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REPORT ON THE GUM KARAYA SUB-SECTOR IN ANDHRA PRADESH, INDIA

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I. EXECUTIVE SUMMARY

Although gum karaya, kendu leaf and sal seed, i.e. Non-Timber Forest Products (NTFPs) are available throughout India, the most significant contribution in terms of quantity and revenues – more than 75 percent - comes from five states, Andhra Pradesh, Chattisgarh, Madhya Pradesh, Maharashtra and Orissa. Apart from increasing state revenues, NTFPs are also a crucial source of income for the poor, particularly forest dwellers and tribals.

However, the current NTFPs chain is a classic case of missing linkages between market, resource and dependent poor. Despite the fact that its market is expanding and plenty of resources are available resource rich forests, NTFPs are typically a secondary livelihood option for NTFP dependent poor, due to numerous gaps and leakages in the “farm-to-market” chain. One exception is the Gum Karaya sub sector which is realizing enhanced incomes for its producers.

This report analyses the gum karaya production and trade trends in Andhra Pradesh, India over a period of time before and after intervention of scientific tapping. It also reviews the impact of this process on nature, wealth and power aspects so that NRM practitioners and decision-makers may benefit from lessons learned in the implementation, monitoring and evaluation of similar projects within in India and other countries.

2. INTRODUCTION TO THE SUB SECTOR

Indian forests are a potential source for large numbers of Non Timber Forest Products (NTFPs) and therefore, livelihoods for those living in and around forest areas. In Andhra Pradesh, some 10,000 tribal families living in 23 Districts within three regions, Coastal Andhra, Telangana and Rayalaseema, rely on the collection of gum karaya and other NTFPs for their livelihood. Andhra Pradesh State is one of the major producers of gum karaya in India. Other NTFPs include gums and resins, nuts, seeds, roots, tubers, flowers, fruits, leaves, flowers and medicinal herbs.

They are available only for in short periods (1-2 months) while gum karaya, which can be harvested round the year, provides a steady source of income to the dependent gum collectors. Gums are basically plant exudations that result partly from natural phenomena and partly from injury to the stem's bark. So gum karaya tapping requires a specialized skill and knowledge in order to access the best quality while minimizing damage to the tree. Since the gum is widely used in food and pharmaceutical industries, both in domestic and foreign markets, maintaining high quality standards is critical. Proper scientific processes are critical in tapping, processing, packing, storing and marketing gum karaya.

3. RESOURCE ASPECTS

3.1 GEOGRAPHICAL DISTRIBUTION

The *sterculia* or karaya tree is a native of dry deciduous forests in tropical climates. The genus *sterculia* comprises about 100 species of which approximately 25 species are said to occur in South Africa's tropical forests. *Sterculia* is found in tropical Himalayas, West and Central India, Deccan Plateau, and throughout the Eastern and Western Ghats of India (*Chopra et al, 1956*). In India there are 12 gum karaya species, of which four species are available in Andhra Pradesh. They are *S. foetida*, *S. populiana*, *S. villosa* and *S. urens*. Only *sterculia urens* species is tapped for gum harvesting.

In Andhra Pradesh State (India), the gum karaya trees are found in the Districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Khammam, Warangal, Karimnagar, Adilabad, Mahaboobnagar, Kurnool, Prakasham, Nellore, Chittoor and Cuddapah. The gum trees are found primarily on hill tops and slopes and in rocky areas. Since all the trees are found in the forest zone, they are included in the official category, Common Property Resources (CPRs).

3.2 A BRIEF OUTLINE OF GIRIJAN COOPERATIVE CORPORATION (GCC)

The GCC, established by the Government of Andhra Pradesh in 1956, focuses on improving the socio-economic status of tribals in the State of Andhra Pradesh. It currently serves some 2.6 million tribals out of a total tribal population of 4.2 millions living in the State. The GCC is vested with monopoly rights over 24 NTFPs including gum karaya.

The objectives of the GCC are:

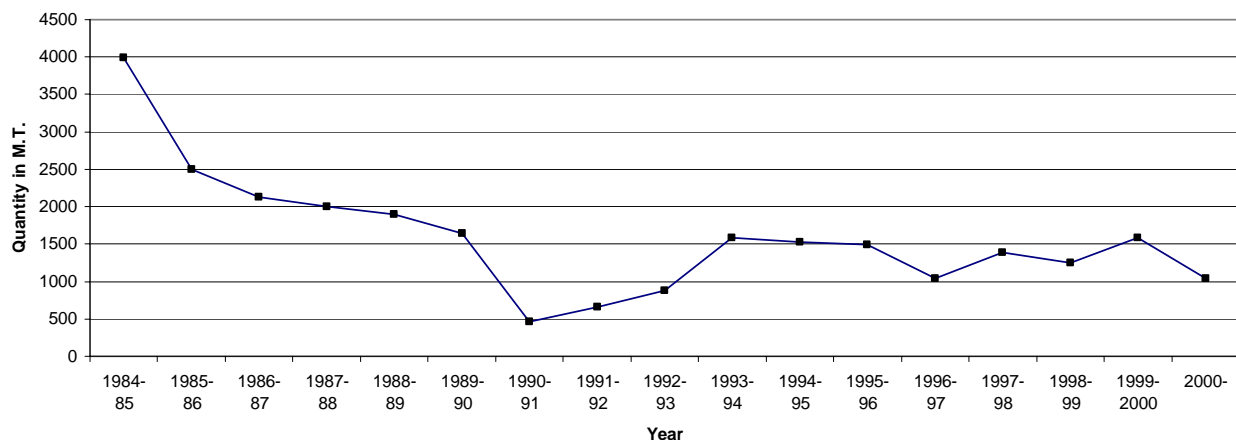
- To ensure fair payment for the NTFPs that the tribals collect, excluding in the process middlemen and private traders who were indulging in unfair trade practices.
- To ensure availability of Essential Commodities (ECs) in the scheduled areas through a network of Domestic Requirement (DR) Depots
- To provide support to the tribals through extending credit facilities for agricultural activities.

