therefore Total cost of the cap: Rs 895
M.R.P. of the cap: Rs 270

B. Economics of making Coat (Khanjar)

Raw material required: 3.5 kg of sheep wool
Total cost of raw material: Rs 630
Cost of Decorative items+ stitching the coat: Rs 600
Total Number of mandays required: 7.5 mandays

Total labour cost: Rs 600

Therefore total cost of the coat: Rs 1830

The coat so made has been used solely for own consumption and not for commercial purposes.

The above calculation clearly shows that making Pangchen cap for the market is highly unviable given that the process is highly labour intensive.

- **Handmade paper**: Some of the households have the skill of making handmade paper but over a period of time the villagers have stopped making handmade paper in the village.

- **Milk products:** Villagers are very good in making milk products primarily ghee and Paneer. They pack these in the skin of sheep thus increasing the longevity of the product. Calculating the cost of making a kg of ghee or churpee is difficult because of the grazing practices adopted by the villagers.

4.4. Potential Livelihood enterprises: The potential livelihood enterprises that can be undertaken in the village are:

4.4.1 Handmade Paper:

The villagers had the traditional know how of making handmade paper in the village. But the process being very labour intensive, gradually the villagers have stopped making handmade paper at home and prefer to buy it from the market.

Raw material: The raw material needed for making the paper (local name of the plant is “Sokchok”), is available locally in the village and is in abundance.

Impact of Handmade paper industry on the economy:

The economic impact of the handmade-paper industry is quite substantial. In 1953 when the KVIC took over the development of the industry, there were only 35 units all over the country with an annual production value of Rs.5 lakhs. In 1991-92, there were 340 units producing 8,700 tonnes valued at Rs.IOO

million. By the year 2000, the output was 18,000 tonnes valued at Rs.18.52 crores creating an employment for 15,000 people. Indirect employment figures for those involved in collection of material sales are not included. India **is** today one of the largest producers of handmade paper in the world.

Relevance of setting a handmade paper unit:

- low technology and low investment required
- labor intensive
- high value-added
- pollution free production process
- a popular eco-friendly product
- preserves heritage of traditional kagzi (hand papermakers) arts and crafts
- the product is of high strength and varied textures
- seeks to promote the development of technical skills of local artisans
- facilitates in the promotion of women participation in the manufacturing sector
- contributes in enabling more employment opportunities, generating income and promoting economic activities
- promotes the utilization of local based raw materials
- contribution to social development

Market: There is an internal demand of the paper in the village. On an average every family spends around Rs 1000 for buying handmade paper per year with the maximum consumption being at the time of Losar. At the time of Losar approximately, 42 pieces of handmade paper is required per family. Besides this, in the usual months a household requires twenty one pieces of paper. Taking the demand into consideration, the cost comes to around Rs 1000 per household per annum.The handmade paper is available in the retail outlets in nearby markets and is made by some entrepreneurs locally or comes from Kalimpong.. Internal demand is high since in theTawang district all the residents are Buddhist and they use handmade paper primarily for worship and making flags. Besides this Tawang also has the famous Tawang monastery which has a high demand for handmade papers. The papers are also used by the monastery for writing scriptures.

Besides the internal market demand, there also exists an external market for the value added handmade paper. Value addition in the handmade paper can be in the form of making notebooks, folders, files, covers, gift wraps, lampshade, etc. There are special retail outlets in the major metro cities apart

from the state emporiums and handicraft stalls which store handmade paper based products. Some of the example of such special kind of retail outlets are The Bombay store (branches in Mumbai, Pune, Bangalore and Hyderabad). They store only specialized kind of handmade products. The tribes store in Delhi also has a varied range of handcrafted products. In Delhi specialized kind of retail outlets in Khan Market and Cannought place has such products.

Feasibility: Both raw material and market demand for handmade paper exists in the area. But, the major challenge lies in design intervention since the current handmade paper available in the local market is very basic. A huge demand for handmade paper exists for decorative purposes like folder cover, notebook pages, etc. With proper design intervention, the paper can be made more marketable and setting up a handmade unit looks feasible also because Tawang district receives a very high tourist inflow.

