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An Economical Analysis of JFMs of Chhotaudepur and Kawant Tehsil

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ABSTRACT

This paper is contributed about the economic analysis of Joint Forest Managements (JFMs) of Chhotaudepur and Kawant tehsil of Chhotaudepur forest range. The particulars presented details of total JFMs their total registered members, total area of their forest range, total ST registered members of JFMs and the major three crops of MahudaPhool, MahudaDoli and Kusum Lac of both the forest ranges.

1. Introduction

'Bush is Natural Life' man showed up on the planet as a piece of the nature framework'; this advantageous association with forest and woodland items exists since the making of beginning of lives with the Garden of Eden.[1] Forest constitutes a critical part of the normal capital of an economy. The woods items are characterized into two general classifications specifically, timber and non-timber forest items.[2] In India where there has been gigantic deforestation in the course of the most recent 150 years, around 50 million individuals rely upon woods for their reality. India has changed climatic conditions with rich biodiversity. It is accounted for around 3,000 plant types of financial significance yielding items that give nourishment, dress, asylum, drugs and others for the prosperity of groups living in and around woodlands and past.[3]

The term Non-timber woods items alludes to a wide range of biomass related items, nourishment, fiber, grain, gums and pitches, therapeutic plants, basic materials and a scope of different things of sustenance and monetary esteem. These items may originate from the leaf, bloom, organic product, seed, twig, unit, stem, root tuber and bark of plants. They are really the general population's items and their utilization and exchange shape vital segments of the neighborhood economies and societies.

Man's reliance on backwoods is age old and he used Non-timber forest items in some frame or the other in his day-by-day routine since birth to his last excursion of life. The normally recovering backwoods had just been equivalent with requirements of the general population till fitting parity of populace and woodland assets existed. The regularly expanding populace of human and animals and their developing needs have applied expanding weight on backwoods and consumption of their items. India has more than 16 for every penny of the worldwide human populace and more than 20 for each penny of the animals' populace yet has just 2.4 for every penny of the worldwide land region[4]. The quickly declining woods asset base has laid a significant financial effect on backwoods tenants and nearby country groups who rely on Non-timber forest items for their living. This requires the requirement for reasonable backwoods administration, which can give satisfactory sustenance, grain, fuel, fiber, timber and wood for neighborhood mechanical uses other than looking after biological system. The forest overview report of 1987 has watched that India has just 11 for every penny wood and of satisfactory thickness and fewer than 4 for every penny arrive accessible for field munching. The State Forest Report 1989, brought out by Forest Survey of India has shown that the nation has just 64.01 million hectare of genuine forest cover which is around 19 for each penny of the aggregate land region in India[5]. With the exhaustion of backwoods, the Non-timber forest items have likewise been lessening quickly as the woodland administration watched over creation of wood for timber, mash wood for paper and fuel[6]. The Non-timber woodland items did not get consideration of the forest directors, as they merited. It was just amid the seventh five year design in 1980's that the significance of Non-timber forest items was acknowledged and in December 1988, the National Forest strategy was detailed. This modified strategy laid weight on Non-timber backwoods items advancement as a basic thing of forest administration, which is yet to be executed in its actual soul. It was suggested that exceptional consideration require be paid for assurance, direction and ideal gathering of Non-timber woods items alongside institutional game plan for promoting of such create. Enthusiasm for Non-timber woods items has been mounting for a few reasons. To begin with there is a developing acknowledgment that the dependence of provincial groups on a wide assortment of plant and creature species for their substance needs may make it conceivable to look for their

[1] Arguments for Protection Beyond Belief: Linking faiths and protected areas to support biodiversity conservation A research report by WWF, Equilibrium and the Alliance of Religions and Conservation (ARC). Written and edited by Nigel Dudley, Liza Higgins-Zogib and Stephanie Mansourian.
[2] Forest Ecosystem Services: Provisioning of Non-Timber Forest Products James L. Chamberlain, Gregory E. Frey, C. Denise Ingram, Michael G. Jacobson, Cara Meghan Starbuck Downes
[3] Ministry of forest and environment, annual report 2005
[4] Food Production and Consumption Trends in Sub-Saharan Africa: Prospects for the Transformation of the Agricultural Sector.
[5] http://fsi.nic.in/sfr2009/chapter1.pdf.
[6] http://fsi.nic.in/isfr2017/isfr-growing-stock-2017.pdf

support in protection of tropical biodiversity. [7] Second, proceeding with deforestation in the tropics, where such species are intensely thought, debilitates to wipe out several species amid the following couple of decades. Third, the commercialization of Non-timber woods items is seen as a way to enhance their country salary and the prosperity of the indigenous social orders that have used Non-timber woodland items for a large number of years. Fourth, numerous species that yield Non-timber woodland items are thought to be a potential wellspring of new qualities and additionally new items, especially medications and accordingly are to a great degree profitable to the universal pharmaceutical industry. Finally, it is presently progressively understood that the full monetary variety of jeopardized tropical backwoods biological systems isn't conceivable without the variety of the Non-timber woodland items.

