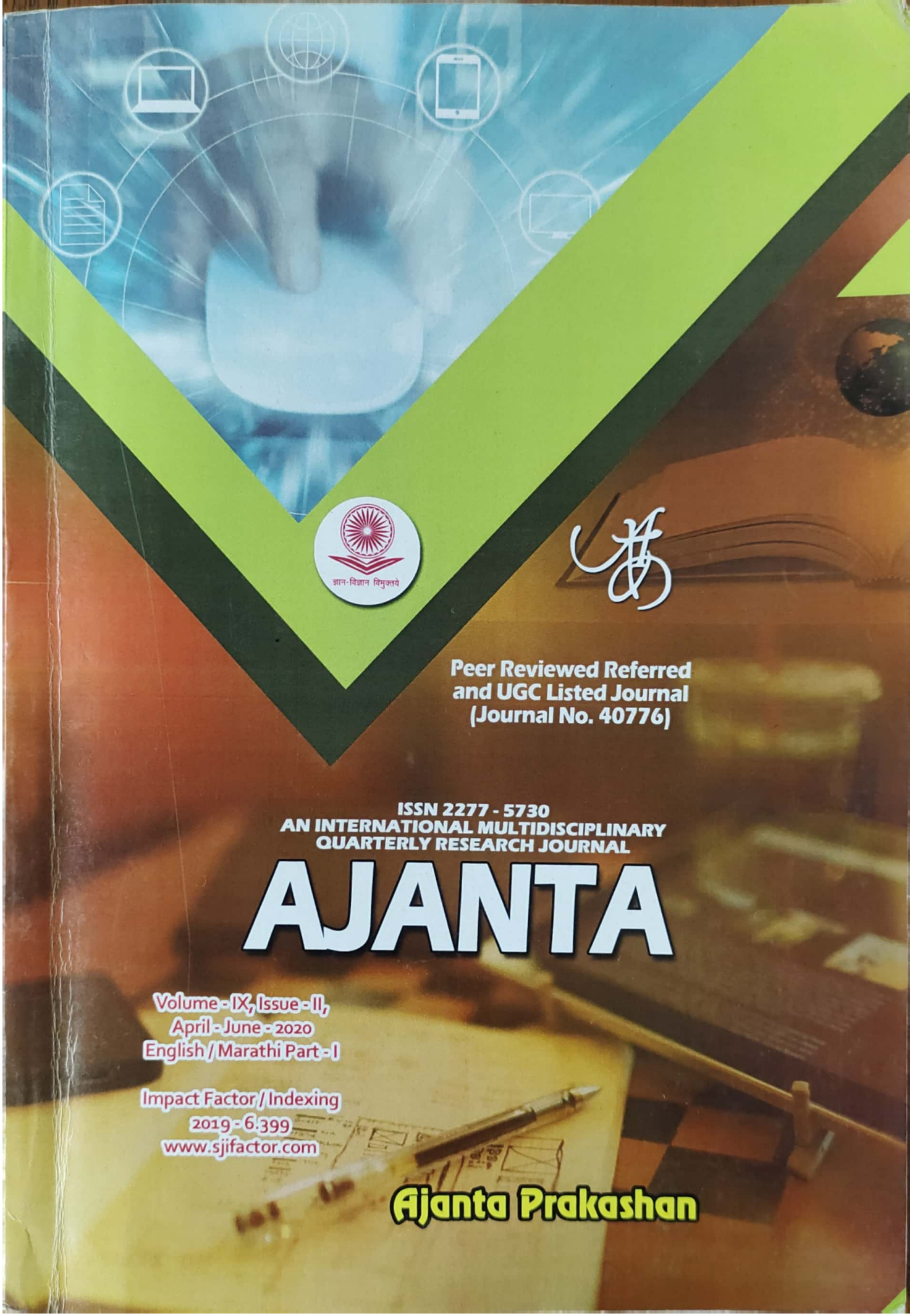

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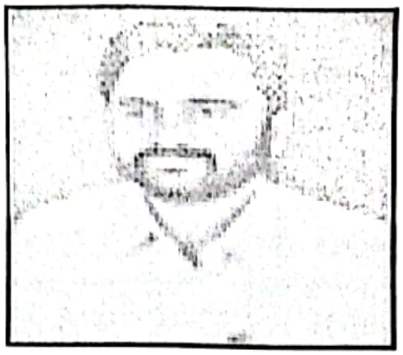