3.3 BEFORE INTERVENTION

3.3.1 THE GCC'S PRODUCTION AND MARKETING PROBLEMS

The GCC procures NTFPs from the tribals through Credit Cum Procurement Assistants (CCPAs) at Shandy points and DR. Depots. Among the NTFPs collected, gum karaya (*Sterculia urens*) is the key commodity in terms of production and trade turnover for the tribals as well as the GCC. In the early 1990s, the tribals used axes to collect the gum. The gum had bark and other foreign matter when it was sold in the shandy. There was no knowledge of how the gum could be collected, cleaned, sorted and graded. GCC was unable to dispose of those stocks which resulted in a backlog of over 1200 tons of gum, stored in the GCC godowns for want of marketing.

In the past (prior to 1990s) when traders offered lower prices for gum karaya, procurement prices also declined and collection dropped. As can be seen from Figure 3-1, exports fell sharply in 1990. This was due to substandard quality of gum karaya, as supplied by various agencies.

Figure 3-1. Gum Karaya Exports from 1984-84 to 2000 December

3.4 AFTER INTERVENTION

3.4.1 SEARCH FOR SOLUTIONS

Despite the high level of inventory of Gum Karaya, Sri T. Vijay Kumar, I.A.S. former Managing Director, GCC was unwilling to decrease the procurement price of gum due to the economic impact on the tribals. He did not want them to pay the penalty for price fluctuations. Given the inability to sell the stocks of gum, and with the growing need for commercially viable solutions, discussions were held with buyers and traders to determine the nature of problems in marketing gum. Based on these discussions, market requirements were identified for specific levels of:

- viscosity
- swelling ability
- bark and other foreign matter
- color and
- other properties

3.4.2 SCIENTIFIC TESTING OF GUM

GCC conducted experiments with two sets of samples

- Gum drawn from the godown inventory
- Gum collected from the tree

Testing samples drawn from the godown shown that 60 ml swelling ability where as fresh gum shown swelling ability of 500 ml. Similarly viscosity was 7 cps from godown inventory where as fresh gum viscosity was 1200 cps. Godown samples also contained high bacterial count and moisture, resulting in gum spoilage and degradation. Based on the test results, it was found that if the gum was properly handled, tray dried and properly stored, it would retain viscosity and swelling ability for more than nine months. Packaging practices caused spoilage and loss of viscosity in less than four months. Having identified the problem, it was clear that training programs were needed to disseminate information pertaining to the appropriate tools and methods of gum tapping, processing, grading, and storage.

3.4.3 SCIENTIFIC TAPPING OF GUM KARAYA

When a more scientific gum tapping process was required throughout the State, 60 botanists were engaged as NTFP consultants for extension work. Hundreds of educated tribal youth known as Village Liaison Workers (VLWs) were also trained. Biochemistry and botany expertise was used to develop scientific methods of gum tapping, collection, transportation, handling, storage, cleaning, sorting, grading and drying. Extension work and trainings are now undertaken to ensure quality control at all levels of handling - from tapping to auctioning the final product. During the trainings, gum pickers received appropriate tools to support more scientific practices.

For instance, in 1989 (8.9.89), the gum pickers used to receive Rs 30, 26 and 20 for 1st grade, 2nd grade and 3rd grade respectively for collection, which was considered unprofitable. GCC, in collaboration with Kovel Foundation, Visakhapatnam conducted regular intensive and refresher trainings on scientific tapping of gum karaya. They also supplied tool kits consisting of the following items:

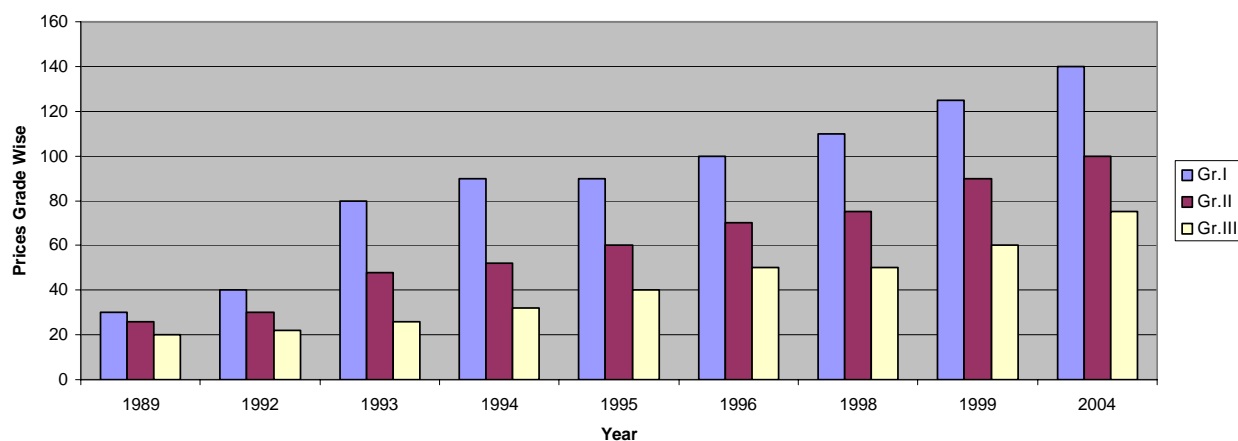
- Improved sickle for blazing the gum tree
- Five inches stainless steel forceps for removing bark and other matter from the gum
- Small polythene liners for gum collection
- Bamboo basket for transporting the gum from tree to home
- Material for a one mt. height wooden platform for drying the gum.
- Bamboo mat to cover wooden platform
- One sq. mt. polythene liners to place over the bamboo mat for drying the gum

The gum picker was required to construct the wooden platform in order to receive a free tool kit.