Despite the fact that Non-timber woodland items have been old companions to people in all groups, it was the forest inhabitants, for the most part ancestral, which have been identified with them most, as they depend altogether on the backwoods. Around 60 for every penny of the creation of Non-timber woods items is devoured by around 7 crore inborn in the nation. Non-timber woodland items constitute around 10 to 40 for each penny of ancestral family profit.[8]

2. Methodology

Woods give a scope of non-timber backwoods items, which can assume an imperative part in the nourishment security and as a salary winning hotspot for the rustic networks. These backwoods subordinate networks have been getting sustenance from the products and enterprises since ages. Frequently these non-timber woodland items are considered to constitute the existence emotionally supportive network in the rustic territories; yet because of absence of coordinated backwoods administration, disregard of non-timber timberland items, unsustainable reaping and uncontrolled evacuation of backwoods item; working of the woods is aggravated. In this milieu, the present examination expects to assess the administration of the JFMs of Kawant and Chhotaudepur woodland run.

The expanded consideration paid to non-timber woodland items as of late originates from various components. One is the much elevated enthusiasm for the estimation of biodiversity, carbon sequestration and other natural capacities given by tropical woodlands, and related worries with the outcomes of the utilization of these timberlands in manners which prompt their devastation or debasement.

A second factor has been the development in mindfulness that utilization or offer of non-timber woodland items frame vital parts of the job frameworks of extensive number of individuals, outside and additionally inside the tropical timberlands. There has additionally been increased business interest for some non-timber yields of tropical woodlands MahudaPhool, MahudaDoli, Kusum Lac, natural items and other timberland items. An acknowledgment that it is likely that there are different species and results of critical modern incentive in such a rich and assorted hereditary asset. That can encourage the clans and the JFMs both.

The subject of administration of tropical backwoods for timberland items is in this way a mind boggling one, described by numerous goals, different items and typically various clients. The similarly complex examples of utilization and change made by human requests on, and mediations in, the woods include a further entangling component.

3. Fundamental Truths

There is a developing acknowledgment that the dependence of provincial networks on a wide assortment of plant and creature species for their subsistence needs may make it conceivable to look for their investment in protection of tropical decent variety.

- ✓ Proceeding with deforestation in the tropics, where such species are intensely focused, undermines to wipe out several species amid the following couple of decades.
- ✓ The timberland items are seen as a way to enhance their provincial wage, the prosperity of the indigenous social orders that have used woods items for a great many years.
- ✓ Numerous species that yield timberland items are thought to be a potential wellspring of new qualities and additionally new items, especially medications and accordingly are greatly profitable to the universal pharmaceutical industry.
- ✓ It is currently progressively understood that the full monetary variety of jeopardized tropical timberland biological communities isn't conceivable without the variety of the woodland items.

4. Objectives of the study

- To identify the actual forest products available from Chhotaudepur forest range.
- To evaluate the functions of JFMs associated with Kawant and Chhotaudepur forest range.

[7] nature, human nature and value a Study in Environmental Philosophy Helen Barnard Submitted to the University of Wales in fulfilment of the requirements of the degree of Doctor of Philosophy University of Wales, Cardiff 2006

[8] Personification in Women's Romantic-age Poetry by Emma Curran Submitted for the Degree of Doctor of Philosophy University of Surrey School of English and Languages Faculty of Arts and Social Sciences

JFM IN CHHOTAUDEPUR AND KAWANT

Table 4.1 Chhotaudepur Forest Division

Forest Range	Total JFM	Total Forest Area (Ha.)	%	Allotted Forest Area to JFM	%	Total Members in JFM	%	Female Mem.	%	Male Mem.	%	Total ST Mem.	%	Other Mem.	%
Chhotaudepur	42	9161.6	22.8	9161.61	25.21	4648	19.21	775	18.38	3873	19.29	4648	19.52	0	0
Rangpur	45	8297.2	20.6	8297.27	22.83	3260	13.47	366	8.68	2894	14.41	3260	13.69	0	0
Dolariya	29	7105.5	17.6	6964.11	19.17	3346	13.83	786	18.64	2661	13.25	3478	14.61	0	0
Kawant	19	9856.2	24.5	6173.16	16.99	5197	21.48	1550	36.76	3647	18.16	5197	21.83	0	0
Panwad	50	5769.8	14.36	5739.98	15.80	7742	32.00	739	17.53	7003	34.88	7229	30.36	513	100
Total	**185**	**40190.5**	**100**	**36336.13**	**100**	**24193**	**100**	**4216**	**100**	**20078**	**100**	**23812**	**100**	**513**	**100**

(Source: Secondary data collected from Chhotaudepur Forest Division)

The entire forest division has covered 349 JFM out of them Chhotaudepur, Rangpur and Dolairya are roofed under Chhotaudepur JFM range it has 42, 45 and 29 JFM respectively. The second forest range under study is Kawant, which is covered by Kawant local and Panwad Forest range they have sheltered total 19 and 50 JFM respectively. Thus, the entire study is compiled for five major forest region Chhotaudepur, Rangpur, Dolariya and in Kawant and Panwad. The study region is taken for 185 JFM. They all are inquired with certain details and analyzed for conclusions. There are total 42 JFM registered in Chhotaudepur range.

4.1 TOTAL JFM

Table 4.1 presents the details of Chhotaudepur Forest Division. It clearly stated the details about Joint Forest Management in Chhotaudepur and Kawant.