Feasibility Analysis for Setting up a handmade paper unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of raw material**	Adequate	Rare
b.	Seasonality of raw material	**Available all year round**	Moderate	Extreme
c.	Proximity to raw material	Far	**Moderate**	Nearby
2.	**Human Resources**			
a.	No. of Households the activity can engage	**Majority**	Almost half of the household	Very few
b.	Skill of the villagers for the enterprise	Indigenous	**Some basic skill**	Acquired
c.	Skill gap in terms of existing and required	Low	**Medium**	High
d.	Degree of difficulty to	Low	**Medium**	High

	create/ build new skills			
e.	Willingness to adapt new enterprise	**High**	Moderate	Low
3.	**Social Factors**			
a.	Gender most likely to be impacted	**Both men and women**	Mostly women	Mostly men
b.	Is there any barrier to the proposed activity in terms of caste	**No**	Yes	
4.	**Economic Impact/Markets**			
a.	Income impact on the household	Discontinuous	**Incremental**	Small
b.	Size of market	Large	Moderate	**Small**
c.	Seasonality of markets	None	**Moderate**	Extreme
d.	Markets	National	**Regional**	Local
e.	Geographic distance from markets	Low	**Moderate**	High
f.	Presence of competition in the market	None	**Few**	Many
5.	**Enterprise Characteristics**			
a.	Is the enterprise doing sufficient value addition	**Significant**	Moderate	Low
b.	Technological complexities involved	Low	**Medium**	High
5.	**Macro Environment**			
a.	Government policy	**Supportive**	Neutral	Hostile
b.	Sources of Finance	Financial institutions	**Civil Society Organisation**	Community
c.	Financial Resources available	**Yes**		No
d.	Status of existing infrastructure	Good	**Average**	Poor

Enabling factors Neutral factors Key Challenges

Training and capacity building:

The KVIC provides two types of training programme in connection with the handmade-paper industry at present:

(a) Managerial courses and

(b) Artisan training courses

The managerial course is imparted at the Handmade Paper Institute, Maharashtra State Khadi and Village Industries Board, K.B. Joshi Road, Shivaji Nagar, Pune 41 1 005. There are four institutions which deal with artisan training.

These include:

(a) Handmade Paper Unit, Gandhi Ashram, Zamin Eallepelli,

(b) Handmade Paper Unit, Khadi Ashram, Radaur, Yamuna Nagar Dis-Tiruchengodu, Salem District, Tamil Nadu, Karnal, Haryana

(c) Handmade Paper Demonstration-Cum-Extension Centre, Khadi and Village Industries Commission, Maganwadi, JBCRI, Wardha, Maharashtra

(d) Handmade Paper Centre, Abhoy Ashram, Birati, Calcutta, West Begal.

There is a consultancy centre also set up under United Nations Development Programme (UNDP) auspices which provides project consultancy and also helps in the recovery of sick units. This is:

Kumarappa National Handmade Paper Institute, UNDP-Handmade Paper Project, Ramsinghpura, Shikarpura Road, Sanganer 303 906, Jaipur, Rajasthan.

The KVIC has produced a project profile of the handmade-paper industry in India which can be ordered from the Commission's office at a price of Rs.20. The book provides complete information on the process of making handmade paper, whom to approach, which companies in India one can source technology, where one can get subsidies and loans, and which centers abroad import finished handmade-paper products. The book also gives details of estimates for erection of tiny units, export units and cluster units which can be submitted to funding institutions in a ready-made form for loan applications.

Financials of a handmade paper unit:

Below is an example of the cost involved and the profit-loss projections for setting up and operationalizing a handmade unit. The raw material used for making handmade paper is assumed to be only "Daphini paperici". This is a kind of shrub and is available in abundance in North east in the Himalayan region.