The Kovel Foundation and/or the GCC assessed the number of gum pickers to be trained in each divisional area and determined those who require tool kits. Kovel houses the tool kits and dispatches them prior to the commencement of training. After completion of a two- day intensive training program, gum pickers receive the tool kits, valued at Rs 150, at no cost.

As a result of scientific interventions, gum karaya's quality and purchase prices have risen substantially. (Figure 3-2)

Figure 3-2. GCC Prices of Gum Karaya Over a Period of Time



The above Bar chart clearly reveals that there is an upward trend in the purchase price of all three grades of gum karaya since 1989. If we take the prices in the year 1989 as the base point, it is an increase of 367 % for

1st grade, 285 % for 2nd grade and 275% for 3rd grade. As GCC maintained consistent quality and quantity, it has been able to establish its brand in the national and international market under the name “Girijan Gum”.

Figure 3-3. Chart Showing the Changes of Selling Price from Actor to Actor Grade-wise Over a Period of Time

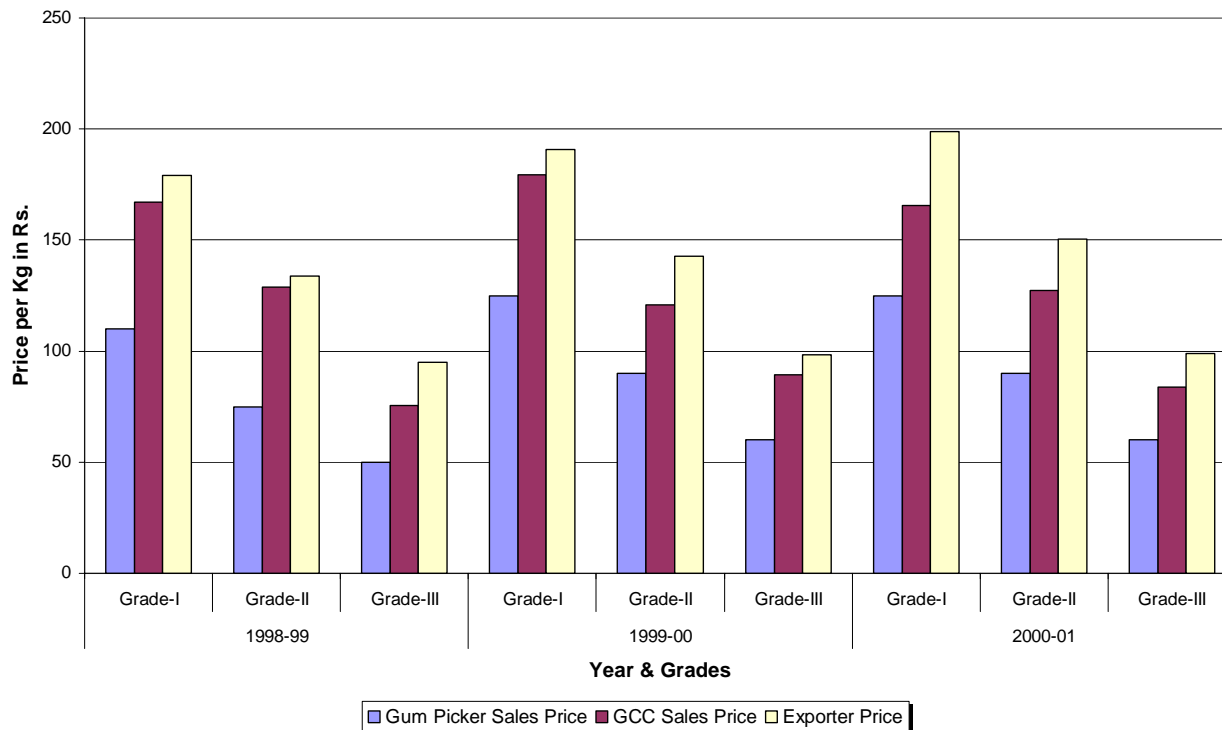


Table 3-1. Comparative Selling Price between Gum Pickers & GCC and GCC & Exporters for a Period of Three Years

Grade	Gum Picker Sales Price	GCC Sales Price	Exporter Price	Profit margin to GCC	Percentage of margin to GCC	Profit margin to Exporter	Percentage of margin to Exporter
1998-99							
Grade-I	110.00	167.10	179.25	57.10		12.15	7%
Grade-II	75.00	128.88	133.78	53.88	72%	4.90	4%
Grade-III	50.00	75.43	95.09	25.43	51%	19.66	26%
1999-00							
Grade-I	125.00	179.51	190.91	54.51	44%	11.40	6%
Grade-II	90.00	120.88	142.59	30.88	34%	21.71	18%
Grade-III	60.00	89.36	98.44	29.36	49%	9.08	10%
2000-01							
Grade-I	125.00	165.48	198.70	40.48	32%	33.22	20%
Grade-II	90.00	127.18	150.34	37.18	41%	23.16	18%
Grade-III	60.00	83.77	99.02	23.77	40%	15.25	18%

Prices per KG in Rs

3.5 ACTIVITY PROFILE AND GENDER-RELATED TASKS

Tribals, both men and women are involved in the pre- and post-harvesting of gum karaya. Men conduct most of the gum blazing while women manage processing (drying, grading and storage).