आमचे विदया विकास मंडळ साक्री संचलीत कला व वाणिज्य महाविदयालय अक्कलकुवा हे महाराष्टातील अती दुर्गम सातपुडा पर्वताच्या पायथ्याषी आदिवासी बहुलक्षेत्रात कार्यरत असुन कोविड १९ सारख्या जागतिक महामारीच्या लॉकडानच्या काळात सर्व प्रकारच्या अडचणीवर मात करून जागतीकीकरणाचा शिक्षण क्षेत्रावर झालेला परीणाम या विषयावर दोन दिवषीय ऑनलाईन राष्टिय चर्चासत्राचे आयोजन करून असे दाखवुन दिले की अडचणीवर मात करून मार्ग काढता येतो. सदर चर्चा सत्रात देषभरातुन सुमारे एक हजार संषोधक प्राध्यापक विदयार्थी मार्गदर्षक सहभागी झाले असुन जवळपास ३०० संषोधकांनी आपले शोध निबंध सादर केले यानिमीतांने आमच्या महाविदयालयाने संषोधकांना लाकडॉनच्या काळात संषोधन करण्याची संधी उपल्ब्ध करून एक आदर्ष निर्माण केला.

यापरिषदेला प्रमुख अथिति म्हणून लाभलेले यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठाचे कुलगुरु आदरणीय डॉ ई वायुनंदन सर तसेच विशेष अतिथि म्हणून लाभलेले SNDT महिला विद्यापीठ PVDT कॉलेजच्या प्राचार्या आदरणीय डॉ.मीना कूटे मॅडम के.वी.सी.उत्तर महाराष्ट्रा जळगाव विद्यापीठाचे कुलगुरु आदरणीय डॉ.पी.पी.पाटिलसर तसेच, के.वी.सी.एन.एम.यु.जळगाव विद्यापीठाचे एम.सी.मेम्बर आदरणीय दादासाहेब दिलीप आर.पाटिलसर, अहमदाबाद विद्यापीठ रुसा चे संचालक आदरणीय डॉ.जगदीश जगदीश जोशी सर साक्री महाविद्यालयाचे प्राचार्य आदरणीय डॉ.आहिरे सर,निजामपुर महाविद्यालयाचे प्राचार्य आदरणीय डॉ.अशोक खैरनार सर यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ शिक्षणशास्त्र विभागातीलसंचालक आदरणीय डॉ. कविता एस.साळूंके मॅडम यांचे मी मनपूर्वक आभार व्यक्त करतो. या परिषदला लाभलेले एकून २० विषयतज्ञ यांचे ही आभार व्यक्त करतो आणि या ऑनलाइन राष्ट्रीय परिषदेला सहकार्य करणारे सर्व VVM's महाविद्यालय अक्कलकुवा येथीलसर्व प्राध्यापक वर्ग आणि या परिषदेला यशाचा शिखराकड़े नेणारे परिषदेचे समन्वयक डॉ जितेन्द्र बागुलसर यांचे हार्दिक अभिनंदन करतो.

डॉ. एस. बी. पाटील
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15. General Landuse in Taloda Tehsil, A Tribal Region of Nandurbar District

Dr. S. B. Patil
Arts & Commerce College, Akkalkuwa, Dist Nandurbar.

Abstract

Agriculture dominates the land uses of most of the countries and their economy too. The rapidly expanding global population places increasing stress on resource inventories of the limited land its renewable and non-renewable resources. Never before in human history has the need been greater for better management of agricultural system for more and more production. (Noor Mohommad).

Nandurbar is a tribal district of Maharashtra state (India), comprises six tehsils. Taloda tehsil is located in the central-west part of the district physiographically characterized by Satpura Mountain in the north and Piedmont Plain in the south. While culturally this tehsil is marked by Gujarathi language in the west and Marathi language in the east. Most of the people of the tehsil speak tribal language. Piedmont plain is rich agricultural zone having high humus contented soil, amply ground water supply to grow seasonal irrigated crops, hard working farmers, economy depend only on agriculture etc. This tehsil has covered 455.10 sq. km. area.

Study Region

Study region comprises 93 villages with 133291 populations (2011). Out of them about 86.56% populations belongs to schedule tribes. This region has covered an area of 347.0266 sq km, stretching between 21^0 32'North to 21^0 42' North latitudes and 74^0 01'East to 74^0 22'East longitudes. Satpura mountain ranges have occupied the northern 30% area of the tehsil, clothed with reserved forest (7776.84 ha) and dotted by tribal settlements. Geographically the study region is unique in respect of morphology, hills, steep slope; v shaped valleys and exposed rocks. Piedmont plain has covered about 70% of the tehsil, favorable for irrigated and unirrigated Food Grains crops. Wheat, jawar, Winter Jawar, Rice, Pennmillet and Corn etc are significant crops successfully grown by the tribal farmers.

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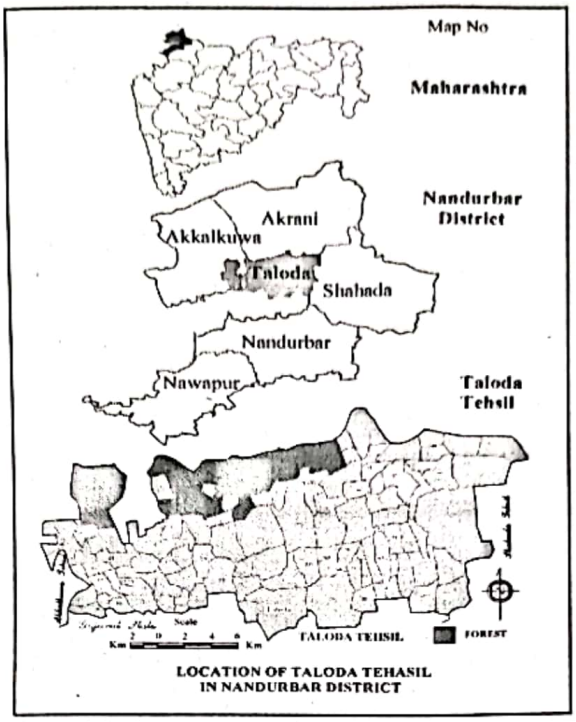

Research Methodology

Data base: Secondary data of General Landuse have been collected Village wise TF 20 record during the year 2010-11 of Taloda.

General Landuse

Table No.1 is showing use of land of different purposes in hectors and proportion to geographical area. This table clearly showing that out of total geographical area, area under barren land is only 2.98% (1357.89 ha). Permanent pasture land is 1.28% (580.97 ha). These figures are displaying that maximum land of piedmont plain is use for agriculture. Barren land is found allowing the foot of Satpuda Mountain. Near the satpuda foot small hilly area is used for agriculture. Sub tributaries originated from satpuda upland are fast flowing when they flow across the plain, creates ribbon shape eroded area. Hence area under barren land is 2.98%. Forested area is very near to piedmont plain; hence pasture land is very insignificant in the villages. Culturable waste land has contributed very insignificant proportion of land (0.28%) indicating no room to expand agriculture area.

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Table No. 1: Landuse in Taloda Tehsil		
Landuse Categories	Area in ha	Proportion
Barren Land	1357.89	2.98
Permanent Pastures	580.97	1.28
Miscellaneous Tree	27.02	0.06
Culturable Waste Land	127.43	0.28
Other purposes	1323.46	2.91
Fallows Land	**846.38**	**1.86**
Current Fallows	**766.36**	**1.68**
Forest and Satpura Mountain	14059.67	30.89
Non-Agricultural Area	2356.67	5.18
Net Sown Area	24064.15	52.88
Total Geographical	**45510**	100.00

Source: Village wise TF 20 Record of Taloda

Proportion of fallow land is alarming, contributing 3.54% of the total geographical area. If farmers pay their attention to use the fallow land to develop green coverage, such as Mango, Mohu, Tendu patta, Charoli, obviously farmers will get economic benefits from 846.38 hectors of land.

Most of the barren land is under the State Government, If Government thinks to sell this land on liege base or charging some revenue to the tribal farmers following benefits will be fruitful to tribal farmers:

1) Economy of the farmers will be enhanced.
2) Green coverage will be increased.
3) Government will get revenue from fallow land.
4) Tribal people will get nutritive fruits.

In the study region current fallow land is also more (766.36 ha.).

This is a tribal region. Some tribal farmers are poor. They could not cultivate the land for one or two years due to poverty. To get jobs and wedges, some farmers migrate in urban areas. Hence their land is remaining uncultivated. Government should provide financial support to these farmers by providing seeds and fertilizers. Obviously tribal farmers will get economic benefit.

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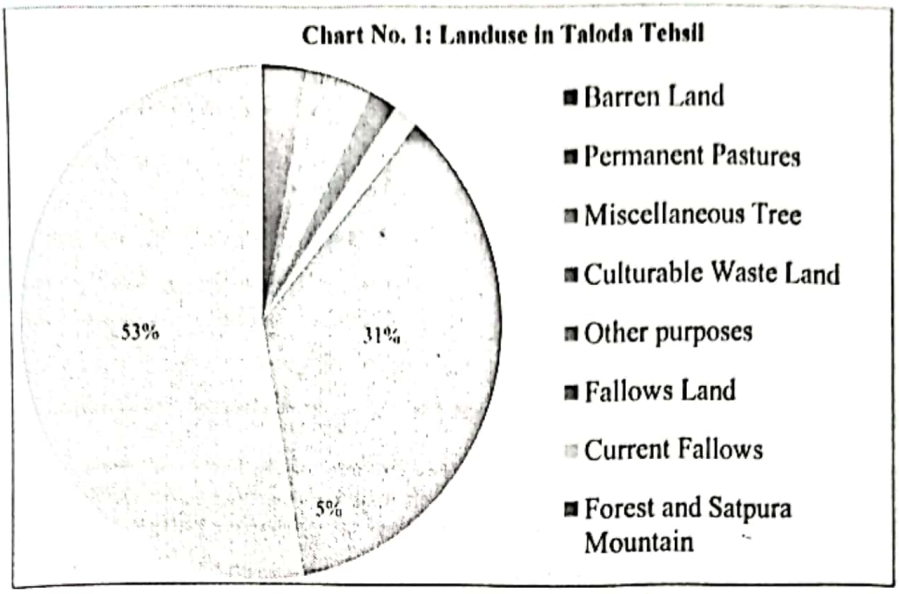

Source: Village wise TF 20 Record of Taloda

Chart No. 1 is showing at glance the contribution of three Clements on land such as agriculture (53%) area, forest (31%), and area under non-agricultural purpose such as settlements, roads, wells etc. (only 5%).

Tribal farmers, with their hard working nature, brought maximum land under crop cultivation.

Conclusion

1. Tribal people are hard workers. They are poor. They hold small size of land, 29.28% area is irrigated. They cultivate the land properly and systematically, resulting that, area under barren land is only 2.98%, permanent pasture land is 1.28% and area under Culturable waste land is only 0.28%. It is alarming to note that proportion of current fallow land and other fallow land is 3.54% of the total geographical area, indicating poverty of tribal farmers. Government should provide seeds and fertilizers to tribal farmers to bring this land under cultivation.
2. Out of total geographical area about 53% area is cultivated by the farmers.

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Price Trend Analysis of Arhar Commodity in Taloda Apmc, A Tribal Region Of Nandurbar District

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Abstract:

Nandurbar is a tribal district of Maharashtra state (India), comprises six tehsils. Taloda tehsil is one of them located in the west, near to the foot of Satpuda Mountain ranges. The main income source of people of this tehsil is agriculture. Agriculture is a gamble game depends upon uncertain rainfall of the monsoon and market prices. Tribal farmers do not get proper prices of their commodities in APMC. On other hand due to the State Government policy to protect reserve forest tribal farmers could not get additional income sources from the forest. Farmers are facing many problems regarding the uncertain rainfall, fluctuation of prices in APMC, lack of facilities in the market, money problem etc. The researcher has serving in this area; therefore, he has experience with the problems of farmers. In this research paper the researcher has attempted to explore and display the reality of farmers exploiting by the merchants in Taloda APMC. To display exploitation of tribal farmers various statistical techniques are used such as Monthly Price fluctuation (Graphical), Range of Fluctuation, Coefficient of Variation, Change in Prices, Three monthly Moving Average Price and Deviation of Actual price from Moving Average. After the analysis of price trend, concluding remarks are given.

Key word: APMC, Price, Variation, Arrival, Exploitation, Agro-economic, Trends, Fluctuation, Change, Deviation, Range, Coefficient, Variation, Arhar.

Introduction:

The study region produces number of Pulses crops such as Yellow Gram, Green Gram and Arhar etc. Though well fertile land, suitable climate, groundwater sources, etc are favorable, however the economic background of the farmers is weakened there. There are number of adverse factors creating hurdles on the way of tribal farmers. Out of these factors, agro-market system is one of them. Generally in the market, farmers do not get justice; the commercial agents exploit them. When they produce Arhar commodity they get lowest prices and when prices are hiked up they have already sold their products. On other hand most of tribal farmers are illiterate. They are located in remote areas, where inaccessibility is hindering the economy of the farmers. Considering all these issues, researcher is attracted towards the detail study of selling and purchasing system in the market federation board at Taloda.

Study Region:

Study region comprises 93 villages with 133291 populations (2011). Out of them about 86.56% populations belongs to schedule tribes. This region has covered an area of 347.0266 sq km, stretching between 21^0 32'North to 21^0 42' North latitudes and 74^0 01'East to 74^0 22'East longitudes. Satpura mountain ranges have occupied the northern 30% area of the tehsil, clothed with reserved forest (7776.84 ha) and dotted by tribal settlements. Geographically the study region is unique in respect of morphology, hills, steep slope, v shaped valleys and exposed rocks. Piedmont plain has covered about 70% of the tehsil, favorable for irrigated and unirrigated Food Grains crops. Wheat, jawar, Winter Jawar, Rice, Pennmillet and Corn etc are significant crops successfully grown by the tribal farmers. To protect and to provide better facilities to farmers, Government has established APMC on November 1961 at Taloda in Nandurbar district. Tribal farmers are far away from the urban culture. Their basic needs are limited, however they are economically poor. To understand the causes of poorness, researcher has selected to study the agro-economic system in Taloda APMC.

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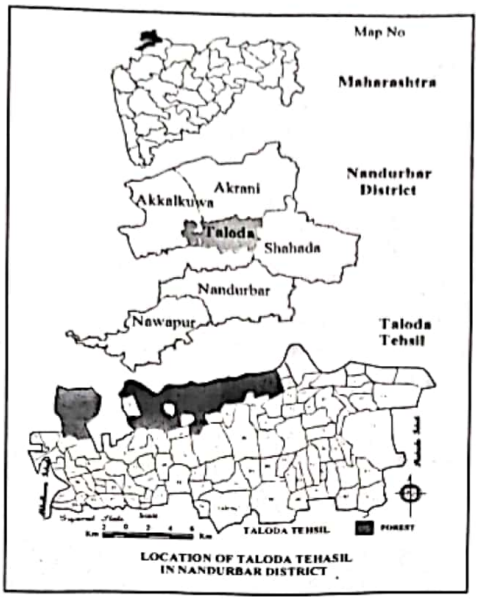

Research Methodology:

A) Data base: Secondary data of daily arrival and prices of Arhar commodity has been collected personally from APMC Taloda as below.

Secondary source of data:

1. Daily arrival of Arhar commodity in the market during the year 2010-11.
2. Quantity and price of Arhar purchased by the merchants in APMC Taloda.
3. Village wise number of farmers those have sent their produce in APMC.

In the present work researcher has attempted to display concluding remarks after the analysis of price fluctuations on the basis of trend analysis of monthly price data. With the help of following statistical and graphical techniques researcher has displayed month to month acute variation in the price which is inversely related to quantity arrived in the APMC.

1. Graphical Presentation of Price Fluctuation:

Line and bar graphs are one of the best techniques showing price trend fluctuations in the APMC Taloda.

2. Statistical Analysis:

For Price Trend Analysis following techniques are used:

1. Range of Fluctuations:

A price change in a given month relative to price of previous month represents a measure of range of fluctuations, calculated using following equation.

$$= Per\ Quantal\ maximum\ price - Per\ Quantal\ actual\ price$$

2. Co-Efficient of Variations:

Co-efficient of variation denotes Cv, eliminates the unit of measurement from the standard deviation of a series of number by dividing it by the mean of this series of numbers. Cv is expressed in percentage which corresponds to following formula.

$$Cv = \frac{S}{M} * 100$$

S = *Standard deviation of series.*

M = *Mean of series.*

3. Change in the Prices:

Proportion of change in current month price and previous month price is calculated as below:

$$\% \text{ change in the prices} = \frac{Curent\ month\ price}{Previous\ month\ price} * 100 - 100$$

4. Three monthly Moving Average of Price:

Moving averages are used to identify current trends and trend reversals as well as to set up support and resistance levels. Graphical chart pattern shows a lot of variation in price movement. This can make it difficult for traders to get an idea of a security over all trends. Moving Average is one of the simple methods. A moving average is the average price a security over a set amount of time. By plotting a securities average price, the price movement is smoothed out. Traders are better able to identify the true trend and increase the probability that it will work in their favor.

5. Deviation of Actual Price from Moving Average:

After calculating the moving average, deviation of actual price from moving average is calculated using following equation.

$$= \frac{Monthly\ average\ price}{Three\ months\ moving\ average\ price} * 100 - 100$$

Objectives Of The Study Region:

The main objectives of this research work are cited as below-

1) To study monthly arrival of Arhar commodity in APMC Taloda.
2) To find out the increasing /decreasing trends in prices due to excess supply of Arhar in the APMC Taloda.
3) To identify the merchants those have exploited the farmers.
4) To suggest the planning to protect the tribal farmers and APMCs.

Explaination:

Arhar is staple food grain of tribal and poor people. Out of total net sown area about 3.28 % (904.9 ha) area is cultivated under Arhar crop. Market price of this commodity is least as compare to other grains. Hence most of the people prefer these pulses in the diet. When farmers produce this commodity and send it to market they get lowest prices. To find out variations in the prices of Arhar, following statistical techniques are used and results are given.

Fluctuations in The Prices of Arhar:

Table No. 1.1: Arrival of **Arhar** and Price Relation in Taloda APMC- 2010-11

Month	Total Weight	% of Weight	Average Rate Rs per Q
April	**38.05**	**1.65**	**3715**
May	68.85	2.99	3246
June	**5.72**	**0.25**	**4003**
December	**459.64**	**19.99**	**2632**
January	734.77	31.96	3204
February	342.70	14.91	3289
March	649.38	28.24	2992
Total	**2299.11**	**100.00**	

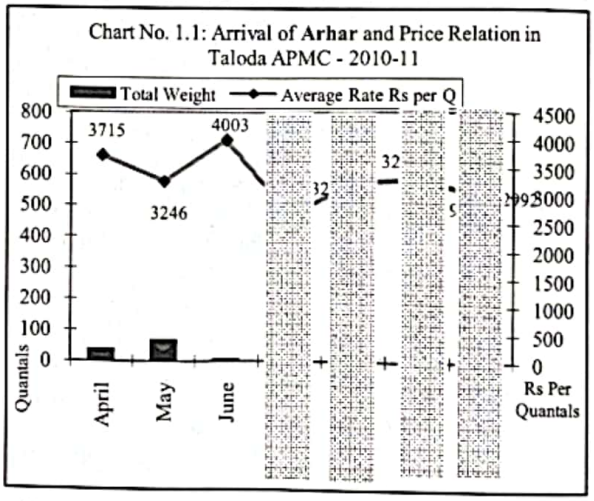

Table No 1.1 is showing arrival of Arhar (Tovar) and monthly average prices paid by merchants. December and January is the period of Arhar harvesting, hence 51.95% quintals of Arhar is sent by farmers in the market. Due to excess supply, merchants have purchased this produce by paying 2600 to 3200 Rs per quintal. When most of the quantity of Arhar is sold-out, merchants have started to purchase Arhar with 3200 to 4000 Rs per quintal. It is clear that those farmers have sent Arhar during harvesting period; they got lowest prices (less than 2.5 times). Graph No 1.1 is displaying relationship between quantities of Arhar arrived in the market and prices declared by merchants.

Table No 1.2 is showing fluctuations in the average price of **Arhar** comprise 6 columns.

- Change in Price of Arhar from Previous Month (%):

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Column No 4 is showing monthly fluctuation in the average prices of Arhar from previous month. Figures of fluctuation are clearly displaying that month to month change in prices is found more than 57.59% (+23.33 to -34.26%).

In every month how the prices of Arhar is changing more than 12%? Answer of this question is inclined toward the merchants' purchasing policy.

Table No: 1.2: Fluctuations in the Average Price of **Arhar** in the Taloda APMC

Month	% Weight of Arhar Arrived in the Market	Monthly Average Price of Arhar (Per Q)	Change in Price from Previous Month (%)	Three Months Moving Average of Price (Rs)	Deviation of Actual Price from Moving Average (%)
1	2	3	4	5	6
April	1.65	3714.58			
May	2.99	3246.00	-12.61	3654.64	-11.18
June	0.25	4003.33	23.33	3293.73	21.54
December	19.99	2631.86	-34.26	3279.81	-19.76
January	31.96	3204.22	21.75	3041.78	5.34
February	14.91	3289.25	2.65	3161.83	4.03
March	28.24	2992.02	-9.04		

Source: Researcher has calculated with the help of dataset obtained from APMC Taloda.

- Three Months Moving Average of Arhar Prices:

Column No 5 is showing three months moving average prices of Arhar, these figures are also displaying fluctuations ranging between 3000 to 3600 Rs per quintal.

- Deviation of Actual Price from Moving Average (%):

Researcher has attempted to know the difference between monthly average actual prices, moving average prices and its deviation is calculated and depicted in the column 6. This column reveals that there is acute deviation ranging between -19.76% to + 21.54%, it means total deviation in the prices is found about 41.30% between highest and lowest.

To display at glance variation in the quantity of Arhar, prices paid by merchants and deviation, graph 1.2 and 1.3 are prepared. The first graph reveals that in the month of June lowest quantity of Arhar is sold-out by highest prices, while in the month of March (off period) highest quantity is sold-out by lowest prices. Second graph is showing very high fluctuation in the deviation of actual monthly average prices and three monthly moving average prices of Arhar.

Range of fluctuation:

Researcher has calculated range of fluctuation and Cv for the Arhar which is sold-out in Taloda APMC during 2010-11. With the help of this calculation table No 1.3 is prepared. Range of fluctuation clearly showing that price of Arhar is

Table No 1.3: Extent of Fluctuation in Monthly Prices of **Arhar** in APMC Taloda -2010-11

Month	Total Weight (Q)	Average Price Per (Q)	Range of Fluctuation	CV (%)
April	38.05	3714.58	288.75	7.46
May	68.85	3246.00	757.33	12.54
June	5.72	4003.33	0.00	10.89
December	459.64	2631.86	1371.47	11.33
January	734.77	3204.22	799.11	18.18
February	342.70	3289.25	714.08	11.95
March	649.38	2992.02	1011.32	13.59

found fluctuated between 0 and 1371.47 Rs per quintal. Highest fluctuation in the prices is observed in the month of December and March.

Coefficient of Variation (Cv): Cv index clearly reveals that significant variation in the prices of Arhar is one of the burning economic problem of tribal farmers. Cv index is ranging between 7% to 18%, indicates that approximately 11% fluctuation is discernible in the prices of Arhar.

Conclusion:

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The study of supply and price trends clears that when the farmers produce the commodities and send it in the market they get low prices. When large number of farmers sold out of their produce in the market, prices hiked up.

Arhar is second ranking commodity regarding the changes in prices. This is one of the reasons to hike the prices of pulses. Merchants are responsible to hike the prices of pulses. If state government pay his attention toward the stockiest, people will get pulses in reasonable prices.

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