Production Process:

Raw material collection, cleaning of raw material, raw material is put in digester, it is cooked in it it, after cooking dipping method is used, the product is dried, calendaring is done, the paper is cut, finished product is packed.

Profit and Loss Statement:

Profit & Loss Statement	
Projected	**2008-09**
Sales	2,160,000.00
Capital Investment	
Digester	90,000.00
VAT	88,000.00
Mould	6,400.00
Calendaring Machine	200,000.00
Cutting Machine	90,000.00
Shade	150,000.00
Total	*624,400.00*
Expenses	
Labour	660,000.00
Utility	150,000.00
Transportation	460,000.00
Admin & Selling Cost	150,000.00
Other Operating Expenses	90,000.00
Gross Profit	*25,600.00*

Assumptions:

1 Days in a year : 300

2 Labour working in a unit: 22

3 Labour Wages per day is: 100

4 Revenues are based on single product line

5 Utility includes Electricity and water

6. Production capacity for the unit is assumed to be 40kg/day. The usual capacity is 60 kg/day but since only one product line has been taken up in the analysis, so the capacity has been put below the optimum one.

Item		Total Production (Kg)	Total Production in Sheet	MRP per Sheet	Realization	Total Revenue
Normal Paper	100%	12,000.00	1,200,000.00	3.00	1.80	2,160,000.00

Table 11.

7. One Kg of handmade paper: 100sheets
   Sales Realization: 60%of MRP

Inference:

The key challenge involved in setting up a handmade paper unit is the size of the market and the existence of a seasonal market. The local use of the paper is restricted primarily to religious purposes both at the household level as well as for the monasteries. To mitigate this handmade paper unit has to diversify into a range of products like lampshade, wrapping paper, etc which have a good demand in the market. Locally, the unit does not have much competition, but at the national level there exists a huge competition in the hand made paper segment with all kinds of handmade paper being made from recycled waste products, etc.

Handmade paper unit alone will not be feasible, but if it is clubbed with handmade aggarbatti, it can be tried out since both these units can be set under one manufacturing facility. The investment required for setting up the units is also low and they can share many common facilities.

The marketing of the produce can be undertaken by the committee set up by the Community Conserved Area creating a win-win situation for the villagers as well as the committee.

4.4.2 Handmade Aggarbatti:

Raw material availability: : The raw material required for making hand made aggarbatti is available locally all throughout the year and is in abundance.

Feasibility Analysis for Setting up a handmade aggarbatti unit

Sr. No.	Livelihood Aspect	Scale(Rating of the parameters)		
1.	**Natural Base**			
a.	Availability of Natural Resources	**Abundance of raw material**	Adequate	Rare
b.	Seasonality of raw material	**Available all year round**	Moderate	Extreme
c.	Proximity to raw material	Far	**Moderate**	Nearby
2.	**Human Resources**			
a.	No. of Households the activity can engage	Majority	**Almost half of the household**	Very few
b.	Skill of the villagers for the enterprise	Indigenous skill	**Rudimentary skill**	Acquired skill
c.	Skill gap in terms of existing and required	Low	Medium	**High**
d.	Degree of difficulty to create/ build new skills	Low	**Medium**	High
e.	Willingness to adapt new enterprise	High	**Moderate**	Low
3.	**Social Factors**			
a.	Gender most likely to be impacted	**Both men and women**	Mostly women	Mostly men
b.	Is there any barrier to the proposed activity in terms of caste	**No**	Yes	
4.	**Economic Impact**			
a.	Income impact on the household	Discontinuous	**Incremental**	Small
b.	Size of market	**Large**	Moderate	Small

c.	Presence of competition in the market	None	Few	Many
d.	Seasonality of markets	None	Moderate	Extreme
e.	Markets	National	Regional	Local
f.	Geographic distance from markets	Low	Moderate	High
5.	**Enterprise Characteristics**			
a.	Is the enterprise doing sufficient value addition	Significant	Moderate	Low
b.	Technological complexities involved	Low	Medium	High
5.	**Macro Environment**			
a.	Government policy	Supportive	Neutral	Hostile
b.	Sources of Finance	Financial institutions	Civil Society Organisation	Community
c.	Financial Resources available	Yes		No
d.	Status of existing infrastructure	Good	Average	Poor

Inference:

One of the major challenges involved in making handmade aggarbatti is the skill gap. The villagers need to be trained in the process and this can be done through various training institutes as well as the organisations that are already into making aggarbattis. There are two entrepreneurs in Tawang District who are involved in making handmade aggarbatti and they have expressed there willingness to train any such new enterprise.