Tribal men and women who undertake gum collection start early in the morning, carrying their food and water. They walk three to 10 kilometers based on the geographical location of gum trees in the area. They have an informal understanding about the sharing of gum trees in the forest i.e. whoever cuts the tree first “owns” it in subsequent years. They blaze the gum tree and leave it for 20 days to ensure regeneration of the blazed portion. On the 20th day, they cut the blazed area at a thickness similar to onion peel at the upper portion. When women accompany their husbands, they carry baskets for gum collection and also collect leafy vegetables, twigs, tubers and fruits. They visit to the gum trees on alternate days and make fresh blazes on gum trees, wherever needed. Gum collection trips are made three times a week. Men blaze and market while women are involved in processing and grading but the roles and responsibilities are flexible and interchanged as needed.

3.6 TENURE AND ACCESS

GCC pays a royalty to the Forest Department to secure collection rights and market monopoly. In the scheduled area, the tribals have the right to visit forests to collect NTFPs including gum karaya. For this, GCC issues a “Giricard” to the identified gum picker, which ensures access to forests for gum collection and also sale in the market place. Most of the Giricards are in the names of men and contains information about the number of gum trees and transaction details.

With regard to forest management including gum trees, Vana Samrakshana Samithis are responsible for patrolling, protection and fire control activities with the support of Forest Department. Individual gum pickers also protect the trees as they visit forests regularly although they have no legal ownership. Produce ownership is in the male name and will be inherited through the male line. Women secure rights only through their relationship with men.

4. ECONOMICS

Previously, the tribals cut multiple blazes on a single tree to obtain maximum gum collection, ultimately leading to over exploitation of the gum trees. In the process, they collected more gum per tree (approximately 100-150 grams per tree per blaze) but the quality was poor and the gum trees were often severely damaged.

With the introduction of scientific tapping of Gum Karaya, collectors now make single blaze on a tree within a limited blazed area (15-20 cm) and follow best practices for harvesting and processing, thereby producing superior gum and minimizing damage to the tree. As per our project reports and interaction with the gum pickers, the number of gum trees per picker is declining due to earlier unscientific practices. The distribution of trees per gum picker varies from village to village and region to region. However, most pickers manage 20 to 30 gum trees. As per our estimation and experience, the yield and income from one gum karaya tree per year is presented below

4.1 YIELD AND INCOME PER GUM TREE

- Gum yield for one blaze on one Gum Karaya tree: 30 -50 grams
- Number of blazes on one tree per month: 12 blazes
- Gum yield per month on one tree: 360-600 grams
- Gum yield per one year on one tree: 4.320-7.200 kgs
- Gum yield from 20 trees per year: 86.400-144 kgs
- Gum yield from 30 trees per year: 129.600-216.000

Based on our experience, we expect from the above quantity, 25%, 50% and 25% of first grade, second grade and third grade respectively. Based on the assumption that each gum picker has 20 - 30 trees for gum tapping, the output of graded gum with expected income per annum is given below.

4.1.1 EXPECTED OUTPUT FROM 20 GUM TREES

25% of 129.600 kgs	32.400 @ Rs 140/- per kg	4536.00
50% of 129.600 kgs	64.800 @ Rs 100/-per kg	6480.00
25% of 129.600 kgs	32.400 @ Rs. 75/- per kg	<u>2430.00</u>
		13446.00

4.1.2 EXPECTED OUTPUT FROM 30 GUM TREES

25% of 216.000 kgs	54.000 @ Rs 140/- per kg	7560.00
50% of 216.000 kgs	108.000 @ Rs 100/-per kg	10800.00
25% of 216.00 kgs	54.000 @ Rs. 75/- per kg	<u>4050.00</u>
		22410.00

4.2 VALUE CHAIN ANALYSIS

Many different players including tribals, the GCC, traders and exporters, are involved in the gum karaya process. Pickers collect, dry, grade, store and sell the gum. The tribal gum pickers carry

product to the weekly shandy place, where the CCPA purchases and transports the gum to godowns for tray-drying (in order to lengthen shelf life.) The dried gum is packed and stored in the GCC godowns, then auctioned through a tender-cum-bidding process. The GCC conducts monthly auctions and traders bid. Traders from Mumbai and other parts of India participate and successful bidders raise the stock's value.

After crushing and milling, the traders who purchase this gum then grade it into seven different classes. This process takes place primarily in Mumbai. There is no correspondence in grades between those established by the GCC and those of traders. Since the GCC is the largest single supplier of gum karaya in India and also due to its various quality improvement initiatives, GCC product commands a premium price on the domestic market.

The following table provides the broad characteristics of the different grades with current purchase prices fixed by the GCC.