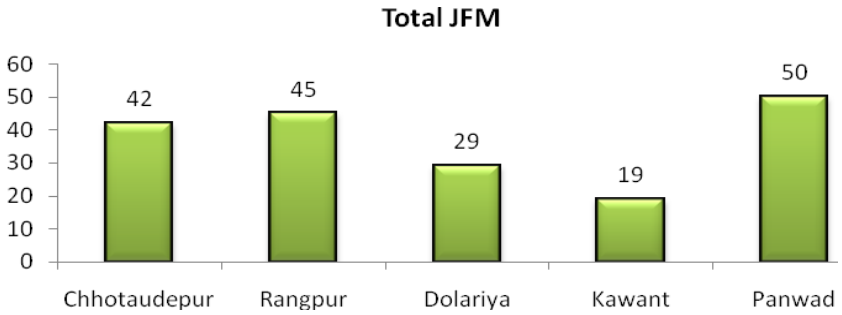

Figure 4.1 Totals JFM in Chhotaudepur Forest Division

The study is based on comparison between the forest products available in Chhotaudepur and Kawant forest range. Thus, the major five regions covered in Chhotaudepur and Kawant are detailed for discussion and conclusion. Total 349 JFMs are registered under Chhotaudepur forest division. Among them total 42 JFMs are registered under Chhotaudepur range. The Rangpur forest range having total 45 registered JFMs, the Dolairya forest range covers 29 JFMs, Kawant includes total 19 JFMs and finally Panwad has nominated total 50 JFMs under its study region.

4.2 TOTAL FOREST AREA (in hector)

The entire Chhotaudepur forest range division covered total 68191 ha. of land. Out of Total forest area, Chhotaudepur secured 9161.61, which are 22.8% of total forest area. The Rangpur forest range covered with 8297.27 (20.64%) of total acquired range. Apart from this, Dolariya has been assigned total 7105.56 (17.68%) of total allotted forest range.

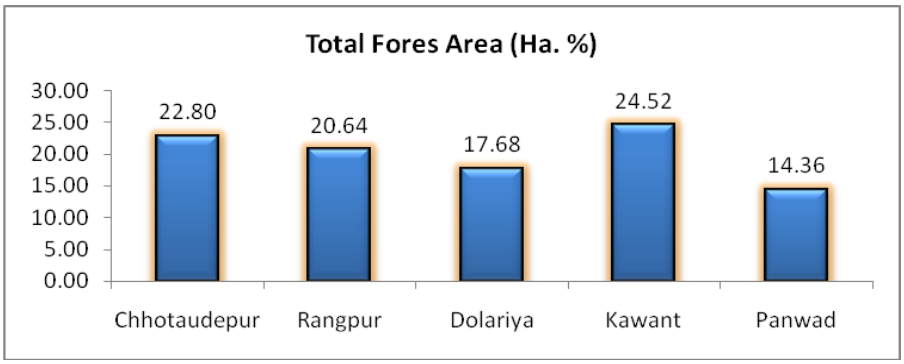

Figure 4.2 Total Forest Areas (Ha)

Similarly, Kawant and Panwad have been allotted total 9856.26 (24.52%) and 5769.89 (14.36%) respectively. It is noticed that Kawant covers the highest forest range; Chhotaudepur covers the second highest range. Other three ranges Rangpur, Dolariya and Panwad are sequencing in ascending order for the range allotted to each range.

4.3 ALLOTTED FOREST AREA TO FOREST RANGE

Total forest areas of Chhotaudepur district is to be allotted to each of the forest range for making successful administration and record keeping. The Chhotaudepur forest range is 9161.61(ha.) which is wholly utilized by the forest range. It shows 9161.61 (25.21%) of total allotted forest range. Chhotaudepur forest range covers total area; it has been given for look after. Similarly, Rangpur forest range has been given 8297.27 (ha.) which is fully occupy and used by the region. The defined rage of forest for Rangpur is 8297.27, which is 22.83% of total acquired land. The Dolariya range has total 7105.56 (ha.) of forest range whereas it has been used only 6964.11 (19.17%) of its total allotted range. Kawant forest region has been allotted total 9856.26 (ha.) of land. Out of that the forest range covers only 6173.16 (16.99%) of total land. Panwad forest range is the part of Kawant tehsil. It has been given 5769.89 out of it total 5739.98(9.18%) forestland is utilized. Out of five ranges, it is observed that Chhotaudepur and Rangpur is the only forest region, which have covered and utilized total area allotted.

4.4 MEMBERS IN JFM

All the five forest ranges are having total 24193 registered members. The Chhotaudepur range has total 4648 (19.12%) members. The Rangpur range covers with 3260 (13.47%) members; Dolariya range has total 3346 (13.83%), Kawant JFM has 5197 (21.84%) members and Panwad has 7742 (32%) registered members in JFM. It is observed that Panwad forest range has registered with highest members of total members.