Competitive pricing will also be a key factor as the local market is flooded with aggarbattis from Kalimpong and China. There can be two kinds of packaging done– one exclusively for the local market as the consumers are price sensitive there, and one for the tourists who are price insensitive. Differential pricing will lead to increased revenue and better viability of the unit.

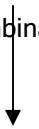
Process of making Aggarbatti:

Raw material: Sukpa tree, Balo grass and Tongche comb. The red colour portion inside the Sukpa tree bark is extracted. Balo grass can also be used as a raw material for making aggarbatti. Togchi comb is used as a glue.

Sukpa is grinded in a machine to obtain the powder.

The powder is dried and then again grinded in a flour mill.

Four Kgs of sukpa powder is mixed with one kg of tongche. Colour and water is added to the combination.



Doughing is done

The dough is put inside a machine which then mixes it and long aggarbattis roll out of the machine.

These aggarbattis are the dried in the sun

The aggarbatti sticks are packed and ready to be dispatched to the retailer

Economics of making Aggarbatti:

The raw material required for making the aggarbatti comes from Sukpa tree and Tongche comb plant. Both these plants are available in abundance in the wild. Sukpa and Tongche comb is available all around the year.

The major expense involved is the one time cost of setting up the unit and investing in the machinery. Approximately Rs 3 lakh of initial investment will be required to get the unit running which will include the cost of setting up the unit, buying machinery and wooden racks. (It has been assumed that the land needed for setting up the unit will be supplied by the villagers free of cost.)

Remaining expenses incurred will be variable expenses of employing the labourers in the unit to participate in the production process.

Some of the variable costs involved are:

- Cost of raw material i.e. Chukpa: Rs 9/kg
- Cost of cutting the raw material: Rs 1/kg
- Transportation charges (bringing the raw material to the unit and sending finished goods to the market)
- Labour charges
- Cost of packaging material
- Cost of designing labels and printing
- Marketing expenses
- Utility cost i.e. electricity, water
- Cost of colour used

Market: There does exist a market for handmade aggarbatti. Currently the market in Tawang and Zemithang is flooded with aggarbattis from Bhutan and Kalimpong. There are some local entrepreneurs who make aggarbattis, but there production is very small to meet the market demand.

Besides the local demand, Tawang witnesses very high tourist traffic because of the famous Tawang monastery and beautiful landscape. Handmade aggarbatti has a demand across the country for its beautiful essence and soothing effect on mind. With proper design intervention, this can be a very good livelihood enterprise for the local communities residing in the area.

Local demand for aggarbattis is high. Besides this, there exists a huge external market demand for aggarbattis in the nearby Assam and West Bengal because of the religious practises.

Feasibility: Setting up a handmade aggarbatti unit seems to be a viable proposition seeing the existence of both raw material as well as the market.

4.5 Conclusion:

Below is the seasonal calendar of the agricultural activities carried in Lumpo and Muchot Village. In both these villages any kind of agricultural activity on a large scale is not viable because of the problems caused by wild pig and monkeys who tend to destroy the crops.

Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Nil	Nil	Nil	Nil	Land clearing, ploughing, etc.	Same as May	Sowing of wheat, millet, cabbage	Sowing of seam, brinjal, and maintenance of field	Field maintenance	Harvesting	Nil	Nil

Table 12.

