

**CHAPTER 5: TEST OF UNIQUE STRENGTH AND COMPARATIVE
PROFITABILITY OF CO-OPERATIVE SOCIETIES IN WEST
BENGAL**

5.1: INTRODUCTION

Strengths of a concern are the existing features those have prompted outstanding performance (Harrison, 2010 , p. 93). Strengths are also defined as the internal factors those are helpful to attain the organisational goals. It has a positive implication. Strength adds value or offers to an organisation an advantage to compete with others. Management should keep attention and analysis the strength related with various functions of the organisation (like evaluation of marketing, production, finance and support etc.) to identify the positive as well as negative elements within each function (Bristoll & Newton, 2012, pp. 8-13).

Profitability is the overall measure of an organisation in connection with efficient and effective utilisation of resources at its command (Jain & Narang, 2008, p. II/7.3). It is an indicator of financial strength. Profitability is significant area where performances and outcomes directly and practically influence the existence power of the business concern. Profit is considered the main driving force in business and one of the foremost goals of the business. Every business should earn sufficient profits to stay alive and develop over time. Lord Keynes mentioned that ‘profit is the engine that makes the business enterprise’. Profit can be able to meet the liability to creditors, to pay reasonable return to proprietor and to utilise optimum uses of resources. Therefore it is essential to examine the profitability of the business. Hence, every management should concern about the profitability of the business (Khan, 2013, p. 63).

This chapter attempts to identify the unique strength and comparative profitability of the seven apiculture co-operative societies in West Bengal. SWOT Analysis, Pay Back Period Method (PBP), Break Even Analysis (BEP) and Ratio Analysis are used to test of the strength and profitability of the seven apiculture cooperative societies in West Bengal.

5.2: SWOT ANALYSIS

SWOT analysis is popularly used in management as a tool to judge internal and external environment under which the organisation works. ‘SWOT analysis is an examination of an organization’s internal strengths and weaknesses, its opportunities for growth and improvement, and the threats, the external environment presents to its survival’ (Harrison, 2010 , p. 92). FAO also use this analysis as SWOC analysis. The purpose of a SWOC analysis is to identify the Strengths, Weaknesses, Opportunities and Constraints that characterize a particular situation or entity. The approach basically looks at internal and

external processes to identify the positive and negative issues those impact on the overall result (FAO, 2007, p. 1).

The West Bengal has many potentialities to develop the apiculture industry. But the industry has few weaknesses also, for which they fail to catch the opportunities of the internal and external markets. These are discussed and analysed with the help of SWOT analysis. In West Bengal there are seven apiculture cooperative societies. They all are formed and controlled within the state of West Bengal. They work in a same atmosphere. Hence, all apiculture cooperative societies have some common Strengths(S), Weaknesses (W), Opportunities (O) and Threats (T). Sometimes few societies have few particular Strengths, Weaknesses, Opportunities and Threats for their own management setup. These are discussed as under

5.2.1: Common “SWOT” of all apiculture cooperative societies of West Bengal

In addition to separate Strengths, Weaknesses, Opportunities and Threats the seven cooperative societies have some common Strengths, Weaknesses, Opportunities and Threats. Common Strengths, Weaknesses, Opportunities and Threats will be analysed together to develop the industry as a whole. The Common Strengths, Weaknesses, Opportunities and Threats are

5.2.1.1: Strengths

- There are comparative advantages to produce honey in the state (low production costs, high yield).
- Availability of good quality raw materials and variety of bee forages.
- The presence of huge number of unemployed skilled persons are lived in this area.
- Good transports and communication support are available for apiculture industry in the state.

5.2.1.2: Weaknesses

- Apiculturists have lack of knowledge of relevant aspects of foreign commerce though there is high dependence on the external market.
- Most of the beekeepers are very much poor.
- Apiculturists have lack of knowledge and understanding of important aspects relating to quality of product and their sampling and analysis systems.

- There is limited commercial strategy of the apiculture industry at own level and even at governmental level to promote the product in India and abroad or generate new markets.
- There is no supply of value added products .There is also a lack of differential products by origin and quality.
- In spite of limited internal market of honey in India there is a potentiality of growing the internal market. But the apiculture cooperative societies of West Bengal have become failure to catch this market.
- There is unfair competition in the internal market (like- adulteration, retail sells without registration or controls, sells by saying “honey of home hive” on roadsides and other places without sanitary or price controls).
- All beekeepers, those are trained from an apiculture cooperative society, are not registered here. It is also seen that few beekeepers are registered with many beekeeping cooperative societies. Sometimes many registered beekeeper members do not come to sell their produced / collected honey to their society for long time.
- Marketing strategies especially retail out letting is not satisfactory.
- Insufficient financial help by the government.
- Only 1571 registered members are there in these seven apiculture cooperative societies of West Bengal.

5.2.1.3: Opportunities

- Low production costs, high yield, availability of good quality raw materials and variety of bee forages, presence of huge number of unemployed skilled persons, good transports and communication support, lower MRPs of honey can give an ability to compete with other popular brands.
- Existence of market niches that value products with differentiation and superior quality.
- Growing demand in different countries with high purchasing power encourages improved quality and value added products of apiculture.
- Existence of new buying countries.
- There is an expansion of domestic consumption both in intrastate and interstate market.
- Existence of market for other bee products and equipments.

- There is a scope for introducing a very small package (below 50 grams) of honey because of its huge demand in the market.
- National Bee Board (NBB) has formed which facilitates all types of benefit from production, technology, quality to marketing at home and abroad.
- Possibility to increase number of beekeeper members in the societies' register.

5.2.1.4: Threats

- The triangulation of the product performed by some global buyers generates a direct threat due to unfair competition on prices, terms, and so on.
- There is growing competition from the world supply of honey.
- Market is strongly controlled by middlemen and for this, beekeepers are kept under trap - which is made by these middlemen.
- Most of the honey is now purchased ultimately by popular MNCs, through middlemen. This way, middlemen control the honey market for their own interest.
- Sometimes honey is unsuitable for export due to contamination for the use of antibiotic, pesticide and adulterants (which exceeds the limit of international standard) by Indian exporters and by neighbouring exporter-countries (which effects the goodwill adversely of the exporters).
- In a certain year international price suddenly may drop as was seen in previous few years.
- Gradation of honey is demanded by the customers. Absence of graded honey according to place and flower is a threat.
- Beekeepers are harassed by various people like, Farmers, Land-owners, Traffic police, local club, local political parties etc
- In West Bengal there are almost 7710 beekeepers. Out of these only 1571 beekeepers are registered as members of cooperative societies. Therefore, less number of registered beekeeper members may have adverse impact on production as well as marketing activities.

5.2.2: “SWOT” of 24 Parganas Beekeepers’ Co-operative Society Ltd

5.2.2.1: Strengths

- Part of the Sundarban forest area, the huge sources of organic honey, is adjacent to this society.
- Society has more than 50 years experience.

- Introduction of “Agmark” to ensure the quality of the final product.
- Local and external markets are highly growing and now the society has come within the area of extended mega city Kolkata.
- Society has own processing unit equipped with modern instruments and technologies.
- Packaging has now become attractive in comparison with other cooperative societies.
- The society has introduced Brand Name.
- Efficient in processed bulk sales.
- Sell of other ancillary products relating to apiculture, like bee-boxes, honey-extractor, bee-vial, Bee-frame, Bees etc.
- Though not regular, the society has been publishing a journal (entitled “Moumachir Jagat”) to provide information relating to bees, honey and societies.
- The society is maintaining required books of account and is more consistent in recording activities.

5.2.2.2: Weaknesses

- Lack of regular touch with the poor beekeepers during migration times of different fields of different districts in West Bengal.
- Till 2012-13 there are only 338 members who are registered in this co-operative society.
- Packagings are attractive but not as compared to other popular brands in the market.
- Package of 50 grams and 200 grams quantity of honey are not made by this society.

5.2.2.3: Opportunities

- Over 50 years of experience can lead for developing apiculture industry especially the cooperative marketing.
- The society gets locational advantage to process mangrove honey of ‘Sundarban’ forest.
- “Agmark” helps to achieve market leadership.
- Growing demand of Kolkata mega city and South 24 Parganas district may lead to market extension especially retail market for which unexpected export dependency can be reduced.
- Own processing unit, experience of the society as well as efficiency in processed bulk selling can help to introduce quality product as per market demand.

- Sale of honey, sale of other apiculture products, publication of journal and maintaining a regular accounting procedure for long time can make the society as a ‘model society’ in West Bengal.

5.2.2.4: Threats

- There is miserable relationship between this cooperative society and the beekeepers and existence of poor field support system are found which are considered as threats.
- Number of beekeeper members decreases to 338 in 2012-13 from 342 in 1998-99. This situation may affect adversely on the production of honey.
- Lack of improved packaging, intelligent advertising and overall marketing techniques exist in this cooperative society. Therefore, making of honey may remain at stake.
- There is sufficient demand of 50 grams and 200 grams packet of honey in the market. But non-availability of these packages in this cooperative society may reduce the volume of sales.

5.2.3: “SWOT” of Baruipur Apiculture Industrial Co-operative Society Ltd.

5.2.3.1: Strengths

- Part of the Sundarban forest area, the huge sources of organic honey, is adjacent to this society.
- Introduction of “Agmark” to ensure the quality of the final product.
- Local and external markets are highly growing and now this society has come within the area of extended mega city, Kolkata.
- Society has own processing unit equipped with modern instruments and technologies.
- Packaging has now become attractive in comparison with other cooperative societies.
- This society has introduced Brand Name of the product.
- Package of 50 grams quantity of honey is available in the market.
- MRP of 1 kg jar is comparatively lower than other cooperative societies.
- Efficient in the act of processed bulk selling.
- This society has more than 15 years experience.
- This society sells other ancillary products relating to apiculture, like bee-boxes, honey-extractor, bee-vial, Bee-frame, Bees etc.
- This society is maintaining required books of account and is more consistent in recording activities.

5.2.3.2: Weaknesses

- Lack of regular touch with the poor beekeepers during migration times of different fields of different districts in West Bengal.
- There is minimum number of registered members in this society. Till 2012-13 there are only 17 members who are registered with this co-operative society.
- Packaging are attractive but not so as compared to other popular brands like Dabur, Patanjali etc .
- Package of 200 grams quantity of honey is not available in market.

5.2.3.3: Opportunities

- This society gets locational advantage to process mangrove honey of the ‘Sundarban’ forest.
- “Agmark”, brand name and attractive packaging can help to grab retail marketing.
- Growing demand of Kolkata mega city and South 24 Parganas district may lead to market extension, especially retail market for which unexpected export dependency can be reduced.
- Own processing unit and strong experience of processed bulk selling can help to introduce quality product as per market demand.
- MRP of 1 kg jar is comparatively lower which also has the capability to improve the demand of honey. Selling of 50 grams of honey package by this cooperative is very much effective for marketing. It has the capability to increase the demand of honey.
- Sell of other ancillary products relating to apiculture by which production can be developed.
- This society maintains good accounting practice. It can also help the management in different vital decisions making.

5.2.3.4: Threats

- Irregular touches with the poor beekeepers during migration times of different fields of different districts in West Bengal create hindrances to marketing activities.
- Society has very poor number of members. Till 2012-13 there are only 17 members who are registered with this co-operative society. Production of honey may be hampered for this less number of members.
- Absence of 200 grams honey packet reduces the demand for honey in the market.

- Packagings are attractive but not as compared to other popular brands. There is also lack of modern advertising and marketing techniques. Therefore, marketing of honey may remain at stake.

5.2.4: “SWOT” of Midnapore Beekeepers’ Khadi & Village Industries Co-operative Society Ltd.

5.2.4.1: Strengths

- Forest areas of West Midnapore and Bankura, the jungle mainly of Eucalyptus trees, are adjacent to this society. Eucalyptus honey has organic and medicinal value.
- Society has more than 50 years experience.
- Local and external markets are highly growing and society is connected with the mega city Kolkata by national highway and rail ways. Popular rail station Mecheda is situated within 5 km only.
- This society has introduced Brand Name of its product.
- MRP of 100 grams jar is comparatively lower than other cooperative societies
- Strong in processed retail selling.
- Sells other ancillary products relating to apiculture, like bee-boxes, honey-extractor, bee-vial, Bee-frame, Bees etc.
- This society has been publishing information brochure to improve the product market.
- The society is maintaining good books of account and more consistent in recording activities.

5.2.4.2: Weaknesses

- Lack of regular touch with the poor beekeepers during migration times of different fields of different districts in West Bengal is a weakness of this society.
- Society has not sufficient number of members. Till 2012-13 there are only 161 members who are registered in this co-operative society.
- This Packaging is not attractive and not good in quality.
- Package of 250grams and 50 grams quantity are not available in market.
- Society has no standard processing unit and honey is processed manually.
- This society cannot introduce “Agmark” to ensure the quality.
- Interested in retail selling but no steps are taken in this regard. In most of the cases they sell honey to the retail customers directly into any container which is provided either by the customer or by the society.

5.2.4.3: Opportunities

- This cooperative society has become a leading apiculture cooperative society in West Bengal as it has more than 50 year experience.
- The society can get locational benefit to produce Eucalyptus honey having medicinal value.
- Growing demand of Kolkata mega city, Midnapore district and Digha (important short distant tourist point) may lead to market extension especially retail market for which unexpected export dependency can be reduced.
- Sale of honey, at the same time sale of other apiculture products, regular publication of information brochure and maintenance of good accounting procedure for long time can help to develop apiculture marketing of this society.
- Introducing brand name and getting experience in processed retail sales the society can get an opportunity to maximize its sales volume. Besides, MRP of 100 grams jar is comparatively lower which can compete with other brands of honey.

5.2.4.4: Threats

- Miserable relationship between this cooperative society and the beekeepers and existence of poor field support system are the major Threats.
- Number of beekeeper members is decreasing day by day. In 1998-99 it has 357 members but in 2012-13 the number of members decreases to 161. Less number of beekeeper members hampers the production of honey.
- Poor packaging and marketing techniques create hindrances to the marketing of honey.
- Non introduction of “Agmark” may have adverse impact on the customers about the quality of honey.
- Enhancement of sales may be hampered for non-availability of 50 grams and 250 grams packet of honey.

5.2.5: “SWOT” of Bishnupur Subdivision Beekeepers’ Women Cooperative Society Ltd.

5.2.5.1: Strengths

- Forest areas of West Midnapore, Purulia and Bankura, the jungle mainly of Eucalyptus trees, are adjacent to this society. Eucalyptus honey has organic and medicinal value.

- Society has more than 25 years of experience.
- This cooperative society is fully controlled and organised by women.
- Introduction of “Agmark” to ensure the quality of the final product.
- Local and external markets are highly growing.
- This cooperative society has introduced Brand Name of its product.
- Capability of selling processed and unprocessed honey is equal.

5.2.5.2: Weaknesses

- Lack of regular touch with the poor beekeepers during migration times of different fields of different districts in West Bengal.
- The cooperative society has not sufficient number of members. Till 2012-13 there are only 106 members who are registered in this co-operative society.
- Packaging is not so good and attractive which can compete with popular brands.
- Package of 250 grams and 50 grams quantity are not available in market.
- Society has no standard processing unit and honey is processed manually.
- Interested in retail selling but no steps are taken in this regard. Many a times this society sells honey to the retail customers directly into any container and has to wait for different fairs.
- MRP of honey jars are not lower than other cooperative societies except 24 Parganas Beekeepers’ Co-operative Society Ltd.
- Members are not involved in migratory beekeeping.
- Tendency to engage in the business other than apiculture activities, like business of lorry hiring etc.
- Procedure of maintaining the books of account is poor.

5.2.5.3: Opportunities

- As this apiculture cooperative society is fully controlled and organised by women having over 25 years of experience, this society can operate as a leading institution for making the women empowerment in West Bengal.
- The society can get locational benefit to produce Eucalyptus honey having medicinal value.
- Growing demand of organic honey, may lead to market extension. `

- With introducing brand name, “Agmark” and getting similar experience in processed and unprocessed sales the society can get an opportunity to maximize its sales volume.

5.2.5.4: Threats

- Grumpy relationship this cooperative society and the beekeepers and existence of poor field support system are the major threats.
- Absence of migratory beekeeping by members for which earnings of this cooperative may suffer.
- Number of members remains the same during the period of 15 years (1998-99 to 2012-13). This trend may hamper the production ultimately.
- Poor packaging and marketing techniques distract customers from purchasing honey.
- Absence of standard processing unit to ensure the quality is a threat.
- Enhancement of sales may be hampered for non-availability of 50 grams and 250 grams honey.
- High MRP of honey jars restricts this cooperative society to catch the retail market. to catch retail market.
- Poor maintenance of books of account fails to disclose the true financial picture of this society.

5.2.6: “SWOT” of Solo Mile Moumachhipalan Shilpa Samabaya Samity Ltd.

5.2.6.1: Strengths

- This society directly involves in migratory beekeeping activities in different fields of West Bengal. All expenses of beekeeping are borne by the society. Here, beekeeper members are totally engaged in beekeeping. At the end they earn share of profit as stakeholders.
- Areas of famous mango gardens, litchi garden and large areas of mustard plot (Malda, Murshidabad, North Dinajpur and South Dinajpur) are adjacent to this cooperative society. Mustard plots are huge sources of raw nectars.
- Society has more than 20 years of experience.
- Local and external markets are highly growing. ‘Malda’ (head quarter of Malda district) is within 5 km from this cooperative society. Moreover this cooperative society is connected by the national highway.
- This society has introduced Brand Name of its product.

- MRPs of honey are lower than other cooperative societies.
- Strong in unprocessed honey selling.

5.2.6.2: Weaknesses

- Number of members of the society is very poor. Till 2012-13 there are only 19 members who are registered with this co-operative society.
- This cooperative society cannot introduce “Agmark” to ensure the quality.
- Package of 200 grams and 50 grams quantity are not available in market.
- Society has no standard processing unit and honey is processed manually.
- Quality of packaging is poor.
- Procedure of maintaining the books of account is very poor.
- The society has less interest in retailing the product (honey).
- Since unprocessed sales are huge in quantity, profit earns by the society is very low.

5.2.6.3: Opportunities

- The society can get locational benefit to process huge quantity of honey using mustard plots, since mustard flower can give more than 60% of total honey produced in West Bengal.
- Since the society directly involves in migratory beekeeping activities, it has huge scope to increase the production if number of members and or bee-boxes can be increased.
- Position of the society is on the national highway and historical place ‘Malda town’ is in the immediate vicinity which can help to improve marketing of honey.
- Mustard honey has become condensed form naturally. Growing demand of condensed honey may lead to market extension of this society.
- MRPs of honey are lower than other cooperative societies for which this cooperative society can get an opportunity to maximize its sales volume.

5.2.6.4: Threats

- Less number of beekeeper members hampers the production of honey.
- Non introduction of ‘Agmark’ may have adverse impact on the customers about the quality of honey.
- Poor packaging and marketing techniques distract the customers from purchasing honey
- Enhancement of sales may be hampered for non-availability of 50 grams and 200 grams honey packet immediately.

- Weak retail selling may be the cause of less volume of total sales.
- Absence of standard processing unit may lead to deterioration of quality of honey.
- Poor maintenance of books of account fails to disclose the true financial picture of this society. Has to introduce and maintain good accounting practice.

5.2.7: “SWOT” of Malda Bee-Keeping and Honey Processing Industrial Cluster Co-operative Society Ltd.

5.2.7.1: Strengths

- Areas of famous mango gardens, litchi garden and large areas of mustard plot (Malda, Murshidabad, North Dinajpur and South Dinajpur) are adjacent to this cooperative society. Mustard plots are huge sources of raw nectars.
- Though society is very new, but the production of honey is excessively higher than other societies of West Bengal (around 84.11% of total production of all beekeeping cooperative societies of West Bengal in 2012-13)
- Local and external markets are highly growing. Malda (head quarter of Malda district) is within one km from this cooperative society. Moreover this society is connected by the national highway.
- Strong in unprocessed honey selling (i.e.100%. of total sales)
- Society has comparatively good number of members (around 700, during 2012-13).
- Modern processing unit has been installed with the help of government support after 2012-13 and is expected to start immediately.
- Society maintains regular touch with these poor beekeepers during migration times of different fields of different districts in West Bengal.

5.2.7.2: Weaknesses

- Society is very new in this field, hence it has not much of experience.
- Since the society has less experience in the field, they want to sell their honey even to the middlemen at very low price. It’s target is sales maximisation. Hence per unit profit margin becomes very low.
- Since all sales are unprocessed bulk sales, the society has felt that there is no need of packaging. Processed selling is neglected.
- Though it has proposed brand name (‘Gour Honey’), it cannot introduce brand name till date.
- This cooperative society cannot introduce “Agmark” to ensure the quality.

- Cannot maintain and submit books of account regularly to the cooperative audit departments from the commencement. For this reasons it had lapsed its registration for a few years. From 2010-11 it has been continuing its account properly and regularly.

5.2.7.3: Opportunities

- The society can get locational benefit to process huge quantity of honey by exploiting mustard plots, since muster flower can give more than 60% of total honey produced in West Bengal. Litchi honey is also famous for its colour and easily available in this area.
- Society has comparatively good number of members and keeps regular touch with beekeepers which initiates to produce huge quantity of honey.
- This society is very new but it is very strong and steady in production. The society proves it's trustworthiness from the view point of customers.
- Position of the society is on the national highway and historical town Malda is in the immediate vicinity which can help to improve marketing of honey.
- Mustard honey has the ability to become condensed form naturally. Growing demand of condensed honey may lead to market extension of this society.
- Modern processing unit has been installed which helps to process and procure good quality of honey.

5.2.7.4: Threats

- Number of beekeeper members of this cooperative society is the highest among all beekeeping cooperative societies, but the production of honey has not been substantially increased. There is lack of synchronization between the number of members and the production.
- There is an inclination to treat 'processed bulk selling' as less important.
- Non-introduction of "Agmark" may have adverse impact on the customers about the quality of honey.
- Irregular maintenance of books of account fails to disclose the true financial picture.

5.2.8: "SWOT" of Jalpaiguri District Bee Keepers Co-operatives Society Ltd.

5.2.8.1: Strengths

- Part of the Duars forest area, the huge sources of nectar, is adjacent to this society.
- Well experienced beekeeping cooperative society in West Bengal.

- Local and external markets are highly growing. ‘Siliguri’, the subdivision of Darjeeling district which is also a north-eastern corridor of India is prospective honey market. This area is very much connected with bus, train and aeroplane.
- Though gross sales volume is very poor, the society is fully concentrated in processed retail selling.

5.2.8.2: Weaknesses

- Lack of regular touch with these poor beekeepers during migration times of different fields of different districts in West Bengal.
- Number of members of the society is not sufficient. Till 2012-13 there are only 230 members who are registered with this co-operative society.
- This society cannot introduce “Agmark” to ensure the quality.
- No standard packaging and pricing policies are introduced.
- Society has no standard processing unit and honey is processed manually.
- Quality of packaging is poor.
- Procedure of maintaining the books of account are very much poor. Non trading incomes even capital incomes are considered to compute the profit from honey-business.
- The society has less interest in regular production.
- Depends on government supports and different fairs.

5.2.8.3: Opportunities

- The society can get locational benefit to process huge quantity of Duars honey. Moreover, the society can collect much amount of mustard honey from Assam and Dinajpur district. This society can also collect special type of orange and tea honey from Duars of Jalpaiguri and Darjeeling districts.
- Position of the society is around 80 kilometres from Siliguri town, big business corridor of north-east India, which can help to improve marketing.
- The society is the oldest apiculture cooperative society among present apiculture cooperative societies in West Bengal. This experience can help the society in implementing strategies.
- The society is fully concentrated in processed retail selling. Sales margin from processed retail selling is higher than processed bulk selling and even higher than unprocessed selling of honey. So the society has concentrated itself on the right path.

5.2.8.4: Threats

- Paltry relationship between this cooperative society and the beekeepers and existence of poor field support system are the major threats.
- During the period of 15 years from 1998-99 to 2012-13 number of beekeeper remains the same (i.e. 230). This can certainly affect the production adversely.
- Poor packaging and pricing policy distract the customers from purchasing honey.
- Non introduction of “Agmark” may have adverse impact on the customers about the quality of honey.
- Absence of standard processing unit may lead to deterioration of quality of honey.
- Excessive dependency on government supports and different fairs reduces self confidence.
- Capital erosions of the society hinders it’s development,

5.2.9: “SWOT” of Beekeepers

5.2.9.1: Strengths

- Beekeepers are hard working.
- They are skilled and trained.
- They love bees and beekeeping.
- They have loyalty to their societies.
- They are aware about nature and environment.
- They have sufficient field experience.
- Beekeepers are very much helpful and cooperative with each other.
- They have ability to make friendship with the adjacent houses of their migrated fields.
- High yielding bees (*Apis Mellifera*) are tamed by almost all beekeepers.
- They can decrease feeding period of bees by increasing migration activities.

5.2.9.2: Weaknesses

- Most of the beekeepers are poor.
- They do not know actual market information.
- They do not know the techniques by which quality can be improved.
- They do not have any storage facility.
- They do not have any transport facility though their production depends on migration activities.
- They cannot estimate the price of honey before production.

- They depend on unskilled personnel for bee diseases. Because skilled persons are not available in different fields during migration.
- They have lack of knowledge about traffic rules and regulation.
- Beekeepers cannot convince the farmers and land owners about the relationship between apiculture and agriculture.
- Most of the beekeepers are not registered with the apiculture cooperative societies.
- Most of the beekeepers are not registered with the National Bee Board (NBB).
- Indian bees, Apis Cerana, with low yielding capacity are tamed by a very few beekeepers.

5.2.9.3: Opportunities

- Qualities of hard working, skill, affection for this profession, sufficient field experience, awareness about nature and environment can improve the production in quantity and in quality.
- Loyalty to their societies can strengthen the apiculture cooperative societies in West Bengal.
- New friendship era between apiculture and agriculture has started for pollination service.
- Good relationship between beekeepers can help to migrate together so that they can achieve the benefits of large scale.
- Apis Mellifera, the Italian bees can give them the opportunities of huge production.

5.2.9.4: Threats

- Poor beekeepers cannot collect sufficient capital to be engaged in apiculture activities.
- Failure to improve relationship with the cooperative societies and poor field support system are major threats.
- Lack of market information hinders the development of apiculture activities.
- Lack of storage facility, transport facility etc may hamper the apiculture marketing activities.
- Estimated price of honey is not known to the beekeepers before production. Preparation of production policy becomes difficult which is also a threat.
- Lack of awareness about pollination service, traffic rules and regulations may create serious problems in production and marketing activities.

- Less number of beekeepers registered with the cooperative society and the National Bee Board (NBB) does not make themselves sufficiently responsible for apiculture development.
- Though low yielding, but provide subsidies for keeping Indian bees, Apis Cerana. For lack of provision for subsidies for the preservation of own native bees is not properly handled.

5.3: INVESTMENT IN BEE-COLONY

A man can maintain 5-10 bee-colonies without employing any extra effort in addition to his own occupation. A man can perform it as a hobby. For commercial beekeeping which involves migration of bee colonies require atleast 50 to 100 colonies. In India primarily most of bee-colonies were of Apis Cerana Indica. But after the year 2000, keeping of Apis Mellifera bees are increasing in India. Now almost all beekeepers in West Bengal keep these foreign bees Apis Mellifera, because of high yielding quality. To induce population in accepting the profession of beekeeping this study gives an idea of investment decision through pay-back period method. Since, Apis Mellifera is popular in west Bengal and has high yield, this study considers only this kind of bees for this analysis.

5.3.1: Details Initial investment

Two types of expenditures are foremost needed for starting a bee colony. One is cost of bee-hives and other is cost of bees. Bee-hives is a wooden box where bee-frames are kept. Bee-frame is a rectangular frame where bees are made their cells. In a bee-frame beekeepers attach a foundation sheet. Foundation sheet is a sheet, made by wax, on which foundation of hexagonal cells are already prepared by man with machine and is then supplied to the bees. On this foundation bees prepare their cells easily. In this way, bees save their time of hive making and bees can easily concentrate to the other works like nectar collecting, honey making, fanning, sealing, guarding the hive and so on. In this way, ultimately the worker-bees can increase honey production. When any one purchases bees from beekeepers, he/she should purchase bees with this bee-frame like purchase of ornamental fish with aquarium. In a full set box, bees of 10 frames are required. Cost of each frame with bees (obviously there is a queen bee) is Rs.300 and cost of a bee-hive is Rs. 900. So, total cost of this primary initial investment is Rs.3900 per box. Details of which are shown in table 5.1 on the basis of 50 bee-boxes. After this investment, within a month few additional investments are needed.

These are, purchase of smoker, honey-extractor machine, face veil, others small tools and parts. These are required during collection of honey from bee-colonies. Altogether the initial investment is amounted to Rs. 198190 (Table 5.1).

5.3.2: Recurring Expenditure

Throughout the year beekeepers spend various types of expenditures. Main expenditures for migratory beekeeping are cost of travelling and carrying, field expenses and labour. In migratory beekeeping beekeepers voyage their bee-colonies in various fields. They move around 9 to 10 months in different districts of West Bengal and even sometimes outside the state. Table 5.1 shows cost of travelling and carrying is around Rs.12000. Field expense means cost of foods during visit and for staying in tent in field areas. This is only Rs.50 per day. Though a beekeeper engages him-self day and night in the field, every beekeeper thinks that there is no cost of labour as he employs his own labour. But in this analysis it has been taken and considered as opportunity cost. Table 5.1 shows Rs. 300 as daily labour charge. Making charge is required for frame making. Making charge is Rs. 18 per frame. Every beekeeper uses his colonies' wax for this purpose and cost of colonies' wax is Rs.3750. Sugar is required during dearth period i.e. in rainy season. Normally 30 Kg to 35 Kg sugar is needed for a bee-colony annually. In this period bees are growing healthy and strong. At the same time good feeding during this period increases the bees' population in a hive. Healthy, strong and huge population of bees can be able to collect more nectar and also can be able to make more honey. Many poor beekeepers provide 15 Kg to 20Kg of sugar during dearth period. They do this only to keep the bees alive. During forage period their yield will also be hampered. Bees are suffered from various viral, bacterial, fungal, protozoan and other diseases. They are also attacked by various pest, predators and enemies. To protect from these diseases and enemies few medicines are needed. Table 5.1 shows Rs 5000 is needed annually for 50 colonies for this purpose. Since in migratory beekeeping beekeepers visit their bee-colonies in various fields, few contingencies are need for this migratory beekeeping. These contingencies are - cost of repair for boxes, cost of fuel for smoker, cost of fuel for preparing fieldsman's food, cost of repair for tent, cost of repair for other bee-apparatus, purchase of few recurring parts like net and cost of other uncertain needs. Table 5.1 shows Rs.25000 is needed for contingency purpose for 50 bee-colonies. Total recurring expenditure per annum is Rs 231250.

5.3.3: Cash Inflows

From market survey during 2012-13 it has been found that average 50kg of honey is produced per hive. In that year average sales price of raw honey by the beekeepers is Rs. 100. So, earnings from selling honey of 50 colonies are Rs.250000. If good beekeeping practice can be adopted, from 50 colonies a beekeeper can create another 30 bee-colonies which have the realisation value of Rs. 90000 and can get Rs. 3750 by selling wax. Total of annual cash inflow is Rs. 343750 which shows in the Table 5.1.

5.3.4: Net Cash Inflows Every Year

There are two types of cash out flows. One is initial investment at the beginning, which is only one time investment and other is recurring expenditure per annum. There cash inflows are annually by three ways – by selling of honey, bees and comb (wax).

$$\begin{aligned}\text{Net cash inflows every year} &= \text{Cash inflows every year} - \text{cash outflows every year} \\ &= \text{Rs.343750} - \text{Rs.231250} = \text{Rs. 112500} \quad (\text{Table 5.2})\end{aligned}$$

5.3.5: Pay-Back Period Method

Pay-Back Period (PBP) is based on the principle that every capital expenditure pays itself back within a certain period out of the additional earnings generated from the capital assets (Gupta & Sharma, 2005, p. 13.5). Pay-Back Period (PBP) is that number of years for which initial cost is equal to cumulative net cash inflows. But for more critical justification this analysis is done by Discounted Pay Back Period. This method is takes into account the time value of money by combining payback with discounted cash flows (i.e. all cash flows are discounted for arriving at net present values) (Banerjee, 2002, pp. 821-822). Here 10% is assumed as the discounting rate used to arrive at the present value of net cash flows. In Table 5.3 the net present values are added cumulatively from the starting of the project. The sum becomes positives (i.e. zero) after 2nd year and in the 3rd year. Hence payback flash occurs during 3rd year. In this moment (turning point) project turns from negative to positive Cumulative Discounted Net Cash Inflows.

**TABLE 5.1: DETAILS OF CASH FLOWS FOR INVESTING IN 50 BEE-COLONIES
IN WEST BENGAL DURING 2012-13**

Sl. No.	Items	Amount (Rs.) For 50 Boxes
	Cash Outflows	
1	Initial Investment	
a.	Cost of bee-hives (full set)	45000
b.	Cost of bees (10 Frames)	150000
c.	Cost of Smoker	300
d.	Cost of Honey Extractor	2500
e.	Face Vail	90
f.	Others small tools & parts	300
	Total	198190
2	Recurring Expenditure	
a.	Medicine	5000
b.	Sugar (30Kg to 35 Kg)	48750
c.	Frame making (10 @ Rs 18)	9000
d.	Comb (Wax) (250 gm @ Rs 300/Kg)	3750
e.	Travelling and carrying	12000
f.	Field expenses	18250
g.	Labour (Rs.300 X 365)	109500
i.	Contingency	25000
	Total	231250
3	Cash Inflows	
a.	Honey (50kg @Rs.100)	250000
b.	Sale of bees (10 Frames) (30 pieces)	90000
c.	Sale of Comb (Wax)	3750
	Total	343750
	Net cash inflows	112500

Source: Field Survey (2013-14)

TABLE 5.2: YEAR-WISE INFLOWS AND OUTFLOWS FOR KEEPING BEES OF APIS MELLIFERA (FOR 50 BEE-COLONIES)
(in Rs.)

YEAR	0	1st	2nd	3rd	4th	5th
(Initial Investment)/ outflows	198190	Nil	Nil	Nil	Nil	Nil
Net cash inflows	0	112500	112500	112500	112500	112500

Source: Prepared from Table 5.1

TABLE 5.3: STATEMENT SHOWING DISCOUNTED PAY BACK PERIOD ANALYSIS FOR KEEPING BEES OF APIS MELLIFERA (FOR 50 BEE-COLONIES)
(in Rs.)

Year	Net Cash Inflows	Discounting Factor @ 10%	Discounted Net Cash Inflows	Cumulative Discounted Net Cash Inflows
0	-198190	1	-198190	-198190
1st	112500	0.909	102263	-95928
2 nd	112500	0.826	92925	-3003
3 rd	112500	0.751	84488	81485
4 th	112500	0.683	76838	158323
5 th	112500	0.621	69863	228185

Turning Point

Source: Prepared from Table 5.2

By applying simple interpolation formula,

$$PBP = \text{Year before Turning Point} + \left| \frac{\text{Cumulative Discounted Net Cash Inflows before Turning Point}}{\text{Discounted Net Cash Inflows at Year of Turning Point}} \right|$$

$$= 2 + (3003 / 84488) = 2.035 \text{ year} = 2 \text{ years } 13 \text{ days}$$

In Discounted Pay Back Period analysis (Table 5.3) it is found that pay-back period is very short, this is just crossing two years. So every individual can invest in beekeeping.

Though Discounted Pay Back Period Analysis have shown that it is good decision to invest in beekeeping especially in keeping Apis Mellifera, but there involve few problems. They are such as:

- Lack of capital.
- Lack of training facilities.
- Lack of information about availability of bee apparatus.
- Lack of improved marketing strategy.
- Lack of awareness about apiculture.

But the major problem is lack of capital. For commercial beekeeping minimum 50 colonies have to be maintained. 50 colonies can transport together in a truck otherwise the truck loading capacity remains vacant. One man can maintain upto 50 colonies. Where, colonies are maintained below 50, labour-hours may remain unutilised. Similarly, there may happen same problem in honey transporting. Hence, 50 colonies is the targeted. But for 50 colonies, initial investment of Rs 198190 is needed (Table 5.1). It is very difficult for poor individual to invest in beekeeping. In survey during 2012-13 it is found that poor beekeepers collect capital in three ways –

Alternative 1-

During few years, a poor individual keeps him-self employed as labour under a beekeeper who has more than 50 colonies. Then he continues his job as a labour and at the same time he keeps his own one colony with employer's colonies for another few years. In this way he increases his capacity of keeping colony. This is very lengthy process to become a proprietor of an apiary.

Alternative 2-

The poor individual may get boxes from a money-lender or a middleman with a contract that he has to pay Rs. 1000 per Box whether he can earn profit or suffer a loss. It is very risky process to become a proprietor of an apiary.

Alternative 3-

The poor individual may get loan from a money-lender or a middleman at almost 3% interest per month. He has to pay an exorbitantly high rate of interest (i.e., 36% p.a.). It is almost an impossible process to become a proprietor of an apiary.

5.4: STRENGTH AND PROFITABILITY OF BEEKEEPERS

Beekeepers of West Bengal are mainly keeping *Apis Mellifera* bees, for high yield. Only 603 beekeepers have 54700 numbers of bee-colonies (Table 2.11). On an average 91 bee-colonies are maintained by these 603 beekeepers of West Bengal. But field survey (Table 6.2) reveals that there are around 7710 beekeepers in West Bengal who keep on an average 30 bee-colonies per head. Few beekeepers have 5 bee-colonies and few have 200 bee-colonies. It is not possible to move for migration in different fields by keeping below 50 bee-colonies. If they don't migrate, they face loss in production. If they want to go with small number of bee-colonies, they have to spend the same amount of fixed expenses (Table 5.4) as in the case of 50 bee-colonies. So, small beekeepers have to assemble for going together in different fields. This study through marginal costing method attempts to examine the strength and profitability of keeping 50 bee-colonies in West Bengal (Table 5.4). In West Bengal survey reveals (Figure 6.2) that few beekeepers earn 30kg honey per colony and few beekeepers earn about 60 kg honey per colony by migrating. There are many beekeepers in between these yields. Average earning of beekeepers of West Bengal is 50 kg honey per colony from *Apis Mellifera* bees by applying migratory beekeeping technique.

5.4.1: Marginal Costing

Marginal Costing (Sengupta & Chowdhury, 2011, pp. 1248-1276) (Banerjee B. , 1994, pp. 503-523) considers only variable cost as the product cost while fixed costs are treated as period cost and not considered in product cost and inventory valuation. Marginal costing is also known as variable costing or direct costing. The term 'Marginal Costing' is used in Britain and Europe, while 'direct costing' and sometimes 'variable costing' is preferred in the USA. According CIMA official terminology, Marginal Costing is 'a principle whereby variable costs are charged to cost units and the fixed cost attributable to the relevant period is written off in full against the contribution for that period'. It is an important technique of costing which may be applied to any method of costing for the purpose of controlling cost and some important managerial decision.

5.4.1.1: Objectives of Marginal Costing in This Study

- Cost Control-

Marginal costing is a technique of cost presentation and cost analysis which helps to provide suitable data to the management for the purpose of cost control. Through these analyses, beekeepers can understand their fixed costs and variable costs. They can control their cost by concentrating on the nature and timing of their cost. They can utilize ideal resources and thus can reduce costs.

- Pricing-

Marginal costing technique is helpful in fixing up prices especially in case of heavy competition and trade depression. This technique is also useful for quoting price of an offer which can be materialized by utilizing idle facilities. If the beekeepers can be organized they can fix the price of honey and compete with the price declared by the middlemen. Dependency of middlemen as well as external market can be reduced with help of this technique.

- Profit planning-

Using profit/volume ratio or contribution to sales ratio it is possible to plan the future operation to attain the desired level of profit. If a beekeeper feels that he will earn a desired amount of profit, then he can choose his future operations, with the help of marginal costing technique.

- Decision Making-

This technique helps in taking many important managerial decisions like whether to make or buy a component, whether to continue or shut down a product or division, whether to accept an (export) order below the total cost. This technique also helps the beekeepers to accept an order or not, to think about whether he will reduce or increase the colony, whether he will continue or shut down the profession.

5.4.1.2: Marginal Cost Equation

The main focus of Marginal Costing is contribution which is equal to the difference between sales and marginal (or variable) cost of sales. Contribution from sale of all products will

provide a contribution fund. After charging fixed overhead against such contribution fund, the profit or loss is ascertained. Marginal cost equation as follows-

$$\text{Sale (S)} - \text{Variable Cost (V)} = \text{Contribution (C)} \quad \text{and}$$

$$\text{Contribution (C)} = \text{Fixed Costs (F)} + \text{Profit (P)} \text{ [or Loss (-L)]}$$

5.4.1.3: Profit/Volume Ratio

The Profit/Volume Ratio indicates the relation of contribution to sale. It is generally expressed in percentage. It is popularly known as P/V Ratio. It is measured using the following formula-

$$\text{P/V Ratio} = \text{C/S} \times 100$$

As fixed cost is assumed to be constant, higher P/V Ratio implies higher contribution and hence higher profit. P/V Ratio can be improved by increasing selling price or reducing variable costs.

5.4.1.4: Break-Even Point (BEP)

Break-even point (BEP) is a point of activity level where there is no profit and no loss. At this point of sale, total sales value is equal to total cost. A concern must operate at least at this level so that total cost can be recovered. Above this level every contribution adds to profit as total fixed cost is recovered at BEP level of activity. According to CIMA official terminology Break-even point (BEP) is 'the level of activity at which there is neither profit nor loss'. Break-even point (BEP) can be ascertained with the help of mathematical formula –

$$\text{Break-even point (in units)} = \text{Total Fixed Costs} / \text{Contribution per unit}$$

Applications:

- BEP analysis helps in understanding the relationship between fixed cost, variable cost and the level of profitability.
- Breakeven point is a measure of sustenance while the margin of safety is a measure of risk.
- Lower the breakeven quantity; better it is for the farm, while higher the margin of safety, the better it is for the farm.

- It provides the business with a minimum sales level which the business needs to achieve to avoid losses.
- It also indicates how any change in selling price would impact the profitability and BEP.
- BEP can be used as one of the indicators which help in deciding whether to manufacture new product yourself or simply outsource.

5.4.1.5: Margin of Safety (M/S)

Margin of Safety (M/S) is the excess of actual sales over the BEP sales. It is an indicator of the strength of the business. Higher Margin of Safety implies that the concern is operating with higher safety, a slight fall in sales will not result a loss. On the other hand, low Margin of Safety indicates that fixed overhead is relatively high and as a result BEP is set at a high level of activity and a slight fall in sales may result a loss.

Margin of Safety (as a percentage of sales) = $(\text{Actual Sales} - \text{BEP Sales}) / \text{Actual Sales} \times 100$

Margin of Safety is valuable information to the management in talking many important decisions. By increasing selling price, reducing cost, increasing level of activity etc Margin of Safety can be improved which, in its turn, will lead to increase in strength of the business.

5.4.1.6: Assumptions for Marginal Costing

This technique is based on some assumption. Those are

- Fixed cost will tend to remain constant.
- Variable costs fluctuate in direct proportion to the volume of output.
- The volume of production or output is the only factor which influences the cost.
- Semi-variable costs can be segregated into variable and fixed element.
- Product specifications and methods of manufacturing and selling will not undergo a change
- Operating efficiency will not increase or decrease
- There will not be any change in pricing policy due to change in volume, competition, etc.
- There is synchronization between productions and sales that is, whatever is produced is sold out.
- Technology, production process and efficiency level remain unchanged.

- Product- mix will remain unchanged.

5.4.2: Block of 50 Bee-Colonies

Since block of 50 bee-colonies is a standard for migration, this number is taken as a 100% capacity level of output. One unit increase of bee-colony requires same amount of total fixed costs which is required for a block of 50 colonies again. That means fixed cost will become double by increasing only one bee-colony. These enhanced fixed costs will continue upto 100 bee-colonies.

5.4.3: Beekeepers Producing 50 Kg Honey Per Colony

This study has already mentioned that average earning of beekeepers of West Bengal is 50 kg honey per colony from *Apis Mellifera* bees by applying migratory beekeeping technique. This study has attempted to show strength and profitability of this capacity level. Table 5.4 has noticed that at 100% level of activity, the beekeepers those are producing 50Kg honey per colony their total variable cost is Rs.1580 and total fixed cost is Rs. 152250. They produce and sell 50Kg honey at Rs 100per Kg. They also sell bees and wax. Their total sales are Rs. 6875. Hence the contribution is Rs. 5295 (total sales – total variable cost). They have achieved their BEP at the productions from 29 (or 28.75) bee-colonies (Table 5.4 and Figure 5.1). In other words, the beekeepers, those are producing 50 Kg honey per colony, they can arrive at ‘no profit no loss position’ by maintaining only 29 bee-colonies. Extra one colony or more can give them profit and this profit increasing phase will continue upto keeping of 50 colonies. After BEP, per colony profit will be equal to the per colony contribution i.e., Rs. 5295. Hence, it can be said that, the beekeepers of West Bengal those earn average 50 kg honey per colony from *Apis Mellifera* bees by applying migratory beekeeping technique, they are in profitable position. Their strength is also very good since BEP is arrived at the production of 29 colonies. They are also in 42.49% safe zone above BEP. It is observed from the Table 5.4 that their Margin of Safety is 42.49%. It is good indication of the strength of this activity. Higher Margin of Safety implies that the concern is operating with higher safety, a slight fall in sales will not result a loss. The P/V Ratio of these beekeepers’ bee-colony is 77.02%. As fixed cost is constant, this higher P/V Ratio implies higher contribution and hence higher profit. The Sale proceed of productions from each and every bee-colony of these beekeepers can give 77.02% of this sale proceed as contribution to recover the total fixed costs first upto BEP and after BEP to earn profit. Total 28% beekeepers (Figure 6.2)

are with the states' average per colony production. Their strength, profitability and risk position is better. They have to maintain this position and can try to improve their productivity. They can also extend their hands to the low yielding beekeepers by giving technical supports.

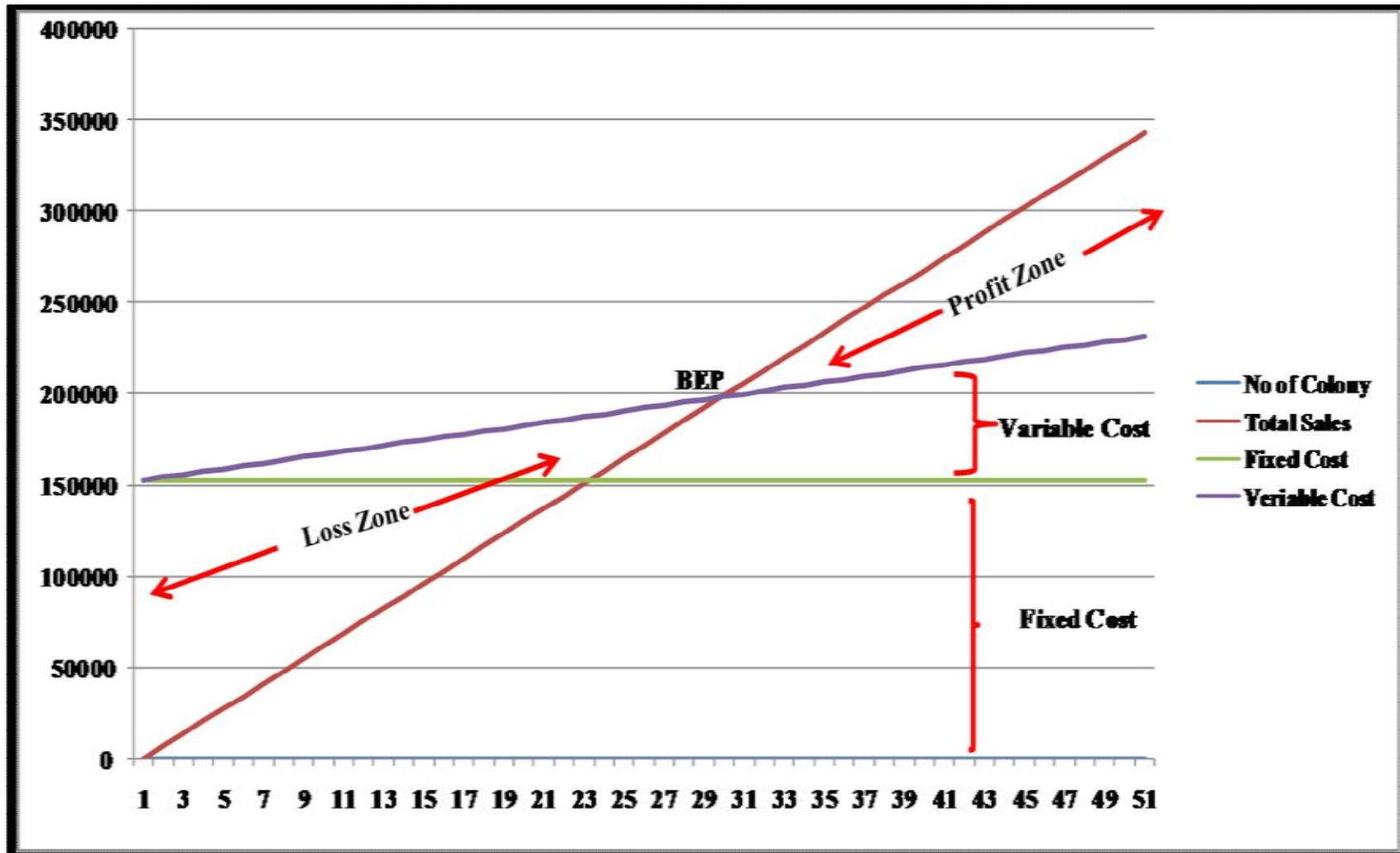
5.4.4: Beekeepers Producing Below 50 Kg Honey Per Colony

In field survey during 2012-13, it has been found that 2% beekeepers of West Bengal produce 30Kg honey per colony. Similarly, 4%, 10% and 18% beekeepers of West Bengal produce 35Kg, 40Kg and 45Kg honey per colony respectively. There are 34% in total are producing below 50kg of honey per colony. Only because of low per colony sale, their contribution is low. For this reason they have attained BEP at higher level. Their P/V Ratio and Margin of Safety are low (Table 5.4). This situation can be avoided by increasing per unit selling price of their products. But it cannot be possible by these poor beekeepers alone. So they have to reduce their costs (both fixed and variable) so that they can increase their contribution. Special concentration must be given on cost reduction and control. They should maintain good migration road map and calendar so that production can be improved.

5.4.5: Beekeepers Producing Above 50 Kg Honey Per Colony

From the field survey during 2012-13, it has also been found that 16% beekeepers of West Bengal produce 60Kg honey per colony and 22% beekeepers of West Bengal produce 55Kg honey per colony. These (38%) beekeepers' per colony variable cost and total fixed cost are the same. For this, high amount of per colony production/sale, makes high per colony contribution of these beekeepers. This is the reason for which they have immediately reached the BEP level. Their P/V Ratio and Margin of Safety are also high (Table 5.4). For this better position they can induce the buyers to buy their product on cash for getting discount on sales price. These beekeepers can compete with others by reducing per unit sales price. They can extend their hands of cooperation to the low yielding beekeepers by giving technical and financial supports.

FIGURE 5.1: BEP-CHART OF BEEKEEPERS OF APIS MELLIFERA THOSE KEEP 50 COLONIES TOGETHER AND 50KG PER COLONY YIELD



Source: Prepared from Table 5.4

TABLE 5.4: STRENGTH AND PROFITABILITY OF BEEKEEPERS OF APIS MELLIFERA WHO KEEP 50 COLONIES TOGETHER

Sl.No.	Elements	Cost Per Colony (Rs)	Sales						
			Per Colony (Rs)						
			if 30Kg/Colony	if 35Kg/Colony	if 40Kg/Colony	if 45Kg/Colony	if 50Kg/Colony	if 55Kg/Colony	if 60Kg/Colony
	Variable Cost								
a	Medicine	100							
b	Sugar(30Kg to 35 Kg)	975							
c	Frame making (10 @ Rs 18)	180							
d	Comb (Wax) (250 gm @ Rs 300/Kg)	75							
e	Contingency	250							
A	Total Variable Cost	1580	1580	1580	1580	1580	1580	1580	1580
	Fixed Cost								
a	Travelling and carrying	12000							
b	Field expenses	18250							
c	Labour (Rs.300 X 365)	109500							
d	Contingency	12500							
B	Total Fixed Cost	152250	152250	152250	152250	152250	152250	152250	152250
	Sales								
a	Honey (Rs.100/ Kg)		3000	3500	4000	4500	5000	5500	6000
b	Sell of bees		1800	1800	1800	1800	1800	1800	1800
c	Sell of Comb (Wax)		75	75	75	75	75	75	75
C	Total Sales		4875	5375	5875	6375	6875	7375	7875
D	Contribution (C-A)		3295	3795	4295	4795	5295	5795	6295
F	BEP (B/D) (unit in no. of colony)		46.21	40.12	35.45	31.75	28.75	26.27	24.19
E	Profit/Volume Ratio (in%)		67.59	70.60	73.11	75.22	77.02	78.58	79.94
F	Margin of Safety (in%)		7.59	19.76	29.10	36.50	42.49	47.45	51.63

Source: Field Survey (2013-14)

5.5: PROFITABILITY AND STRENGTH OF APICULTURE COOPERATIVE SOCIETIES

Profitability analysis is the method of classifying the financial profit or loss of the firm by suitably ascertaining associations between the items of the balance sheet and the profit & loss account. Profitability analysis is an imperative commotion evaluating financial accuracy of an institution (Khan, 2013, p. 63). Profitability itself also is one of the major instruments for measuring strength. A society can treat as a strength society if its activity is good, its capacity of earnings is high, liquidity / solvency position is sound and has ability to stay for long time. For measuring these aspects, profitability, activity, liquidity (short term solvency) and stability (long term solvency) test are required. In this study 'Ratio Analysis' technique is taken to examine the profitability and strength of the seven cooperative societies. Since Malda Bee-Keeping and Honey Processing Industrial Cluster Co-operative Society Ltd. is performing its business from 2010-11 (i.e. only three years in the study period), it will be discussed separately.

5.5.1: Ratio Analysis

Every cooperative society has to prepare annual report in respect of each financial year and submitted to Assistant Registrar Cooperative Society (Audit). The purposes of the conventional annual reports are to show- the result of their operations for the period under review and the assets & liabilities position of the society as at the relevant date. But it is difficult to deduce any inference from the mass of figures included in the usual annual financial statements. So in order to measure accurately the financial health of the firm it is generally necessary to regroup and analyze the figures as disclosed by these conventional statements. Analysis of financial statements consists in breaking down a complex set of factors or figures into simple elements. To evaluate the financial condition and performance of a firm, the financial analyst needs certain yardsticks. Accounting ratios are frequently used as yardsticks for the purpose. (Banerjee B. , 2002, p. 349) Ratio is representation of one number in terms of another. It is a relationship of one number with another (Bhattacharyya, 2000, p. 251). Absolute figures are valuable but it would hold no meaning unless there are figures with which it can be compared to. Accounting ratios show inter-relationships which exist among various accounting data. When relationships among various accounting data supplied by financial statements are worked out they are known as accounting ratios. Ratio

analysis stands for the process of determining and presenting the relationship of items and groups of items in the financial statements (Jain & Narang, 2008, pp. II/7.1-20).

5.5.2: Objectives of Ratio Analysis

It is an important technique of financial analysis. It is a way by which financial stability and health of concern can be judged, the following are the main points (Jain & Narang, 2008, pp. II/7.1-20) of importance of ratio analysis-

- Useful in financial position analysis
- Useful in simplifying accounting figures
- Useful in assessing the operational efficiency
- Useful in forecasting purposes
- Useful in locating the weak spots of the business
- Useful in comparison of performance

5.5.3: Profitability

Profitability analysis is the method of classifying the financial profit or loss of the firm by suitably ascertaining associations between the items of the final account. Profitability analysis is an imperative commotion evaluating financial accuracy of an institution (Khan, 2013, p. 63). To test profitability in this study three measures are selected –

- Gross Profit Ratio
- Net Profit Ratio
- Operating Ratio

5.5.3.1: Gross Profit Ratio

This ratio tells gross margin on trading. It measures the relationship of gross profit to net sales and is usually represented as a percentage. It is calculated as-

$$\text{Gross Profit Ratio} = (\text{Gross Profit} / \text{Net Sales}) \times 100$$

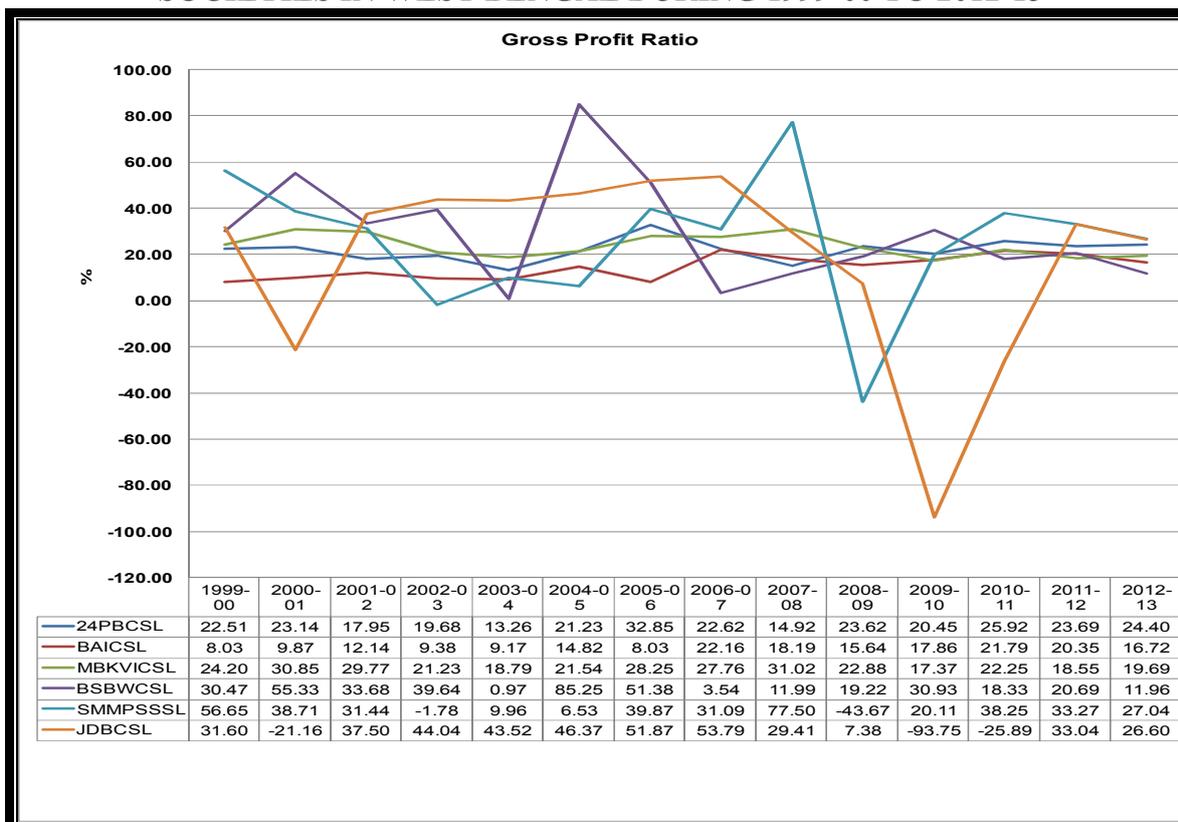
The gross profit ratio indicates the extent to which selling prices of goods per unit may decline without resulting in losses on operations of a firm. It reflects the efficiency with which a firm produces its products. As, the gross profit is found out by deducting cost of goods sold from the net sales, higher the gross profit ratio better the result. A low gross profit

ratio generally indicates high cost of goods sold due to unfavourable purchasing policies, lesser sales, lower selling prices, excessive competition, over-investment in plant & machinery, etc. A comparison of gross profit ratio over time or for different firms in the same industry is a good measure of profitability (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.2 has depicted the highest (84.25%) gross profit ratio during 1999-00 to 2012-13 among all apiculture cooperative societies is shown by Bishnupur Subdivision Beekeepers' Women Cooperative Society Ltd. (BSBWCSL) in the year 2004-05 and that of lowest (-93.75%) is shown by Jalpaiguri District Bee Keepers Co-operatives Society Ltd. (JDBCSL) in the year 2009-10.

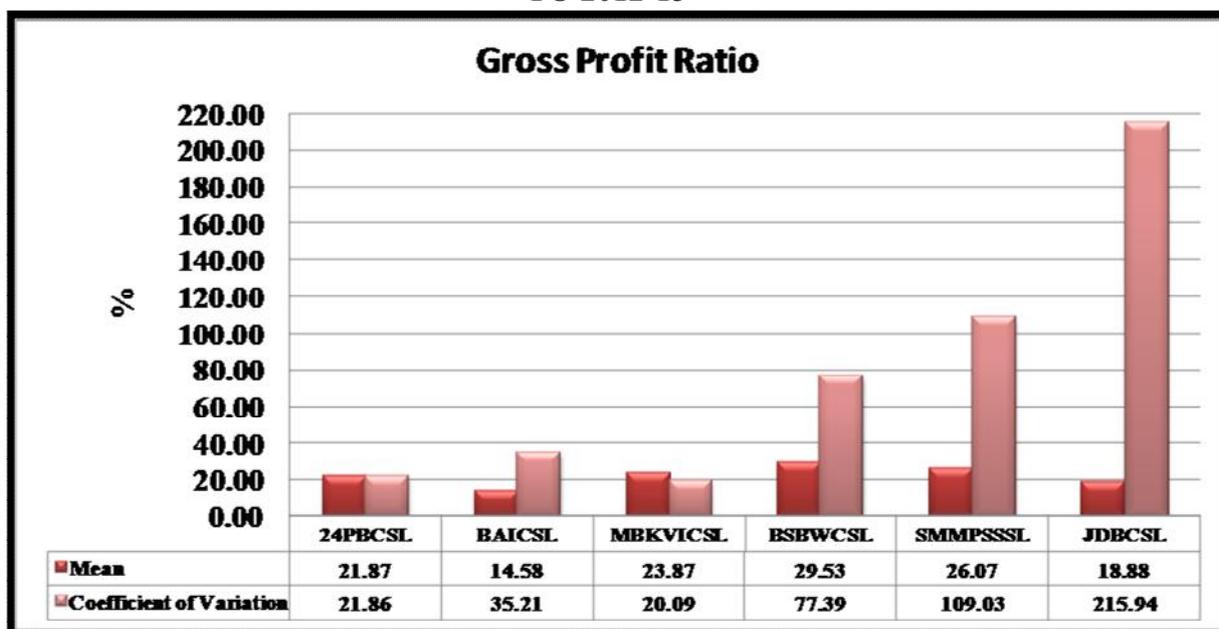
Figure 5.3 has depicted the average gross profit ratios during 1999-00 to 2012-13. The average gross profit ratio of Bishnupur Subdivision Beekeepers' Women Cooperative Society Ltd. (BSBWCSL) is highest (29.53%) among the apiculture cooperative societies in West Bengal. Then Solo Mile Moumachhipalan Shilpa Samabaya Samity Ltd. (SMMPSSSL) shows 26.07% average gross profit ratio and Midnapore Beekeepers' Khadi & Village Industries Co-operative Society Ltd. (MBKVICSL) shows 23.87% average gross profit ratio. As per average gross profit ratio the societies arranged according to rank as BSBWCSL, SMMPSSSL, MBKVICSL, 24 Parganas Beekeepers' Co-operative Society Ltd. (24PBCSL), JDBCSL and Baruipur Apiculture Industrial Co-operative Society Ltd. (BAICSL). But the performances of these societies are very poor inspite of showing good consistency in making gross profit by MBKVICSL and 24PBCSL (co-efficient of variation are 20.09% and 21.86% respectively). It is also observed in respect of consistency JDBCSL is very poor (co-efficient of variation is 215.94%).

FIGURE 5.2: GROSS PROFIT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.3: MEAN GROSS PROFIT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE GROSS PROFIT RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.2

5.5.3.2: Net Profit Ratio

This ratio explains per rupee profit generating capacity of sales. Net profit ratio establishes a relationship between net profit and sales. It indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. This ratio is the overall measure of firm's profitability and calculated as

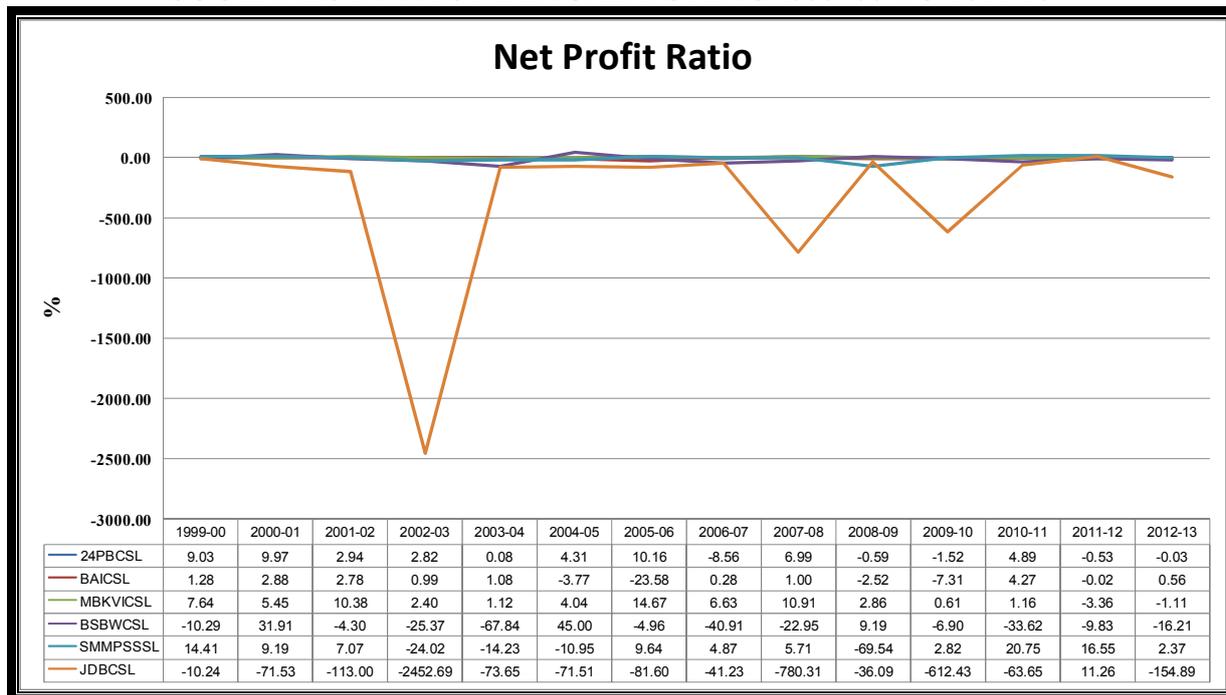
$$\text{Net Profit Ratio} = (\text{Net Operating Profit} / \text{Net Sales}) \times 100$$

The ratio is very useful as if the profit is not sufficient, the firm shall not be able to achieve a satisfactory return on its investment. This ratio also indicates the firm's capacity to face adverse economic conditions such as price competition, low demand etc. Obviously, higher the ratio, the better is the profitability (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.4 and Figure 5.5 have depicted the highest (45%) net profit ratio during 1999-00 to 2012-13 among all apiculture cooperative societies is shown by BSBWCSL in the year 2004-05 and that of lowest (-2452.69%) is shown by JDBCSL in the year 2002-03.

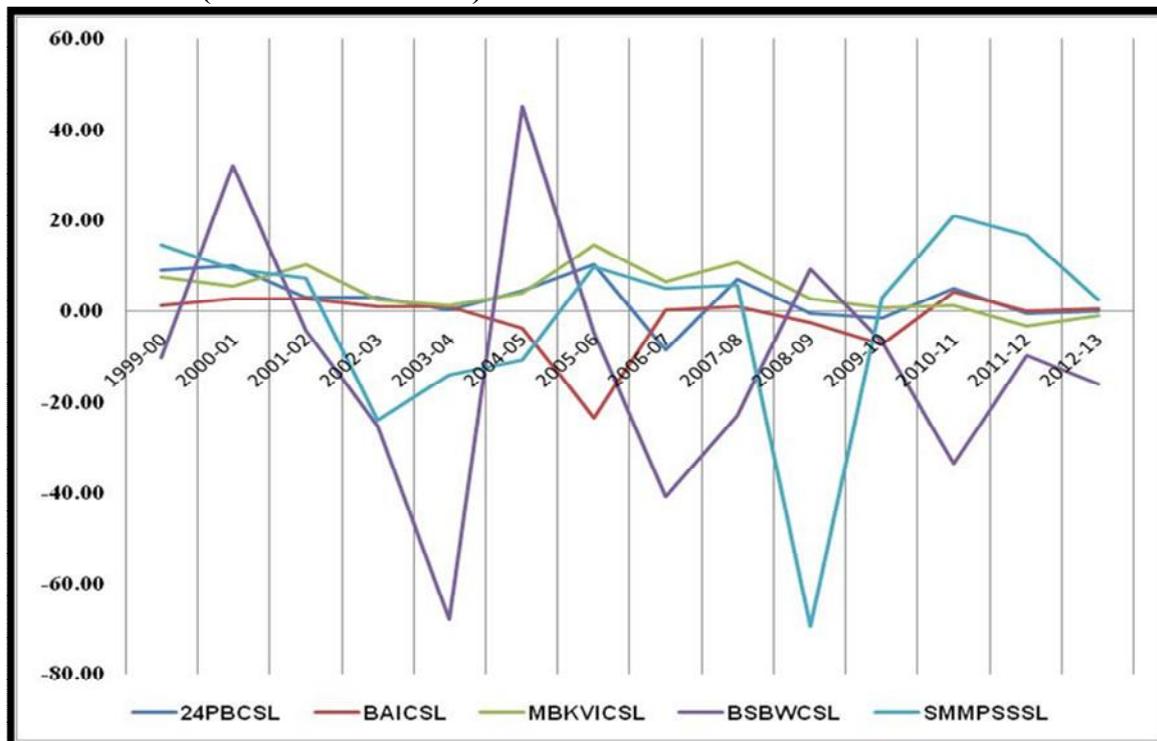
Figure 5.6 has depicted the average net profit ratios during 1999-00 to 2012-13. The average net profit ratio of MBKVICSL is highest (4.53%) among the apiculture cooperative societies in West Bengal. Then 24PBCSL shows 2.85% average net profit ratio. As per average net profit ratio the performance rank (from good to bad) is MBKVICSL, 24PBCSL, BAICSL, SMMPSSSL, BSBWCSL and JDBCSL. But the performances of these societies on an average are very poor. Even except 24PBCSL and MBKVICSL, all other cooperative societies have negative performances. Even in consistency aspect, only MBKVICSL and 24PBCSL show positive co-efficient of variation (111.68% and 182.92% respectively). In this case performance of SMMPSSSL is too much poor (co-efficient of variation is -1271.80%)

FIGURE 5.4: NET PROFIT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



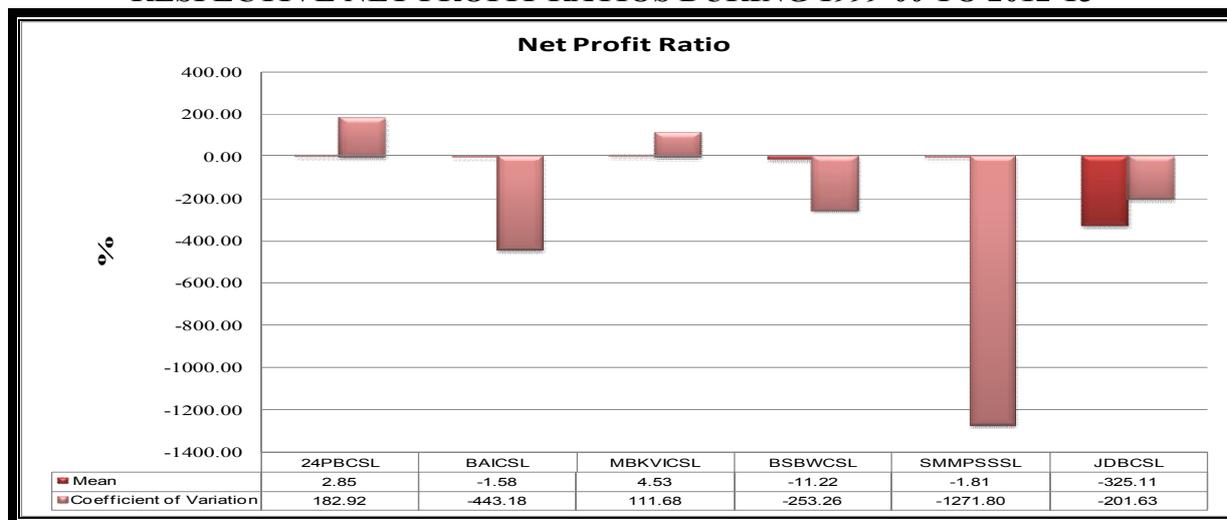
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.5: NET PROFIT RATIOS OF FIVE APICULTURE COOPERATIVE SOCIETIES (EXCEPT JDBCSL) IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.6: MEAN NET PROFIT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE NET PROFIT RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.4 & 5.5

5.5.3.3: Operating Ratio

Operating ratio establishes the relationship between cost of goods sold and other operating expenses on the one hand and the sales on the other. In others words it measures the cost of operations per rupee of sales. The ratio is calculated by dividing operating costs with the net sales and it is generally represented as a percentage.

$$\text{Operating Ratio} = (\text{Operating Cost} / \text{Net Sales}) \times 100$$

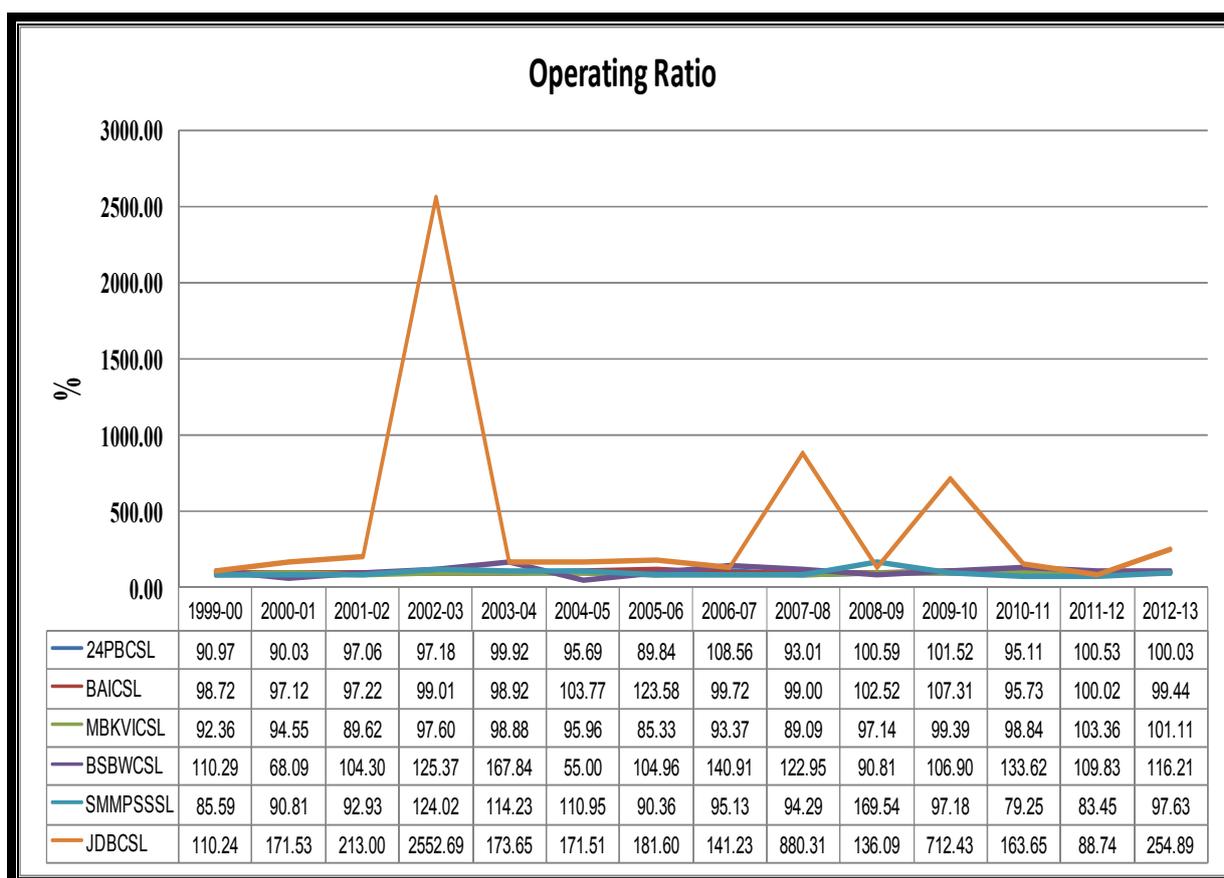
$$\text{Operating Cost} = \text{Cost of Goods Sold} + \text{Operating Expenses}$$

Operating ratio indicates the percentage of net sales that is consumed by operating cost. Obviously, higher the operating ratio, the less favourable it is, because it would have a small margin (operating profit) to cover interest, income-tax, dividend and reserves. There is no rule of thumb for this ratio as it may differ firm to firm depending upon the nature of its business and its capital structure. However 75 to 85 per cent may be considered to be a good ratio in case of a manufacturing undertaking (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.7 and Figure 5.8 have depicted the highest (2552.69%) operating ratio during 1999-00 to 2012-13 among all apiculture cooperative societies is shown by JDBCSL in the year 2002-03 and that of lowest (55%) is shown by BSBWCSL in the year 2004-05.

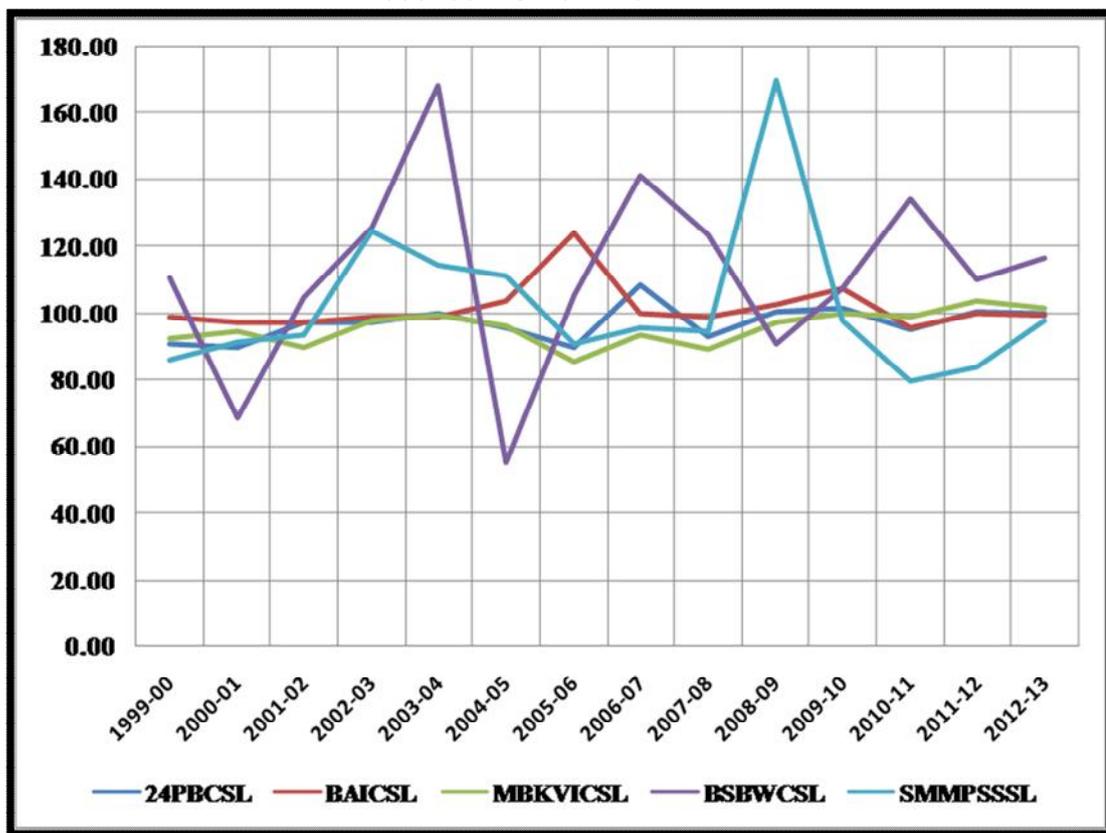
Figure 5.9 has depicted the average operating ratios during 1999-00 to 2012-13. The average operating ratio of JDBCSL is highest (425.11%) among the apiculture cooperative societies in West Bengal. This is unfavourable for any concern especially for manufacturing enterprises. Maximum of 75 to 85 per cent may be considered to be a good ratio in case of a manufacturing undertaking. But during this period average operating ratio of every society exceeds this limit. Besides MBKVICSL and 24PBCSL no one can recoup their operating costs from their sales. The good performer is MBKVICSL, but it is not a sustainable operating ratio. Out of 100 rupees sales the society has spent Rs, 95.47 for operating purpose. Then 24PBCSL shows 97.15% average operating ratio. Operating costs of BAICSL, SMMPSSSL, BSBWCSL and JDBCSL have crossed their selling prices. In respect of consistency the position of MBKVICSL and 24PBCSL are good.

FIGURE 5.7: OPERATING RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



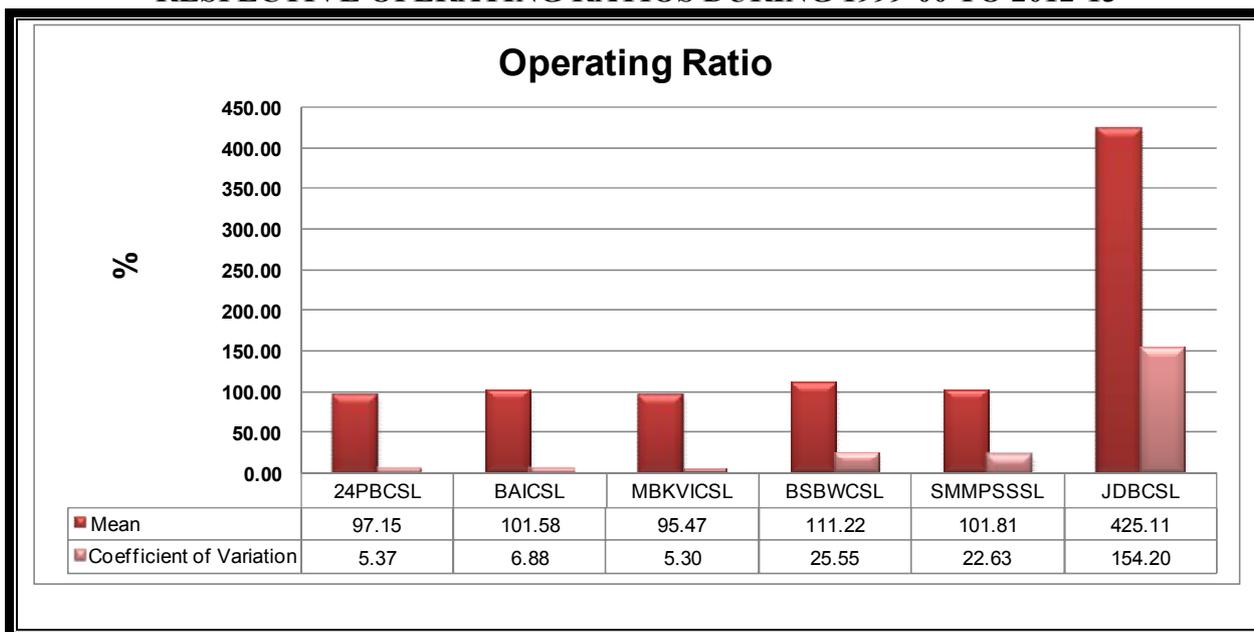
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.8: OPERATING RATIOS OF FIVE APICULTURE COOPERATIVE SOCIETIES (EXCEPT JDBCSL) IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.9: MEAN OPERATING RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE OPERATING RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.7 & 5.8

5.5.4: Activity

Activity ratios are calculated to measure the efficiency with which the resources of a firm have been employed. These ratios are also called turnover ratios because they indicate the speed with which assets are being turned over into sale. These ratios are usually calculated on the basis of sales or cost of sales and are expressed in number of times rather than as a percentage. Such ratios should be calculated separately for each type of asset. The greater the ratio more will be efficiency of asset usage. The lower ratio will reflect the under utilisation of the resources available at the command of the concern. The concern must always plan for efficient use of the assets to increase the overall efficiency (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68). The following are the important activity/turnover ratios which are used to analyse -

- Capital Turnover Ratio
- Working Capital Turnover Ratio
- Inventory Turnover Ratio

5.5.4.1: Capital Turnover Ratio

This ratio shows the efficiency of capital employed in the business by computing how many times capital employed is turned-over in a stated period. This ratio is calculated to measure the efficiency or effectiveness with which a firm utilises its resources or the capital employed. As capital is invested in a business to make sales and earn profits, this ratio is a good indicator of overall profitability of a concern. The ratio is ascertained as follows:

$$\text{Capital Turnover Ratio} = (\text{Sales} / \text{Capital Employed})$$

$$\text{Capital Employed} = \text{Shareholders' Fund} + \text{Long-term Liabilities}$$

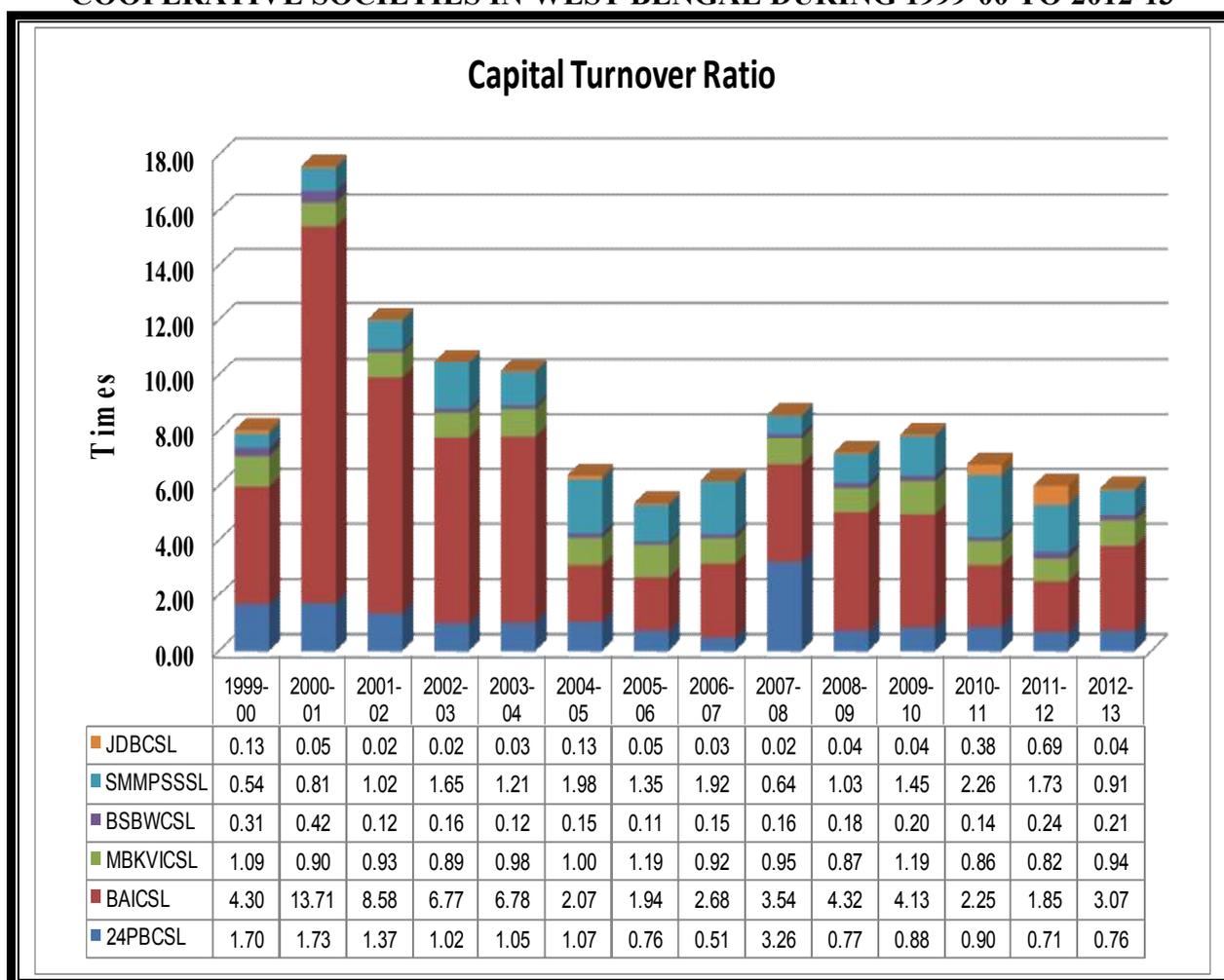
The higher the ratio, the greater are the profits. A low capital turnover ratio should be taken to mean that sufficient sales are not being made and profits are lower (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.10 has depicted capital turnover ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. The figure shows efficiency of capital employed in the business by considering number of times by which capital employed is turned-over in a year. It is observed from the figure that capital which is employed in BAICSL rotates maximum times (13.71 times) in the year 2000-01. Capital of JDBCSL has not rotated much during

these fifteen years. Minimum number of turnover of capital is found in JDBCSL in the year 2001-02, 2002-03 and 2007-08.

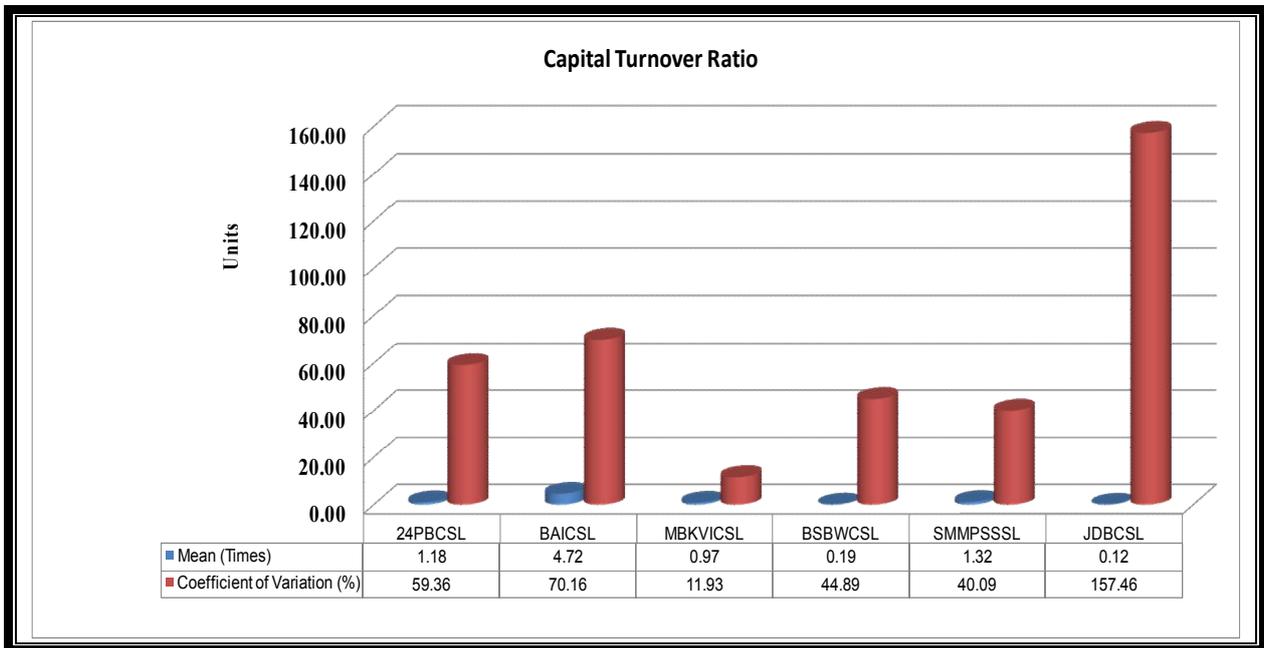
Figure 5.1 has depicted mean capital turnover ratios of six apiculture cooperative societies in West Bengal and the coefficient of variation of their respective capital turnover ratios during 1999-00 to 2012-13. BAICSL shows good performance. Its capital turnover ratio is 4.72 times. But not so consistent with this performance (the co-efficient of variation is 70.16%). In this field most consistent is MBKVICSL (the co-efficient of variation is 11.93%) but its average capital turnover ratio is less than one (0.97 times). That means management has not any ability to recycle its employed capital once in a year. Similar occurrences have happened in BSBWCSL (0.19 times) and JDBCSL (0.12 times). Moreover JDBCSL is least consistent in this area (the co-efficient of variation of which is 157.46%). SMMPSSSL and 24PBCSL can turn their capital just more one time in a year.

FIGURE 5.10: CAPITAL TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.11: MEAN CAPITAL TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE CAPITAL TURNOVER RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.10

5.5.4.2: Working Capital Turnover Ratio

Working capital turnover ratio indicates the velocity of the utilisation of net working capital. This ratio shows the number of times working capital is turned-over in a stated period. This ratio measures the efficiency with which the working capital is being used by a firm. It is calculated as follows:

$$\text{Working Capital Turnover Ratio} = \text{Sales} / \text{Net Working Capital}$$

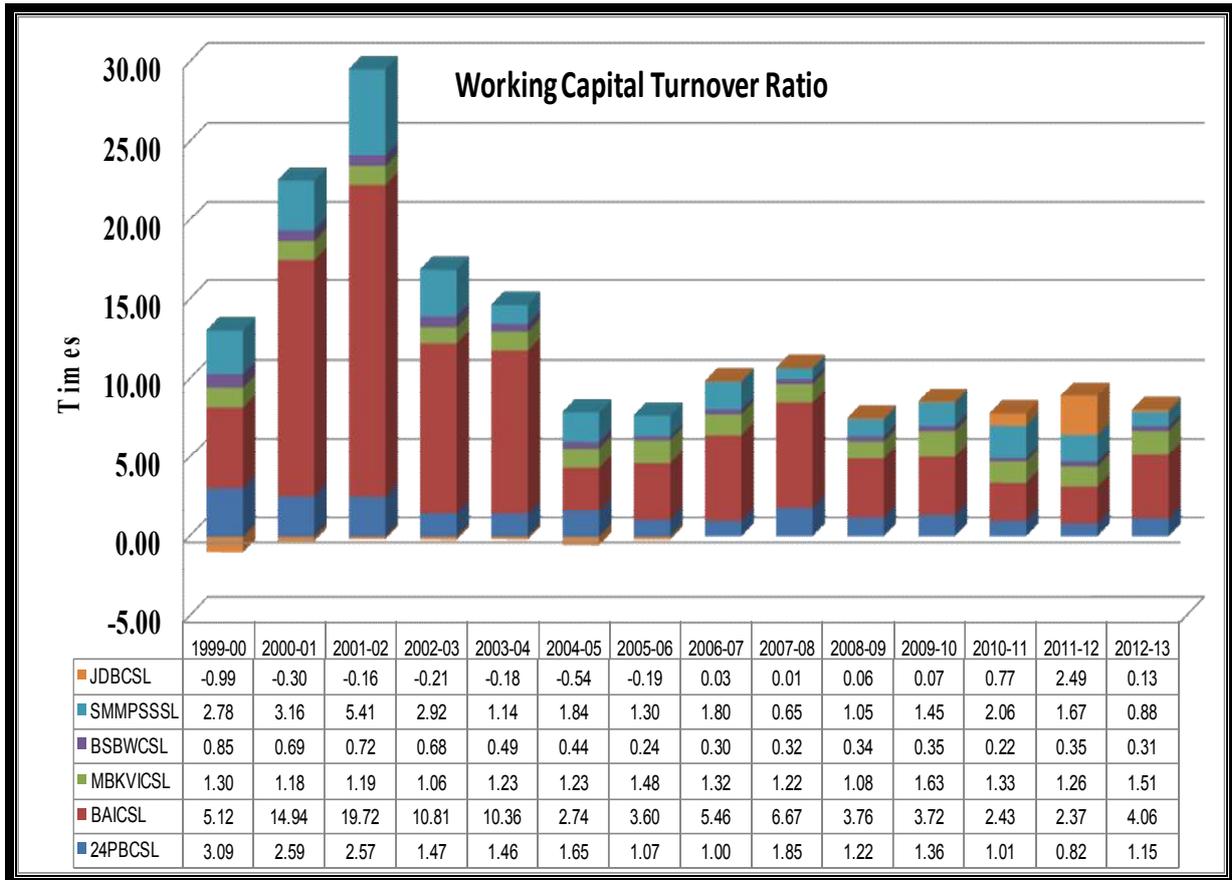
$$\text{Net Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

The higher is the ratio, the lower is the investment in working capital and the greater are the profits. However, a very high turnover of working capital is a sign of overtrading and may put the concern into financial difficulties and on the other hand, a low working capital turnover ratio indicates that working capital is not efficiently utilised. Higher ratio indicates efficient utilisation of working capital and a low ratio indicates otherwise (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.12 has depicted working capital turnover ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. The figure shows number of times working capital is turned-over in the business. Working capital in BAICSL has turned over maximum times (19.72 times) in the year 2001-02. Working capital of JDBCSL has no such movement during these fifteen years. Moreover its working capital is negative. It indicates a part of short term sources is used for financing the fixed assets. Cost of sales is not supported by the working capital of the cooperative society (JDBCSL). This may invite many dangers which may stand in the way of the profitable working of a society. The dangers may come out in the various ways like- the society may not be able to pay its short term liabilities in time, to get good credit facilities, to buy its requirements in bulk and can not avail of discounts. The situation may reduce the rate of return on total investment, influences dividend policy adversely, becomes difficult for the society to exploit favourable market conditions and undertake profitable projects due to lack of working capital and influences management morale adversely.

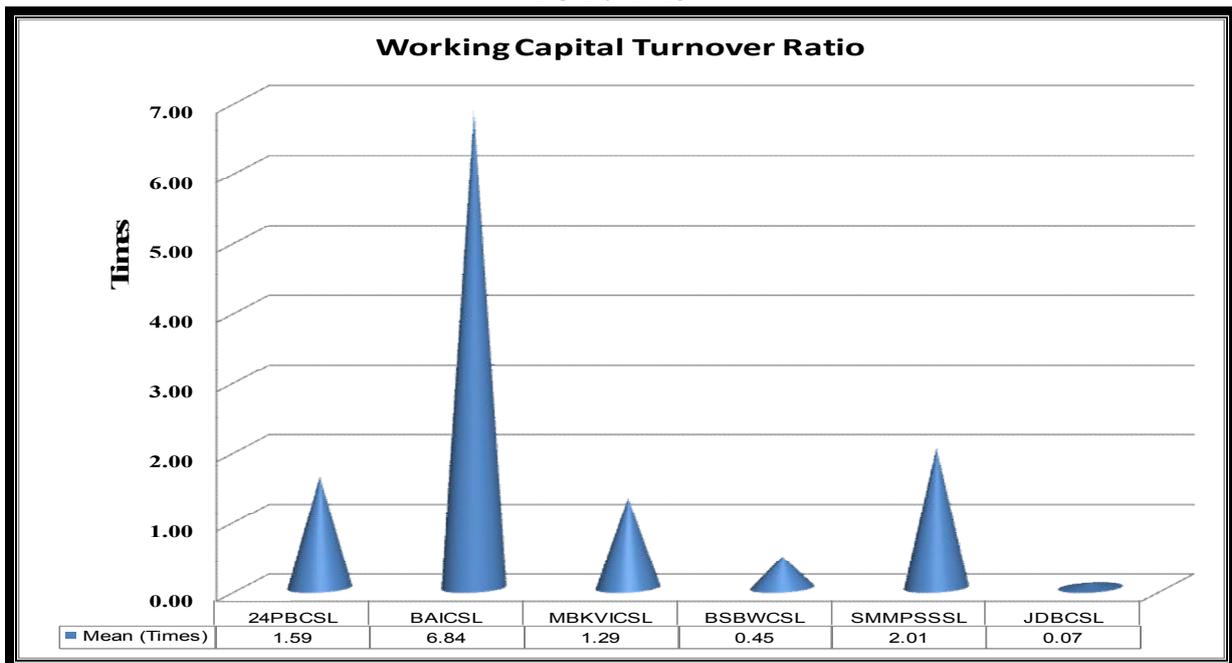
Figure 5.13 has depicted mean working capital turnover ratios of six apiculture cooperative societies in West Bengal and Figure 5.14 has depicted the coefficient of variation of their respective working capital turnover ratios during 1999-00 to 2012-13. BAICSL shows good performance. Its working capital turnover ratio is 6.84 times. But not so consistent in keeping working capital turnover ratios over the period (the co-efficient of variation is 76.74%). In this field most consistent is MBKVICSL (the co-efficient of variation is 12.53%) but its average working capital turnover ratio is just more than one time (1.29 times). Similar occurrences have happened in 24BCSL (1.59 times). In working capital management, performance of JDBCSL is worse than all other cooperative societies. Average working capital turnover ratio of JDBCSL is only 0.07 time with least consistency having the co-efficient of variation is 1141.58%. SMMPSSSL can turn their capital just more than two times in a year with the co-efficient of variation of 61.88%.

FIGURE 5.12: WORKING CAPITAL TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



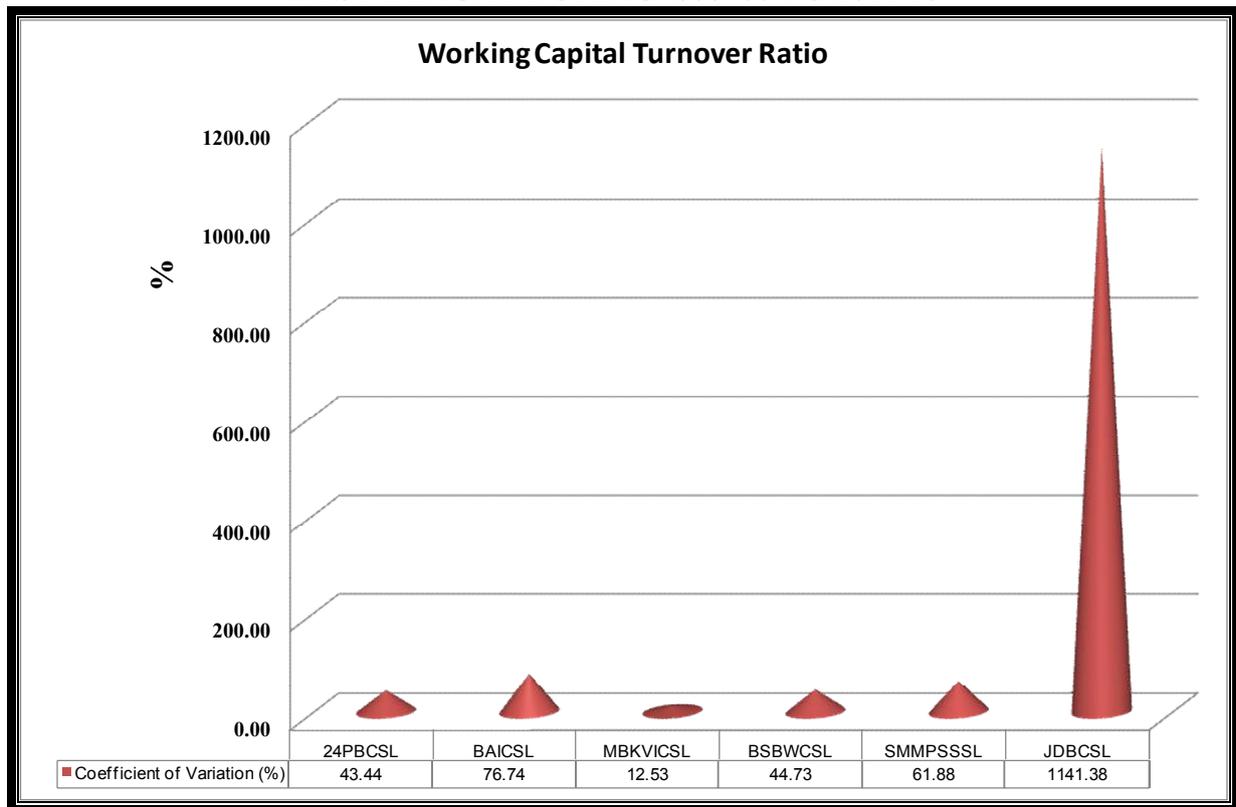
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.13: MEAN WORKING CAPITAL TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.12

**FIGURE 5.14: COEFFICIENT OF VARIATION OF WORKING CAPITAL
TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN
WEST BENGAL DURING 1999-00 TO 2012-13**



Source: Prepared From Table 5.12

5.5.4.3: Inventory Turnover Ratio

It denotes the speed at which the inventory will be converted into sales, thereby contributing for the profits of the concern. When all other factors remain constant, greater the turnover of inventory more will be efficiency of its management. Further, it will be higher when sales are maximum and the average inventory is minimum. This ratio establishes relationship between cost of goods sold during a given period and the average amount of inventory held during that period. This ratio reveals the number of times finished stock is turned over during a given accounting period. This ratio is calculated as follows:

$$\text{Inventory Turnover Ratio} = \text{Cost of Goods Sold} / \text{Average Stock held during the period}$$

Where,

$$\text{Cost of Goods Sold} = \text{Opening Stock} + \text{Purchases} + \text{Manufacturing Expenses} - \text{Closing Stock}$$

$$\text{Or Cost of Goods Sold} = \text{Sales} - \text{Gross Profit.}$$

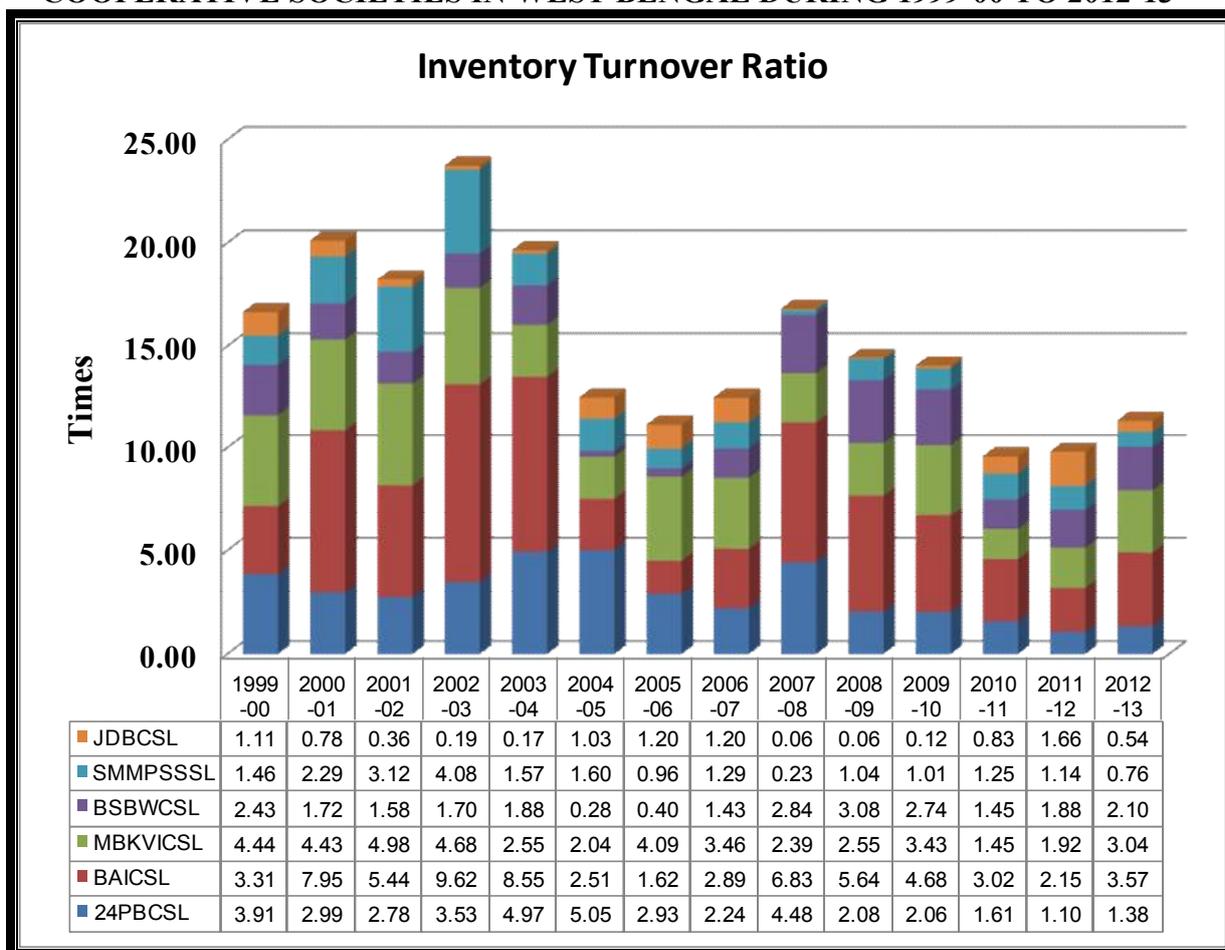
$$\text{Average Stock} = (\text{Opening Stock} + \text{Closing Stock}) / 2$$

Higher the ratio, the better it is because it shows that finished stock is rapidly turned-over. On the other hand, a low stock turnover ratio is not desirable because it reveals the accumulation of obsolete stock or the carrying of too much stock (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68).

Figure 5.15 has depicted inventory turnover ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. In other words Figure 5.15 shows rapidity of finished stock turnover in the business. Inventory of BAICSL has turned over maximum times (9.62 times) in the year 2002-03. Finished stock of JDBCSL has been moving very slowly during these fifteen years. In the year 2007-08 and 2008-09 inventory of JDBCSL moves only 0.06 times. This means the inventory of JDBCSL remains almost idle.

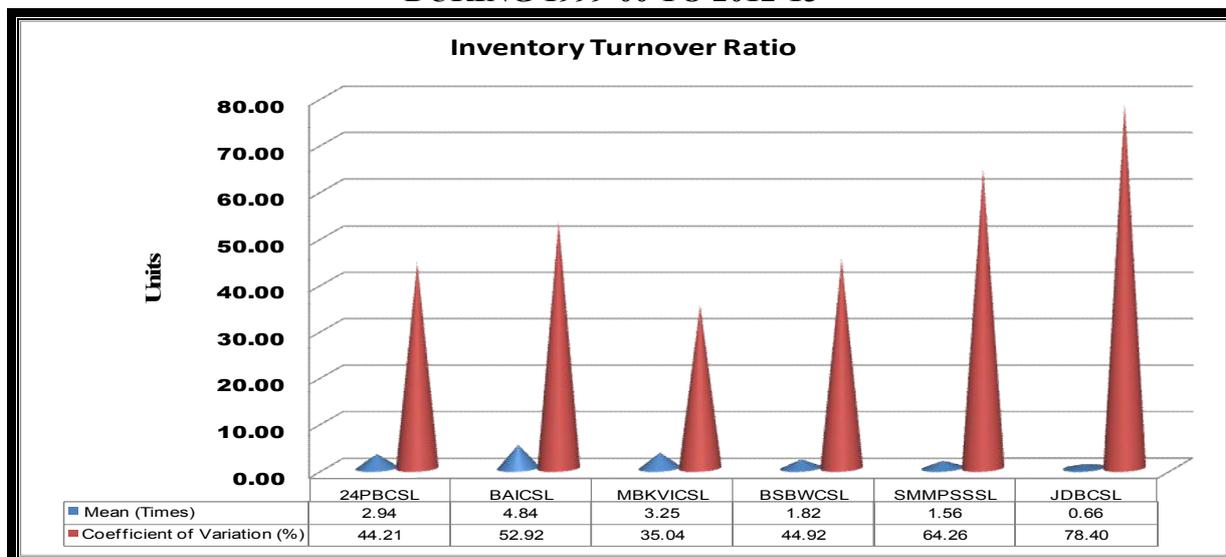
Figure 5.16 has depicted mean inventory turnover ratios of six apiculture cooperative societies in West Bengal and the coefficient of variation of their respective inventory turnover ratios during 1999-00 to 2012-13. BAICSL shows good performance. Its inventory turnover ratio is 4.84 times. But not so consistent (rank 4th among six societies) in the performance of inventory turnover (the co-efficient of variation is 52.92%). In this field most consistent is MBKVICSL (the co-efficient of variation is 35.04%) and its average inventory turnover ratio is 3.25 times. The inventory management of MBKVICSL is steady and satisfactory in comparison with other cooperative societies. In inventory management, performance of JDBCSL is worse among all. Average inventory turnover ratio of JDBCSL is only 0.66 time with least consistency having the co-efficient of variation is 78.40%. SMMPSSSL and BSBWCSL can turn their inventory only less than two times in a year.

FIGURE 5.15: INVENTORY TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.16: MEAN INVENTORY TURNOVER RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE INVENTORY TURNOVER RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.15

5.5.5: Liquidity

If it is decided to study the liquidity position of the concerns, in order to highlight the relative strength of the concerns in meeting their current obligations to maintain sound liquidity and to pinpoint the difficulties if any in it, then liquidity ratios are calculated. These ratios are used to measure the firm's ability to meet short term obligations. They compare short term obligations to short term (or current) resources available to meet these obligations. From these ratios, much insight can be obtained into the present cash solvency of the firm and the firm's ability to remain solvent in the event of adversity (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68). The important liquidity ratios are analyzed for verifying the liquidity positions of the apiculture cooperative societies in West Bengal:

- Current Ratio
- Liquid Ratio
- Absolute Liquid Ratio
- Inventory Working Capital Ratio

5.5.5.1: Current Ratio

This is the most widely used ratio. It is the ratio of current assets to current liabilities. It shows a firm's ability to cover its current liabilities with its current assets. It is expressed as follows:

Current Ratio = Current Assets / Current Liabilities

Current Assets = Cash, Bank Balance, Short Term Investment, Bills Receivable, Trade Debtors, Short Term Loans and Advances, Inventories and Pre-Paid Payments

Current Liabilities = Bank Overdraft, Bills Payable, Trade Creditors, Provision For Taxation, Proposed Dividends, Unclaimed Dividends, Advance Payments and Unexpired Discounts, Accrued Interest on Loans and Debentures, Outstanding Expenses and the Portion of Long-Term Debt to Mature within One Year

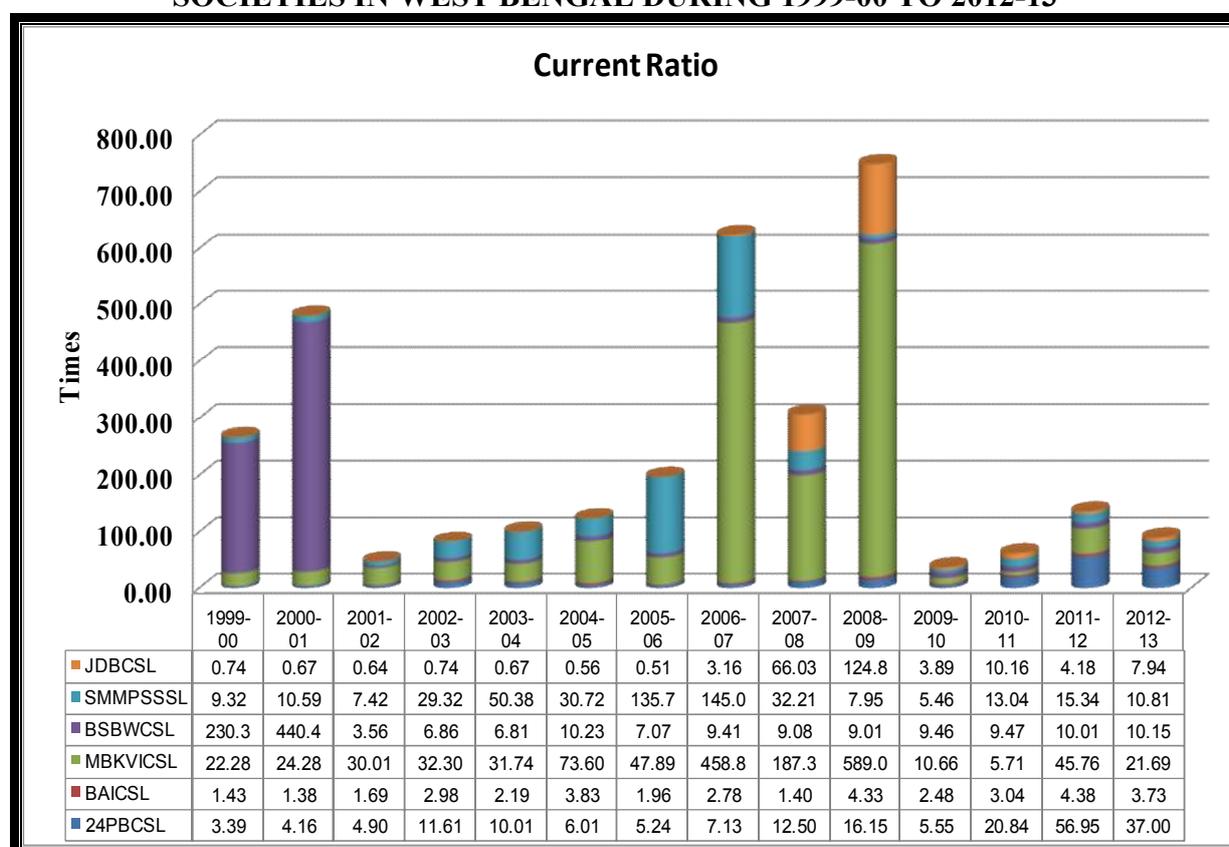
Generally current ratio of 2:1 is considered ideal for a concern *i.e.*, current assets should be twice the current liabilities. If the current assets are two times of the current liabilities, there will be no adverse effect on business operations when the payment of current liabilities is made. If the ratio is less than 2, difficulty may be experienced in the payment of current

liabilities and day- to-day operations of the business may suffer. If the ratio is higher than 2, it is very comfortable for the creditors but, for the concern, it is an indicator of idle funds and lack of enthusiasm for work.

Figure 5.17 has depicted current ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. No apiculture cooperative society in West Bengal that can maintain the standard current ratio. In most of the years these societies either have lost their ability to cover their current liabilities with their current assets or have kept idle funds. Both are not good for a business. Only BAICSL can maintain almost this standard ratio in the year 2003-04 (2.19 times) and in the year 2005-06 (1.96 times).

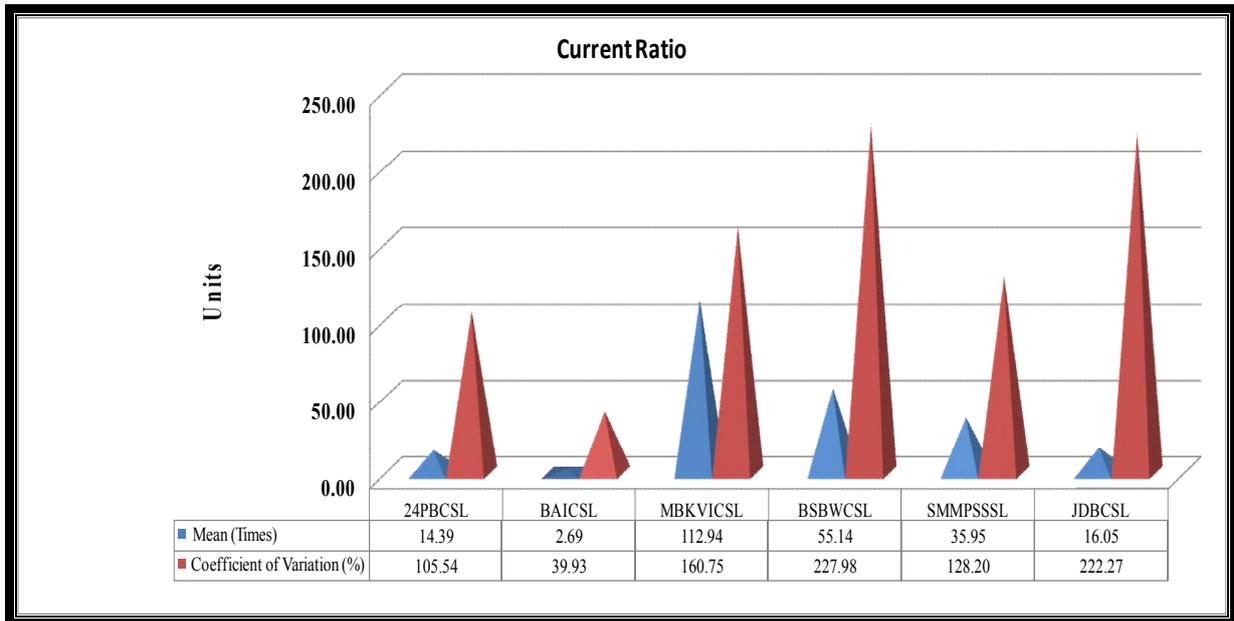
Figure 5.18 has shown mean current ratios of six apiculture cooperative societies in West Bengal and the coefficient of variation of their respective current ratios during 1999-00 to 2012-13. It is also observed from Figure 5.18 that the average of fifteen years current ratio of BAICSL is 2.69 indicating its ability to cover current liabilities with current assets is better than other cooperative societies. The co-efficient of variation of BAICSL is 39.93% which indicates that the ability to meet short term obligations of BAICSL is more or less consistent comparing with other cooperative societies.

FIGURE 5.17: CURRENT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.18: MEAN CURRENT RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE CURRENT RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.17

5.5.5.2: Liquid Ratio

This is the ratio of liquid assets to current (liquid) liabilities. Liquid assets are those assets which are readily converted into cash and will include cash balances, bill's receivable, sundry debtors and short-term investments. Inventories and prepaid expenses are not included in liquid assets because the emphasis is on the ready availability of cash in case of liquid assets. Liquid liabilities include all items of current liabilities except bank overdraft. This ratio is the 'acid test' of a concern's financial soundness. It is calculated as under:

Liquid Ratio = Liquid Assets / Liquid Liabilities

Liquid Assets = Cash, Bank Balance, Short Term Investment, Bills Receivable, Trade Debtors, Short Term Loans and Advances

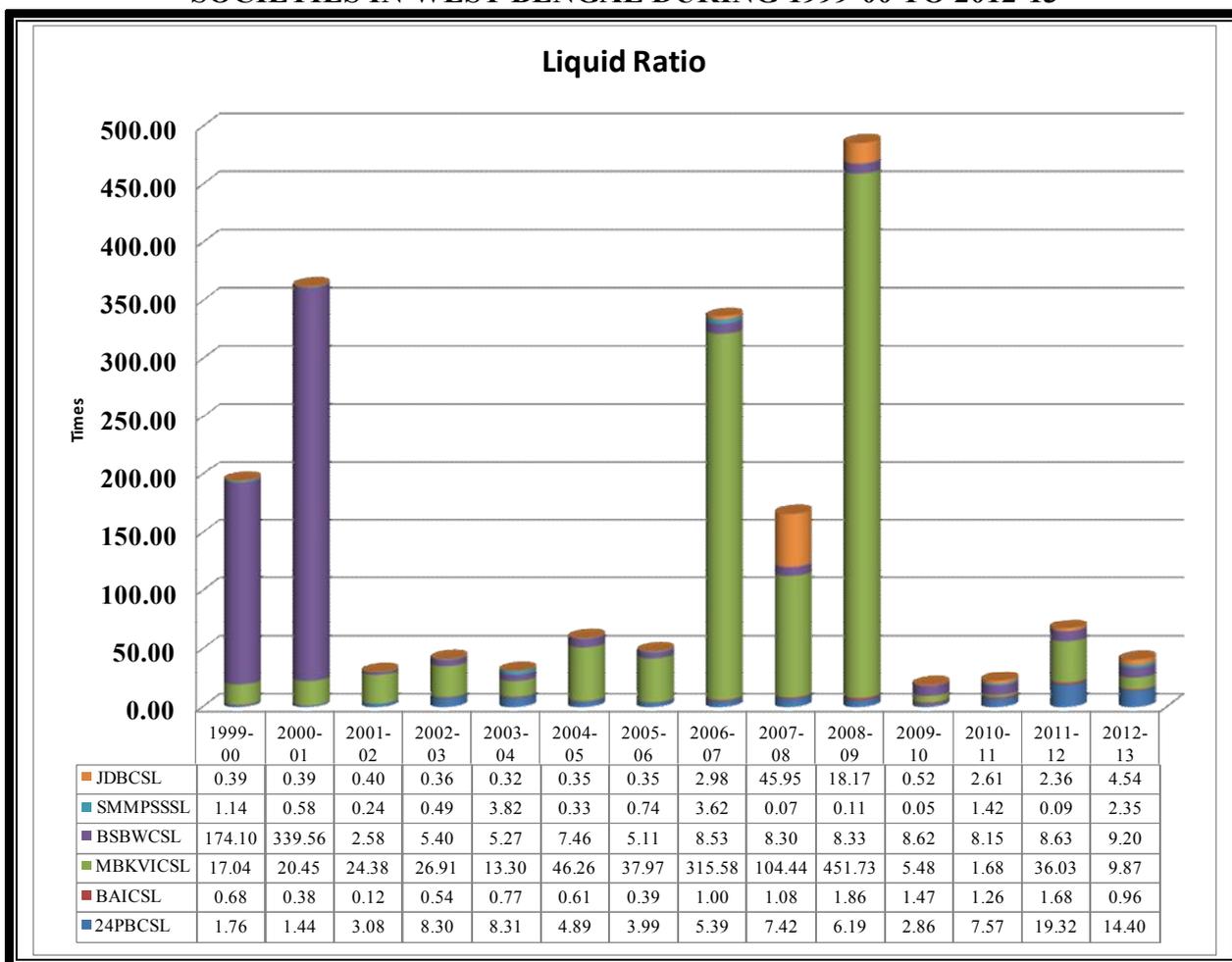
Liquid Liabilities = Bills Payable, Trade Creditors, Provision For Taxation, Proposed Dividends, Unclaimed Dividends, Advance Payments and Unexpired Discounts, Accrued Interest on Loans and Debentures, Outstanding Expenses and the Portion of Long-Term Debt to Mature within One Year

It is a more rigorous test of liquidity than the current ratio. It shows a firm's ability to meet current or liquid liabilities with its most liquid (quick) assets. 1:1 ratio is considered ideal ratio for a concern because it is wise to keep the liquid assets at least equal to the liquid liabilities at all times.

Figure 5.19 has depicted liquid ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. No apiculture cooperative society in West Bengal that can maintain the standard liquid ratio. Financial soundness of these societies is very poor. In most of the years these societies either have lost their ability to cover their liquid liabilities with their liquid assets or have kept idle funds. Both are not good in a business. Only BAICSL can maintain the standard liquid ratio in the year 2006-07, 2007-08 and 2012-13 (1 time, 1.08 times and 0.96 times respectively). SMMPSSSL can maintain this ratio only one year during this span of fifteen years. SMMPSSSL has maintained the standard in the year 1999-00 when the ratio is 1.14.

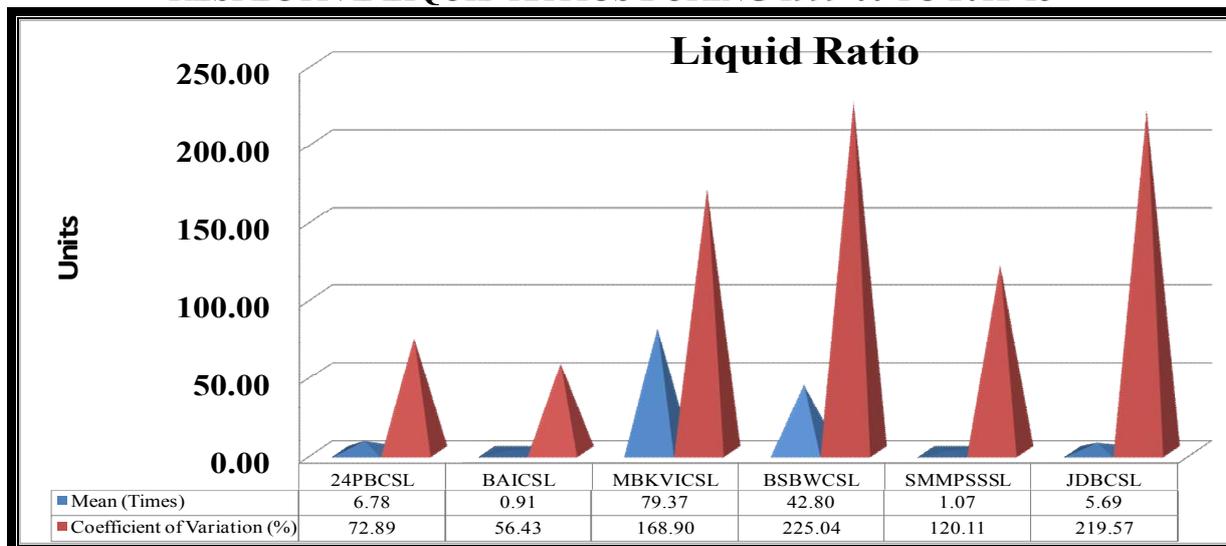
Figure 5.20 has shown mean liquid ratios of six apiculture cooperative societies in West Bengal and the coefficient of variation of their respective liquid ratios during 1999-00 to 2012-13. In liquidity matter, performances of BAICSL and SMMPSSSL are somehow better than other societies. This is supported by the Figure 5.20 where in the average of fifteen years liquid ratio of BAICSL is 0.91 with co-efficient of variation 56.43% and average of fifteen years liquid ratio of SMMPSSSL is 1.07 with co-efficient of variation 120.11%. Though 24PBCSL is more consistent (co-efficient of variation is 72.89%) among others except BAICSL, the average of fifteen years liquid ratio of 24PACSL is 6.78 times. It means huge amount has been blocked in liquid assets though liquidity position of 24PBCSL is satisfactory. It is also an indication of ideal funds.

FIGURE 5.19: LIQUID RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.20: MEAN LIQUID RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE LIQUID RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.19

5.5.5.3: Absolute Liquid Ratio

Though receivables are generally more liquid than inventories, there may be debts having doubt regarding their realization into cash immediately or in time. So, to get idea about the absolute liquidity of a concern, both receivables and inventories are excluded from current assets and only absolute liquid assets, such as cash in hand, cash at bank and readily realizable securities are taken into consideration. Absolute liquidity ratio is calculated as follows:

Absolute Liquid Ratio = Absolute Liquid Assets / Current Liabilities

Absolute Liquid Assets = Cash, Bank Balance, Short Term Marketable Securities

The desirable norm for this ratio is 1 : 2, *i.e.*, Re. 1 worth absolute liquid assets are sufficient to pay Rs. 2 worth current liabilities in time. Even though the ratio gives a more meaningful measure of liquidity, it is not in much use because the idea of keeping large cash balance or near cash items has long since been disproved. Cash balance yields no return and as such is barren.

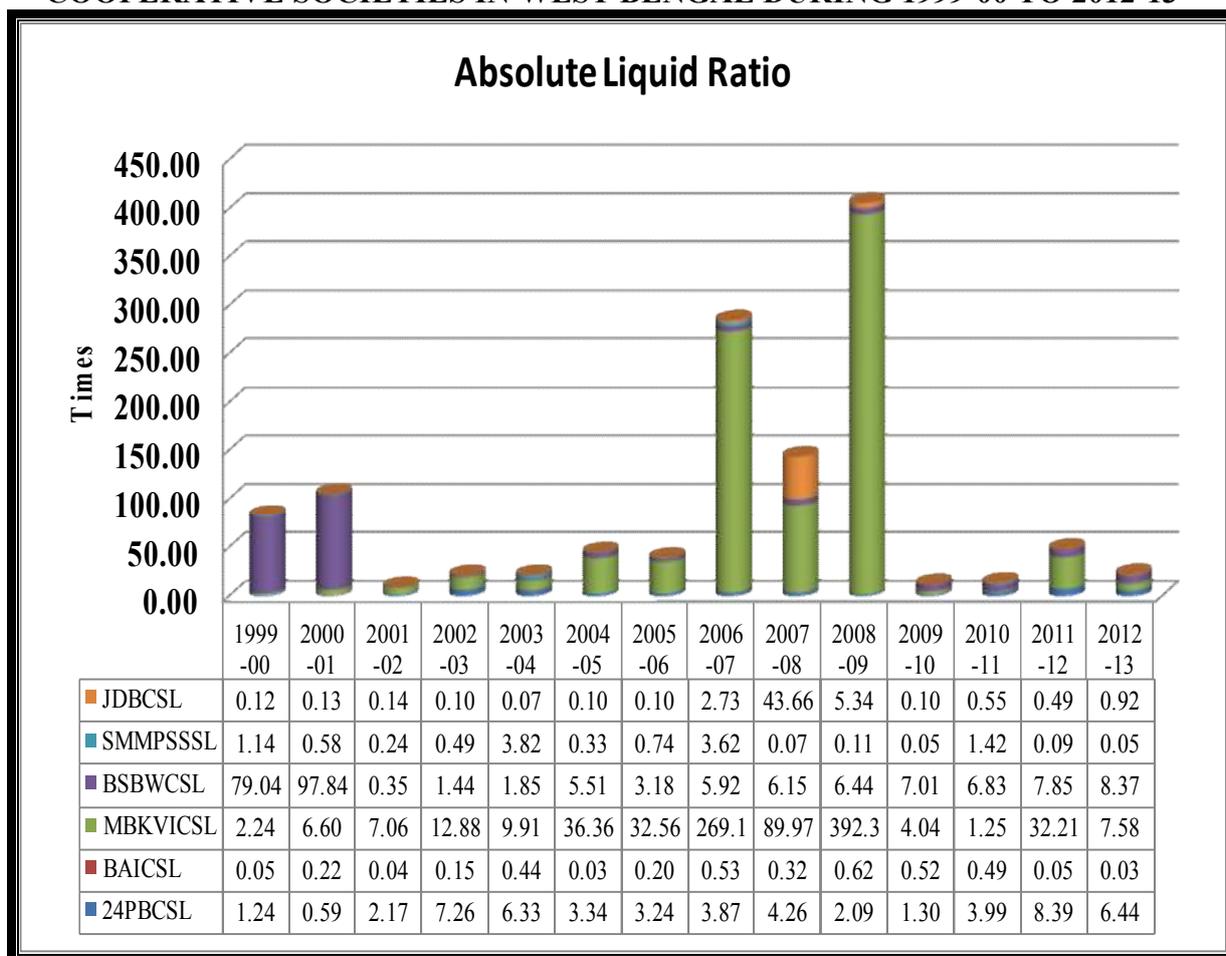
Figure 5.21 has depicted absolute liquid ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. The apiculture cooperative societies in West Bengal cannot maintain exactly the standard norm (1 : 2) of absolute liquid ratio. But four of them almost maintain the standard norm in different years namely JDBCSL 2010-11 (0.55 times), 2011-12 (0.49 times); for SMMPSSSL 2000-01(0.58 times), 2002-03(0.49 times); for BAICSL 2003-04(0.44 times), 2006-07 (0.53 times), 2009-10(0.52 times), 2010-11(0.49 times) and for 24PBCSL 2000-01(0.59 times). These societies have proved their ability to cover current liabilities with their absolute liquid assets.

In 26 cases in different years in Figure 5.21 it is found that absolute liquid ratios of different societies are less than 0.49 (which has been considered here as lower limit of standard norm). This indicates that these societies need to improve their short term financial position. They are not capable to cover their current liabilities with their absolute liquid assets.

In 49 cases in different years in Figure 5.21 it is also found that absolute liquid ratios of different societies are more than 0.59 (which has been considered here as upper limit of standard norm). This indicates the existence of idle funds in those societies.

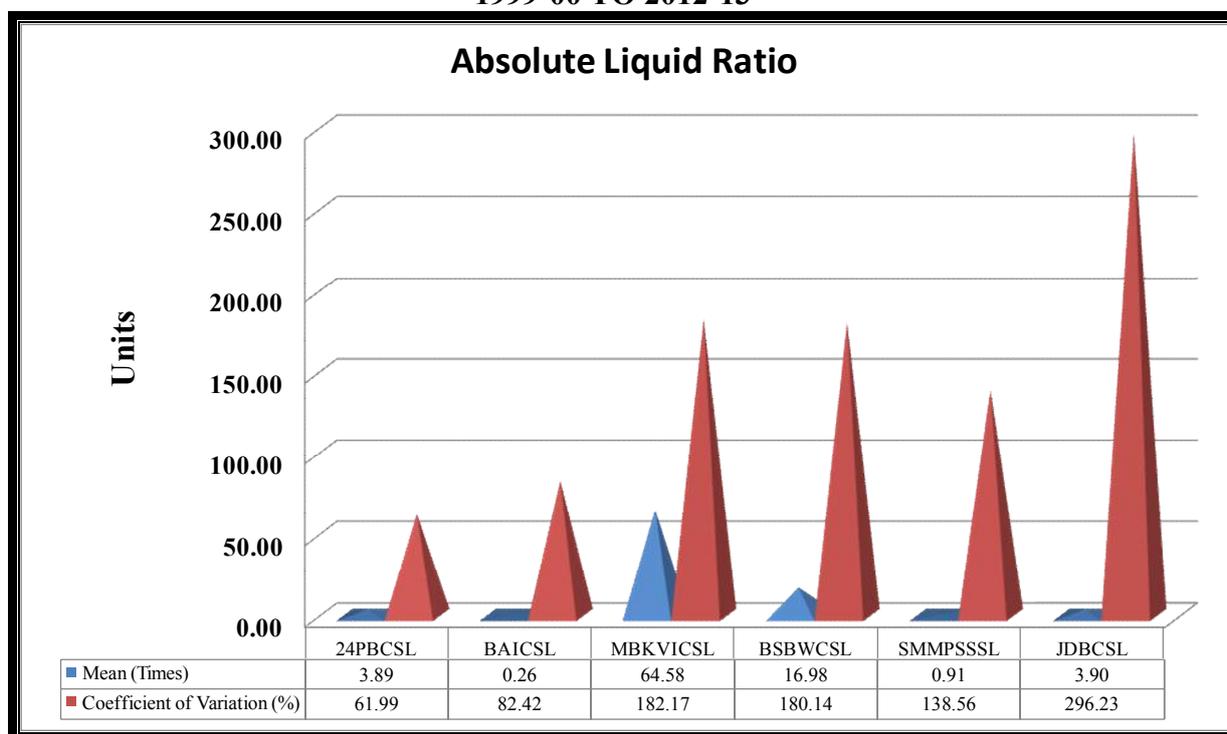
Figure 5.22 has shown mean absolute liquid ratios of six apiculture cooperative societies in west Bengal and the coefficient of variation of their respective absolute liquid ratios during 1999-00 to 2012-13. In respect of absolute liquidity no one can perform well. Even their performances very poor, the performance of BAICSL is considered little bit better comparing with other societies. This slightly better performance of BAICSL is supported by the average absolute liquid ratio of 0.26 with co-efficient of variation 82.42%. Though 24PBCSL is more consistent (co-efficient of variation is 61.99%) among others, the average of absolute liquid ratio of 24PACSL is 3.89 times. It means huge fund is blocked in cash and bank balance. It also means that the concern's financial soundness is well but there is an indication of idle funds. Similar events have happened in other societies except BAICSL. But absolute liquid ratio of 0.26 instead of standard norm 0.50 indicates that absolute liquid assets of BAICSL are not sufficient for disbursement of current liabilities.

FIGURE 5.21: ABSOLUTE LIQUID RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.22: MEAN ABSOLUTE LIQUID RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL AND COEFFICIENT OF VARIATION OF THEIR RESPECTIVE ABSOLUTE LIQUID RATIOS DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.21

5.5.5.4: Inventory Working Capital Ratio

In order to ascertain that there is no overstocking, the ratio of inventory to working capital should be calculated. It is worked out as follows:

$$\text{Inventory Working Capital Ratio} = \text{Inventory} / \text{Working Capital}$$

$$\text{Working capital} = \text{current assets} - \text{current liabilities}$$

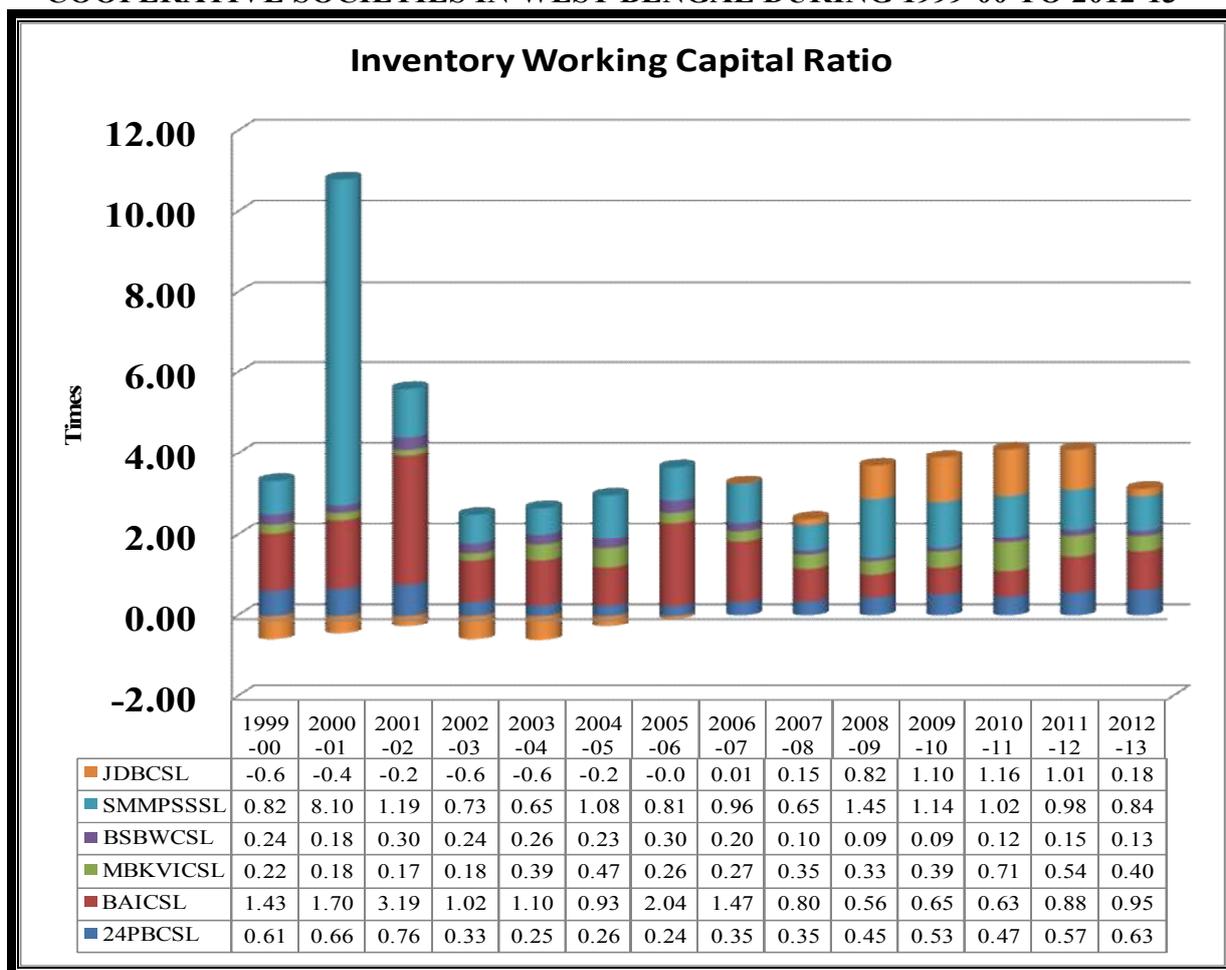
Increase in volume of sales requires increase in size of inventory, but from a sound financial point of view, inventory should not exceed amount of working capital. The desirable ratio is 1: 1.

Figure 5.23 has depicted inventory working capital ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. Most of the apiculture cooperative societies in West Bengal cannot maintain the desirable inventory working capital ratio. Many a times, inventory exceeds amount of working capital. BAICSL has crossed the limit of 1:1 Ratio in 7 years during the period of 15 years, SMMPSSSL has crossed in 6 years and

JDBCSL in 3 years. Others have not crossed the limit but their working capital is remained idle.

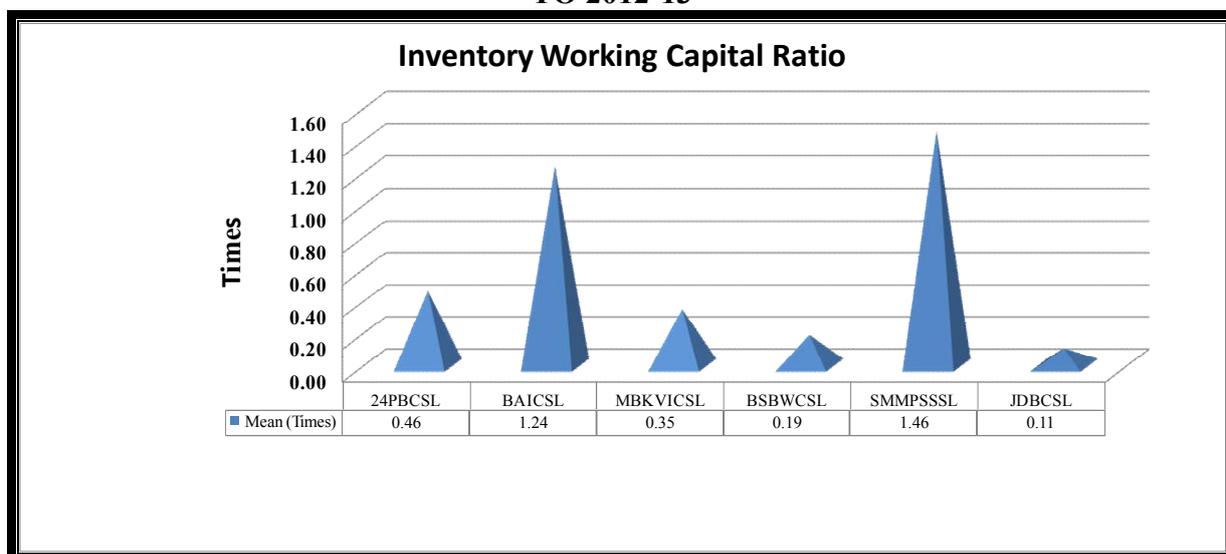
Figure 5.24 has depicted mean inventory working capital ratios and Figure 5.25 has depicted the coefficient of variation of inventory working capital ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. In respect of inventory working capital proportion BAICSL has performed an average satisfactory and best among others societies as it is observed from the Figure 5.24 that the average of fifteen years inventory working capital ratio of BAICSL is 1.24 which is nearer to desirable ratio of 1:1 (comparing with others). Other societies like MBKVICSL and BSBWCSL having average inventory working capital ratio 0.35 times and 0.19 times respectively indicate their incapability for full utilisation of working capital. On the other side SMMPSSSL having average inventory working capital ratio 1.46 times indicate overstocking in the society, dull business, accumulation of obsolete and slow moving goods and low profits. Management of this society is responsible for such inefficient activities. It is also observed from the Figure 5.25 that 24PBCSL is more consistent (co-efficient of variation is 36.60%) among others but the average of fifteen years inventory working capital ratio of 24PACSL is only 0.46 times. It means working capital of 24PBCSL has not been utilized fully for their inventory. Moreover working capital of JDBCSL is found Negative for few years (as is shown in Figure 5.23). For this reason inventory working capital ratios become negative in few years. It means a part of short term sources is used for financing the fixed assets. Cost of sales (essentially inventory) is not supported by the working capital of this society. These may invite many dangers which may stand in the way of the profitable working of the society. The average of fifteen years inventory working capital ratio of JDBCSL is 0.11 with co-efficient of variation is 621.30%. It indicates very poor performance in the matter of liquidity, short term solvency as well as managerial efficiency of the cooperative society (JDBCSL).

FIGURE 5.23: INVENTORY WORKING CAPITAL RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



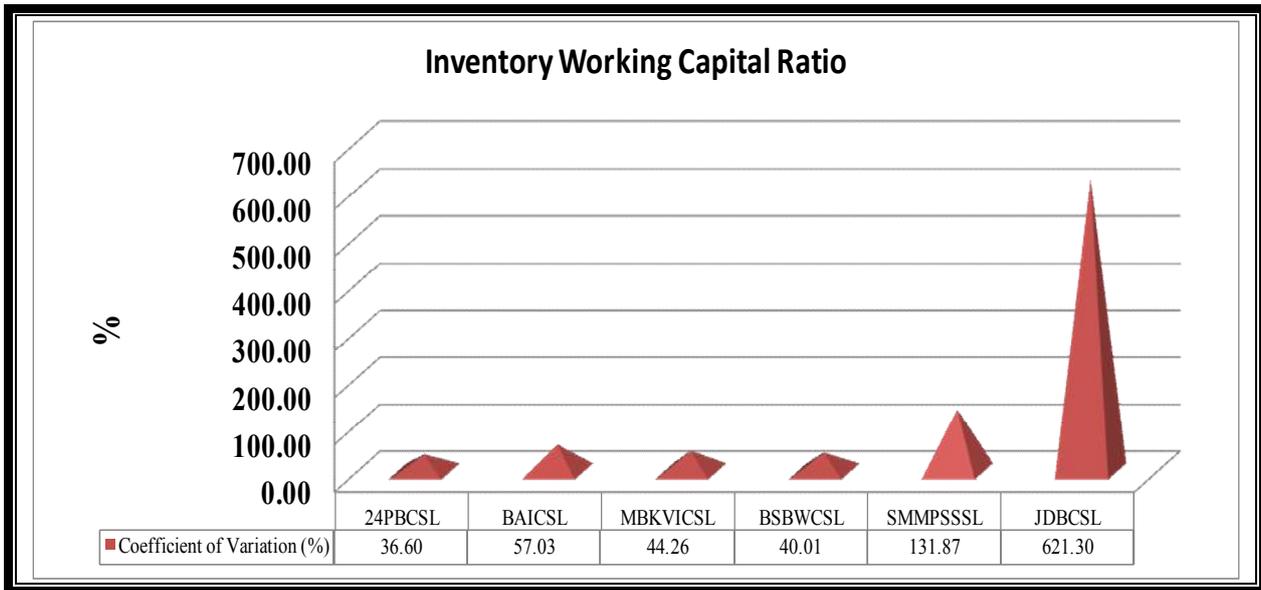
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.24: MEAN INVENTORY WORKING CAPITAL RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.23

FIGURE 5.25: COEFFICIENT OF VARIATION OF INVENTORY WORKING CAPITAL RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.23

5.5.6: Stability

These ratios help in ascertaining the long term solvency of a firm which depends on firm's adequate resources to meet its long term funds requirements, appropriate debt equity mix to raise long term funds and earnings to pay interest and installment of long term loans in time (Gupta & Sharma, 2005, pp. 4.1-4.153) (Jain & Narang, 2008, pp. II/7.1-II/7.68). The following ratios are used here for analysis:

- Debt Equity Ratio
- Proprietary Ratio
- Capital Gearing Ratio

5.5.6.1: Debt Equity Ratio

It measures the extent of equity covering the debt. This ratio is calculated to measure the relative proportions of outsiders' funds and shareholders' funds invested in the business. This ratio is determined to ascertain the soundness of long term financial policies of the business and is also known as external-internal equity ratio. It is calculated as follows:

Debt Equity Ratio = Long Term Debts / Shareholders' Fund

Shareholders' funds = consist of Preference Share Capital, Equity Share Capital, Profit & Loss A/c (Cr. Balance), Capital Reserves, Revenue Reserves and Reserves

Representing Marked Surplus (like Reserves for Contingencies, Sinking Funds for Renewal of Fixed Assets or Redemption of Debentures Etc.) Less - Fictitious Assets.

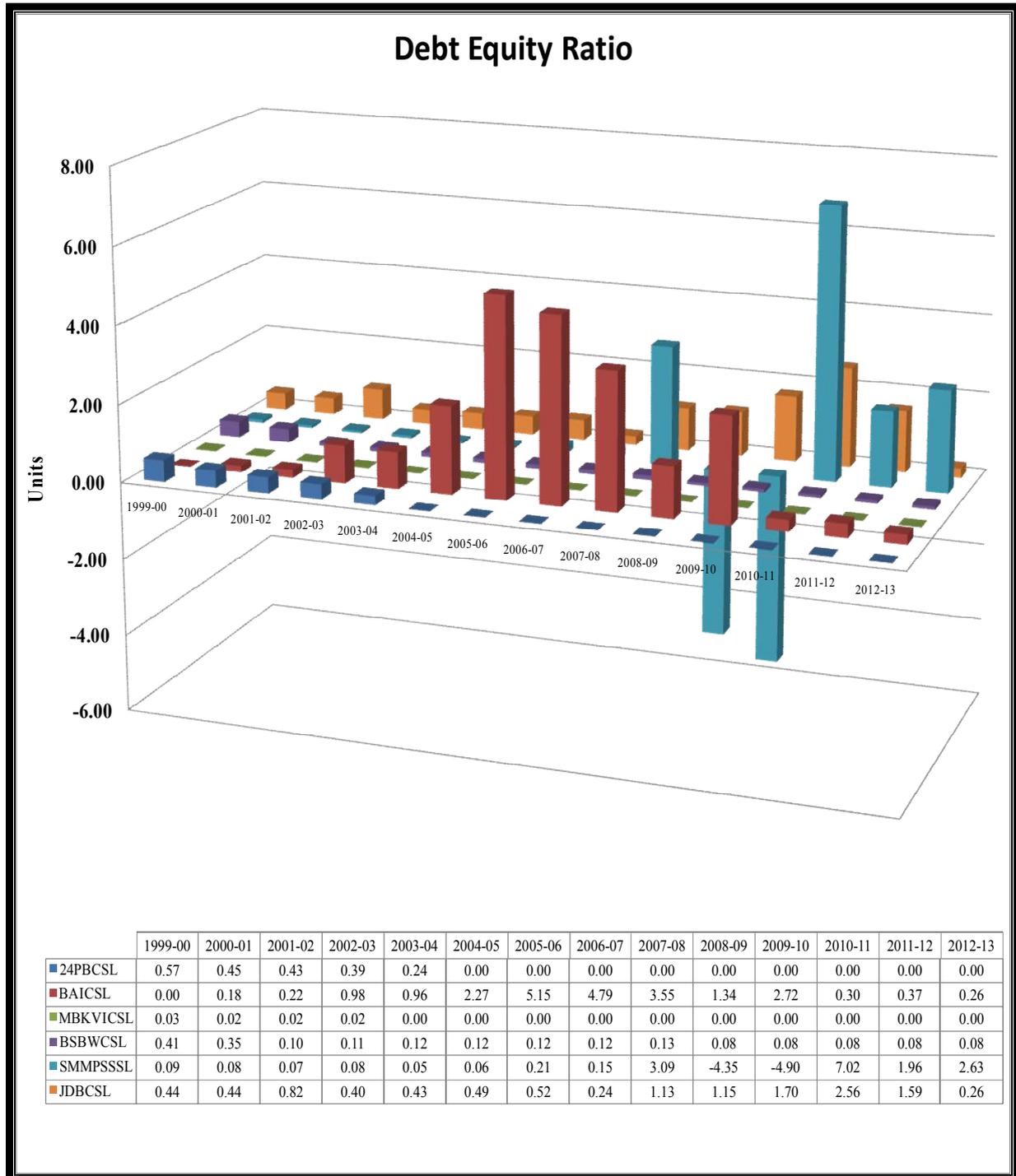
Whether a given debt to equity ratio shows a favourable or unfavourable financial position of the concern depends on the industry and the pattern of earning. A low ratio is generally viewed as favourable from long-term creditors' point of view, because a large margin of protection provides safety for the creditors. The same low ratio may be taken as quite unsatisfactory by the shareholders because they find neglected opportunity for using low-cost outsiders' funds to acquire fixed assets that could earn a high return. Keeping in view the interest of both (shareholders and long-term creditors), debt to equity ratio of 2 : 1 is acceptable.

Figure 5.26 has depicted debt equity ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. This Figure has depicted that 24PBCSL (from 2004-05 to 2012-13) and MBKVICSL (from 2003-04 to 2012-13) have 'zero' debt equity ratios. These are happened due to zero amount of long term debt. SMMPSSSL has negative debt equity ratios (-4.35 in 2008-09 and -4.90 in 2009-10). These are happened due to negative shareholders' fund. Negative shareholders' fund is created for excessive loss in Profit & Loss A/c (Dr. Balance). In maximum number of years these societies cannot reach the standard norm of debt equity ratio. This is unsatisfactory for the members of these societies, because they have lost their opportunity for using low-cost outsiders' funds to acquire fixed assets that could earn a high return. In few years few societies have debt equity ratios above the standard norm which are risky for the societies. In such a situation societies have to pay fixed interest for outsiders' fund which have added with the losses and have made extra losses and in this situation the member of the societies have to take heavy burden of loss.

Figure 5.27 and Figure 5.28 have shown mean debt equity ratios and the coefficient of variation of debt equity ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13 respectively. In debt equity combination BAICSL has performed just below the standard (debt equity ratio of BAICSL is 1.65 times as is shown by Figure 5.28) and best among others societies. But other societies' average debt equity ratios show poor performance. They are performing below the standard. This means that these cooperative societies have not been able to use low cost outsiders' funds (long term debts) to magnify their earnings. In Figure 5.28, BAICSL shows co-efficient of variation is 107.26% which means highly inconsistent debt equity ratio during the period of 15 years. BSBWCSL is more

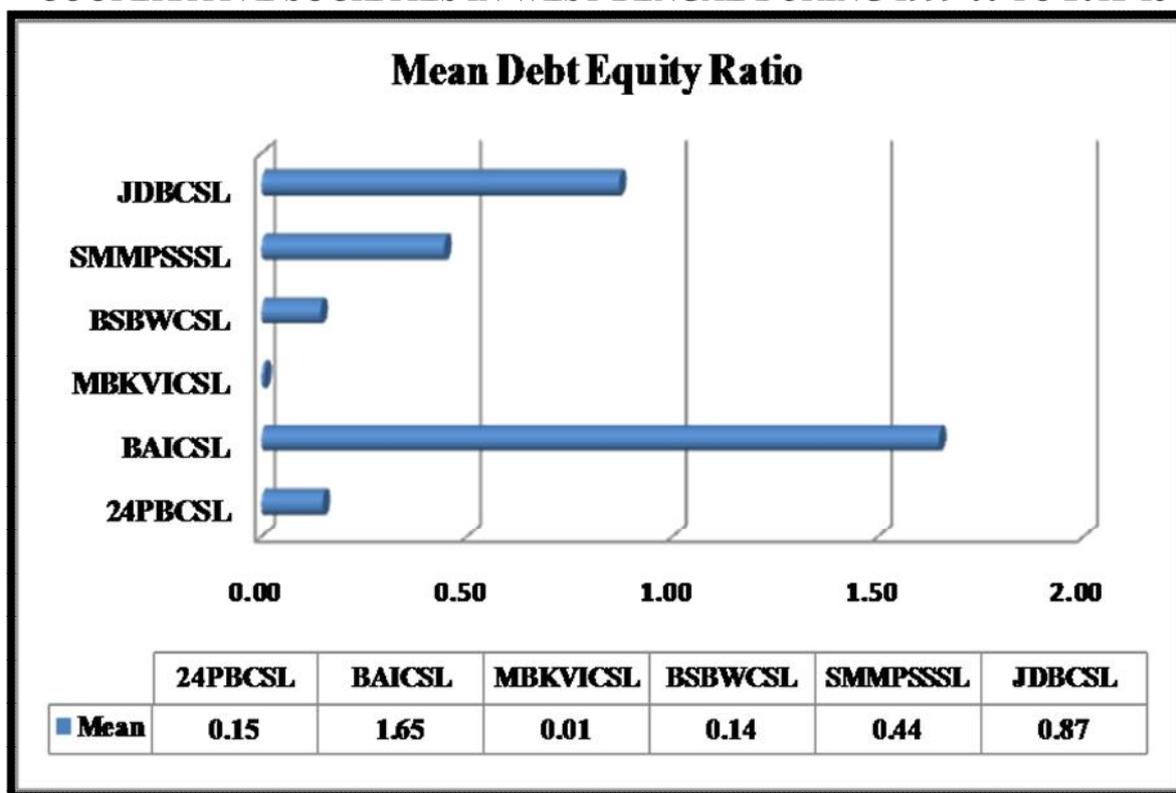
consistent (co-efficient of variation is 72.82%) than others. But average of fifteen years debt equity ratio of BSBWCSL is 0.14 times which indicates that the society has lost its opportunity for using low cost outsiders' funds to acquire fixed assets that could earn high return.

FIGURE 5.26: DEBT EQUITY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



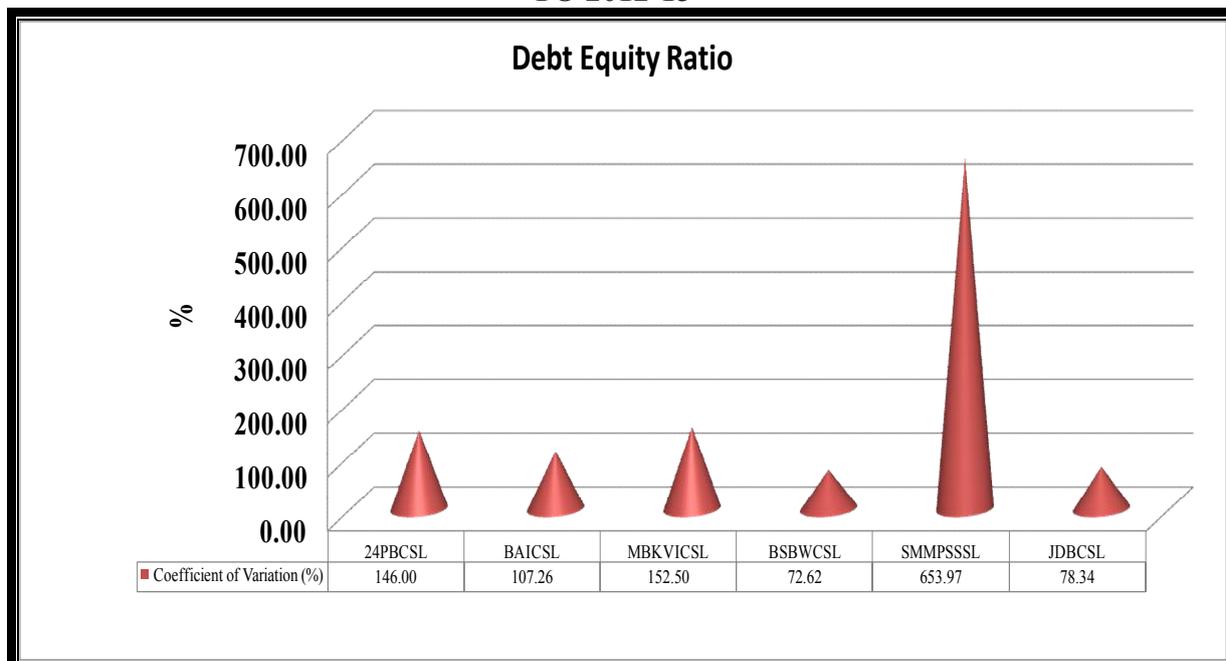
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.27: MEAN DEBT EQUITY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.26

FIGURE 5.28: COEFFICIENT OF VARIATION OF DEBT EQUITY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.26

5.5.6.2: Proprietary Ratio

A variant of debt to equity ratio is the proprietary ratio which shows the relationship between shareholders' funds and total tangible assets. This ratio is worked out as follows:

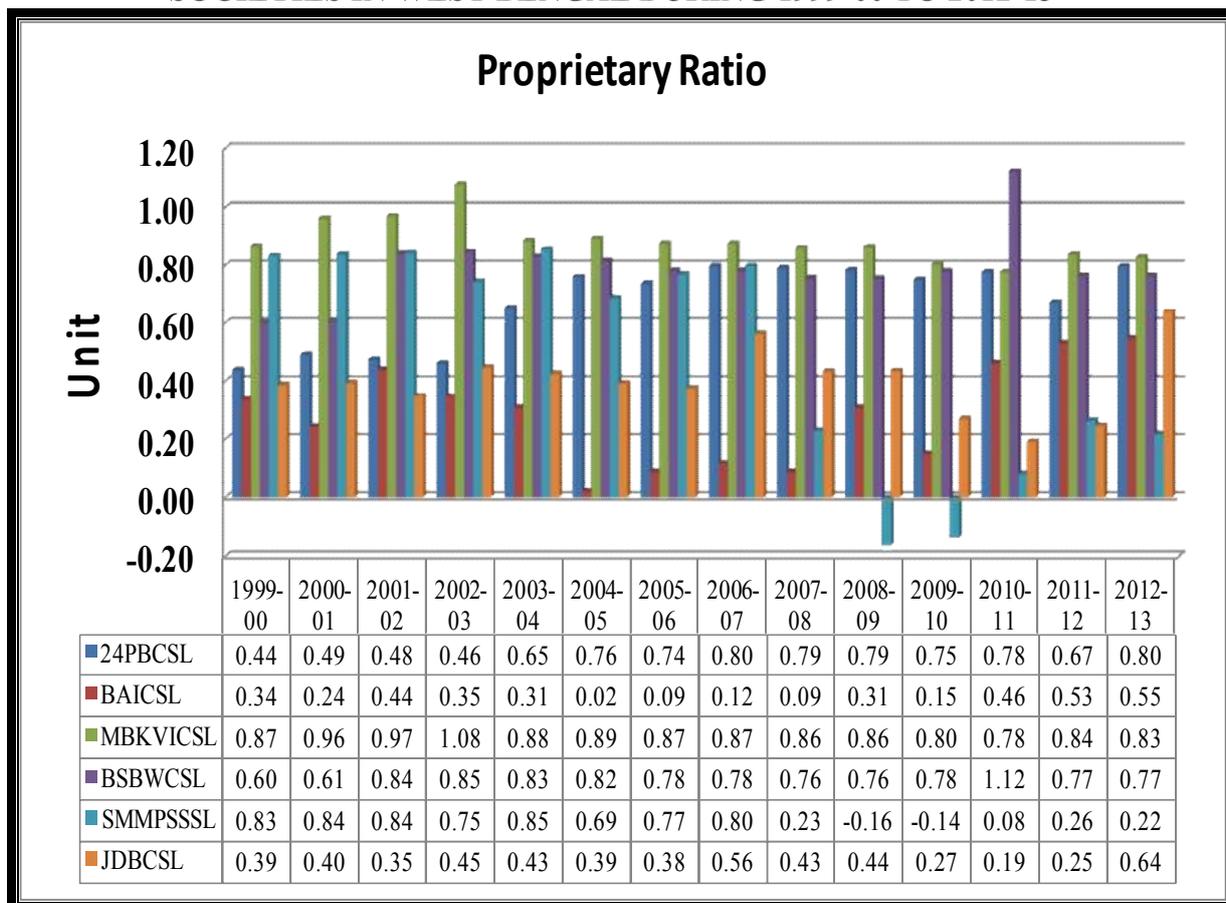
$$\text{Proprietary Ratio} = \text{Shareholders' Funds} / \text{Total Tangible Assets}$$

This ratio should be 1:3 *i.e.*, one-third of the assets minus current liabilities should be acquired by shareholders' funds and the other two-thirds of the assets should be financed by outsiders funds. It indicates the share of proprietary fund against each rupee of investment and focuses the attention on the general financial strength of the business enterprise.

Figure 5.29 has shown proprietary ratios of six apiculture cooperative societies in west Bengal during 1999-00 to 2012-13. No apiculture cooperative society in West Bengal can maintain the standard (1:3). Only in few years two cooperative societies have achieved nearest to the standard. BAICSL has shown its proprietary ratio 0.34, 0.35, 0.31 and 0.31 in the year 1999-00, 2002-03, 2003-04 and 2008-09 respectively. JDBCSL has shown its proprietary ratio 0.39 and 0.35 in the year 1999-00 and 2001-02 respectively.

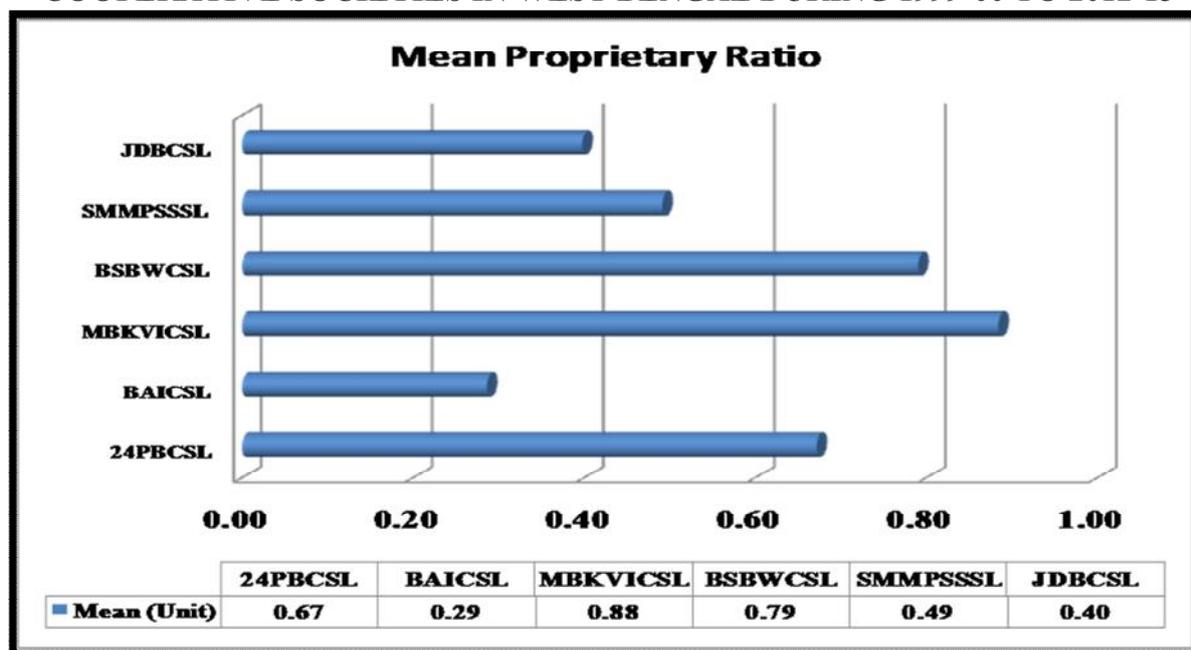
Figure 5.30 and Figure 5.31 have depicted mean proprietary ratios and the coefficient of variation of proprietary ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. Average share of proprietary fund against each rupee of investment of BAICSL has performed just below the standard (0.29 unit) and best among others societies but its co-efficient of variation is 60.18% which discloses its inconsistency in this respect. JDBCSL has also performed well with average of fifteen years proprietary ratio of JDBCSL is 0.40 unit and co-efficient of variation 29.34%. Though MBKVICSL is most consistent (co-efficient of variation is 8.68%) among all apiculture cooperative societies in West Bengal, the average of fifteen years proprietary ratio of this society is 0.88 units. It indicates the share of proprietary fund against each rupee of investment is 88 paises. But this high ratio may be taken as quite unsatisfactory by the shareholders because they find neglected opportunity for using low-cost outsiders' funds to acquire fixed assets that could earn a high return.

FIGURE 5.29: PROPRIETARY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



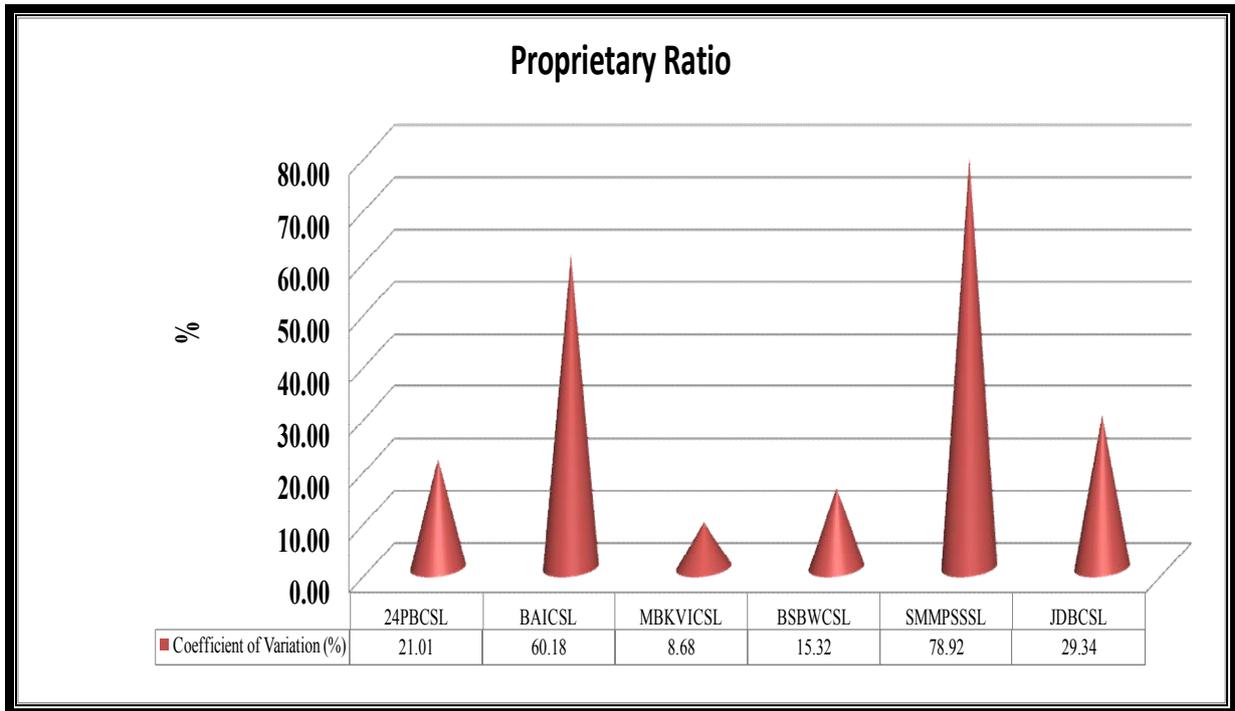
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.30: MEAN PROPRIETARY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.29

FIGURE 5.31: COEFFICIENT OF VARIATION OF PROPRIETARY RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.29

5.5.6.3: Capital Gearing Ratio

This ratio establishes the relationship between the fixed interest-bearing securities and equity shares including reserves and surpluses of a concern. It is calculated as follows:

$$\text{Capital Gearing Ratio} = \text{Fixed Interest-Bearing Securities} / \text{Equity Shareholders' Fund}$$

Fixed interest-bearing securities carry with them the fixed rate of dividend or interest and include preference share capital and debentures. A company is said to be highly geared if the major share of the total capital is in the form of fixed interest-bearing securities or this ratio is more than one. If this ratio is less than one, it is said to be low geared. If it is exactly one, it is evenly geared. This ratio must be carefully planned as it affects the company's capacity to maintain a uniform dividend policy during difficult trading periods that may occur. Too much capital should not be raised by way of debentures, because debentures do not share in business losses.

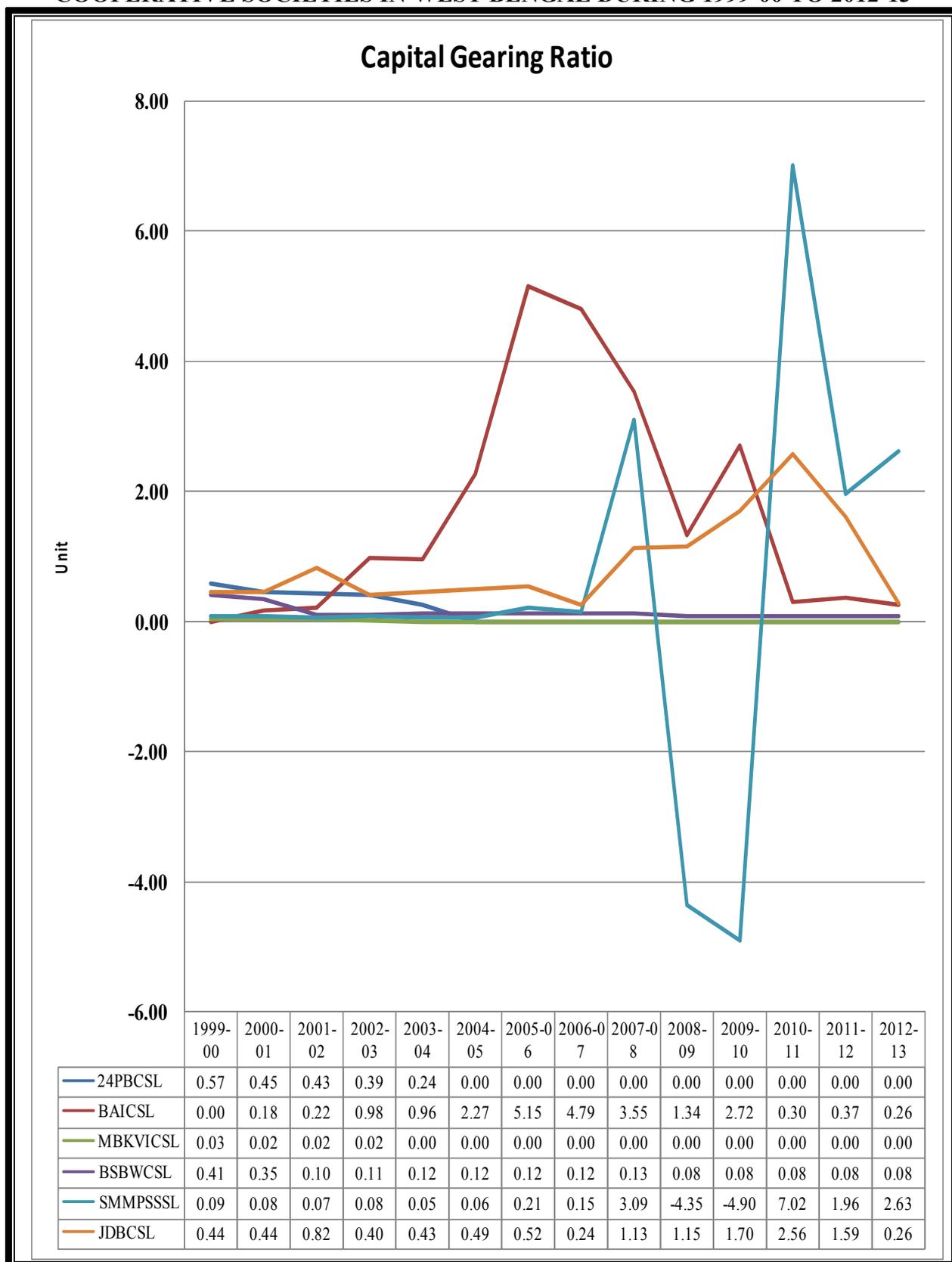
Figure 5.32 has depicted capital gearing ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13. This figure has depicted that 24PBCSL (from 2004-05 to 2012-13) and MBKVICSL (from 2003-04 to 2012-13) have 'zero' capital gearing ratios. That

is no capital gearing is found in the capital structure of those cooperative societies. These are happened due to 'zero' amount of fixed interest- bearing securities (here only long term debt is considered). SMMPSSSL has negative capital gearing ratios (-4.35 in 2008-09 and -4.90 in 2009-10). These are happened due to negative shareholders' fund. Negative shareholders' fund is created for excessive loss in Profit & Loss A/c (Dr. Balance). SMMPSSSL has been running with high geared condition among all cooperative societies in the year 2009-10 (capital gearing ratio = - 4.90) and in the year 2010-11 (capital gearing ratio = 7.02).

Figure 5.33 and Figure 5.34 have shown mean capital gearing ratios and the coefficient of variation of capital gearing ratios of six apiculture cooperative societies in West Bengal during 1999-00 to 2012-13 respectively.

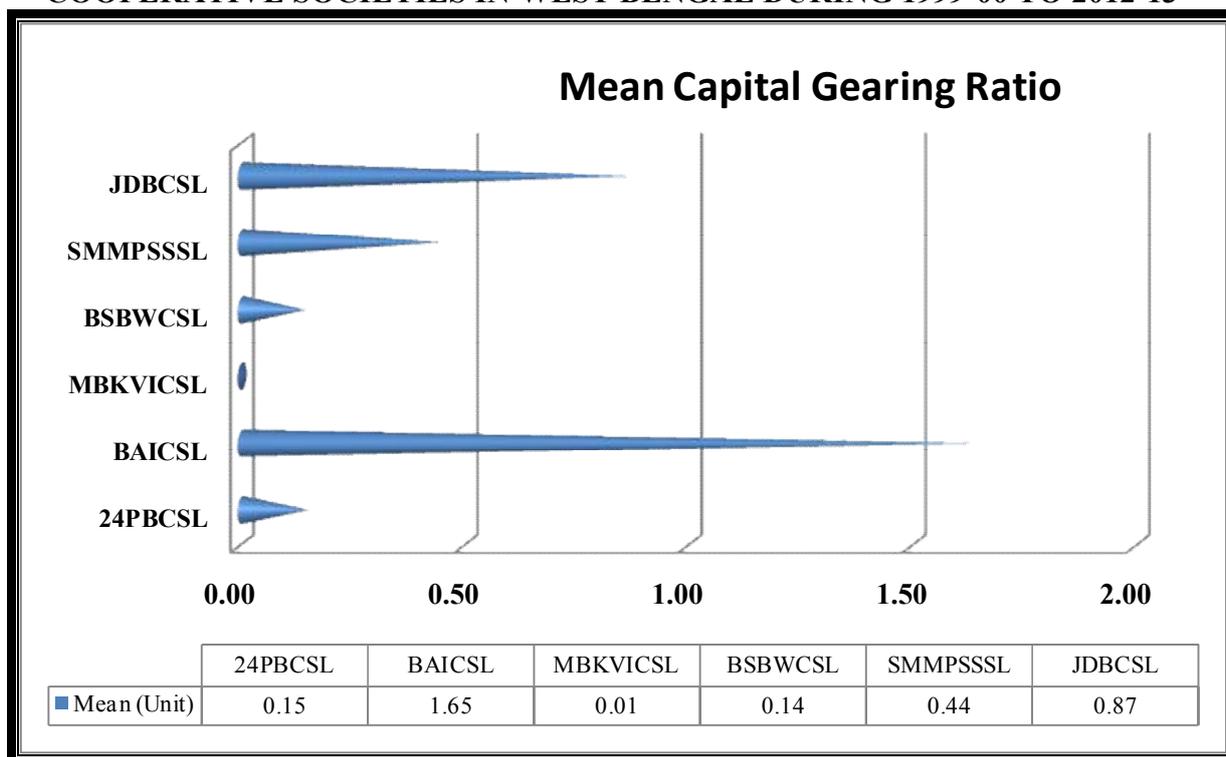
BAICSL is running with high gear since its capital gearing ratio is more than one (1.65). Other cooperative societies are running with low gear. In matter of consistency no one has performed well. Among the six apiculture cooperative societies, BSBWCSL is most consistent (coefficient of variation is 72.62%) and SMMPSSSL is least consistent society (coefficient of variation is 653.97%).

FIGURE 5.32: CAPITAL GEARING RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



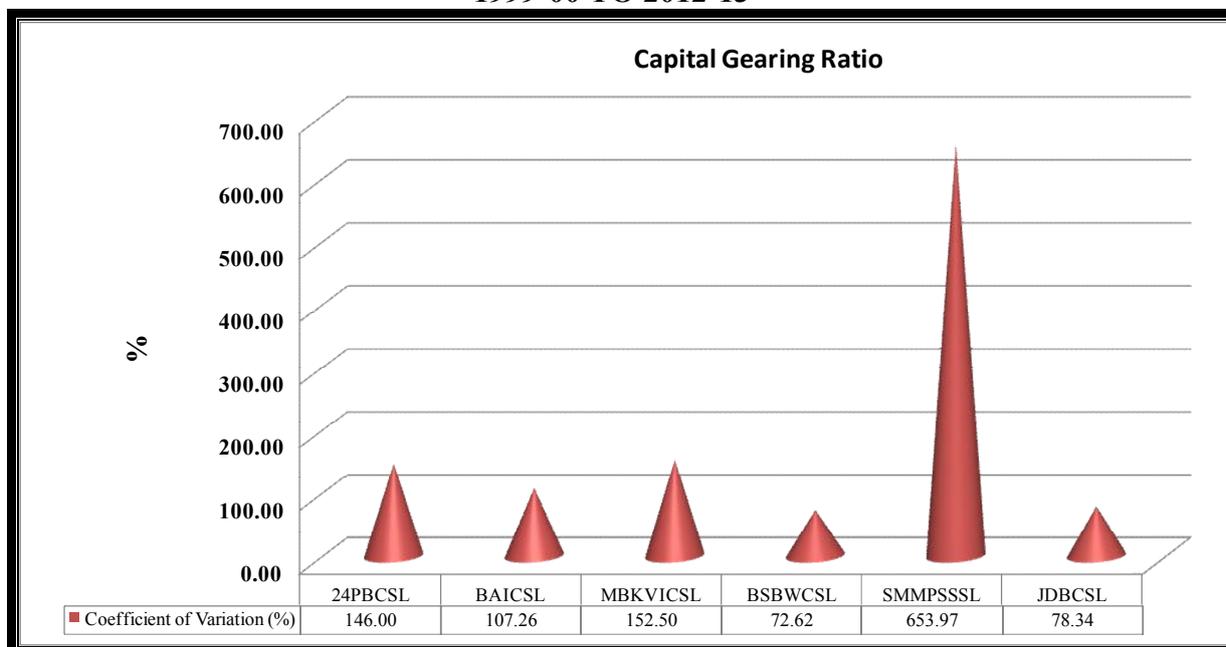
Source: Annual Reports of Apiculture Cooperative Societies

FIGURE 5.33: MEAN CAPITAL GEARING RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.32

FIGURE 5.34: COEFFICIENT OF VARIATION OF CAPITAL GEARING RATIOS OF SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 1999-00 TO 2012-13



Source: Prepared From Table 5.32

5.5.7: PROFITABILITY AND STRENGTH OF MALDA BEE-KEEPING AND HONEY PROCESSING INDUSTRIAL CLUSTER CO-OPERATIVE SOCIETY LTD.

In the year 1995 some of the beekeepers formed an association at Char Kadirpur, Sahapur, in Malda for the development of apiculture. The association had their own land measuring about 2 kathas and an office room. But the association was not registered till then, however near about 135 members enrolled their name in the association. In the year 2008-09 they became a registered society (Reg. no. 2/2008-09/M/SSE/WB). But this registration did not sustain. After that the society got registration again in the name 'MALDA BEE-KEEPING AND HONEY PROCESSING INDUSTRIAL CLUSTER CO-OPERATIVE SOCIETY LTD.' in the year 2010-11 (Reg. no. 01/M&SSI, WB of 2010-11). Now this society has above 700 members.

The society has performed very well in sales. Total trading sales of this society exceeds the total trading sales of all others six cooperative societies of West Bengal in the year 2011-12 and 2012-13 (Figure 5.35).

Figure 5.36 has depicted the profitability ratios of 'Malda Bee-Keeping and Honey Processing Industrial Cluster Co-Operative Society Ltd.' (MBHPICCSL) during 2010-11 to 2012-13. Figure 5.36 has shown gross profit ratios are low and are decreasing year by year. Society's operating costs are very high as the operating ratios are above 99%. Hence net profit ratios are also very poor. Apparently it is seen that sales of MBHPICCSL are considerably high and is likely to be very profitable, but the profitability ratios are very much poor (Figure 5.36) due to high operating costs. Therefore, the profitability of MBHPICCSL is not satisfactory at all. Figure 5.37 has shown the activity ratios of MBHPICCSL during 2010-11 to 2012-13. The greater the ratio more will be efficiency of asset usage. The lower ratio will reflect the under utilization of the resources available at the command of the concern. The concern must always plan for efficient use of the assets to increase the overall efficiency.

Figure 5.37 shows that the society has performed well in inventory management. Inventory turnover ratios are very high, which is an indicator of good performance. Finished stock has turned over 61.48 times on an average during 2010-11 to 2012-13.

Figure 5.37 again shows that working capital of MBHPICCSL has turned over 11.69 times on an average during 2010-11 to 2012-13. This indicates efficient utilization of working capital. But due to high operating cost this society cannot earn high net profit.

Figure 5.37 also shows that capital employed in this cooperative society rotates 11.57 times on an average during 2010-11 to 2012-13. It indicates sufficient sales are being made and the society is efficient and effective in utilizing its resources and capital employed. Hence, the overall profitability of the society is satisfactory.

The Figure 5.38 shows a high current ratio (146.30) in 2010-11. It indicates the existence of huge idle funds in the society and lack of enthusiasm for work is also apprehended. In the year 2011-12 and 2012-13 the current ratios are 1.52 and 1.18 respectively. It indicates that this society faces difficulty in payment of current liabilities as the ratios are less than the standard norm of 2:1.

It is also observed from Figure 5.38 that MBHPICCSL makes a very high liquid ratio (117.51) in the year 2010-11 which is an indicator of keeping huge idle funds. In 2011-12 this society controls the liquid ratio by utilizing funds in the right way. In spite of its honest attempts the liquid ratio becomes 1.41 which is more than the standard norm (1:1) keeping again the scope for accumulation of idle funds. Only in the year 2012-13 this ratio becomes 1.15 which is nearer to standard norm. The society is capable of covering its liquid liabilities with the help of its liquid assets. It also indicates this society's financial soundness.

Figure 5.38 has shown very high absolute liquid ratio (31.50) in the year 2010-11 indicating huge idle funds have been blocked in cash and bank balance of the society. In the year 2012-13 a low ratio (0.02) is found. It means that absolute liquid assets are not sufficient for disbursement of current liabilities. The society needs to improve its short term financial position. In the year 2011-12 absolute liquid ratio is 0.37. Though the ratio is slightly lower than the standard norms (0.50), the society does not suffer much for disbursement of current liabilities with the help of its absolute liquid assets. Yet, the society needs to improve its short term financial position.

Figure 5.39 shows that MBHPICCSL has inventory working capital ratios: 0.16, 0.36 and 0.12 respectively which indicates its incapability for full utilization of working capital. Because, all three ratios cannot reach the standard norm (1:1).

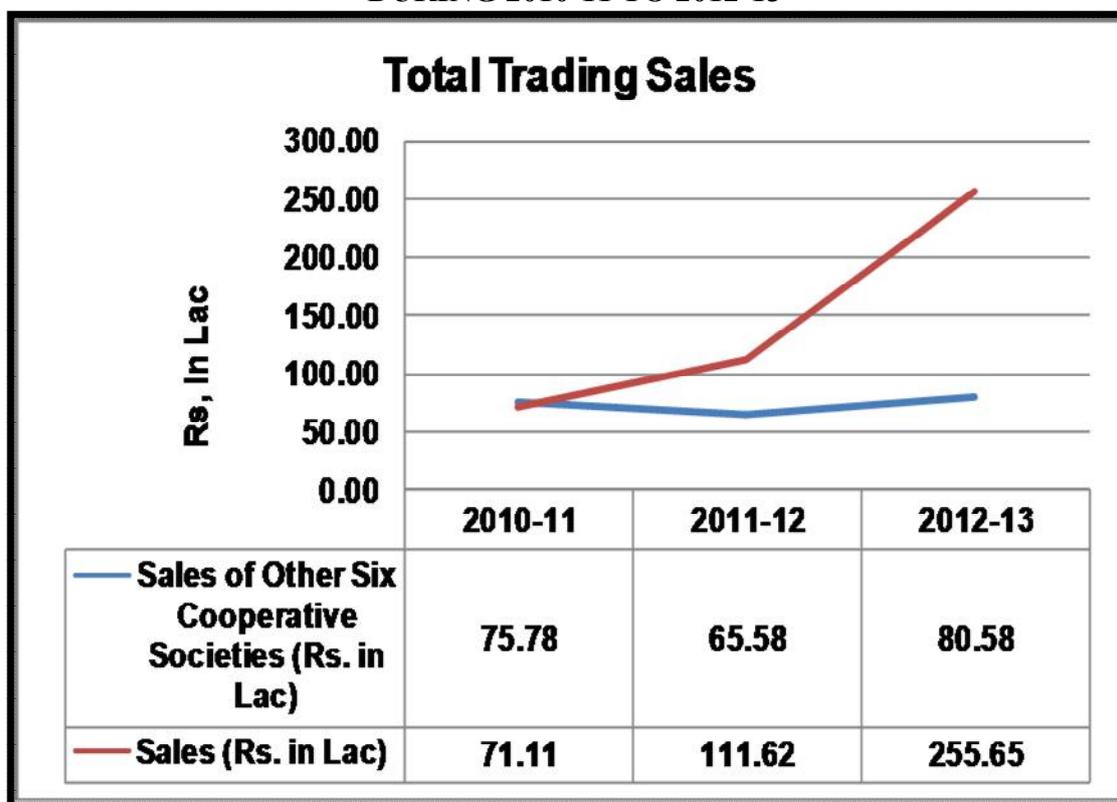
Figure 5.40 shows that in no case debt equity ratio reaches the standard norm (2:1). In the year 2010-11 debt equity ratio is 8.84 which is considered high. The society may not be able to get credit without paying very high rate of interest and without accepting undue pressures and conditions of the creditors. The similar reaction with lesser magnitude may be seen in the

year 2012-13 with debt equity ratio of 2.92. In the year 2011-12 the debt equity ratio is 1.50 which is lower than the standard. It indicates that the society has not been able to use low cost outsiders' funds to magnify its earnings.

The accepted standard of proprietary ratio is 1:3. It is observed from the Figure 5.40 that the proprietary ratios of MBHPICCSL in the three consecutive years 2010-11, 2011-12 and 2012-13 are lower than the standard norm 1:3. It indicates that the solvency position of the society is not satisfactory.

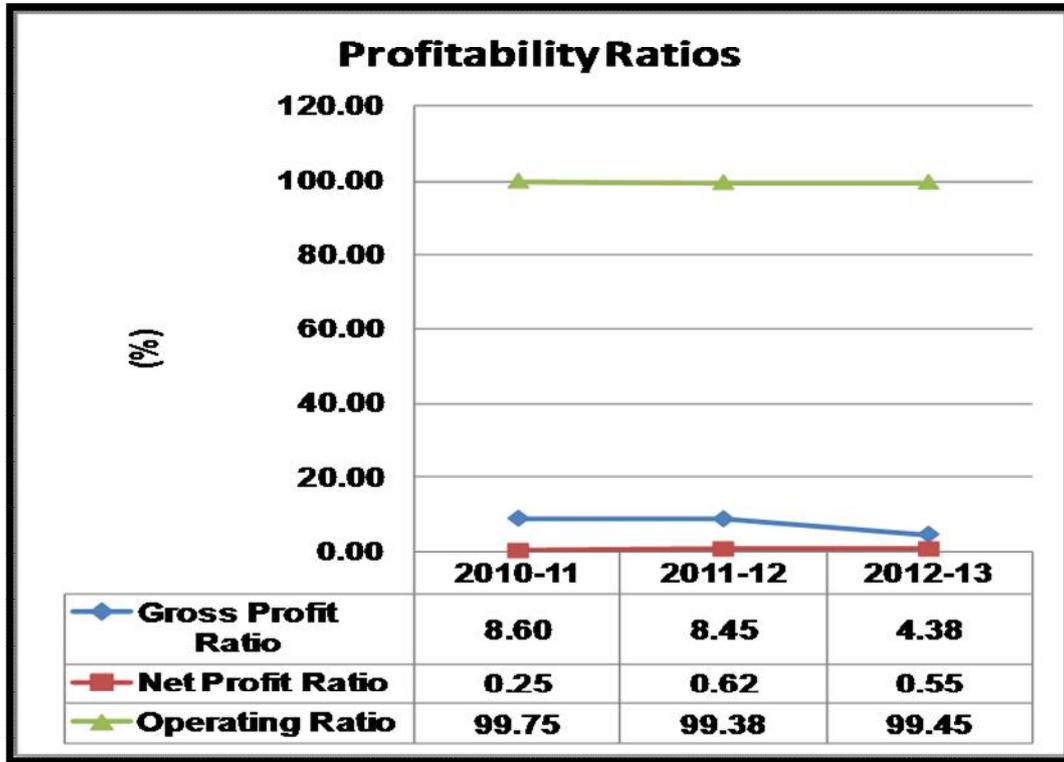
Figure 5.40 shows also a very high capital gearing ratio (8.84) in the year 2010-11. It indicates maximum amount of profit before interest may be required to pay off contractual interest. It leads to fluctuation of dividend which may affect the goodwill of this society. The similar reaction with lesser magnitude may be seen in the year 2011-12 and 2012-13 with capital gearing ratios 1.50 and 2.92.

FIGURE 5.35: TOTAL TRADING SALES OF MBHPICCSL IN RESPECT OF OTHER SIX APICULTURE COOPERATIVE SOCIETIES IN WEST BENGAL DURING 2010-11 TO 2012-13



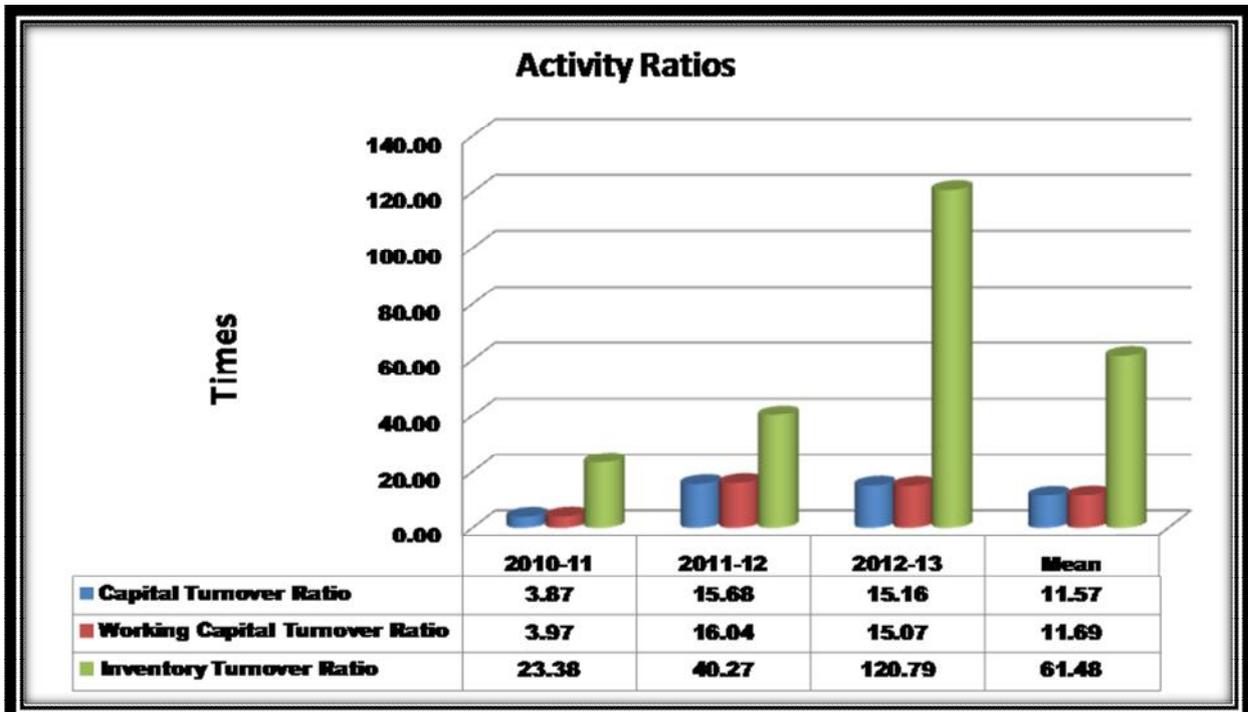
Source: Annual Reports of MBHPICCSL

FIGURE 5.36: PROFITABILITY RATIOS OF MBHPICCSL DURING 2010-11 TO 2012-13



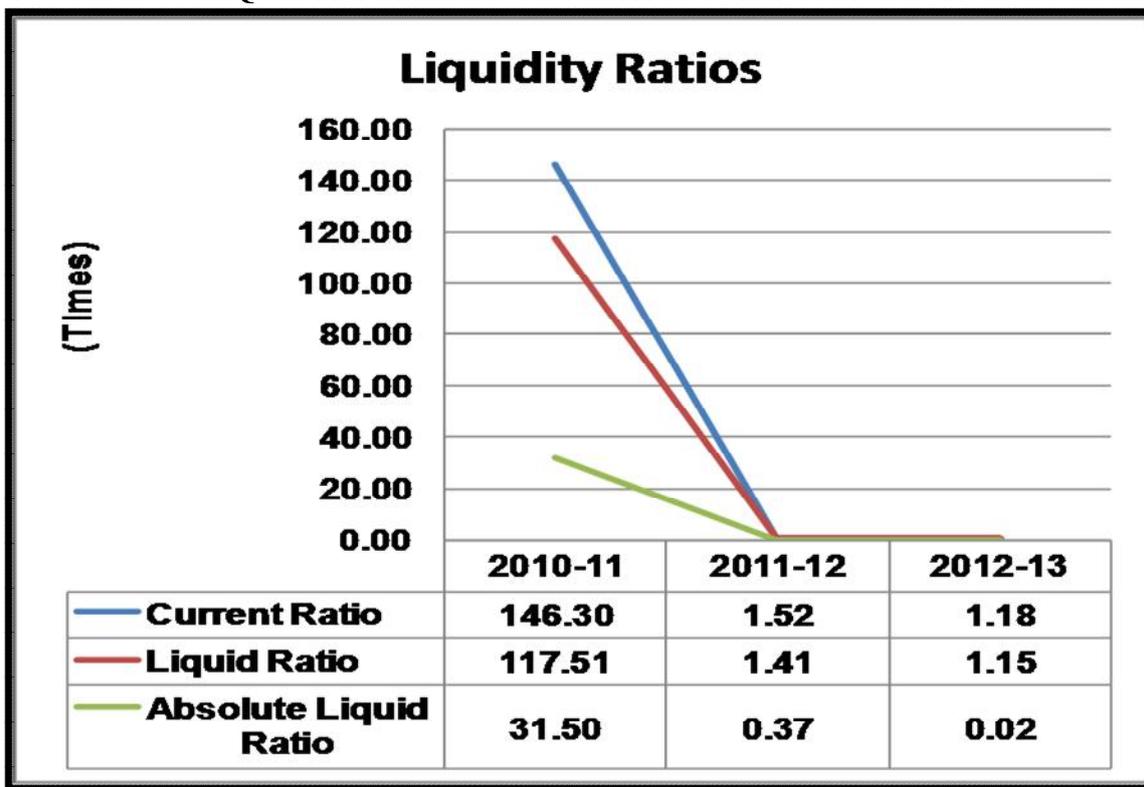
Source: Annual Reports of MBHPICCSL

FIGURE 5.37: ACTIVITY RATIOS OF MBHPICCSL DURING 2010-11 TO 2012-13



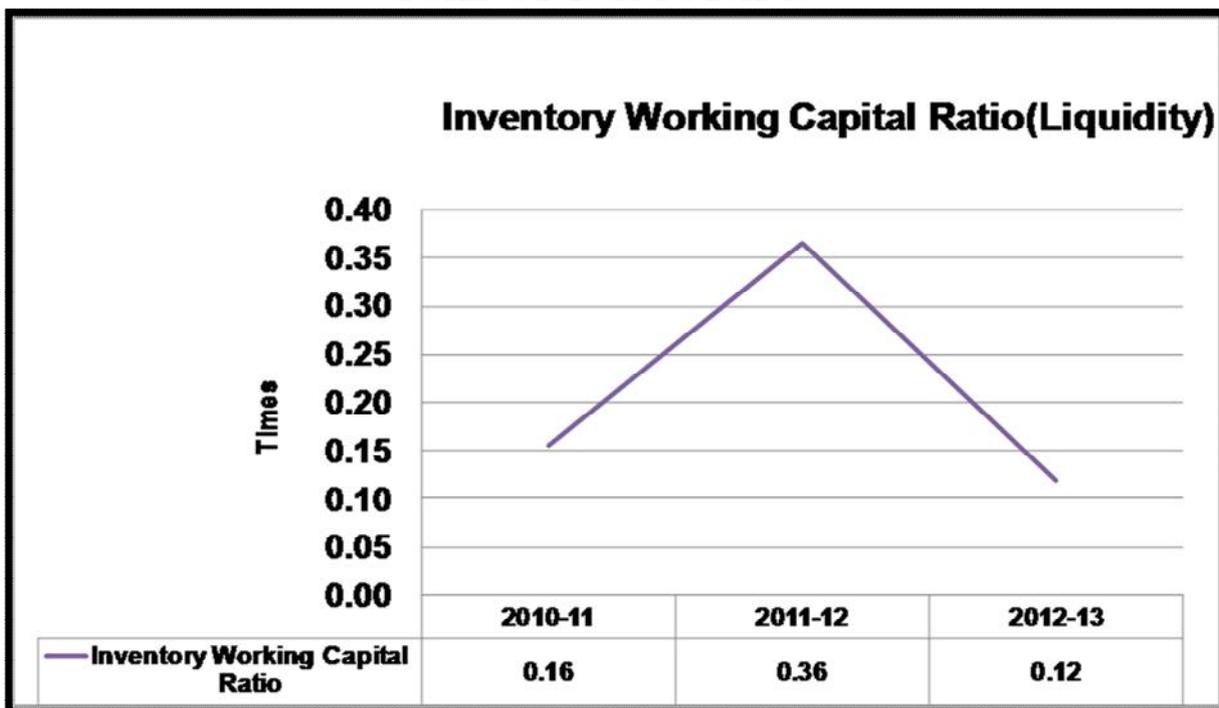
Source: Annual Reports of MBHPICCSL

FIGURE 5.38: LIQUIDITY RATIOS OF MBHPICCSL DURING 2010-11 TO 2012-13



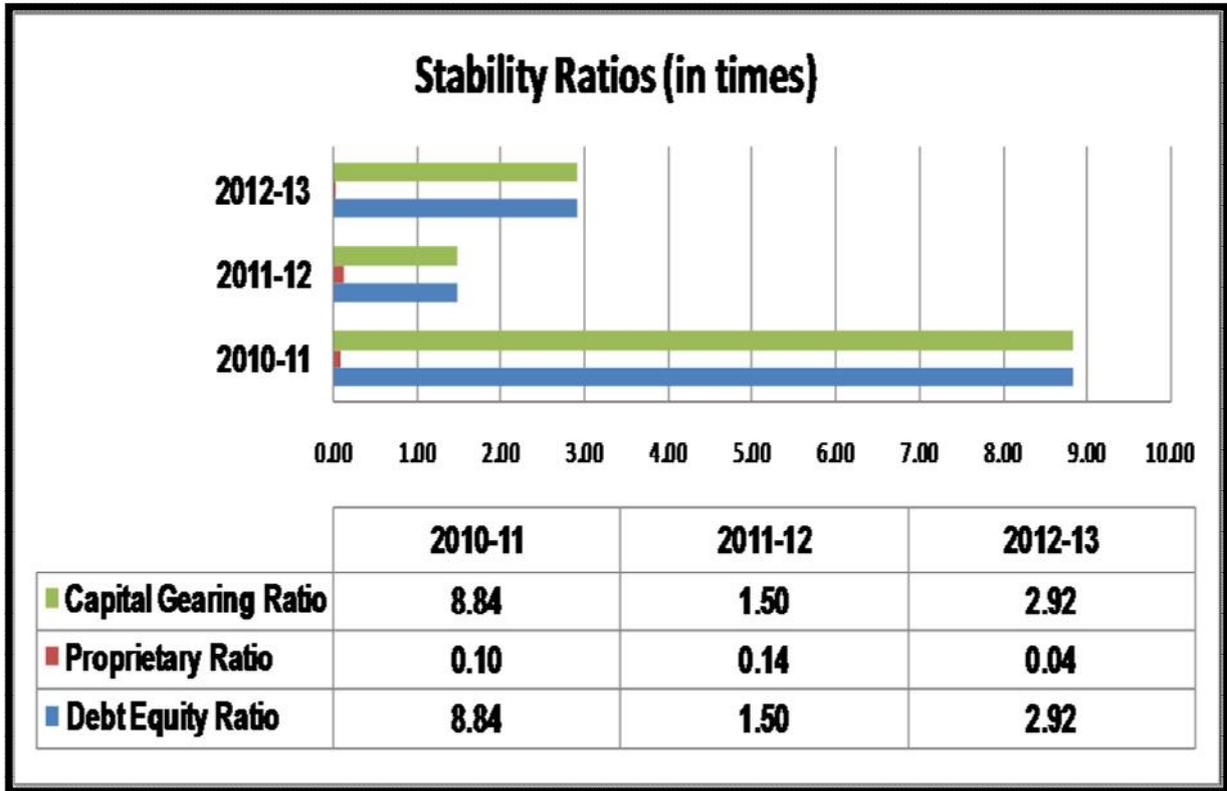
Source: Annual Reports of MBHPICCSL

FIGURE 5.39: INVENTORY WORKING CAPITAL RATIOS OF MBHPICCSL DURING 2010-11 TO 2012-13



Source: Annual Reports of MBHPICCSL

FIGURE 5.40: STABILITY RATIOS OF MBHPICCSL DURING 2010-11 TO 2012-13



Source: Annual Reports of MBHPICCSL

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