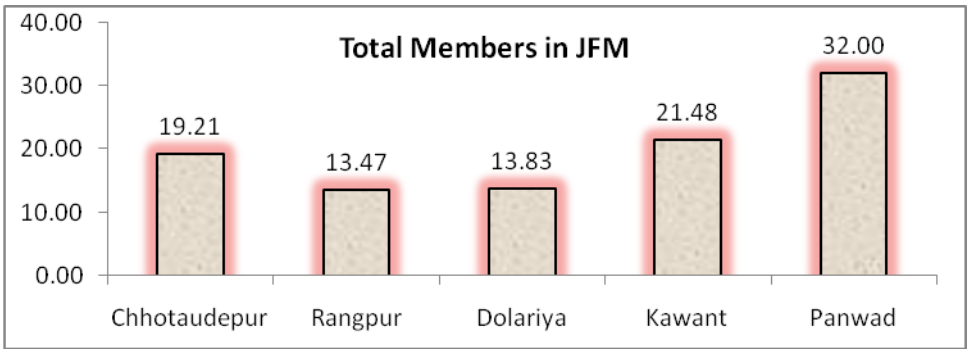

Figure 4.3 Total Members in JFM

Kawant is placed on second rank, whereas Chhotaudepur, Dolariya and Rangpur are framed in ascending order. Panwad forest range is having lowest allotted forest area and it has highest registered members as it has highest registered JFMs. Rangpur is placed on second rank with 45 registered JFM also it has 8297.27 (ha.) allotted forest area and it has least registered members. It clears that the lower range forest regions have good management compare to higher range areas.

4.4.1 FEMALE MEMBERS

There are total 4216 female members are registered in all five selected ranges of Chhotaudepur forest division. Amid them Chhotaudepur has 775 (18.38%) female members, Rangpur has 366 (8.68%) female members, Dolariya has 786 (18.64%) female members, Kawant has 1550 (36.76%) female members and Panwad has 739 (17.53%) registered female members.

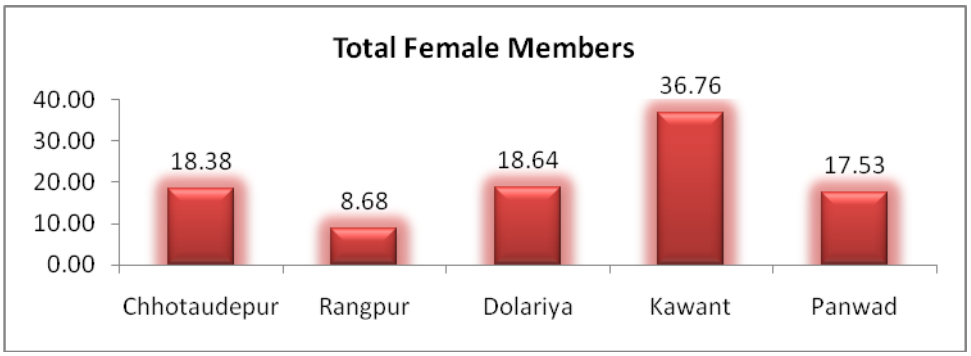

Figure 4.4Total Female Members

It is observed that Kawant forest range is registered with highest female registered members. Dolariya placed second, Chhotaudepur, Panwad and Rangpur are placed third, fourth and fifth in rank for total registered female members. Kawant forest range has only 19-registered JFM, which is majorly handled by female members.

4.4.2 MALE MEMBERS

Total 20078 male members are registered in Chhotaudepur forest division. Table 4.1 shows that total 3873 (19.29%) male members are registered in Chhotaudepur range. For Rangpur range there are total 2894 (14.41%) male are recorded. In Dolariya range total 2661 (13.25%) male members are actively participated. The Kawant range has 3647 (18.16%) male members and Panwad forest range has total 7003 (34.88%) registered male members.

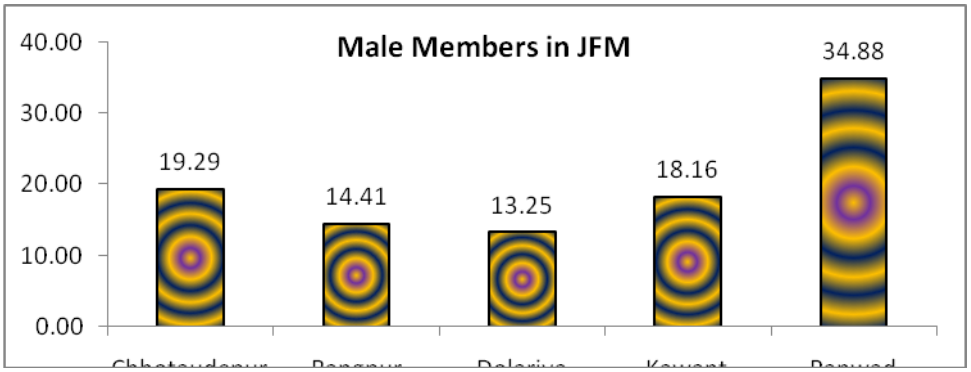

Figure 4.5 Male Members in JFM

It is perceived that Panwad forest range has highest registered members. Chhotaudepur range placed on second rank whereas, Kawant range Rangpur range and Dolariya are placed in ascending form for total registered members.

4.4.3 SCHEDULE TRIBE MEMBERS

The details about cast and category are determined for registered members for Chhotaudepur forest range. The registered members are inquired with SC, ST, OBC and Other category. It is observed that there is no SC and OBC category members registered as a member in JFM. There are total 23812 registered members for all five forest range under study. The Chhotaudepur forest range has 4648 (19.52%) ST category members, Rangpur has 3260 (13.69%) registered members of ST category.