From November to May, the involvement of the households in agriculture is minimal thus making the possibility of production in aggarbatti and handmade paper unit possible quite extensively while in other months the production can be carried at a lower scale. Both these ventures are labour intensive thereby involving majority of the households in the process.

The capital investment required for setting up the unit is also not very high. A manufacturing unit can be constructed where the production of both aggarbatti and handmade paper can take place.

It is viable to set up this unit in Tawang and not West Kameng because Tawang has several advantages over West Kameng like higher tourist inflow, Presence of several prominent monasteries like Tawang monastery. Bhutan is also very close by and there are annual fairs where people from Bhutan and neighboring areas come in huge number.

Chapter 5

5.1 Recommendation:

1. One of the most important aspects for the success of any enterprise is its well developed front end i.e. Market for the produce. To develop the market, the first thing is to fulfill the demand in the local markets. West Kameng and Tawang have several small markets with a reasonable size of population which can be serviced by developing proper supply chain process. In West Kameng District some of the prominent markets are Bhalukpong, Dirang and Bomdilla. Similarly in Tawang district the prominent markets are Tawang market, Zemithang, Lumla, Gorsam and Jang.

Besides this the products can also be sent to Nahar lagun which is one of the major markets in Itanagar, the state capital. Tezpur, also being very near can be another good market for the products.

2. To set up enterprises in the village is one thing, but getting quality product having market demand is another aspect. An enterprise to be viable in the long run needs to have quality products which can have market outside the local area. In the study handmade aggarbatti unit, handmade paper and jam making unit has been suggested. A competitive quality of these produces needs to be developed.

a. Jam Unit:

The installed licensed capacity of fruits and vegetables processing industry increased at a 5% CAGR from 11.08 lakh tons on 01.01 1993 to 21.18 lakh tones as on 01.01.2006 Growth over the last few years has been driven by ready to serve beverages, fruit juices and pulps, dehydrated and frozen fruits and vegetable products, tomato products, pickles, convenience veg-spice, pastes, processed mushrooms and curried vegetables The sector received fresh impetus from the Government in 2004-05, which has allowed under I.T. Act 100% deduction of profit for first five year and 25% deduction for another five years for new upcoming Fruits & Vegetables Processing units

To survive the competition and make competitive products, there needs to be constant training of the producers involved in coming up with new recipe. There are

several places where one can go and get trained and constantly upgrade there skills. IGNOU runs a certificate course on Food Processing. Individual entrepreneurs like Linnet Mushran from "Bhuira Jams" and SOS Organics can be asked for training the existing entrepreneurs. Besides this, several Non Government organisations have promoted food processing in the rural areas and can be approached for capacity building and training. Some of these organisations are:

- Institute of Himalayan Education and Research, Dehradun
- Grassroots, Kumaoni Mahila Umang Samiti, Village and P.O. Kalika, Ranikhet–263645, Uttaranchal
- Central Food Technological Research Institute, Mysore

Besides skill upgradation, a tie up needs to be made with a proper marketing agency. Jam belongs to fast moving consumer goods category and there exists tough competition in this category with several large organized players like Kissan, product from neighboring country Bhutan (Druk) and small local players. To make the product stand out in the market, it needs to have proper packaging and a dedicated sales tem who will liaison with distributors and retailers. Local resource persons can be picked form the village and be given training on sales and promotions thus creating more employment opportunities

b. Handmade Paper Unit:

The current skill set of the villagers is just sufficient to produce handmade paper which is in very crude form and has only local demand for religious purpose. The local demand for religious purpose alone cannot make the unit viable in the long run. To ensure viability of the unit new innovative products like greeting cards, paper bags, card and penholders, decorative pots, gift wraps, etc needs to be made out of the handmade paper so as to expand the market. With suitable training, these design interventions can be done. One such organisations which imparts training in this regard is **National Centre for Design and Product Development, New Delhi** National Centre for Product Design & Development (NCDPD), non profit organisations, set up by Export Promotion Council for Handicrafts (EPCH) and the office of the Development Commissioner (Handicrafts). NCDPD has been involved in inviting prominent designers from oversees and working in coordination with leading design institutes and helping the Indian artisans especially tribals to hone their skills. NCDPD aims to provide cutting edge assistance to the Indian handicrafts industry through international standard design and technical inputs.

c. Handmade Aggarbatti: The total size of the aggarbatti market in India is 1100 crores. There is a high export demand from countries like U.S.A, Brazil, Peru and Argentina. India has some 450 incense-making major companies in the organized sector and another 8,500 registered ones.

