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Socioeconomic conditions of Apple growers of Kashmir Valley: A case study of district Anantnag

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ABSTRACT
The different varieties of apples grown here include Hazratbali, Delicious, Royal Delicious, American and Maharaja. Experts also feel that scab resistant variety of apples would help in business revival. Scientists at Sher-e-Kashmir Agricultural University here claim to have developed Shireen and Firdous varieties, are resistant to diseases. However, the newly developed varieties have not been introduced in the market yet. It has been found that 52% of the apple growers sell their apples through wholesaler, 25% by middle man and 8% by the help of retailers. It vussually depends on the productivity of the apples. According to the state's horticulture department, around 1.5 million tonnes of apples are produced in Kashmir annually. The production of apples in the state is growing every year as a result the percentage share of Jammu & Kashmir in national production has also been increasing steadily; it has increased from, 63.5% in FY2006 to 77.2% in FY2010. The apple production in the year 2004-05 was 10933.33 MT and in year it reached to 1852.41 in the year 2010-11. It has been found by us that most of the farmers (50%) are dependent on inorganic fertilizers for apple cultivation in Anantnag. However, 30 % and 205% farmers are using biofertilizers and organic manure in their fields.
Keywords: *Apple production, Economics, employment, Problems*

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INTRODUCTION

The age old apple cultivation has profusely coloured the serenity and tranquility of Kashmir`s landscape. Kashmir apple has lived up to its reputation for being one of the choicest- fruits, Kashmir has for long been considered the home of apples. Hundred and ten varieties of apple are found in Jammu and Kashmir. The chief varieties of apple are found in Jammu and Kashmir. The chief varieties being Delicious, American, Ambri, Moharaji, Kesari, Hazaratbali. However Ambri or Amri is the most popular and ahs a large round red and while sweet fruit, ripening in October and keeping its condition for a long time. This variety attracts maximum consumer's attraction due to its sweetness and handsome appearance. Unlike Amri, Mohi Amri has acid and redness. Another species known as Kuddu Sari in longer is shape and possesses more juice rather than acid but has short life.

Though the cultivation of apple in India is concentrated in Jammu and Kashmir Himachal Pradesh, and Uttar Pradesh yet, Kashmir enjoys the distinction of being still hub of apple industry of the country. This is obviously so because the State has not only superiority over Himachal and Uttar Pradesh in the field of production but also in marketing.

Te production of apple in the State is confined to six districts of the valley viz, Ananthnag, Baramulla, Badgam, Pulwama, Kupwara, and Srinagar. However, in Jammu division apple cultivation is found in a limited scale in Doda district only. In tow districts of the valley namely Baramulla and kupwara, the apple cultivation is found on a large scale as these have suitable land for temperate fruits. Apple being state`s main fruit has predominant position both in area under plantation and production.

Apart from its profitability criteria the corporation will bring the horticulture industry of Jammu and Kashmir to an appreciable standard by the introduction of latest technological devices. This would provide export outlets for the quality fruits of Kashmir besides making them available to the local consumers in rest of the country. This step would revolutionalize the economic condition of the thousands of growers who in effect form the backbone of the industry.

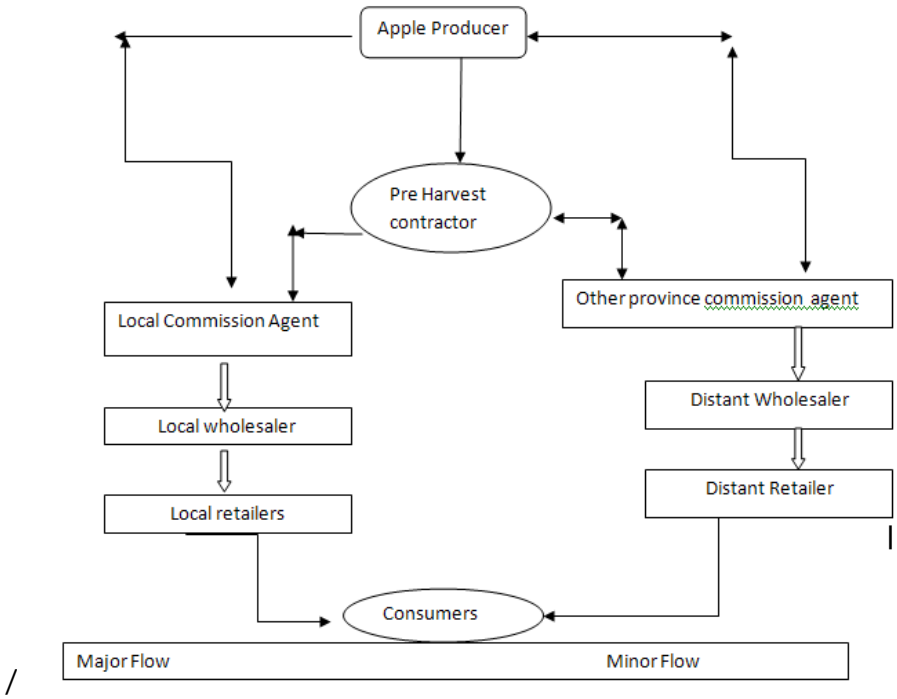

Fig: 1. Marketing Channels of Apple in Anantnag district

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The general socio-economic profile of apple-growers in districts Anantnag and the total consumption made by the apple growers in various aspects of life were the objectives of the present study. To study the various obstacles, which are impediments or hurdles in the production of apples in the very area and suggest various measures to eradicate the problems were also studied.

COLLECTION OF DATA

Random sampling technique was used to identify four villages of tehsil Anantnag. From these villages family head was interviewed and pretested questionnaire was administrated. The questionnaire was translated in Kashmiri language, and there response was noted.

The data for the study are collected by survey method for the purpose of the study, data and other information have been collected from primary as well as secondary sources. Primary data regarding production, marketing channels and functions, cost and apple price are obtained from apple growers as well as district horticulture office. Later, primary and secondary data are pooled together for detailed analysis. Primarily 50 orchards are collected randomly from four purposively selected villages of Anantnag district of Jammu and Kashmir.

SOCIO ECONOMIC CONDITION OF APPLE GROWERS IN ANANTNAG

The state of Jammu and Kashmir has been ranked 1st in Primary Health, 3rd in macro economy, 4th in industrial investments and also primary education, 6th in the consumer markets, 10th in Infrastructure and 11th in agriculture. A vast natural resource base has helped the predominantly agrarian state to develop its base for cultivation of major fruits such apples, walnut, walnut kernels, bitter apricot nuts, pears, almond, plum, cherries and saffron.57% of India's production of apples and 97% production of walnut comes from the state.

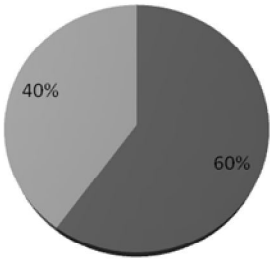
Apple cultivation is today widely recognized in the Anantnag region for the successful diversification of subsistent agriculture into cash crop farming. There are niches in the entire Anantnag where, due to apple farming, socioeconomic conditions of marginal farmers have significantly improved during the last four decades. The future sustainability of apple farming, however, has become a matter of concern due to changing climate, shifting apple production areas, the fall in productivity due to

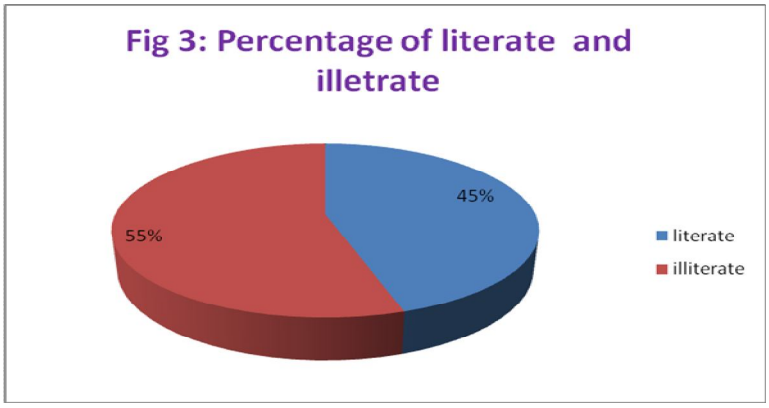
pollination failure, emerging new pest and disease problems and the challenges of trade liberalization.

Despite these accounts of changing weather patterns and difficult economic times, local farms are by no means giving up. Their flexibility in times of change and capitalization on the local market are helping to ensure their survival. Farmers have adjusted to the changing temperatures by growing apple varieties that fare better in a slightly warmer climate.

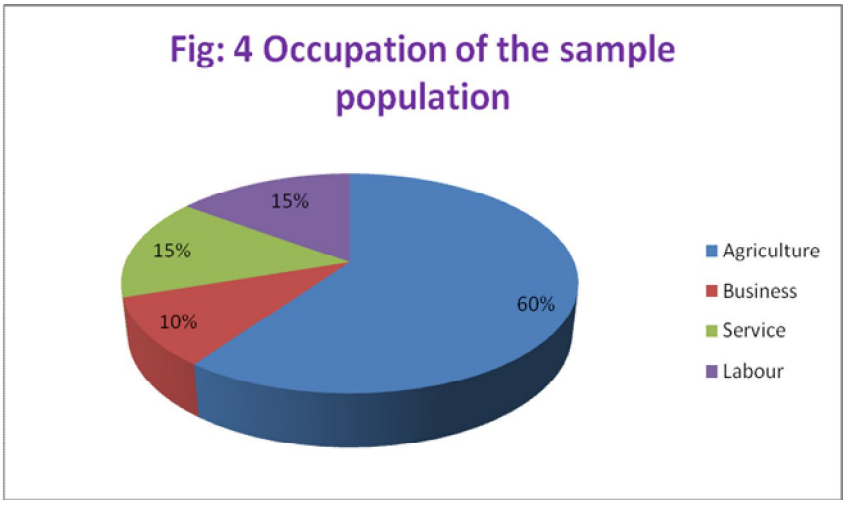
Male female ratio and education status: the sampling population consists of 60% males and 40% females. Among them 55% are illiterate and 45% are literate and only few of them have attained bachelor's degree. Although, Literacy level of the people and other infrastructural facilities are not influencing the level of development in apple sector.

Fig 2: Male female ratio of the sample population

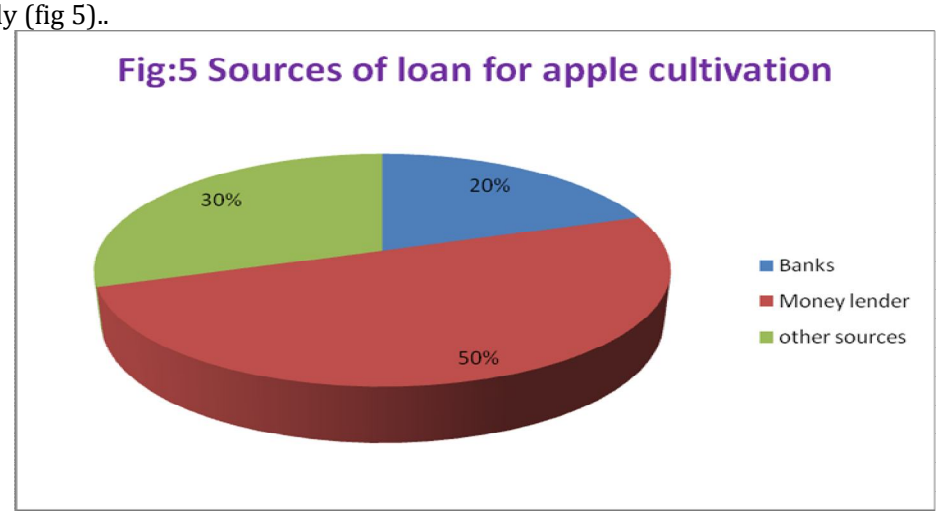




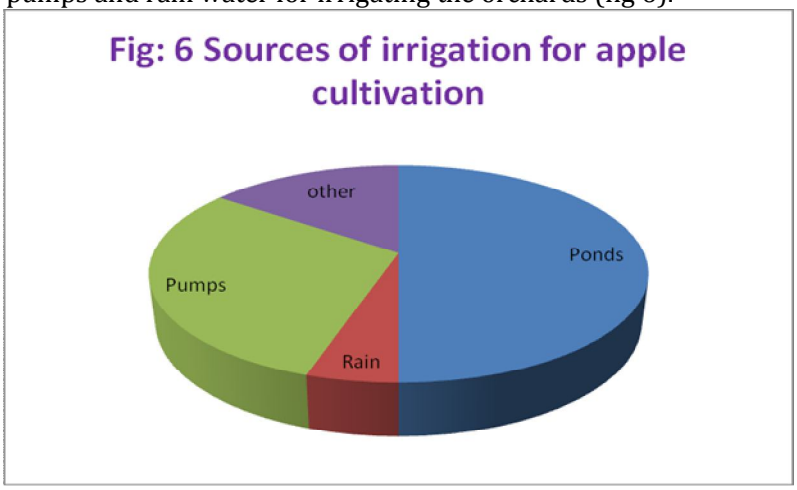
Occupation of the Apple Growers: It has ben found that 60% of the apple growers are prime agricultural farmers, 15% are labours and service people and 10% are labours(fig 4).



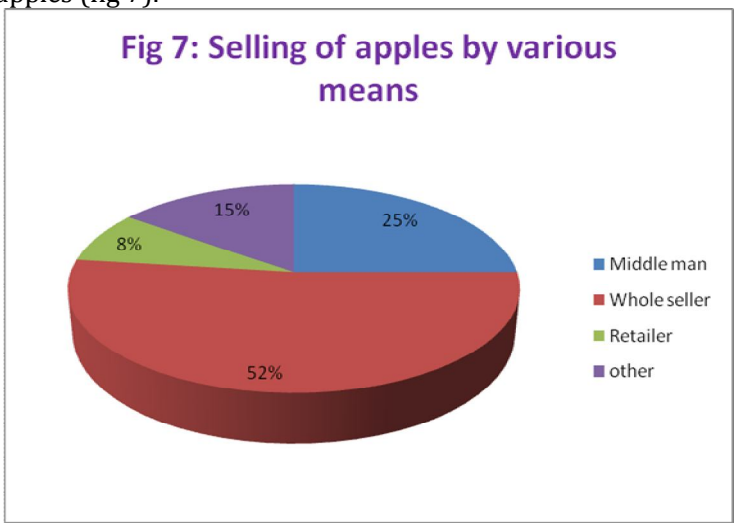
Sources of Apple: To grow apples apple growers have to borrow money from banks, money lenders and other sources. 50%, 30% and 20% obtain loan from money lenders, banks and other sources, respectively (fig 5)..



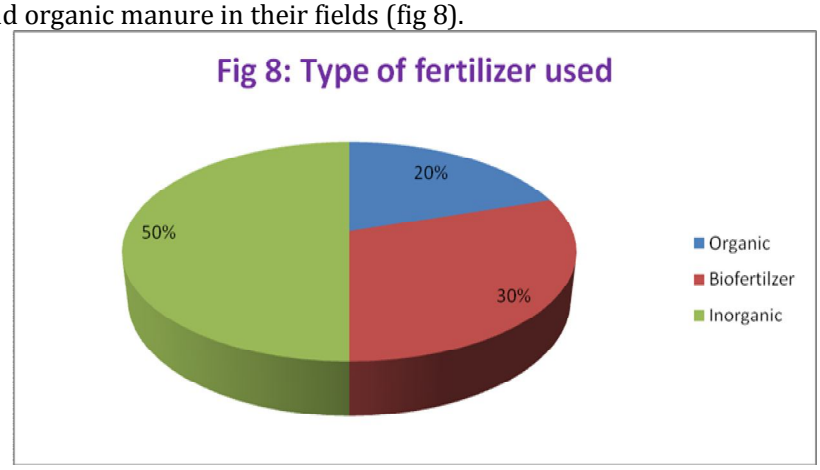
Source of irrigation: About 50% of the apple growers rely on ponds for watering the apple plants, others depent on pumps and rain water for irrigating the orchards (fig 6).



Marketting chanels: It has been found that 52% of the apple growers sell their apples through wholesaler, 25% by middle man and 8% by the help of retailers. It vussually depends on the productivity of the apples (fig 7).



Type of fertilizerts used:it has been found by us that most of the farmers (50%) are dependent on inorganic fertilizers for apple cultivation in Anantnag. However, 30 % and 205% farmers are using biofertilizers and organic manure in their fields (fig 8).



Quantity of fertiizersand income: to boost the productivity of apples in Anantnag district, farmers ussualy apply more than 6 kgs of fertilzers in the orchards. 45% of the apple growers ussually acquire Rs 5-6 lakh/ season and 34% obtain 3-4 lakh annualy(fig 9).

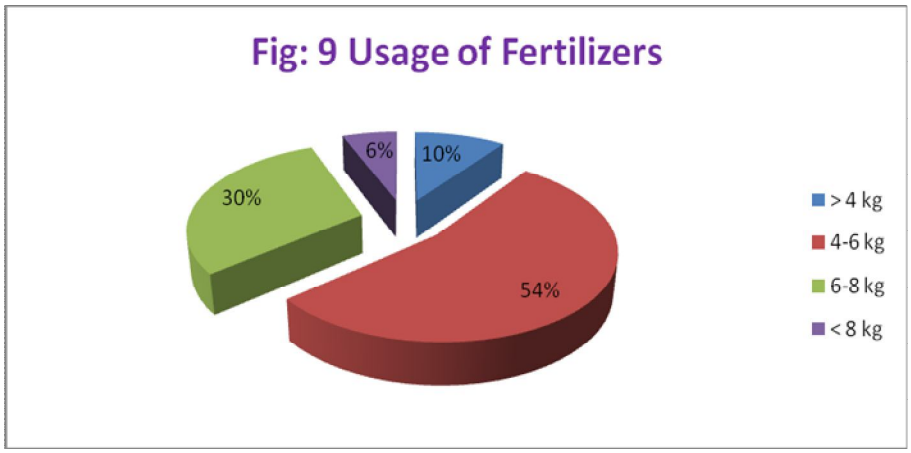
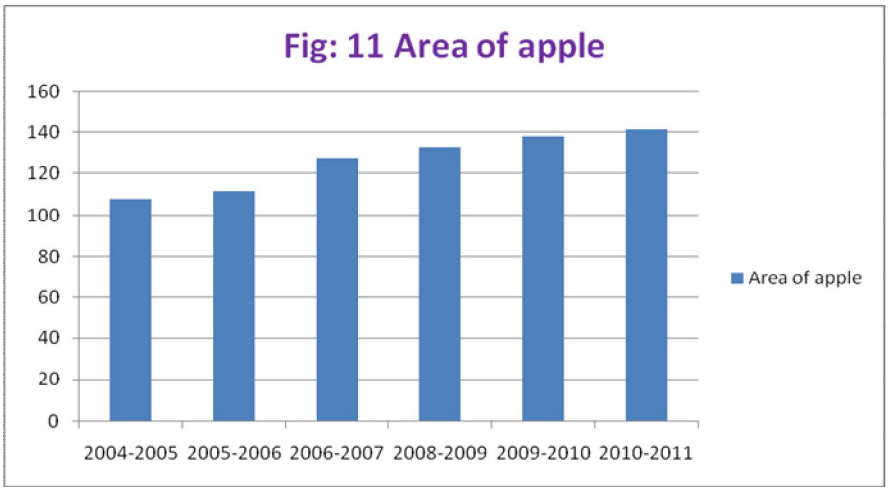
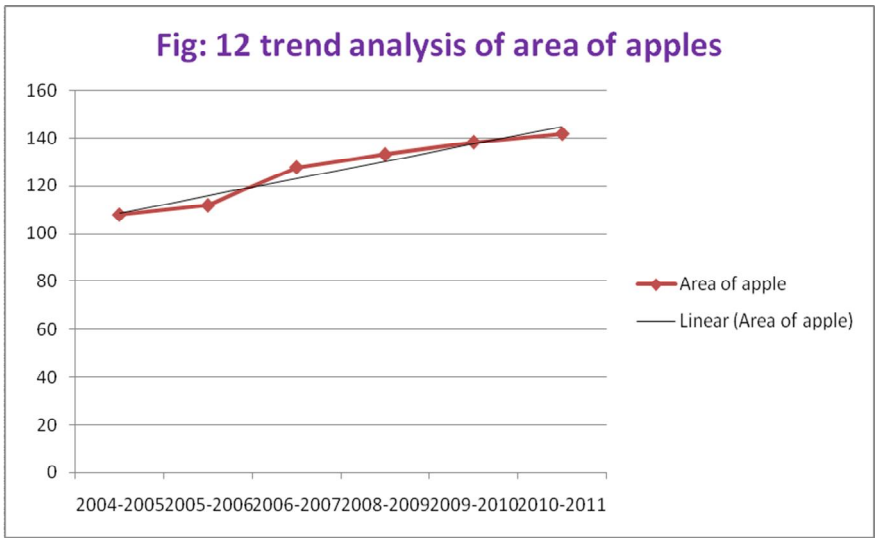


Fig 10: Kulu Delicious variety of Apples on Apple trees of Anantnag





Production of apples: it is clear from the table 4 and fig 12 that production of apples in Anantnag is increasing at a rapid rate. The apple production in the year 2004-05 was 10933.33 MT and in year it reached to 1852.41 in the year 2010-11.

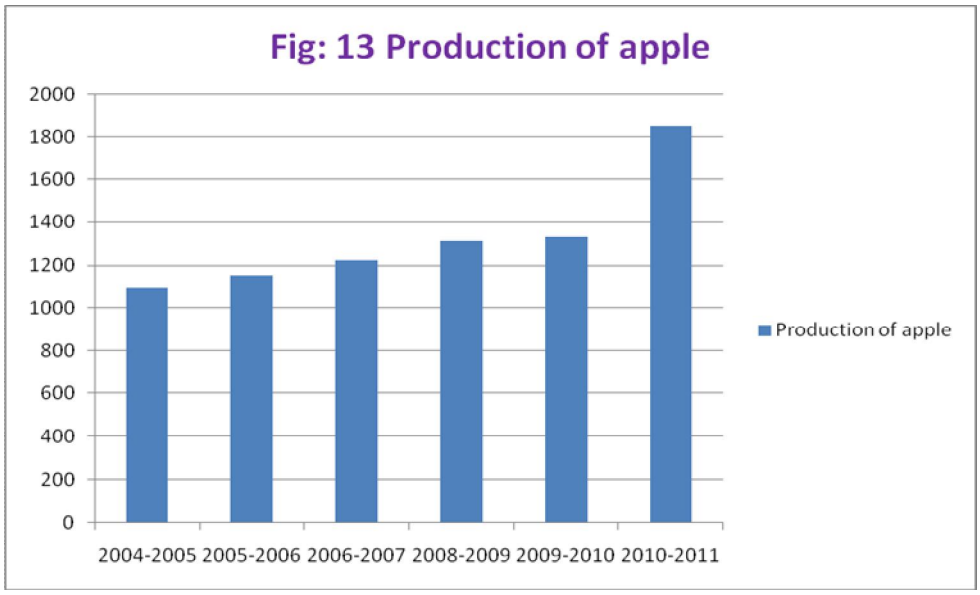


Table 5: Marketing cost of farmers selling their produce at local fruit mandi of Anantnag

S.No.	List of items	Delicious Apple	Maharaji apple	American apple	Pear	Bahari fruits
01	Number of boxes	9550	4110	4750	2240	1350
02	Cost of shocks	238750 (28.93)	102750 (33.25)	118750 (30.04)	56000 (28.76)	33750 (32.90)
03	Nails, paper, hay, etc	53490.51 (6.48)	24390.05 (7.89)	29832.21 (7.53)	11789.77 (6.05)	7976.54 (7.77)
04	Labor for picking, plucking loading and unloading	47428.29 (5.47)	16221.03 (6.22)	20987.63 (5.30)	13185.61 (6.77)	6648.06 (06.48)
05	Horse transport	49150 (5.95)	20510 (6.63)	17950 (4.53)	14060 (7.22)	7900 (7.70)
06	Commission	312250 (37.86)	88560 (28.79)	146500 (37.01)	70550 (36.23)	28750 (28.02)
07	Fare to terminal market	114600 (13.88)	49320 (15.96)	57000 (014.40	26880 (13.80)	16200 (15.79)
08	Miscellaneous charges	9550 (1.15)	4110 (1.33)	4750 (1.20)	2240 (1.15)	1350 (1.31)
09	Total expenses	825218.80 (100)	308951.08 (100)	395769.84 (100)	194705.38 (100)	102574.60 (100)
10	Rate received	326.96	215.69	308.42	314.95	212.96
11	Total income	3122468	886485.90	1464995	707488	287496
12	Net income	2297249.20	577534.82	1069225.16	510782.62	184921.40
13	Price/box	2240.54	140.51	225.10	228.02	136.97

Marketing and employment from different varieties: Over three million people are directly or indirectly associated with this trade that is currently estimated at Rs. 20 billion, According to the state's horticulture department, around 1.5 million tonnes of apples are produced in Kashmir annually. The marketing efficiency for different varieties of fruits in district Anantnag is shown in table 6.

Table 6: Marketing efficiency for different varieties of fruits in district Anantnag

S.No.	List of items	Delicious apple	Maharaji apple	American apple	pear	Bahari fruits
01	Net producers share(Rs/Box)	240.55	140.52	225.09	228.03	136.96
02	Total expenses(Rs/Box)	86.41	75.17	83.33	86.92	75.98
03	Consumers price (Rs/Box)	326.96	215.69	308.42	314.95	212.96
04	Shepherds marketing efficiency index	2.78	1.86	2.70	2.62	1.80
05	Modifying marketing efficiency index	3.78	2.86	3.70	3.62	2.80

Table 7: Main and subsidiary occupations of sample orchards in district Anantnag

Category	Total number	Main occupation			Subsidiary occupation		
		Agriculture	Business	Service	Agriculture	Business	Service
Small	56	50	--	06	06	06	02
Medium	41	36	--	05	05	02	01
Large	55	53	--	02	02	01	01
Total	152	139	--	13	13	09	04

Table 8: Apple harvest calendar

Variety	Percentage of total crop	Harvest period	Peak period
Kullu Delicious	20 %	25 Jul - 31 Aug	15 Aug
Royal Delicious	30%	15 Aug - 25 Sep	08 Sep
Red Delicious	50%	05 Sep - 05 Nov	05 Oct
Golden Delicious	05%	05 Sep - 10 Nov	10 Oct
American	10%	20 Aug - 10 Oct	20 Sep

Source: Department of Horticulture J&K.

Table 9: Number of growers in each village and sampled growers in district Anantnag

S.No.	Villages of Srigufwara block	Number of farmers	Marginal	Small	Large	Sample marginal	Sample small	Sample large
01	Viddy Srigufwara	250	248	02	--	50	02	--
02	Darigund	300	290	10	--	06	--	--
03	Hugam	230	225	05	--	06	--	--
04	Poshkreedi	415	415	--	--	83	--	--
05	Bewora	249	246	03	--	49	03	--
Total		1444	1424	20	--	194	05	--

Variety of Apples: The different varieties of apples grown here include Hazratbali, Delicious, Royal Delicious, American and Maharaja. Experts also feel that scab resistant variety of apples would help in business revival. Scientists at Sher-e-Kashmir Agricultural University here claim to have developed Shireen and Firdous varieties, which they say are resistant to diseases. However, the newly developed varieties have not been introduced in the market yet. The variety wise rates of Apples in Anantnag are shown in table 10.

Table 10: Variety wise wholesale average rate per box of Apple

S. NO.	Year	Delicious	American	Maharaji	Kesari	Hazratbali	Razakwari
1	2000-2001	318	268	228	192	141	166
2	2001-2002	306	359	178	144	154	195
3	2002-2003	355	298	198	146	205	208
4	2003-2004	308	266	192	125	174	180
5	2004-2005	384	279	207	168	272	222
6	2005-2006	386	337	233	186	245	231
7	2006-2007	393	240	288	210	182	187
8	2007-2008	264	118	159	130	90	133
9	2008-2009	400	280	240	201	190	210
10	2009-2010	480	350	262	232	230	289
11	2010-2011	500	400	380	270	290	322

Source: Department of Horticulture (J&K

Suggestions for removal of bottlenecks:

For eradicating the existing ills of the marketing operations of apple, the following suggestions are recommended:

Enhancement of Grading and Quality Control Act: Grading and quality control Act should be executed which should include establishment of grade specification and enforcement of grading programmes, operation of inspection systems and control laboratories. At the same time, grading should be carried out in accordance with the best mechanical devices.

Types and specification of authorized packages must be set out by law to ensure safe handling and speedy recognition.

Economic Packing System: An economic packing system for apple should be developed and made easily available for marginal growers of the State.

Establishment of Horticulture Marketing Training Institute: A Horticulture Marketing Training Institute should be established for training and education of personnel engaged in various activities of marketing viz., packing, grading, standardization etc.

Improved Marketing Channel: Efforts should be made to ignore the influence of commission and forwarding agents on apple trade and to establish such a distribution system of fruit as would ensure direct sale to the consumer. This type of marketing channel will be remunerative.

Cold Storage Facilities: Cold storage should also be constructed at export marketing centres so as to ensure the grower of the State the facility of cold storage at terminal markets when they feel low returns of their produce as result of glut at export marketing centres.

Improvement in Transport Facility: If the apple industry is to be properly developed from all angles, the available transport facilities of every mode have to be improved and expanded suitably.
Financial Facilities to the poor Growers: All State financial agencies should provide loans to basic and poor growers on low interest against their produce. This facility will minimise the practice of supplying interest free finance to the growers by the commission agents and then cheating them by charging abnormally high commission.
Establishment of Marketing Information and news Service: Market information centres should be established which will provide the apple growers and traders day to day knowledge and information about the happenings and trends prevailing in the various marketing centres in and outside the State. Such a facility will help the growers/traders to decide about future market strategy.
Educating the Growers: Adequate arrangements should be made for imparting training and education to the growers so as to equip them to face the marketing challenges. Grower's should be trained in the art of bargaining, selling, price fixation and so on.
Promotion of Cooperative Marketing: Cooperative marketing is a unique pattern of marketing where the growers sell their produce to the cooperatives organized with the help of the Government. Although, there are some cooperative societies in the State, these are totally inadequate and inefficient to meet the requirements and demand of the apple industry.
Marketing fellowships: State Government should give fellowships to young growers/traders to study marketing methods and administration in the advanced institutions of learning.
Marketing meeting and Training: Government may recommend personnel/growers to attend specialised horticulture meetings and training course arranged to meet the marketing needs of horticulture sector.
Provision of Technical Experts: The services of horticulture marketing specialists should be offered from other parts of the country to work for some time in a particular area, to analyse problems on this subject and make recommendations to the State in the light of current conditions.
Advertising and Publicity: Advertising and publicity media should be expanded within and outside the country. It is strongly suggested that there should be an international compaign launched by the various concerned State agencies by creating an agency with foreign market association and organisation. Attracting hoarding should be placed at key centres of the principal cities.
Research Laboratories: Horticulture Research laboratories should be established in every Tehsil of the State so that control on pests and diseases may become possible.
Exhibition – cum – Demonstration centres/plots: Classes at mass scale may be conducted by various horticulture departments and institutions in fruit growing areas, where apple growers may be informed about the latest horticulture technology. For this purpose demonstration plots should be set up in fruit producing areas.
Publicity and Advertisement Compaign: A rigorous advertisement compaign should be launched to inform growers about the proper use and relative benefits of fertilizers, so that the habit of use of fertilizers may be developed in the growers.
Modern Techniques of Irrigation: To meet the present requirement of irrigation all methods of irrigation i.e., wells, ditches, storage ponds and river canals etc. should be developed and extended. Merely by extended application of one particular method of irrigation cannot meet the requirement and demands of irrigation.
These are the secret proposals for the healthy operation of the marketing system and for the economic development of apple industry. Therefore, it become obligatory on the part of growers and horticulture agencies as well as on the Government to go for these suggestions to correct deficiencies in the existing marketing system/operation of the apple industry. The suggestions, if implemented properly would prove a gate way to the future prosperity of the industry.

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