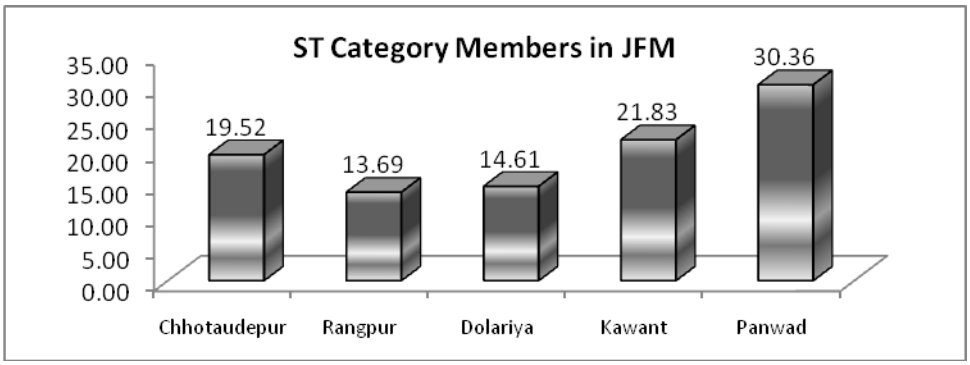

Figure 4.6 ST Category Members in JFM

Dolariya and Kawant have 3478 (14.61%) and 5197 (21.83%) ST category members in JFM and Panwad has total 7229 (30.36%) registered ST category members.

Chhotaudepur forest division is declared as a tribe region in Gujarat. Thus, it is but obvious that the majority of ST category people can be the member of the registered JFM. Panwad again stood first in rank; Kawant acquires next position. Chhotaudepur range positioned third whereas Dolariya and Rangpur are stands on last second last and last position. Panwad is the only forest region where other category people are also registered as a member of JFM. There are total 513 members of other categories are recorded as a registered members of JFM.

4.5 FOREST PRODUCTS AND JFM IN CHHOTAUDEPUR AND KAWANT – QUANTITY OF FOREST PRODUCTS

The economic position of the JFM is depends on the income and expenditures or spending of the JFM. Based on the financial statements of the JFM it can be easy to determine the status and role of JFM in development of tribe and tribal areas – indirectly it shows the growth of the economy of Gujarat.

The study is taken for last five years. It shorts for the financial year 2012 to 2017 for various forest products collected and contributed by the selected two regions - Chhotaudepur and Kawant. Chhotaudepur is divided with three different forest ranges – Chhotaudepur, Rangpur and Dolariya. On other hand, Kawant is divided with major two forest ranges – Kawant and Panwad.

The major available forest products and rare available forest products collection for the year 2012 to 2017 is collected for study. The collection of forest products depends on the nature products. Thus, the available products for each financial year is defined and computed with its quantity, price paid to the tribe, commission charge by the agent/ JFM, transportation cost paid to the tribe and total cost of the product.

It is more important here to discuss that higher the paid cost will give higher margin to the agent/ JFM. The agent/ JFM are selling out the forest products with higher rates in market. Thus, it is known that higher the quantity of forest products will gain the margin of agent/ JFM. The collected information from agent/ JFM is based on form 6 (K) – the form is keeping the record of agent/JFM about the details of total sale and cost to the sales during the year. The data is computed as and when the tribe submits the quantity to the agent/ JFM.

FOREST PRODUCTS IN LAST FIVE YEARS IN CHHOTAUDEPUR AND KAWANT

Qnt	Year	MahudaPhool	%	MahudaDoli	%	Kusum lac	%
Kawant	2017	706.76	5.57	49	1.77	0	0.00
	2016	262.91	2.07	73.45	2.66	0	0.00
	2015	344.16	2.71	365.51	13.22	4.35	20.63
	2014	731.72	5.77	131.84	4.77	0	0.00
	2013	3601.79	28.39	1069.05	38.67	0	0.00
Chhota Udepur	2017	824.3	6.50	321	11.61	0	0.00
	2016	617.96	4.87	32	1.16	0	0.00
	2015	1061.94	8.37	0	0.00	16.74	79.37
	2014	108.07	0.85	10.04	0.36	0	0.00
	2013	4428.48	34.90	712.54	25.78	0	0.00
	Total	12688.09	100.00	2764.43	100.00	21.09	100.00

(Source: Secondary data Compiled based on Record of form 6 – K from JFM/Agents)

The forest products are highly influenced by the seasonal changes. Thus, the study is concluding on yearly bases. The annual financial transactions are given the view about the vicissitudes of the JFM. The details for each forest range are defined under major two heads. The Chhotaudepur forest range covers the details for the forest products collected by Chhotaudepur, Rangpur, Dolariay, Zoz and other nearby rages falls under Chhotaudepur tehsil. The second segment is taken Kawant, which covers the total collections for Kawant and Panwad range and presented as Kawant tehsil. The major forest products available in these regions are MahudaPhool, MahudaDoli, Kusum Lac, KhatiAmbli, BilaGarbh, KaranjBeej, Galo, KadvaDoli and Timrupan. The availability of each product for the year 2013 to 2017 is presented in table 4.2 (A) and (B) for defined both the forest ranges under study.