Handmade aggarbatti has a very good market and with little design intervention, it can be made more marketable. For example, a major problem of the handmade aggarbatti made in North East India is that they do not have a stick at the end of the aggarbatti to hold it properly. If a proper wooden holder is given along with the pack, it not only will make it more marketable, but will also create employment opportunity for the craftsmen in the village. In this way, the impact can be created in a bigger way at the village level.

3. Collaboration with Government marketing agencies:

a. Tribal Cooperative Marketing Development Federation (TRIFED)

For the socio and economic welfare of tribal population Government of India established an independent corporation called TRIFED. Till recently TRIFED activities were confined to purchase of forest products and sell them at their retail counters .Since 1999 TRIFED expanded their activities by encouraging tribal artisans in the production of arts and crafts which they have inherited from their forefathers. TRIBES shop are set up to show case tribal arts and crafts by procuring the crafts from tribal artisans at remunerative prices and sell the same at these shop and organizing periodic exhibitions at different places all over India and abroad.

The ultimate objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products on which the lives of tribals depends heavily as they spend most of their time and derive major portion of their income from collection/ cultivation of Non timber Forest Produce (NTFP). As a cooperative, TRIFED's primary objective is to serve the interest of its members therefore in order to serve their interest in the field of marketing development of tribal products, some of the services which TRIFED offers are:

- To facilitate, coordinate and promote the marketing of the tribal products by its members;

- To undertake/promote on behalf of its members/institutions or the Govt. organisations, inter-State, intra-State and international marketing of tribal products;
- To act as an agency for canalisation of export and import and facilitate, wherever necessary inter-State trade of tribal products under any Scheme formulated by Govt. of India or any other State agencies.
- To develop market intelligence related to supply, demand, price trends, supply/market chain, value addition and processing facilities, product quality specifications, product applications, market trends, buyers for the tribal products and disseminate the information to the members as well as planners, researchers and associate organisations and business circles etc.;
- To assist in capability & capacity building of the members relating to the marketing development of the tribal products;
- To provide consultancy and advisory services to the members relating to the activities in furtherance of their objectives;
- To act as advisors, consultants and project managers to Govt. projects relating to marketing development of Tribal products in the form of capacity building, infrastructure development, special programs;
- To expand and extend the markets for Tribal Products through marketing development and promotion programs;
- To assist in the development of new products through product development, product innovation, product designs, new product applications and special R & D drives for tribal products;
- To collaborate, network, associate with similar and allied international bodies in Fair Trade, Tribal product marketing development, Tribal Research, Tribal Funding Agencies to further the interests of Tribal Product marketing;
- To collaborate, network, associate with similar and allied international bodies/agencies, societies (NGOs, Co-operatives, Foundations, and Trusts, organisations (Private and Government), institutions to further the development of Tribal Products marketing.

From a show room at New Delhi TRIFED has established a chain of 31 outlets in 22 cities across in India. These include 11 outlets of their own and 20 outlets are on consignments basis with state level Organisations. To promote tribal artisans and their crafts theme exhibitions are being held in the shop premises wherein tribal artisan are invited to participate along for better exposure and interaction with customers. TRIFED organized the first National Tribal Craft EXPO 2006 at Dill Haat

from Jan, 1 to Jan, 15 2006 wherein 56 artisans and state level organizations participated and displayed their craftsmanship. To give further fillip for promotion of tribal crafts TRIFED invited artisans to exhibit their crafts at Udaipur, Bhopal and Kinnaur for identifying items which can be purchased for sale at metro cities or at exhibitions TRIFED also participated in International exhibitions at Delhi Pragati Maidan regularly and abroad at Paris. A new innovation is being made by TRIFED by organizing SHGs among tribal artisans who would obtain training in design development as part of marketing drive.