Table 4-1. Broad Characteristics of Grades with Current Purchase Prices

Classification of grade	Color	Minimum permissible BFOM*	Purchase Price per Kg (Rs)
Grade I	White to off white	0.5%	140
Grade II	Tan color	1.5%	100
Grade III	Dark tan color	3.0%	75

Table 4-2. Grades of Gum Karaya as Sold by Exporters

Sl. No.	Name of grade	Maximum Permissible BFOM	Color/features
1	Hand Picked Selected (HPS)	0.5%	Untouched by machines, transparent
2	Selected no.1	0.75%	Off white
3	Grade No. 1	1%	Off white to yellow
4	Grade No. 2	2%	Yellow to amber
5	Grade No. 3	3%	Amber to brown
6	Shiftings-higher	4%	Powder (size < 1 mm)
7	Shiftings-lower	6%	Powder (size < 1 mm)

A substantial proportion of gum karaya from GCC is thus exported through traders to other resellers-cum-processors located primarily in the developed countries, viz. Europe, U.S and Japan. These traders reportedly re-sell the gum karaya to the end user industries in various forms depending on specifications.

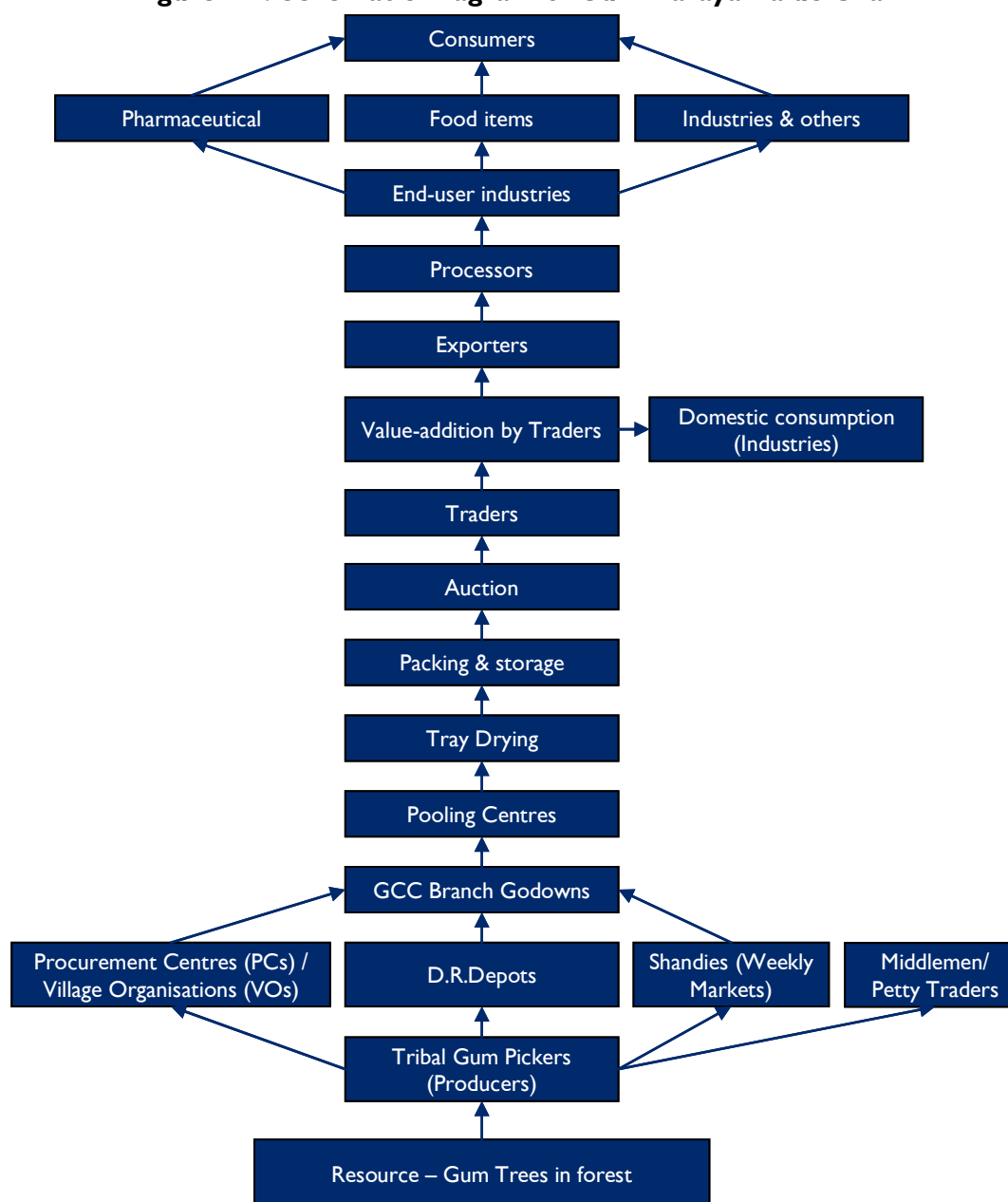
Table 4-3. Gum Karaya Exports from India: 1984-85-December 2000

Year	Quantity in Metric Tones	Value in Rs.Lakhs	Average Value per kg
1984-85	3993.26	1151.17	28.83
1985-86	2504.49	710.27	28.36
1986-87	2123.68	573.48	27.00
1987-88	2000.57	642.17	32.10
1988-89	1902.24	1105.23	58.10
1989-90	1640.54	1327.79	80.94
1990-91	461.80	385.84	83.55
1991-92	662.86	646.05	97.46
1992-93	884.69	757.31	85.60
1993-94	1590.44	1207.46	75.92

Year	Quantity in Metric Tones	Value in Rs.Lakhs	Average Value per kg
1994-95	1527.32	1122.35	73.48
1995-96	1493.33	1376.63	91.88
1996-97	1036.26	1030.85	99.48
1997-98	1386.13	1149.25	82.91
1998-99	1250.82	1224.01	97.86
1999-2000	1586.47	1503.48	94.77
2000-Dec 2000	1042.04	1041.92	99.99

The above table indicates that exports are declining gradually since 1984-85. The reasons could be production of gum is coming down year after year as the gum pickers were being used unsustainable methods of gum tapping, availability of synthetic substitutes and availability of gum at lower prices in other countries like Senegal and Sudan. However, it is clear that value per kg has gone up from Rs 29-100 and overall income from exports found not much variation.

Figure 4-I. Schematic Diagram of Gum Karaya Value Chain



4.3 TRENDS IN SOURCING GUM KARAYA

During the past few decades, the state of Gujarat was the main source of India's gum karaya. However, as the number of trees declined and industrialization spread, the source shifted to Madhya Pradesh State. Due to rampant deforestation and destruction of gum trees, Madhya Pradesh enacted a ban on gum karaya tapping for a period of ten years starting in the early 1990s. The primary source of gum therefore shifted to Andhra Pradesh. However Madhya Pradesh and Chattisgarh State have now lifted the ban in selected forest divisions. To improve gum quality, they have initiated scientific interventions for gum tapping and have established a resource team in collaboration with the Kovel Foundation, Visakhapatnam.

5. REGULATIONS AND GOVERNANCE ISSUES

For economic and conservation reasons, the Government has classified some NTFPs as nationalized items. There are three official categories:

- Nationalized
- Monopoly items
- Non –monopoly items

5.1 NATIONALIZED NTFPS

State government classifies NTFPs of significant economic value as nationalized items, which can only be traded / marketed by Forest Department. Those NTFPs included under nationalized items may vary from state to state; beedi leaf and bamboo are classified as nationalized item in Andhra Pradesh. A trade wing of The Forest Department's trade division deals with its marketing and the A.P.Forest Development Corporation arranges finance for procurement.

5.2 MONOPOLY ITEMS

GCC Limited has monopoly rights for valued added processes and marketing of selected NTFPs under lease agreement, based on sustainable harvesting and economic value. The Forest Department of Andhra Pradesh and GCC Limited, Visakhapatnam enter into a new agreement for monopoly rights regarding any given NTFPs annually. At present, there are 24 NTFPs under the GCC lease agreement.

5.3 NON-MONOPOLY ITEMS

Apart from nationalized and monopoly items, remaining NTFPs are open to all. Primary collectors or their associations must get permits from the Divisional Forest Officer (DFO) to transport and market the produce.

5.4 NTFP PROCUREMENT AND MARKETING

In Andhra Pradesh, the following regulations are in force for NTFP procurement and marketing. We have highlighted some of the key regulations in each Regulation Act.

5.4.1 ANDHRA PRADESH FOREST PRODUCE (TRANSIT RULES), 1970

- Any forest produce shall not be moved into nor from or within the state of Andhra Pradesh unless such produce has government transit permit issued by DFO.
- Collection of forest produce from private lands should require a permit from concerned DFO.

5.4.2 ANDHRA PRADESH FOREST PRODUCE (STORAGE AND DEPOT) RULES, 1989

- Any person or institution desirous of setting up a forest produce depot (storing) shall obtain a license from the DFO. The license shall be issued for a period not exceeding three years at a time.

5.4.3 THE ANDHRA PRADESH MINOR FOREST PRODUCE (REGULATION OF TRADE) ACT, 1971

- Any minor forest produce specified in the schedule, other than timber, trees, and charcoal comes under this Act.
- The government may constitute a committee (six to nine members) each year for the purpose of fixing the price of minor forest produce. The price so fixed shall not be altered during the year to which the price relates.
- The government may appoint an agent for a unit, for any trade in, any minor forest produce on the behalf of the Government.
- No person other than the Government or authorized officer or an agent shall sell or purchase or process or collect or store or transport any minor forest produce.

5.4.4 THE ANDHRA PRADESH SCHEDULED AREAS MINOR FOREST PRODUCE (REGULATION OF TRADE) REGULATION, 1979

This regulation shall control the minor forest produce cultivation, collection, transport and selling, in respect of any minor forest produce. It extends to any minor forest produce grown in any land or any reserved forest or any protected forest of the scheduled areas in the State of Andhra Pradesh.

- Any minor forest produce specified in the schedule, other than timber, trees, and charcoal comes under this Act.
- The government may appoint a corporation as an agent for any scheduled area, for any trade in any minor forest produce on the behalf of the Government.

5.4.5 THE ANDHRA PRADESH SCHEDULED AREAS MINOR FOREST PRODUCE (REGULATION OF TRADE) RULES, 1990

- The Corporation may appoint an agent for the purpose of purchase and trade of any minor forest produce.
- The corporation may set-up such number of purchasing centers, may consider the convenience of the growers of respective minor forest produce to set up purchase centers and the growers or collectors at the purchasing centers shall sell the minor forest produce to the corporation.
- The Corporation may refuse to purchase any minor forest produce. Aggrieved person may prefer an appeal to the Divisional Manager.
- The corporation may set up check posts and erect barriers wherever deemed necessary to avoid contraventions of the Act.
- Any officer authorized by the corporation may stop and search any person, boat; vehicle or receptacle used or intended to be used for the transport of minor forest produce.
- Authorized officer may seize minor forest produce together with the receptacles.
- The Corporation shall not be responsible for any loss or damage, which may occur in respect of any minor forest produce while detained at the check posts.
- The Managing Director of the corporation shall be authorized to fix the purchase price for each commodity in advance of the season.

5.5 EXPORT LAWS

To ensure that the tribals who are the main “producers” of gum karaya receive a fair price for their labor, the trade of Gum Karaya was channeled through the state agency NAFED until 1988. TRIFED was launched in 1998-99 and since then has handled this matter. During the early 1990s, gum karaya exports through traders was banned and TRIFED exported all India’s gum karaya. It also entered into agreement with GCC to pick up supply from GCC. However this experiment failed due to the strong traders’ network with importers.

Some of the traders in India then shifted to other commodities and while others established supply routes from Senegal and Mali where the trees are abundantly found. Consequently, the policy was modified and any trader is now permitted to export gum karaya after registering with TRIFED. All exports of gum karaya require a “No Objection Certificate” (NOC) from TRIFED and traders must pay a three percent commission on invoice value to TRIFED. TRIFED issues an NOC after assessing the gum karaya supply source.

5.6 FOREST DEPARTMENT-GCC- TRIBAL RELATIONSHIP

Forest Department has promoted and strengthened 6600 Vana Samrakshana Samithis, which are protecting and managing about 27% of the forest cover under Joint Forest Management. In the scheduled areas, all the tribal families are part of the VSS and incentives have been provided. The state is promoting community Forest Management (CFM) and APFD is facilitating the process of community empowerment. For the VSS, it is a graduation from protectors and managers to owners. The GCC procures the NTFPs from the tribals at predetermined prices that are fixed and revised annually based on the market trend. GCC also extends similar services for essential commodities (rice, edible oil and kerosene) and financial support for agricultural operations. GCC has a network of 839 depots which work in close coordination with 10 Integrated Tribal Development Agencies (ITDAs) in the state.

5.7 PROBLEMS FACED BY THE GUM PICKERS

During marketing of gum karaya, there are frequently issues at three levels- grading, weighing and payment.

5.7.1 GRADING

There is a difference of opinion between gum pickers and CCPAs regarding finalization of gum grades. When the CCPA considers the gum brought by the gum pickers to be of poor quality, it pays for lower grade. Gum pickers often disagree. These issues have been discussed during the regular training programs with the gum pickers and the need is underscored for grading of gum based on color and impurities to be carried out at the household level before it is delivered to the shandy.

5.7.2 WEIGHING PROCESS

Weighing disagreements often revolves around the moisture content. The GCC installed five kg table scales especially for gum karaya in all the shandy places. Regarding the high moisture presence in the Gum Karaya, the gum pickers have been sensitized and trained on proper drying procedures.

5.7.3 PAYMENT

Earlier, gum pickers were given vouchers and asked to collect payment at the next visit. Since many pickers were illiterate, they often received less money than indicated on the voucher. In the 1990s, middlemen used to dominate the marketing of gum, paying average prices for all grades and estimating weight.. A barter system was also in place whereby gum was exchanged for rice, salt, etc. Through training, the gum pickers are addressing these issues and increasing their bargaining power.

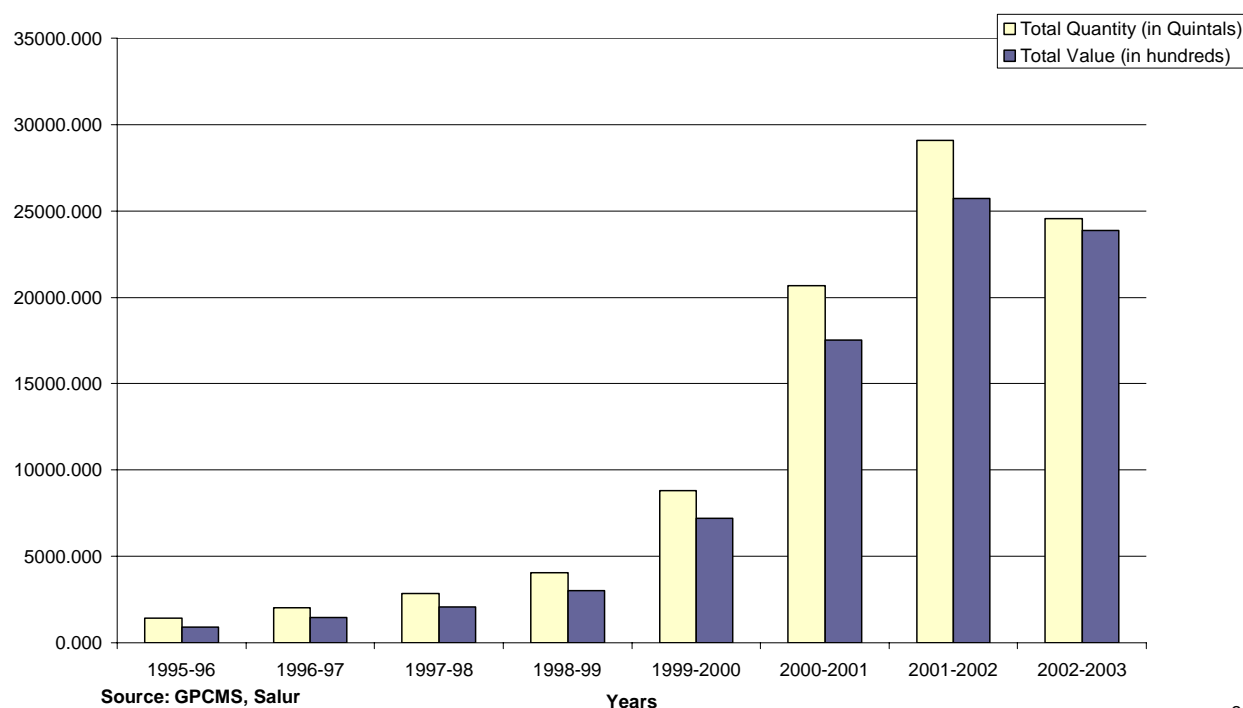
6. DEVELOPMENT INTERVENTIONS ON GUM KARAYA AND THEIR IMPACTS

The GCC and Kovel Foundation have worked since 1990 to improve the quality and quantity of gum karaya through regular intensive and refresher training programs for pickers. The training programs are organized for 25 to 30 gum pickers at any one time. Issues are discussed during these sessions along with appropriate solutions. The GCC is also supplying tool kits to the gum pickers for free of charge in order to encourage the adoption of scientific practices to maintain quality standards.

The Kovel Foundation, an apex organization of Girijan Gum Pickers Associations (GGPAs), is implementing development projects for the NTFP collectors' socio-economic empowerment in collaboration with GCC and other funding agencies.

In collaboration with Sir Ratan Tata Trust (SRTT), Mumbai and Canada Fund for Local Initiatives (CFLI) New Delhi, Kovel implemented two projects entitled "Scientific tapping of Gum Karaya to increase and sustain income levels to the gum pickers" in two of the Districts in Andhara Pradesh. They made considerable impact in generating additional income for 1500 gum picking families. For instance, in one of the project areas, before the 1999 intervention, the total value of gum procured from the area was Rs.7.20 lakhs ; post-intervention, the income levels rose to Rs.25.70 lakhs f

Figure 6-1. Statement Showing Grade-wise, Year-wise Gum Procurement in G.P.C.M. Society Ltd., Salur, Parvathipuram Division, Vizianagaram District from 1995-96 to 2002-03 (period of year April to March)



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There is another project which is being implemented in collaboration with United Nations Development Fund for Women (UNIFEM) New Delhi and Society For Elimination of Rural Poverty (SERP), Hyderabad is “Women’s Economic Empowerment in the market Place – India Gum Karaya (WEEM-IGK)“. The objectives of the project are:

- To enhance women’s economic empowerment in the market place through collective action thereby promoting their bargaining power.
- To increase producers’ income and to facilitate women’s access to and control over the NTFPs market by organizing them into Self Help Groups (SHGs) and Marketing Cooperatives.

6.1 THE MAIN INNOVATIONS IN THE WEEM-IGK PROJECT ARE

- Both women and men are trained in improved and sustainable methods of harvesting, post harvesting of gum karaya and other NTFPs to add value;
- Women’s groups are organized into Mutually Aided Cooperative Societies (MACS) for collective marketing, value addition;
- Women are the sales people at the procurement centers which they also control and manage.
- Land- to -lab, lab- to -land approach blends traditional and scientific knowledge

6.2 IMPACT OF THE PROJECT ON NATURE, ECONOMY AND POWER ASPECTS

Earlier NTFP collectors used to sell individually and often had to forego daily wages when traveling long distances to the market place. The setting up of NTFP procurement centers has an immediate impact on household income. The NTFP collectors are getting higher prices. Produce is properly graded. There is a saving on transport costs- earlier, a round trip to market cost about Rs 30. With the procurement centers within a five km distance, there is no transport cost and almost no wages lost. Thus, household income increased by approximately 50 percent.

Before the project set up the procurement centers, men controlled most of the household income. But with the nearby project-run procurement centers, this has changed. Now in most of cases women go to the marketplace to sell the NTFP.

The training programs on scientific gum tapping is significantly improving skills, knowledge and capacities of gum pickers. They are adopting scientific practices in tapping, collection, drying, grading, and storage of gum thereby helping to conserve gum trees and improve quality and returns. The gum pickers increased their income from Rs.30 in 1990 to Rs 140 in 2005.

Gum pickers’ ability to grade gum based on the quality is now enhanced and 90% of the gum pickers sell their gum in graded form at the weekly markets or procurement centers. Improved negotiation and bargaining skills has led to better management of market issues.

Previously, tribals cut gum trees while clearing forest for shifting cultivation. Appreciating the economic value of gum trees, they are now protecting the gum trees in the forest and in their own lands. Not only protection of gum trees but also individual gum pickers are taking up plantations voluntarily on their own lands. The Forest Department is also promoting gum karaya plantations through Vana Samrakshnan Samithis (VSS) under World Bank-funded Community Forest Management (CFM) programs.

7.0 THREATS AND OPPORTUNITIES WITHIN THE VALUE CHAIN

7.1 OPPORTUNITIES

- Multiple and varied uses of gum in industrial and domestic applications ensures continuous and stable demand for good quality gum karaya.
- Introducing solar dryers and quality control labs at community level will help to add value.
- Gum karaya is a natural product and therefore services a growing industry.
- The community is interested in collective initiatives for alternative marketing mechanisms (marketing cooperatives, controlled and managed by women).
- There is a great scope to train women in production, marketing and sales.
- Plantations increase forest wealth regeneration.
- Transportation time from forest to market center for pickers is reduced.
- There are potentially, new value added products
- Gum collection provides a source of income for the tribal community for most of the year.

7.2 THREATS

- There is a decline in gum trees population as a result of past unscientific practices. On average, number of gum trees per gum picker has declined by 50%.
- If production declines, the resultant decline in remuneration may drive a shift to other livelihoods.
- Control of the high end market by traders and foreign buyers.
- Weak linkages between gum pickers and end users.
- Sudden implementation of legislative change could result in withdrawal of monopoly rights before the tribal community is able to market on their own or negotiate in open markets.