4.6 QUANTITY OF MAHUDA PHOOL

The particulars for total quantity produced in Kawant for MahudaPhool is given in table above for the year 2013 to 2017. The quantity is measured in quintal. For the year, 2017 the total production of MahudaPhool was computed 706.76 quintal in Kawant forest range.

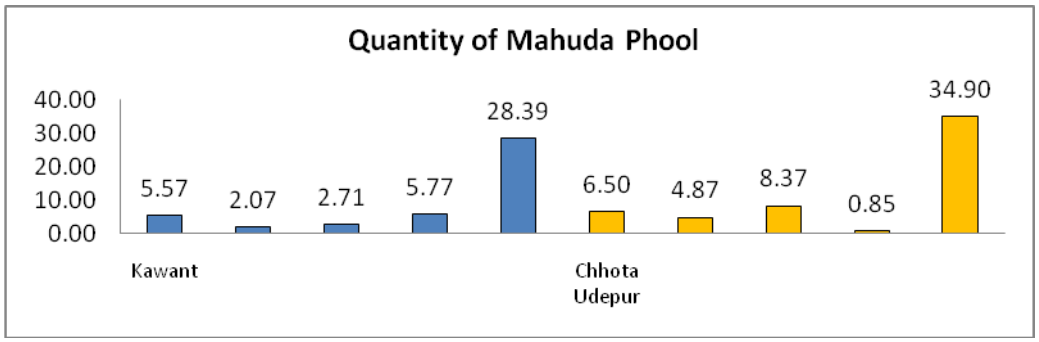

Figure 4.7 Quantity of MahudaPhool

It shows total 5.57% production for last five year. On other hand for the same year the production of MahudaPhool in Chhotaudepur was recorded 824.3 quintal it was 6.5% of total production of last five years. Compare to Kawant the production of MahudaPhool was higher. For this year the higher production shows the higher income ratio for the Chhotaudepur forest range JFM/agents. Similarly, the production of MahudaPhool is taken for comparative study for Kawant and Chhotaudepur during 2016. In Kawant total 262.91quintal – (2.07%) of total production was recorded. Whereas, it was 617.96 (4.87%) quintal computed for Chhotaudepur. The total production of MahudaPhool is again computed higher 2.8% more than total production of Kawant. For the financial year 2015, the production of MahudaPhool in Kawant and Chhotaudepur was 344.16 (2.71%) and 1061.94 (8.37%) recorded respectively. The comparison shows that Chhotaudepur lead the Kawant forest range for this year in total production of MahudaPhool. The total production of MahudaPhool for last three years – 2017, 2016 and 2015 has been studied for both the forest ranges – Chhotaudepur and Kawant. It is found that the production in Kawant for 2015 was 344.16 (2.71%), which has declined next year by 0.69% and it has gained 3.5% in the year 2017. Similarly, the crop intensity collected in Chhotaudepur is recorded as 1061.94 (8.37%) for

the year 2015, for next year it has downfall of 3.5% and in 2017 it has gained again with 1.73% in total collection. It shows that both the areas under study have similar effects of season. For the year 2016, the production of MahudaPhool for both the selected forest range was found affected. Similarly, the production of MahudaPhool for the year 2014 was highly affected by seasonal impact. Compare to the production of 2013 in 2014, it has great downfall in total collection of MahudaPhool. The figures of total collection in table 4.2 (A) for the year 2014 shows that the total collection of 731.72 (5.77%) for Kawant and 108.07 (0.85%) for Chhotaudepur forest range. It is observed that Kawant lead Chhotaudepur in total production of MahudaPhool for the year 2014. Particularly for this yea, the tribes of Kawant earn more than Chhotaudepur. The JFM of Kawant for last four years still earned lower than Chhotaudepur JFMs. The initial year taken under study 2013 has recorded with highest collection of MahudaPhool. For Kawant forest range the total collection of 2013 was recorded as 3601.79 (28.39%) quintal, which was highest collection recorded for last five years. Similarly, for Chhotaudepur region the collection was recorded 4428.48 (34.9%), which was stands as a top most collection of MahudaPhool for both the ranges. The discussion shows that the quantity of MahudaPhool for Chhotaudepur forest range supports the JFM a lot. The JFM supports the tribes. The Chhotaudepur forest range covers total collection of forest products for Chhotaudepur, Rangpur and Dolariya ranges, which covers total 116 JFMs. Similarly, total 69 JFMs of Kawant forest range covers – Kawant and Panwad forest range products. It is noticed higher the JFM supports higher collection of forest products. Even the Chhotaudepur forest range covered with more forest range than Kawant and Panwad.

The Proportion of JFM to total product collected and density of total products to area allotted is giving clear view about comparison for both areas. Thus, the proportion of JFM to total collection is computed by taking ratio of total collection of MahudaPhool for last five years and total registered JFMs. It is found that the total collection of MahudaPhool for Kawant range for five years is 5647.34 quintals for 69 JFMs. Thus, the proportion is found 81.84. Similarly, the products proportion to Chhotaudepur is found 60.69 (7040.75/116) – total production and registered JFMs in Chhotaudepur range.

The proportion for Chhotaudepur forest range is found lower than Kawant forest range for total JFM proportion. Another tool for comparison is density of production or collection of MahudaPhool is taken for study. The Kawant forest range has allotted with total area of 11913.14 (ha.). The total production of MahudaPhool for five years from this area was totaled as 5647.34 quintal. Thus, the density is measured as (5647.34/11913.14)= 0.47 (ha.). The similar calculation for Chhotaudepur range computed with total production of 7040.75 quintal taken from 24422.99 (ha.). Thus, the density is measured as (7040.75/24422.99) = 0.29 (ha.). The density for both the forest ranges shows that the Kawant range has getting highest collection compare to Chhotaudepur forest range. It is concluded that the JFMs of Chhotaudepur range has to put more affords for collection of MahudaPhool. The higher the efforts of JFMs can help the tribes for growth and development in future.

4.7 QUANTITY OF MAHUDA DOLI

The particulars for total quantity produced in Kawant for MahudaDoli is given in table 4.2 (A) for the year 2012 to 2017. The quantity is measured in quintal. For the year, 2017 the total production of MahudaDoli was computed 49 quintals in Kawant forest range.

It shows total 1.77% production for last five year. On other hand for the same year the production of MahudaDoli in Chhotaudepur was recorded 321 quintal it was 11.61% of total production of last five years. Compare to Kawant the production of MahudaDoli was higher. For this year the higher production shows the higher income ratio for the Chhotaudepur forest range JFM/agents.

Similarly, the production of MahudaDoli is taken for comparative study for Kawant and Chhotaudepur during 2016. In Kawant total 73.45 quintal (2.66%) of total production was recorded. Whereas, it was 32 (1.16%) quintal computed for Chhotaudepur. The total production of MahudaDoli is computed lower 1.5% more than total production of Chhotaudepur in Kawant. For the financial year 2015, the production of MahudaDoli in Kawant and Chhotaudepur was 365.51 (13.22%) and 0 (0%) recorded respectively. The comparison shows that Kawant lead Chhotaudepur the forest range for this year in total production of MahudaDoli. Particularly for this year the production of MahudaDoli in Chhotaudepur forest range was zero.

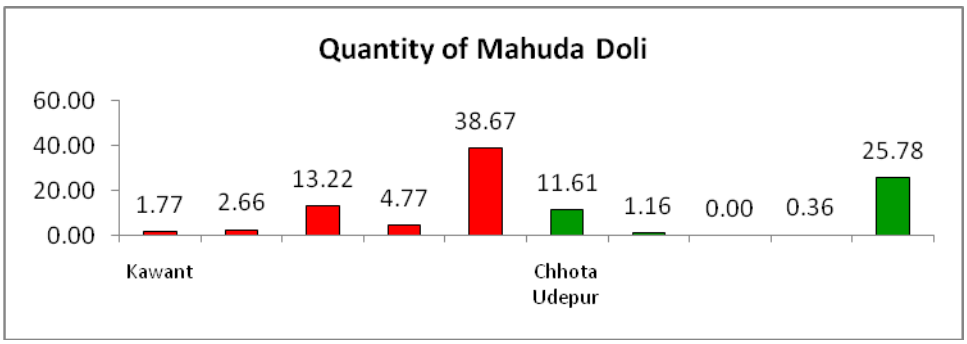

Figure 4.8 Quantity of MahudaDoli

The total production of MahudaDoli for last three years – 2017, 2016 and 2015 has been studied for both the forest ranges – Chhotaudepur and Kawant. It is found that the production in Kawant for 2015 was 365.51 (13.22%), which

has declined next year by 10.56% and it has again declined by 0.89% in the year 2017. Similarly, the crop intensity collected in Chhotaudepur is recorded as 0 for the year 2015, for next year it has increased by 1.16% and in 2017 it has gained again with 10.45% in total collection. It shows that the production of MahudaDoli in Kawant has a great down fall and Chhotaudepur range gained it steadily. For the year 2016, the production of MahudaDoli for both the selected forest range was found - Kawant has negative direction whereas Chhotaudepur has positive direction in total collection of MahudaDoli. Similarly, the production of MahudaDoli for the year 2014 was highly affected by seasonal impact for Chhotaudepur. Compare to the production of 2013 in 2014, it has great downfall in total collection of MahudaDoli. The figures of total collection in table 4.2 (A) for the year 2014 shows that the total collection of 131.84 (4.77%) for Kawant and 10.04 (0.36%) for Chhotaudepur forest range. It is observed that Kawant lead Chhotaudepur in total production of MahudaDoli for the year 2014. Particularly for this yea, the tribes of Kawant earn more than Chhotaudepur. The JFM of Kawant for last four years still earned higher than Chhotaudepur JFMs. The initial year taken under study 2013 has recorded with highest collection of MahudaDoli. For Kawant forest range the total collection of 2013 was recorded as 1069.05 (38.67%) quintal, which was highest collection recorded for last five years. Similarly, for Chhotaudepur region the collection was recorded 712.54 (25.78%), which was stands as a top most collection of MahudaDoli for both the ranges. The discussion shows that the quantity of MahudaDoli for Kawant forest range supports the JFM a lot. The JFM supports the tribes.

The Proportion of JFM to total product collected and density of total products to area allotted is giving clear view about comparison for both areas. Thus, the proportion of JFM to total collection is computed by taking ratio of total collection of MahudaDoli for last five years and total registered JFMs. It is found that the total collection of MahudaDoli for Kawant range for five years is 1688.9 quintals for 69 JFMs. Thus, the proportion is found 24.48. Similarly, the products proportion to Chhotaudepur is found 9.27 (1075.6/116) – total production and registered JFMs in Chhotaudepur range.

The proportion for Chhotaudepur forest range is found lower than Kawant forest range for total JFM proportion. The comparison is also measured by using the density of production or collection of MahudaDoli. The Kawant forest range has allotted with total area of 11913.14 (ha.). The total production of MahudaDoli for five years from this area was totaled as 1688.9 quintal. Thus, the density is measured as (1688.9/11913.14) = 0.14 (ha.). The similar calculation for Chhotaudepur range computed with total production of 1075.6 quintal taken from 24422.99 (ha.). Thus, the density is measured as (1075.6/24422.99) = 0.04 (ha.). The density for both the forest ranges shows that the Kawant range has getting highest collection compare to Chhotaudepur forest range. It is concluded that the JFMs of Chhotaudepur range has to put more affords for collection of MahudaDoli. The higher the efforts of JFMs can help the tribes for progress.

4.8 QUANTITY OF KUSUM LAC

Kusum Lac is one of the costly forest product and rarely available. In study of last five years – 2013 to 2017, for the year 2015 it is availed in Kawant range. The quantity of Kusum Lac was measured 4.35 (20.63%) quintal. For the same year, total 16.74 quintal (79.37%) was available in Chhotaudepur forest range. For the year 2015 total 21.09 quintal of Kusum Lac was produced by both the forest range. Proportion for Kawant forest range is measured to total JFM is (4.35/69) = 0.06 and for Chhotaudepur range it was computed as (16.74/116) = 0.14. Area wise availability of Kusum Lac is measured by using density in hector. The density of Kawant forest range for Kusum Lac is computed as (4.35/11913.4) = 0.0000365 (ha.) and for Chhotaudepur forest range it is computed as (16.74/24422.99) = 0.0000685 (ha.). The availability of Kusum Lac is found higher for Chhotaudepur range, as the density is found higher.

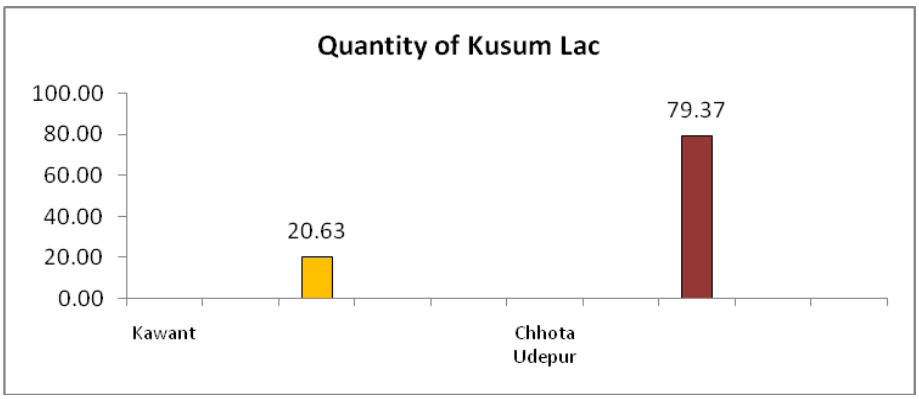

Figure 4.9 Quantity of Kusum Lac

This product is rare; there may be many reasons for unavailability of Kusum Lac. If the causes of non-availability are chance causes than it may not be controlled, but if the reasons are assignable, than it should be studied properly. The tribes should be guide properly to identify Kusum Lac; they also make aware about the seasonal impacts and availability of Kusm Lac in forest. They have been also explained an importance of Kusum Lac and its cost and requirements in market. This necessary changes or guidance to tribes can be only given by JFM. It is necessary that the JFMs should guide the forest farmers about the importance of such products, timings or seasons for collection and financial or monetary benefits they may earn.

References

1. Aakanksha A. 2004. Decentralization and Participation: The Governance of Common Pool Resources in Rom. WTO 36 (9): 2104-2110.
2. AchyutPande 2003. The Contribution of forest to the life of local people: A Journal of Reviews 6 (3): 107-118.
3. Adani and Ram 2001. JFM in Southern India. A Report 2001, TN Forest Department, Madras.
4. Ananya Kumar and Devam, 2003. Fuel Option for India – A study of Forest of India 9 (4 and 3), Oct., 2003.
5. Atithi, Shivam and Kunj 2003. An Analysis of forest products based farming in forest of Himachal. 19 (14): 874.
6. Bacrvaram T. B. 1999. JFM: Developing Problems, Indian Woodlend. 456 (3): 521-529.
7. Bahudev Raman 2004. JFM: An apparatus for Supportable System to India in ancient world. May 21-24, 2004, NY: 90-98.
8. Baleshwar K. Sudha 1994. Tribal management system and economic evaluation in Tamil Nadu, IJAE. 51 (6): 524-534.
9. Camor and Huge 1976. Fusing Revenue and Affluence: An Analysis of forest system. AJAE. 65 (8): 45-56.
10. Esteem Indian Forest Evaluation - 1994 NSSO 1994. – Ministry of Forest, Govt. of India Report.