Expert advice is being obtained from National Institute of Designs for improving the designs. As result of these measures, it is understood that TRIFED sales of arts and crafts rose from Rs 50 lakhs in 2004-05 to Rs 150 lakhs in 2005-06. Though the performance is impressive but there is long way to go for TRIFED and state agencies to develop, promote and sell tribal arts and crafts.

In North Eastern states dependence of tribal arts and crafts is important in their economy. A proper networking and collaboration needs to be established with TRIFED to obtain support in marketing as well as product development and capacity building. WWF needs to play a more pro-active role in this.

b. States Handicrafts and Handlooms Development Corporation Ltd

Various states Handicrafts and Handlooms Development Corporation, a Government of India undertaking has endeavored to carry forward rich heritage of all the respective states by reaching out the products developed by the artisan residing in these states and abroad through its network of emporia and a large number of exhibitions, expositions and crafts fairs.

c.Export Promotion Council for Handicrafts, Delhi

Export Promotion Council for Handicrafts (EPCH) has been established under the Exim Policy of Govt. of India in 1986-87 and is a non-profit earning organization. EPCH is an apex organization of trade, industry and government sponsored by Ministry of Textile, government of India for promotion of handicraft from country and projected India's image abroad as a reliable supplier of high quality of handicraft goods & services and ensured various measures keeping in view of observance of international standards and specifications.

d.Council of Handicrafts Development Corporation, Delhi

Council of Handicrafts Development Corporation (COHANDS) represents 28 states Government corporations of India and functions under the aegis of the office of Development Commissioner (Handicrafts), Ministry of Textile. COHANDS acts as facilitator for undertaking the integrated design and technical development workshops, interior design and participating in domestic and international fairs, cultural programmes, organising seminars and symposiums.

4. Khadi and Village Industry (KVIC): Taking advantage of KVIC schemes

KVIC works under the administrative control of the Ministry of Industry, Government of India under the department of Small-Scale Industries and Agro and Rural Industries. KVIC has a 10 member commission at the policy making level. The Commission consists of six zonal members (one of whom is Chairman), two expert members and two official members (the Chief Executive officer and the Financial Advisor to the Commission).

The headquarters of KVIC is in Bombay and it has its State and Regional Offices in all the States. It has training, production and Sales centers through out the country. KVIC is having 30 State khadi and village industries board, over 3500 institutions and over 29000 cooperative societies. There are around 14200 sales outlets in the country in KVI Sector. It is having 46% women participation in its activities. 30% beneficiaries belong to SC/ST. KVIC Boards assist over 5 lakh artisans. It has reached 2.35 lakhs villages.

Some of the major functions of KVIC are

- The KVIC is charged with the planning, promotion, organisation and implementation of programs for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- Its functions also comprise building up of a reserve of raw materials and implements for supply to producers, creation of common service facilities for processing of raw materials as semi-finished goods and provisions of facilities for marketing of KVIC products apart from organisation of training of artisans engaged in these industries and encouragement of co-operative efforts amongst them. To promote the sale and marketing of khadi and/or

products of village industries or handicrafts, the KVIC may forge linkages with established marketing agencies wherever feasible and necessary.

- The KVIC is also charged with the responsibility of encouraging and promoting research in the production techniques and equipment employed in the Khadi and Village Industries sector and providing facilities for the study of the problems relating to it, including the use of non-conventional energy and electric power with a view to increasing productivity, eliminating drudgery and otherwise enhancing their competitive capacity and arranging for dissemination of salient results obtained from such research.
- Further, the KVIC is entrusted with the task of providing financial assistance to Institutions and individuals for development and operation of Khadi and village Industries and guiding them through supply of designs, prototypes and other technical Information.
- In implementing KVIC activities, the KVIC may take such steps as to ensure genuineness of the products and to set standards of quality and ensure that the products of Khadi and village industries do conform to the standards.
- The KVIC may also undertake directly or through other agencies studies concerning the problems of Khadi and/or village industries besides research or establishing pilot projects for the development of Khadi and village industries.
- The KVIC is authorized to establish and maintain separate organisations for the purpose of carrying out any or all of the above matters besides carrying out any other matters incidental to its activities.

5. North Eastern Development Finance Corporation Limited (NEDFi): Exploring the option of availing support from NEDFi

North Eastern Development Finance Corporation Ltd. (NEDFi) was incorporated under the Companies Act, 1956, on August 9, 1995 with its registered office at Guwahati, Assam, for the development of industries, infrastructure, animal husbandry, agri-horticulture plantation, medicinal plantation, sericulture plantation, aquaculture, poultry and dairy in the North Eastern states of India.

NEDFi is the premier financial and development institution of the North East of India. The main objects to be pursued by NEDFi as per its Memorandum of Association is:

To carry on and transact the business of providing credit and other facilities for promotion, expansion and modernisation of industrial enterprises and infrastructure projects in the North Eastern Region of India, also carry on and transact business of providing credit and other facilities for promotion of agri-horticulture plantation, medicinal plantation, sericulture plantation, aquaculture, poultry, dairy and animal husbandry development in order to initiate large involvement of rural population in the economic upsurge of the society and faster economic growth of different parts of the North Eastern region.

NEDFi's charter allows it to extend financial assistance to:

1. Industrial projects
2. Infrastructure
3. Agri-horticulture plantation
4. Medicinal plantation
5. Sericulture plantation
6. Poultry
7. Dairy
8. Aquaculture
9. Animal husbandry projects

There are various schemes under NEDFi which support the development of industries under its ambit:

1. Project Finance Scheme: To provide long term finance for the establishment of new industrial, infrastructure, agri-horticulture, fishery and animal husbandry projects as well as expansion, diversification and modernization of existing ones.

2. North East Entrepreneur's development scheme (NEEDS): The NEEDS has been created to help first generation entrepreneurs who are short of equity and are unable to meet the conditions of banks/ financial institutions. Special focus is given on agricultural and horticultural activities and activities with local raw material.

3. Women Enterprise Development Scheme: NEDFi, as a financial institution has been working for the economic upliftment of the

women in the region by providing them training and financial assistance under Micro Finance Scheme (MF), North East Equity Fund Scheme (NEEF), Scheme for North East Handloom and Handicrafts (SNEHH), Jute Enterprises Development Scheme (JEDS) etc. Though women are engaged in various activities on their own in various areas yet financial assistance often remains a bottleneck for taking up new ventures or expansion of existing ventures. As NEDFi is committed to the development of the region, a special scheme has been prepared exclusively for women entrepreneurs at liberal terms and conditions wherein financial assistance would be provided for any viable income generating activity. It is expected that the scheme will go a long way in helping the women for taking up business ventures and will lead to economic development of the region.

4. Scheme for North East Handloom and Handicraft: This is a scheme from NEDFi that helps the manufacturers/designers/exporters of handloom and handicrafts products.NEDFi sees a great potential for Handloom and Handicrafts and would like the North East to take its rightful place on the commercial map for these products.

5. Design and skill upgradation scheme of NEDFi: The objective of the scheme is to empower the North Eastern artisans and reduce poverty among them by

- Providing new designs;
- Developing concepts for product diversification;
- Upgrading skills of the artisans;
- Introducing better production techniques on improved equipment and raw material;
- Improve productivity;
- Provide market linkages and improve margins and incomes;
- Capacity building for credit linkages

Salient features of the scheme:

The scheme will cover the following activities viz:

(i) Handloom (ii) Handicrafts (iii) Food processing (iv) Other products as may be identified from time to time.(Detail information on each of the programmes of NEDFi can be obtained from its website.)

Annexure: