

**FINAL REPORT OF MINOR RESEARCH  
PROJECT**

ON

**“COMPARATIVE ANALYSIS OF  
FINANCIAL EFFICIENCY OF  
CO-OPERATIVE SUGAR INDUSTRIES  
IN SAURASHTRA REGION”.**

**SUBMITTED BY**

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# CHAPTER-1

## 1 GENESIS OF COOPERATION IN INDIA

### 1.1 Introduction of co-operative sugar industries:-

Cooperative movement in India has already stepped into the hundred and fourth years of its existence since the enactment of “The Cooperative Credit Societies Act, 1904” under the British Leadership on Raiffeisen model borrowed from Germany. The Act was promulgated after being passed in the Governor General’s Council and being consented to by the Viceroy and the Governor General of India on 25th March 1904, which was published in the Gazette of India on the 26th March 1904.1 Under British Rule the rulers patronized the cooperative movement with a limited purpose for deploying fund in limited scale in agriculture to continue supply of raw material for their manufacturing activities and to woo the farmers for the atrocities committed against them by the British Rulers through Seminary System by introducing Permanent Settlement in 1793 to exploit the farmers in particular and the people of India in general. In independent India, still today the cooperative movement is dependent on the government and thbureaucracy and it is controlled and monitored by them. In 1954 the “Rural Credits Survey Committee” observed, “Cooperation has failed, but cooperation must succeed”. But quantitatively, the cooperative movement flourished in different dimensions. There was sea change in the cooperative movement. People’s support and trust on cooperative movement increased over the period of time. The importance of cooperatives in terms of providing job opportunities and socioeconomic solutions cannot be underestimated. Cooperatives employ more than 10million workers and boast 760 million members worldwide, with 450 million members’ in Asia and the Pacific alone. Cooperatives have a great tradition of helping the urban and rural poor to raise their social and economic conditions. With a membership of more than 200 million and working capital of US\$ 57.9 billion, the cooperative sector in India is one of the largest in the world.2

The Cooperatives have been playing an important role in our agricultural and rural economy. They are engaged in several economic activities such as disbursement of credit, distribution of agricultural inputs like seeds, fertilizers, agro-chemicals and in arranging storage, processing and marketing of farm produce. Cooperatives enable in getting good quality inputs at a reasonable price as well as in getting remunerative returns for their farm produce when marketed through cooperatives. The cooperative agro-processing units add value to their precious farm produce such as milk, sugarcane, cotton, fruits and vegetables and thus facilitate better returns. Cooperative

enterprises have provided the capacity to transform marginalized and poor communities, not just through their ability to raise physical capital based on self-help, but also because of their ability to build human and social capital through their emphasis on education and training. As an institution, a cooperative has played a vitally important role in reaching poor communities, where social services are weak. Under the Montague-Chelmsford Reforms of 1919, cooperation became a provincial subject and the provinces were authorized to make their own cooperative laws. In order to cover Cooperative Societies with membership from more than one province, the Government of India enacted the Multi-Unit Cooperative Societies Act, 1942. This Act was an enabling legislative instrument dealing with incorporation and winding up of cooperative societies having jurisdiction in more than one province. After India attained its Independence in August 1947, cooperatives assumed a great significance in poverty removal and faster socio-economic growth. With the advent of the planning process, cooperatives became an integral part of the Five Year Plans. As a result, they emerged as a distinct segment in our national economy. In the First Five Year Plan, it was specifically stated that the success of the plan would be judged, among other things, by the extent it was implemented through cooperative organizations.

### **1.2 Definition of Cooperation :-**

Deprivation. No other organized set up can be more powerful for this attack than building human capital among the deprived, through sustainable cooperative development initiatives. This principle is germane to the cooperative management, which encompasses the basic human feeling of self-worth as its core. The cooperative strategy goes deep into the realms of building financial capabilities and self-confidence especially among the rural poor. The cooperative mode of organization is one way of achieving cooperation between economic agents. Sometimes described as the higher calling of man, the cooperative form of organization rests on strong theoretical and philosophical foundations. It is viewed by various schools of thought as being a safety net for disadvantaged groups, as a polar case opposite of an investor oriented firm (IOF) and as a broader form of organization fulfilling more than mere economic objectives.<sup>3</sup> Various economists, sociologists and philosophers have always stressed the need for the expansion and development of cooperative spirit among people. By nature human beings compete as well as cooperate. Emerson said, "Cooperation has more evolutionary force in the man than has the bitter competitive struggle for existence." Cooperative spirit is involved in every activity of human being. All the persons in the society generally work together with cooperation and mutual help. Life of human beings has become very complex with the advancement of the civilization. In the olden days human needs were few, while there were plenty of

resources to satisfy them. Since the needs were few, everybody could make individual efforts to satisfy them. With rapid development of science and technology, more products and services were invented and human needs began to multiply. It was no longer possible for individuals to produce all that they needed. Inter-dependence thus arose out of necessity. These laid the foundation stone for cooperation and spirit of cooperation was developed. As competition for scarce resources increased people became more cooperative to each other.

The greatest challenge to any civilized society is the economic deprivation it harbors, in league with social deprivation. It is inescapable that a collective war is waged to fight human poverty. Mahatma Gandhi had envisaged that the cooperative movement is a tool for eradication of poverty and Bapu had always strongly felt that his dream concept of "Gramswaraj" would come through cooperative movement. Mahatma Gandhi said, "Cooperation is the gateway to economic freedom"<sup>5</sup> Thus it is evident that cooperative movement has to be essentially a national movement, which is the only means to bring revolutionary changes in the social & economic structure of national life. Pandit Jawaharlal Nehru also favored cooperative organizations and said "Ensure me a good panchayat, a good school and a good cooperative society: I will ensure you the Ramrajya"

The word 'co-operation' is made of two words, co plus operation. In this context 'co' means 'together' and 'operation' means to 'do work'.<sup>7</sup> Therefore the literary meaning of co-operation is to work "work together". Thus, co-operation means working together for some common purpose through mutual help. In broad sense working together for common objective is known as cooperation. In technical sense it means to work together to achieve some economic objectives by following certain principles. This condition differentiates cooperation from other forms of business organizations. If the meaning of cooperation is taken in broader sense, every type of organization, whether it is partnership, joint stock or public sectors are cooperative organizations.<sup>8</sup> Merely working together is not cooperation. Cooperative organizations are not mere combination of economic factors of production, but have some higher values embodied in them.<sup>9</sup> In other form of business organizations, economic advantages are maximized at the cost of other stakeholders, in cooperatives it is through self-help, mutual aid, justice, equality and protecting weaker against the stronger. In other words, cooperation means to work together to achieve common goals. In short cooperation is a method by which individuals with limited resources are able to participate in an organized economic activity for mutual benefit through sharing of responsibility of management and organization, on the basis of equality and justice. The principle of 'one person one vote' irrespective of the numbers of shares held

retains the identity of every member and has an equal control over the organization along with other members.

### **1.3 Definition of Cooperation in India**

The cooperative ideology was affected with time, societal requirements and economic activities. Its meaning has been interpreted in different contexts. In the initial phase of the

[www.iffco.nic.in/applications/iffcoweb/r5.nsf/0/bef8b7a3eddaf0cb65256c540029c8c2?OpenDocument](http://www.iffco.nic.in/applications/iffcoweb/r5.nsf/0/bef8b7a3eddaf0cb65256c540029c8c2?OpenDocument) Swami H R & Gupta B P, Rural Development and Co-operation In India, Indus Valley Publication, Jaipur-New Delhi, 2005-06, p.88 Swami H R & Gupta B P, Rural Development and Co-operation In India, Indus Valley Publication, Jaipur-New Delhi, 2005-06, p.119 Bedi R.D., Theory, History and Practice of Co-operation, Loyal Book Depot, Meerut, 1971, p.4 movement it was related with religion and moral values. Many have treated it as “economic movement”. Others, like socialists, religious thinkers, economists and reformers have defined in their own way as per changing socio-economic environment in respective fields. On the basis of different views cooperation has been defined on

**different criteria's follows:**

#### **1.3.1 Definitions based on “self help through mutual help”**

In this category, emphasis has been laid on self help through mutual help i.e. one for all and all for one. Prominent definitions of this category are as follows: \_ According to Prof. Paul Lambert, “An enterprise formed and directed by an association of users, applying within itself, the rules of democracy and directly intended to serve both its own members and the community as a whole.”<sup>10</sup> \_ According to Mahatma Gandhi “When a person tries his best to fulfill his needs and fails, then he seeks cooperation from his neighbors. It is true cooperation.” \_ According to Sir Harace Plankett, “Cooperation is self help made effective by organization.”<sup>11</sup>

\_ According to International Cooperative Alliance (ICA), "A cooperative is an autonomous association of persons united voluntarily to meet their common, economic, social and cultural needs and aspirations through a jointly owned and democratically -controlled enterprise".<sup>12</sup>

#### **1.3.2 Definitions based on “self help through mutual help” in India**

In this category, emphasis has been laid on the promotion of economic interests of the members. Prominent definitions of this category are as follows: \_ According to Mr. E. H. Calvert, “Cooperation is a form of organization wherein persons voluntarily associate together as human beings, on the basis of equality

for the promotion of economic interests of themselves.”<sup>13</sup> Lambert Paul, *Studies in the Social Philosophy of Cooperation: Manchester Cooperative Union Ltd.*, 1963, p.2511 Ibid.<sup>12</sup> International Cooperative Alliance, *Statement on the Cooperative Identity*<sup>13</sup> Calvert H. E, *The Law and Principle of Co-operation*, Calcutta: Thacker, Spick and Co., 1933, p.1

\_ Shri V. L. Mehta defined Cooperation as; “Cooperation is only one aspect of a movement which promotes voluntary associations of individuals having common needs who combine together for the achievement of common economic ends.”<sup>14</sup> Prof. P. H. Casselman defined cooperation as, “Cooperation is an economic system with a social content.”<sup>15</sup>

### **1.3.3 Definitions based on the assumption of Cooperation as Trading Organization**

In this category, stress has been laid on the principle of trading organization. Cooperation here has been treated as business organization and helps individuals from getting exploited by those individuals possessing enormous economic resources. \_ Sir. C. R. Fay defined it as “Cooperative Society is an association for the purpose of joint trading originating among the weak and conducted always in an unselfish spirit on such that all who are prepared to assume the duties of membership share in its rewards in proportion to the degree in which they make use of their association.”<sup>16</sup> \_ Mr. Seligman, “Cooperation in its technical sense means the abandonment of competition in distribution and production and the elimination of middleman of all kinds.”

### **1.3.4 Legal Definitions**

\_ The Indian Co-operative Societies Act, 1912 regulates the formation and functioning of the co-operative society in India. Section 4(c) of the act considers a cooperative as “a society, which has its object the promotion of economic interests of its members in accordance with cooperative principles.”<sup>17</sup> Mehta V.L., *Co-operation: An Inter Disciplinary Approach*, Pune: Vaikunth Mehta National Institute of Cooperative Management, 1969, p.88<sup>15</sup> Casselman P.H., *The Cooperative Movement and Some of Its Problems*, Philosophical Library Inc., New York, 1952, p.12<sup>16</sup> Fay C.R., *Cooperation at Home and Abroad*, London: P.S. King and Sons, 1908, p.5<sup>17</sup> Ibid<sup>18</sup> Co-operative Societies Act of 1912, section 4; Report of the Committee on the Establishment of Cooperative Credit Societies in India 1903, p. 6 No. 5; Münkner 1971, pp. 61 f

\_ A cooperative is a voluntary, democratic, autonomous association of persons, whose purpose is to encourage members to grow in community and to act collectively both for the intrinsic value of being part of a living community and to overcome their

problems of economic dependency and need by providing access to, and ownership of the means of subsistence and welfare.<sup>19</sup> After studying various definitions of cooperation one can conclude that a cooperation is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity, and solidarity. In the tradition of their founders, cooperative members believe in honesty, openness and truth. The Cooperatives have been playing an important role in agricultural and rural economy in the world. They are engaged in several economic activities such as disbursement of credit, distribution of agricultural inputs like seeds, fertilizers, and agro-chemicals and in arranging storage, processing and marketing of farm produce. The cooperative agro-processing units add value to their precious farm produce such as milk, sugarcane, cotton, fruits and vegetables and thus facilitate better returns.

#### **1.4 Characteristics of Cooperation**

From the above given definitions of cooperation, we may deduce some of the characteristics of it which differentiate cooperative organizations from other forms of organizations. It is an association of persons and not capital, as in the case of limited company. Any person can become the member of cooperative society irrespective of religion, language, caste, or creed. An individual is also free to leave the cooperative organization at his own will and get his membership cancelled.<sup>19</sup> ICA "Draft Statement on Co-operative Identity, in Review of International Co-operation, Vol. 87, No. 3, Geneva, 1994, p25.<sup>20</sup> Swami H R & Gupta B P, Rural Development and Co-operation In India, Indus Valley Publication, Jaipur-New Delhi, 2005-06, p.29

\_ Democratic Administration Cooperative organizations are associations of people, which are democratically managed and controlled. Every individual has equal importance and therefore one vote one member principle is applicable, irrespective of number of shares held by a person. In this way every member has equal say in management and control of the cooperative society. An inequality arising due to unequal holding of economic and productive resources is removed in cooperative form of organization.

#### **Cooperation is an Undertaking**

Cooperative societies are organizations and are different from religious or charitable organizations. They are based on self-help through mutual help. Persons, join together in cooperative societies to fulfill their common economic and social needs. Principle of service is key objective of every cooperative society. The members of the society contribute towards the requirement of resources and bear all the risk. The members of the society share all the profits and losses of the society jointly.

### **- Mutual Cooperation and Unity**

The cooperative societies are functioning on the principle of “self help through mutual help”. Due to principle of equality, every member is treated alike, which generates sense of unity. “Each for all and all for each feeling is developed and practiced.

### **- Service Motive:**

The objective of service to its members and the society as a whole is fundamental to the functioning of cooperative organizations. Service motive does not mean that cooperative societies should not be self-reliant. They should generate its own resources for its continuance and growth. Profit is not the prima facie objective but needs to make reasonable profits keeping in mind its basic objectives.

### **- Socio-Economic Movement**

Cooperative movement has been identified as a movement that can bring socioeconomic development of weaker sections of the society. Late Shri Vaikunthabhai Mehta has observed that cooperative movement claims to be, “The principle means of bringing about, in a peaceful manner, a social change of a fundamental nature, ushering a social order, in exploitative, egalitarian and tolerant that harmonizes the dignity of the individual with the well-being of community.”

## **1.5 Principles of Cooperation**

The main objective of cooperative movement is to uplift socio-economic conditions of its members and the society as a whole. Cooperative Societies are incorporated under the Cooperative Societies Act of respective countries and its states. Every society is required to function as per the provisions of its Articles of Association and on the basis of some that who developed these principles of cooperation first. The first to state the cooperative principles were the Rochdale Equitable Pioneers Society in England. There were 28 weavers, who were the founders of the Rochdale Equitable Pioneers Society. During the course of management and administration of this society, founders had undergone various experiences regarding operation and management of the society. On the basis of this, promoters of Rochdale Equitable Pioneers Society developed certain rules and regulations for operation of the society. Initially they developed seven regulations, which later on were known as Principles of Cooperation. Later on, in the year 1937 an International Cooperative Congress was held in Paris. During this congress all the other countries of the world present in the congress also accepted all the regulations as Principles of Cooperation and decided to follow them in administration and management of their cooperative organizations. The seven principles, which were accepted as Principles of Cooperation, are as follows: (ICA, 1938) 21

- i. Open Membership

- ii. Democratic Control
- iii. Limited Interest on Capital
- iv. Justified distribution of surplus
- v. Cash Transactions
- vi. Political and Religious Neutrality
- vii. Cooperative Education

All the above principles were implemented in all the countries of the world where cooperative movement had taken place during that time. However, in due course of time economic, social and technological environment was changing in the world, which brought about changes in implementations of these principles. As the size, administration and functioning of the cooperative societies changed due to changes in socio-economic development in the world, the principles of cooperation established by promoters of Rochdale Equitable Pioneers Society and accepted by International Cooperative Congress, were required to be revised. In the year 1963, a meeting of International Cooperative Alliance was held in Bournemouth and during this meeting a committee was appointed to study and recommend necessary changes in existing principles. In March 1966, the International Cooperative Alliance congress met in Vienna (Austria), and in this congress the recommendations suggested by the "Committee on Principles" were accepted. The new principles of Cooperation accepted by International Cooperative Alliance in September 1966, at Vienna (Austria), are as follows:

**-Open and Voluntary Membership**

Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

**-Democratic Member Control**

Cooperatives are democratic organizations controlled by their members, who actively participate in framing their policies and making decisions. All those persons serving as elected representatives are accountable to the membership. In 22 [www.ica.coop/coop/principles.html](http://www.ica.coop/coop/principles.html) primary cooperatives members have equal voting rights (one member, one vote) and cooperatives at other levels are also organized in a democratic manner.

**iii. Members Economic Participation**

Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members

inproportion to their transactions with the cooperative; and supporting otheractivities approved by the membership.

#### **-Autonomy and Independence**

Cooperatives are autonomous, self-help organizations controlled by theirmembers. If they enter in to agreements with other organizations, includinggovernments, or raise capital from external sources, they do so on terms thatsure democratic control by their members and maintain their cooperativeautonomy.

#### **v. Principle of Education, Training and Information**

Cooperatives Societies provide education and training to their members, electedrepresentatives, managers, and employees so they can contribute effectively to thedevelopment of their cooperatives. They inform the general public, particularlyyoung people and opinion leaders about the nature and benefits of cooperation.

#### **vi Principle of Cooperation among Cooperatives**

Cooperatives serve their members most effectively and strengthen the cooperativemovement by working together through local, national, regional and internationalstructures of other cooperative organizations.

#### **vii Principle of Concern for the Community**

Cooperatives work for the sustainable development of their communities throughpolicies approved by their members.

### **1.6 Evaluation of Cooperative Principles in Indian Context**

The cooperative movement in India traces its origin to the agriculture and allied sectorandwas originally evolved as a mechanism for pooling the people's small resources witha view to provide to them the advantages of the economies of scales. 23The first attemptto institutionalize cooperatives in India began with the enactment of the CooperativeCredit Societies Act, 1904, the scope of which was subsequently enlarged by the morecomprehensive Cooperative Societies Act of 1912. Under the Government of India Act,1919, the subject of cooperation was transferred to the then provinces, which wereauthorized to enact their own cooperative laws. Under the Government of India Act,1935, cooperatives remained a provincial subject. Presently, the item "CooperativeSocieties" is a State subject under entry 32 of the State List of theConstitution of India.Cooperative Societies Act enacted by State Governments is now in place in the respectivestates.24 Gujarat too, has enacted its own Cooperative Societies Act, which is known as“The Gujarat Cooperative Societies Act, 1961. Accordingly, cooperative principles areaccepted as directive principles of state policy as incorporated in the constitution of India,which are not enforceable as such. But the principles laid down are fundamental in thegovernance of the cooperative movement.

Cooperative principles can be achieved by administrative, financial and legal measures. It is important to note that the cooperative principles find reference in section 4 of the Gujarat Cooperative Societies Act, 1961. The practical implications of the principles of cooperation with reference to Gujarat State are discussed as under:<sup>25</sup>

### **-Voluntary and Open Membership**

The membership in a cooperative society is voluntary in India since a member is given right to join the society or not to join the society at his convenience and necessity. Since India is a democratic country and not a communist country the membership is voluntary<sup>23</sup> [www.ncui.net/24](http://www.ncui.net/24) [www.ncui.net/25](http://www.ncui.net/25)  
<http://www.coop.gujarat.gov.in/laws.htm>

14 or for which no supporting provision of law is necessary. Open Membership means those persons taking the services or wishing to take services of the cooperative society and are fulfilling the criteria of membership can become the member of a cooperative society. The point of conflict in this principle is that, Open Membership does not mean every person who applies for becoming the member of the society should be admitted as member of the society. To become the member of a particular class of society, individuals should satisfy the eligibility criteria of that society. All or any of the criteria, the management can reject the application and prevent a person from getting the membership of that society. More over, that person who does not belong to the geographical functional territory of the respective class of society, they may be denied of the membership of that cooperative society.

Therefore, the principle of open membership is applied to a limited class of societies as prescribed in rule 12 of Gujarat Cooperative Societies Rules, 1965. That is, Sewa Sahakari Mandli consumers' society and cooperative milk producer society. This implies that the principle of open membership is accepted in cooperative law in a very limited sense for a limited class of societies. There was an attempt to enforce open membership under section 24 by making the provision of deemed membership and restriction of the right of the society for refusal of membership in the prescribed class of societies by making amendment in section 24 in the year 1982 by Government of Gujarat. But the amendment of 1982 was challenged before the Honorable High Court and Honorable High Court of Gujarat by the Division Bench strikes the same down as ultra vires. More over, various literatures on Gujarat Cooperative Societies Act 1961, shows that the law is flexible and also permit's the societies to carry out business with non-members subject to certain conditions like cash trading, non-members cannot be given any kinds of advances.

According to this principle, Cooperative Societies are of the members, by the members and for the members. The management and administration of the Cooperative Societies have to be done by the elected members of the society in a democratic manner and the elected body is responsible to the society and its members.

In cooperative organizations, persons are important and not the capital and hence every member gets equal rights, irrespective of number of shares held in the society i.e. one member one vote. This principle too is interpreted differently in varying situation and for the different class of members or the society. In case where cooperative societies are member of another cooperative organization in such cases the law provides different alternatives as regard to voting and fundamental principle of one member one vote is defeated. The several alternatives as to vote are:— Treating each member-institution as entitled to equal vote, or— Treating each individual member of a member-institution as entitled to equal vote or— Giving more votes to large societies up to some extent, or— Drawing upon the business contributed by a member-institution, as a balancing factor. Therefore, in several situations the principle of democratic control ceases to exist and interpretation of the principle is done as per the situation and requirement. For this reason, the principle clearly addresses the possible need for different voting procedures in order for voting to be democratic.

#### **-Member's Economic Participation:**

This principle deals directly with the difficult problem of capital acquisition by cooperatives in amounts large enough to compete effectively with vast global industries. To carry out any type of economic activity, resources like land, labour, capital, machines, materials, management etc is required in various proportions. Cooperative organizations are also engaged in economic activities and hence need capital and various resources to attain their predefined goals. Throughout the history, cooperatives have been built on the premise that capital is a servant of the enterprise, rather than the master. Cooperative activities are organized to meet member needs, not to accumulate capital in the hands of investors. Although members may own millions of rupees that they might invest in cooperatives, the restrictions on dividends to be paid on capital do not encourage them to invest beyond the required amounts. Hence cooperatives are unable to generate equity for capital-intensive projects. As a result cooperatives to meet their financial needs, borrow capital from several government and private sources at fairly high rates. This reduces their competitive strength and becomes financially unsound. Moreover certain agencies after providing capital start interfering in management of the societies. In order to retain the democratic nature of the enterprise, members of cooperatives are expected to contribute capital equitably and to democratically control the capital of the business.

#### **-Principle of Autonomy and Independence:**

Cooperatives are economic organizations and therefore they are bound to enter into commercial agreements with other organizations. This type of commercial agreement will restrict the autonomy and independence of the cooperatives for compliance with the commercial contracts. Likewise, cooperative movement had so far remained dependent upon government assistance in the form of share capital or

'government guarantee' or concessional finance from some central or state organizations. Therefore, also they are subject to certain terms and conditions and to that extent, the autonomy and independence is reduced. For example, under Gujarat Cooperative Societies Act, 1961 the state government gets powers to appoint three government nominees in the board of directors in the cooperative societies where there is a government share capital or guarantee. Likewise, where there is a public interest involvement similar right for appointment of three nominees is exercised by the state government. Since cooperatives are public bodies, their commercial activities are subject to general supervision and control by the Registrar of Cooperative Societies and autonomy and independence is reduced by certain provision of Gujarat Cooperative Societies Act 1961 in the case of mismanagement by the board of directors or any office bearers or officers. However, the basic intention of all the provisions under Gujarat Cooperative Societies Act, 1961 which appears to be anti-democratic is not intended to remove independence and autonomy, but they are intended to regulate the healthy functioning of a democratic organization for which Registrar is given certain powers to restrict autonomy and independence only when the things go wrong.

#### **- Principle of Education, Training and Information:**

Education continues to be a priority of the cooperative movement. Cooperative education is more than advertising products or distributing information. It is critical to the effective and informed participation of members, which lies at the core of the cooperative definition. "It means engaging the minds of members, elected leaders, managers and employees to comprehend fully the complexity and richness of cooperative thought and action." More over information pertaining to the society and its functioning must be provided as and when demanded by its members. The Gujarat Cooperative Societies Act 1961, gives rights to members to inspect the by-laws, last audited balance sheet, profit and loss account, the list of members of committee, register of members, minutes of general meeting and in particular the portion of the books and records in which the transactions, with the society by that particular member have been recorded. If cooperatives are to be part of the solution to many of the world's problems, people must not only be aware of the concept, they must appreciate it and be willing to participate in it. Such active involvement will not occur if people do not understand cooperative

#### **1.7 Cooperation among Cooperatives:**

The most important form of cooperation among cooperative is the concept of federal society where in several cooperatives societies form a new society, which is supposed to work for the affiliated societies who are the members of the federal society. This principle looks violated when cooperative starts competing among themselves for resources and markets.

## **1.8 Concern for Community:**

Concern for community is a very broad concept and cooperative society cannot be expected to look after general public without taking care of their members. Several cooperatives have contributed towards creation of educational and social infrastructure in their region. They also contribute benevolently at the time of natural calamities and disasters. Cooperatives are expected to work for environmental management as well as sustainable development of all its stakeholders.

## **1.9 Origin and Growth of Cooperative Movement in the World**

### **Introduction**

On a worldwide basis, modern cooperatives have developed for over 200 years. Cooperative institutions exist all over the world providing essential services, which would otherwise be unattainable. In many third world countries, cooperatives such as credit unions and agricultural organizations have been very successful in helping people to provide for themselves where private and other corporate capitals do not see high profitability.<sup>26</sup> In 90 countries of the world, over 800 million individuals are members of cooperative institutions. Globally, cooperatives have been able to elevate its position as a powerful economic model. In some countries they are a sizeable force within the national economy.

### **1.10 Origin of Cooperation in the World:**

In early human societies people learned to cooperate and work together to increase their success in hunting, fishing, gathering food, building shelter, and meeting other individual and group needs. Historians have found evidence of cooperation among people in early Greece, Egypt, Rome and Babylon, between Native American and African tribes, and between many other groups. Earlier agriculture would have been impossible without mutual aid among farmers. They relied on one another to defend land, harvest crops, build barns and storage buildings, and to share equipment. These examples of informal cooperation of working together were the precursors to the cooperative form of business.<sup>28</sup>

### **1.11 First Cooperative Society in the World:**

The earliest cooperatives appeared in Europe in the late 18th and 19th centuries, during the industrial revolution. As people moved from farms into the growing cities, they had to<sup>26</sup> Das Banishree, Kumar and Palai Nirod Kumar, Problems and Prospects of the Cooperative Movement in India Under The Globalization Regime, XIV International Economic History Congress, Helsinki 2006, Session 7227 <http://www.ica.coop/al-ica/28> Kamra Pawan K., Cooperative Management-Practices Problems and Prospects, Deep and Deep Publications, New Delhi, p.17 rely on stores

to feed their families because they could no longer grow their own food. Working people had very little control over the quality of their food or living conditions. Those with money gained more and more power over those without it. Early cooperatives were set up as a way to protect the interests of the less powerful members of society—workers, consumers, farmers, and producers.<sup>29</sup> In England, consumers were frustrated by the abuses of storeowners, many of whom adulterated products to increase their profits. In many cases, workers' wages were paid in company "chits" - credit that could only be used at the company's stores. The average consumer had very few choices and little control. Groups of these people began experimenting with various methods of providing for their needs themselves. They decided to pool their money and purchase groceries together. When they purchased goods from a wholesale dealer and then divided them equally among themselves, they were surprised at the savings and higher quality of products they were able to obtain. Great Britain is the birthplace of the Consumer Cooperative Society Movement in the world. Even the Cooperative Movement first originated from Britain in 1844 by establishing The Rochdale Equitable Pioneers Society.<sup>30</sup> In 1843, workers in the textile mills of Rochdale, England went on strike. When the strike failed, the mill workers began to look for other ways to improve their lives. Instead of calling for another strike or asking charitable groups for help, some of these people decided to take control of one of the most immediate and pressing areas of their lives. They believed that they needed their own food store as an alternative to the company store. Twenty-eight people joined together and founded the Rochdale Equitable Pioneers Society. After saving money for over a year, these pioneers opened their cooperative store at 31 Toad Lane on a cold December evening in 1844. Although the founders agreed to sell just butter, sugar, flour, and oatmeal, they also offered tallow candles for sale that night. They were forced to buy candles because the gas company refused to supply gas for the new group's lights. They bought candles in bulk and sold what they didn't use for their members.<sup>29</sup> Frederick Donald A., *An Introduction to Cooperatives*, Rural Business-Cooperative Service, U.S. Department of Agriculture Cooperative Information Report 55 April 1997

The Rochdale Pioneers weren't the first group to try forming a cooperative but they were the first to make their cooperative succeed and endure. To avoid the mistakes made by earlier cooperative societies and to help others, they developed a list of operating principles governing their organization. These formed the basis for what are now known as the cooperative principles. Rochdale is still considered the birthplace of the modern cooperative movement.

The cooperative movement has had considerable growth throughout Great Britain and countries under its domain. Through phases local cooperatives transformed into national wholesale and retail distributive enterprises with involvement of a large

section of the population as members of cooperative organizations. Cooperatives were also formed in the Scandinavian countries, Israel, China, Russia, and France. In the United States the cooperative movement began in the 19th century, first among workers and then among farmers. In 1867 the “National Grange”, a farmers' cooperative, was formed and later this institution exercised considerable political influence. The cooperative model of enterprise can be applied to any business activity. They exist in traditional economic sectors such as agriculture, fisheries, consumer and financial services, housing, and production (workers' cooperatives). However, cooperative activity spans to a large number of sectors and activities including car-sharing, child-care, health and social care, funeral, orchestras and philharmonics, schools, sports, tourism, utilities (electricity, water, gas, etc.), and transport (taxis, buses, etc) in the world. There has been increasing international collaboration among the various kinds of cooperatives and a growing trend toward the establishment of international cooperative distribution.

### **1.12 Status of Cooperative Movement in the World**

The Cooperative Movement brings together over 800 million people around the world. These enterprises continue to play significant economic and social roles in their communities. Below are some facts about the Movement that demonstrate their relevance and contribution to economic and social development. Large segments of the world's population are members of cooperatives. The following statistics show the number of cooperative societies and memberships in different countries in the world. In Asia 45.3 million people are members of a credit union. (Source: Association of Asian Confederation of Credit Unions, Annual Report 2007/2008)

In Argentina, there are 11,357 co-operative societies with over 9 million members, i.e. 22% of the population. (Source: Instituto Nacional de Asociativismo y Economía Social (INAES), September 2007) In Belgium, there were 29,933 co-operative societies in 2001. In Canada, four of every ten Canadians are members of at least one cooperative. In Quebec, approximately 70% of the population is co-op members, while in Saskatchewan 56% are members. (Source: Co-operative Secretariat, Government of Canada) In Colombia over 4 million people are members of co-operatives or 9.17% of the population. Costa Rica counts over 10% of its population as members of co-operatives. Finland, S-Group has a membership of 1,468,572 individuals which represents 62% of Finnish households. (Source: SOK Corporation Annual Report 2004) In Germany, there are 20 million people who are members of co-operatives, 1 out of 4 people. In Indonesia, 27.5% of families representing approximately 80 million individuals are members of co-operatives. (Source: Ministry of Co-operative & SMEs, Indonesia, 2004) In Japan, 1 out of every 3 families is a

member of a co-operative. In Kenya 1 in 5 is a member of a co-operative or 5.9 million and 20 million Kenyans directly or indirectly derive their livelihood from the Co-operative Movement. In India, over 239 million people are members of a co-operative.<sup>31</sup> <http://www.ica.coop/members/member-stats.html><sup>22</sup>

In Malaysia, 5.9 million people or 24% of the total population are members of cooperatives. (Source: Ministry of Entrepreneur and Co-operative Development, Department of Co-operative Development, Malaysia, December 2006) In New Zealand, 40% of the adult population is members of co-operatives and mutual. (Source: New Zealand Co-operative Association, 2007) In Singapore, 50% of the population (1.6 million people) is members of a cooperative. In the United States, 4 in 10 individuals is a member of a co-operative (25%). Cooperatives are significant economic actors in national economies across the globe. Cooperatives societies in the world are playing vital role in several economic activities. They are economically involved in variety of sectors. In some sectors they contribute very significantly in the GDP of their respective country. The following statistics gives details pertaining to economic contribution of different types of cooperatives in different segments of the economy of their respective countries.<sup>32</sup> In Belgium, co-operative pharmacies have a market share of 19.5%. In Benin, FECECAM, a savings and credit co-operative federation provided USD16 million in rural loans in 2002. In Brazil, co-operatives are responsible for 40% of the agricultural GDP and for 6% of total agribusiness exports. In 2006 Brazilian co-operatives exported 7.5 million tonnes of agricultural products for a value of USD 2.83 billion to 137 countries. (Source: Brazil-Arab News Agency, 2 February 2007).

In Bolivia, Cooperativa de Ahorro y Crédito "Jesús Nazareno" Ltda. (CJN) handled 25% of the savings in Bolivia in 2002. Canadian maple sugar co-operatives produce 35% of the world's maple sugar production. In Côte d'Ivoire co-operatives invested USD 26 million for setting up schools, building rural roads and establishing maternal clinics. In Colombia, the over 7,300 co-operatives are responsible for 5.61% of the GDP in 2007 - up from 5.37% in 2006 and 5.25% in 2005. They employ over 110,000

<sup>32</sup> <http://www.ica.coop/members/member-stats.html><sup>23</sup> people and some sectors are providing a significant proportion of the jobs, 24.4% of all health sector jobs are provided by co-operatives, 18.3% of the jobs in the transport sector, 8.3% in agriculture and 7.21% of the jobs in the financial sector. Co-ops provide 87.5% of all micro credit in the country; they provide health insurance to 30% of all Colombians and are responsible for 35.29% of Colombian coffee production. (Source: Sector Cooperativo Colombiano 2007) In Cyprus, the co-operative movement held 30% of the market share in banking services, and handled 35% of all marketing of agricultural

produce.\_ In Denmark, consumer co-operatives in 2007 held 36.4% of consumer retailmarket. (Source: Coop Norden AB Annual Report 2007)

Finnish co-operative groups within Pellervo were responsible for 74% of the meatproducts, 96% of dairy products; 50% of the egg production, 34% of forestryproducts and handled 34.2% of the total deposits in Finnish banks.\_ In France, 9 out of 10 farmers are members of agricultural co-operatives; cooperativebanks handle 60% of the total deposits and 25% of all retailers in Franceare co-operatives. (Source: GNC Newsletter, No 348, June 2007)\_ Hungary, consumer co-operatives members of Co-op Hungary are responsible for14.4% of the national food and general retail sales in 2004. (Source: Co-opHungary, Statistical Data 2004)\_ In Japan, the agricultural co-operatives report outputs of USD 90 billion with 91%of all Japanese farmers in membership.\_ In Kenya, co-operatives are responsible for 45% of the GDP and 31% of nationalsavings and deposits. They have 70% of the coffee market, 76% dairy, 90%pyrethrum, and 95% of cotton.\_ In Korea, agricultural co-operatives have a membership of over 2 million farmers(90% of all farmers), and an output of USD 11 billion. The Korean fishery cooperativesalso report a market share of 71%.\_ In Kuwait, the Kuwaiti Union of Consumer Co-operative Societies handled 80%of the national retail trade.\_ In Latvia, the Latvian Central Co-operative Union is responsible for 12.3% ofthemarket in the food industry.

In the agricultural sector of Mauritius, co-operatives play an important role in theproduction of sugar, vegetable, fruit and flower, milk, meat and fish. Nearly 50%of sugar-cane planters are grouped in co-operatives and the share of co-operativesin the National Sugar Production is 10%. Co-operative Societies also account formore than 60% of national production in the food crop, like 75% of onion consumption, 40% of potatoes and about 70% of fresh green vegetables areproduced by co-operatives.\_ In Moldova, the Central Union of Consumer Co-operatives is responsible for6.8% of the consumer market.\_ In New Zealand, 22% of the gross domestic product (GDP) is generated by cooperativeenterprise. Co-operatives are responsible for 95% of the dairy marketand 95% of the export dairy market. They hold 70% of the meat market, 50% ofthe farm supply market, 70% of the fertilizers market, 75% of the wholesale pharmaceuticals, and 62% of the grocery market. (Source: New Zealand CooperativeAssociation, 2007)\_ In Norway, dairy co-operatives were responsible for 99% of the milk production;consumer co-operatives held 24.1% of the market (Source: Coop Norden ABannual report 2007); fisheries co-operatives were responsible for 8.7%of totalNorwegian exports; forestry co-operatives were responsible for 76% of timberand that 1.5 million people of the 4.5 million Norwegians were member of cooperatives.\_ In Poland, dairy co-operatives are responsible for 75% of dairy production.\_ In Portugal,approximately 3000 co-

operatives are responsible for 5% of the Gross National Product of the country. (Source: Prime Minister of Portugal address to ICA Expo, 23 Oct. 2008)\_ Co-operatives and mutuals in Scotland account for 4.25% of the Scottish Gross Domestic Product, having an annual turnover of GBP 4 billion and assets of GBP 25 billion. (Source: Co-operative Development Scotland web site, and "Cooperatives in Scotland: A powerful force....", 2007)\_ In Singapore, consumer co-operatives hold 55% of the market in supermarket\_ In Slovenia, agricultural co-operatives are responsible for 72% of the milk production, 79% of cattle; 45% of wheat and 77% of potato production.\_ In Sweden, consumer co-operatives held 17.5% of the market in 2004. (Source: Coop Norden AB annual report 2004)

\_ In the UK, the largest independent travel agency is a co-operative.\_ In Uruguay, co-operative produce 90% of the total milk production, 34 % of countries around the world.\_ In Vietnam, co-operatives contribute 8.6% of the Gross Domestic Product (GDP).\_ In the United States more than 30 co-operatives have annual revenue in excess of USD 1 billion. In 2003, the top 100 US co-operatives had combined revenues of USD 117 billion. In addition, approximately 30% of farmers' products in the US are marketed through 3,400 farmer-owned co-operatives. Cooperative Societies in different parts of the world has also emerged as the employment generator for urban and rural population. They have truly emerged as institutions that have brought socioeconomic development of the people. Unemployment and poverty are biggest challenges for governments in different parts of the world. Private business organizations create jobs but they do not maintain them for too long. They replace labour with technology over the period of time. On the other hand co-operatives generate and also continue to maintain the jobs. Following statistics gives details related to number of people employed in different sectors of cooperatives in different countries of the world.<sup>33</sup>\_ Co-operatives provide over 100 million jobs around the world, 20% more than multinational enterprises.\_ In Argentina, co-operatives are responsible for providing direct employment to over 233,000 individuals. (Source: Instituto Nacional de Asociativismo y Economía Social (INAES), September 2007)\_ In Canada, co-operatives and credit unions employ over 1,55,000 people. The Desjardins movement (savings and credit co-operatives) is the largest employer in the province of Québec.

\_ In Colombia, the co-operative movement provides 1,11,951 jobs through direct employment and an additional 5,00,450 jobs as owner-workers in workers cooperatives, providing 3.49 % of all jobs in the country. They provide 24.41% of the jobs in the health sector, 18% of the jobs in the transport sector, 13% in the worker/industrial sector, 11% in the financial sector, 8.31% in the agricultural sector and 7.21% in the financial sector. (Source: CONFECOOP. Sector Cooperativo Colombiano 2007)\_ In France, 21,000 co-operatives provide over

4 million jobs. (Source: GNCNewsletter, No 348, June 2007)\_ In Germany, 8,106 co-operatives provide jobs for 4,40,000 people.\_ In Indonesia, co-operatives provide jobs to 2,88,589 individuals. (Source:Ministry of Co-operative & SMEs, Indonesia, 2004)\_ In Italy, 70,400 co-operative societies employed nearly 1 million people in 2005.(Source: Camere di Commercio d'Italia, "Secondo rapporto sulle imprese cooperative")\_ In Kenya, 2,50,000 people are employed by co-operatives.\_ In Slovakia, the Co-operative Union represents more 700 co-operatives who employ nearly 75,000 individuals

### **1.13 Origin and Growth of Cooperative Movement in India**

During the British Rule, Sir Fredrick Nicholson a British Officer in India suggested to introduce Raiffersen model of German agricultural credit cooperatives in India. As a follow-up of that recommendation, the first Cooperative Society Act of 1904 was enacted to enable formation of "agricultural credit cooperatives" in villages in India under government sponsorship. With the enactment of 1904 Act, cooperatives were to get direct legal identity as every agricultural cooperative was to be registered under that act only. The 1904 Cooperative Societies Act was replaced by 1912 Cooperative Societies Act, which provided formation of cooperative societies other than credit. Under 1919 Administrative Reforms Act, cooperatives was made a provincial subject making each province responsible for cooperative development.<sup>34</sup> In 1942, the British Government enacted the Multi-Unit Co-operative Societies Act, 1942 with an object to cover societies whose operations are extended to more than one state. The impulses of the Indian freedom movement gave birth to many initiatives and institutions in the post independence era in India and armed with an experience of 42 years in the working of Multi Unit Co-operative Societies and the Multi-Unit Cooperative Societies Act, 1942, The Central Government enacted a comprehensive Act known as Multi State Co-operative Societies Act, 1984, replacing the Act of 1942.<sup>35</sup> An expert group constituted by the Government of India in 1990, recommended:

- \_ To facilitate building up of integrated cooperative structure.
- \_ To make the cooperative federation organizations responsive towards their members.
- \_ To minimize government interference and control in the functioning of cooperatives.
- \_ To eliminate politicization.

India is basically an agrarian economy and 71% of its total population resides in rural areas and 29% in urban areas<sup>36</sup>. The rural people need many services in their daily life, which are met by village cooperative societies. The village cooperative societies provide strategic inputs for the agricultural sector, consumer societies meet their consumption requirements at concessional rates; marketing societies help the

farmer to get remunerative prices and cooperative processing units help in value additions to the raw products etc. In addition, cooperative societies are helping in building up of storage godowns including cold storages, rural roads and in providing facilities like irrigation, electricity, transport and health. Thus the cooperative societies in India in fact are playing multi-functional roles both in rural and urban areas.<sup>34</sup> Das Banishree, Kumar and Palai Nirod Kumar, Problems and Prospects of the Cooperative Movement in India Under The Globalization Regime, XIV International Economic History Congress, Helsinki 2006, Session 7235 Das Banishree, Kumar, Palai Nirod Kumar, Problems and Prospects of the Cooperative Movement in India Under The Globalization Regime, XIV International Economic History Congress, Helsinki 2006, Session 7236 [pib.nic.in/archieve/others/fsrurald.pd28](http://pib.nic.in/archieve/others/fsrurald.pd28)

Based on the recommendations, the central government enacted the Multi-State Cooperative Societies Act, 2002 which provided for democratic and autonomous working of the cooperatives, which came into force with effect from August 19, 2002.<sup>37</sup> At present, the Government of India is in the process of formulation of National Policy on Cooperatives which is likely to uphold the values and principles of cooperation recognizing its autonomous characters and attaching priority to professionalism, human resource development and to act as preferred instrument for execution of public policy in rural areas and in sectors where they provide the most effective delivery system. To strengthen their competitive edge in the market total quality control initiatives, management initiatives and cost reduction initiatives will also be taken up. It is now increasingly recognized that the cooperative system in India has the capacity and potentiality to neutralize the adverse effects emerging from the process of globalization and liberalization, and continue to play an important role in employment promotion and poverty alleviation, both as production enterprises mainly of the self-employed and as providers of services to members. Although cooperatives are not instruments of employment promotion, they do effectively create and maintain employment in both urban and rural areas and thus provide income to both members and employees in the form of shares of surplus, wages and salaries or profits depending upon the type of cooperative.

#### **1.14 Glimpses of Indian Cooperative Movement:**

After India attained its Independence in August 1947, cooperatives assumed a great significance in poverty removal and faster socio-economic growth. With the advent of the planning process, cooperatives became an integral part of the five-year plans. As a result, they emerged as a distinct segment in our national economy. In the first five-year plan, it was specifically stated that the success of the plan would be judged, among other things, by the extent it was implemented through cooperative organizations. The cooperative sector has been playing a distinct and significant role in

the country's process of socio-37 Das Banishree, Kumar, Palai Nirod Kumar, Problems and Prospects of the Cooperative Movement in India Under The Globalization Regime, XIV International Economic History Congress, Helsinki 2006, Session 7229 economic development. There has been a substantial growth of this sector in diverse areas of the economy during the past few decades. The number of all types of cooperatives increased from 1.81 lakh in 1950-51 to more than 5.83 lakh in 2006. The total membership of cooperative societies increased from 1.55 crore to more than 20.90 crore during the same period. 38 In some of the areas of their activities like dairying, urban banking and housing, sugar and handlooms, the cooperatives have achieved a great success. 39 The following tables give details about growth of cooperatives, share capital invested and contribution of cooperatives in the national economy of the country.

### **1.15 The Main Areas of Operation of Cooperatives in India**

Cooperation occupies an important place in the Indian economy. Perhaps no other country in the world has the cooperative movement as large and as diverse as it is in India. There is almost no sector left untouched by the cooperative movement. The main areas of operation of cooperatives in India are as under: - 40\_ Agricultural Credit

- \_ Agricultural Supplies
- \_ Agricultural Marketing
- \_ Agricultural Processing
- \_ Functional Cooperatives in the fields of dairy, poultry, fisheries, fruits, vegetables
- \_ Industrial Cooperatives
- \_ Public Distribution of essential commodities through consumer cooperatives
- \_ Urban Credit Cooperatives
- \_ Housing Cooperatives

Cooperative movement in India is the result of a deliberate policy of the state and is vigorously pursued through formation of an elaborate governing infrastructure. The successive five-year plans looked upon the cooperation movement as the balancing sector between public sector and the private sector. And the success is evident. Almost 50 percent of the total sugar production in India is contributed by sugar cooperatives and over 60 percent of the total fertilizer distribution in the country is handled by the cooperatives. The consumer cooperatives are slowly becoming the backbone of the public distribution system and the marketing cooperatives are handling agricultural produce with an astounding growth rate. The National Cooperative Development Corporation (NCDC), a statutory body was set up in 1963 by the Union ministry of Civil Supplies and Cooperation, to promote the Cooperative Movement in

India.<sup>41</sup> Further there is Indian Farmers Fertilizer Cooperative Ltd., (IFFCO), which has been successful in setting up an effective marketing network in most of the states for selling modern farming technology instead of fertilizers alone. The operations of IFFCO are handled through its more than 30,000 member cooperatives. The National Agricultural Cooperative Marketing Federation (NAFED) has over 5,000 marketing societies. These societies operate at the local wholesale market level and handle agricultural produce. Thus the farmers have a market for their produce right at their doorstep, a market that assures them reasonable returns and guaranteed payments. All these federations are acting like the spokesmen of member cooperatives and are doing liaisoning work between the Cooperatives and the Government. In India we find that the states of Maharashtra and Gujarat are well developed. Whereas the states of Andhra Pradesh, Rajasthan and Karnataka have shown remarkable progress in the Cooperative Movement and there is a vast potential for the development of <sup>41</sup> www.ncui.net/32cooperative in the remaining states. Cooperatives today are committed to securing an improvement in the quality of life of a vast majority of Indians.

#### **1.16 Origin and Growth of Cooperative Movement in Gujarat State**

After Gujarat was given a status of a separate state in 1960, Gujarat Cooperative Societies Act was also developed and was enacted in 1961. This Act was amended over the period of time as per the requirement and future growth of the cooperative movement in the state. Before this Act, Cooperative Societies in Gujarat were governed by Mumbai State Act of 1925 and in beginning of the cooperative movement in the country; Cooperative Societies Act 1904 and 1912 of Government of India governed the cooperative societies in Gujarat. In India before cooperative societies were legally formed under Cooperative Societies Act of 1904, on 5th February 1889, in Vadodra, a provincial state at time, 23 middle class educated persons started Annoyance Cooperative Group with a view of mutual help. We can call this group as first successful cooperative experiment in Gujarat. This group was registered as Cooperative Society in 1912 and again in 1966. It was restructured and was registered as Peoples Cooperative Bank later on. In other words, Annoyance Cooperative Group operated without formal registration for almost 23 years. <sup>42</sup> Under Indian Cooperative Society Act of 1904, in Vishalpur-Bakrole of Ahmedabad District in Gujarat, for the first time farmer's credit cooperative society known as Bakrole Vishalpur Credit Cooperative Society was formed as per Raiffersen Model of Germany. Later on in 1905, in Valsad District of Gujarat, Degam Credit Cooperative Society was registered. Again in 1912, multipurpose cooperative society was formed in Kodinar of Amreli District of Gujarat state and this society became the model society for crop loans. <sup>43</sup> As far as urban people's credit cooperative society in

Mumbai State at that time was concerned, Bombay Urban Cooperative Credit Society was formed in 1906 and was the first amongst other societies that were formed according to Luzati and Shoelz-Delitaze<sup>42</sup> Vyas Rasikbhai, 100 Years of Cooperative Activities in Gujarat, Historic Events and Developments, Souvenir, Centenary Celebrations of the Indian Cooperative Movement, G.S.C.U., Ahmedabad, 2004, p.1443 History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian Cooperative Movement, M.D.C.U, Mehsana, 2004, p.14333 model. Later on it became Bombay State Cooperative Bank. In 1911, Bombay Central Cooperative Bank was formed which later on became District Cooperative Bank. Before this bank was formed, several People's Cooperative Banks were distributing primary agricultural credits to primary agricultural credit cooperative societies in rural areas. In Gujarat the first People's Cooperative bank was formed in 1909 in Jambusar town of Bharuch District by the name of Jambusar Peoples Cooperative Bank.<sup>44</sup> After 1912 for agricultural crop, particularly for cotton pulling and selling i.e. Cotton Ginning Press, Residential Housing Cooperative in cities like Ahmedabad, People's Cooperative Banks, District Cooperative Banks, Primary Credit Cooperative Societies received momentum in formation. In Districts of Surat and Bharuch particularly, cooperative societies received worth noting response and also good growth and development had been made. During the period of 1929, in Bharuch and than after in Vadodra district, long term Agricultural Mortgage Banks (presently Land Development Bank) were formed. After 1933, these banks were operated in cooperative form of organization. Such banks later on were also formed in districts of Surat and Kheda.<sup>45</sup> In 1918, for promotion of cooperatives and for the education and training of its members, cooperative institute was established in Mumbai Region. Later on in 1929, Cooperative Training School was also established in Surat. During the period of 1937-1947, primary credit cooperative societies in rural areas did the job of distributing essential commodities, particularly those items that were controlled by Government of India. In urban areas, Cooperative Consumer Stores were formed for distributing controlled and essential items. More over to solve the problem of urban housing, Cooperative Housing Societies were formed and received good momentum in their growth. During these period cooperative irrigation societies, milk producer's societies and industrial cooperatives societies, particularly weaver's cooperative societies were formed. Moreover, for selling and transforming of agricultural products, Districts and Taluka Cooperative Purchase and Sales Unions were formed. Producers and Transforming Cooperatives were also formed at regional levels in the same period. The contribution of these societies in acquisition<sup>44</sup> History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian Cooperative Movement, M.D.C.U, Mehsana, 2004, p.14345 History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian Cooperative

Movement, M.D.C.U., Mehsana, 2004, and distribution of food was worth noting.<sup>46</sup> In 1947, integrated agricultural credit distribution schemes were implemented. As a result several multipurpose cooperative societies were formed. Over the period of time, network for disbursement of short and medium term agriculture credit got developed. Cooperative Education Program for primary credit cooperative societies were organized and also institutional framework for such programs was developed. During this period Reserve Bank of India also took the responsibility of becoming instrumental in Cooperative Agriculture Branch for credit extension. Even cooperatives for jungle workers, construction, fishing industry and agriculture received substantial movement for their formation and growth. District Unions of milk Producers' Societies and Dairy Plants came into existence in the same period.<sup>47</sup> After 1958, Reserve Bank of India played a vital role in credit extension to cooperative societies/banks for disbursing short and medium term credit for agriculture production and credit extension in the process of selling of agricultural products. Land Mortgage Banks received good support from the State and Reserve Bank of India for sanctioning long-term loans to agricultural sector. In last 30-35 years cooperatives societies and unions in various sectors of operations and region has received good deal of attention and development in Gujarat State. In this, cotton sales and transforming cooperatives, cooperative ginning mills, cooperative sugar factories, milk producers cooperative unions and their dairy plants, fruits and vegetables sales and transforming unions, fishing industry, chickens-ducks rearing societies and their unions, rural electrification and supply of electricity societies, chemical fertilizer factories were some of the prominent areas where cooperative form of business organizations has been undertaken in the state. The distribution of chemical based fertilizers in the state is

also done through cooperative societies and its network and holds a significant position in the state. Under the cooperative sector, rice mills, oil seed producers unions and their unions, ground nut; sunflower, cottonseed and castor oil mills are also functioning in the state. The dairy plant of various milk producers union in different regions of the state are

<sup>46</sup> History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian Cooperative Movement, M.D.C.U., Mehsana, 2004, p.143

<sup>47</sup> History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian

Cooperative Movement, M.D.C.U., Mehsana, 2004, p.143  
engaged into manufacturing of value added products like butter, cheese, milk powder, baby food, chocolates, ice-creams etc and is contributing significantly in the dairy sector of the country. <sup>48</sup>

The cooperative fertilizers units in the state have undertaken manufacturing of urea, liquid ammonia, and nitrogen-based fertilizers, marathons and dry ice. Industrial product like petro-film is also manufactured under cooperative form of business organization. Several cooperative units in the state are also manufacturing ayurvedic medicines. Many cooperative units in the states are also engage in making handloom and handicrafts products and have good growth. As far as non-agricultural credit extension is concerned, People's Cooperatives Banks, Ladies Cooperative Banks, Salaried People's Cooperative Banks and Cooperative Consumer Stores have functioned successfully over the years and have achieved good growth. Cooperative Industrial Areas have also contributed enormously in development of industries in the state. Cooperatives form of organization has acted as motivational force in the formation and development of industrial units and housing societies in the state. 49 Gujarat State Cooperative Union and District Cooperative unions are actively involved in imparting cooperative education and training and promotion of cooperative sector as a whole in the state. The Gujarat State Cooperative Union looks after administration of four training centers and one college since its inception. As per the provision in the Provincial Law of the State, Cooperative Council has been formed which looks after over all growth and development of cooperative sector of the state. For settlement of disputes arising between cooperative societies and its members, Court of Board of Nominees and Cooperative Tribunal has also been formed in the state. Agriculture Produce Committee has also been formed under the Act of Agricultural Produce Market Committee in the state. Several state level nodal agencies have been formed by the government in the state to look after the growth and development of these producers committee. The Registrar of Cooperative Societies controls the administration and management of such nodal agencies in the state. The Marketing Yards in the state 48 History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian

Cooperative Movement, M.D.C.U., Mehsana, 2004, p.144

49 History of Cooperative Activities in Gujarat, Special Souvenir, Centenary Celebrations of the Indian

Cooperative Movement, M.D.C.U., Mehsana, 2004, p.144

36 have played significant role in preventing manipulation during selling of agricultural

products by the farmers and has also enabled farmers to get proper returns for their agricultural products. Panchayats in the states have been entrusted with various powers, responsibilities and rights of the Registrar of Cooperatives. 50 In short cooperative sector in the state have completed more than hundred years of its existence. Over these years it has grown many folds and has contributed significantly in uplifting socio-economic development in the state. Gujarat has

becoming the breedinghome for the cooperative movement in the country. A brand like Amul has made the stateproud of andhas also given international recognition to Gujarat. The following tabledepicts the number of cooperative societies in various sectors of Gujarat State.

In the year 1961 there were 13,350 cooperative societies of different types in Gujarat. Ina span of 30 years, i.e. in the year 1991 total number of cooperative societies increased to44,547, an increase by 31,197 societies because of the special attention givento thecooperative movement during different five-year plans by central and the stategovernment. Several products were reserved for the cooperative societies. Total numberof cooperative societies grew by almost 233.69 % in 30 years.<sup>51</sup> Benefits ofcooperationwas evident as it received wide spread acceptance across the country. Particularlyagricultural sector as a whole and farming community in particular were the biggestbeneficiary of the movement. Thus cooperative movement continued to grow and numberof societies increased to 57,082 in the year 2000 i.e. number of societies increased by12,535 and by 28.14 %. By this time cooperative movement had reached to depths andbreaths of the state. Currently i.e. in 2007-08, there are 62,343 cooperative societies of alltypes registered and functioning in the state. Presently 100% villages in the state arecovered by cooperative societies of various types.<sup>52</sup> With more favorable economicand industrial policies of central and state governments, cooperative movement will continueto grow and play a vital role in socio-economic development of citizens of the state.

### **1.17 Existing Constraints in Indian Cooperatives**

Inspite of the quantitative growth, the cooperative sector is beset with several constraintsrelated to legislative and policy support, resource availability, infrastructure development,institutional inadequacies, lack of awareness among the members, erosion of thedemocratic control in management, excessive bureaucratic and governmental controlsand needless political interference in the operations of the societies.

### **1.18 Legislative and Policy Constraints**

Cooperatives are basically economic enterprises requiring proper legislative andpolicy support aimed at the creation of an environment conducive to their healthydevelopment. Provisions continue to remain in the cooperative laws, which hinderand hamper the development of these institutions. The restrictive regulatory regimehas also restricted the autonomy of the cooperatives.

### **1.19 Resource Constraint**

The cooperative sector in general and the agricultural credit cooperative societies sector in particular, are facing severe resource-crunch. Mounting over dues in cooperative credit institutions and lack of recycling of funds together with inability to mobilize internal resources, have made a large number of cooperatives sick and defunct.

### **1.20 Infrastructure Constraint**

The cooperative sector is still predominated by poor infrastructure, particularly, in the field of post harvest technology, storage, marketing and processing apart from lack of basic rural infrastructure support such as roads, electricity, communications, etc.

### **1.21 Institutional Constraint**

There have been instances of cooperative institutions in some cases working at variance. Some federal cooperatives, which were supposed to guide, and nurture their affiliate organizations are competing with them resulting in deterioration of the health of the primary and grass root level cooperatives. Lack of professional management and human resource development are also some of the traditional institutional constraints. Cooperatives in the financial sector, particularly in the banking sector are facing the problems of (i) dual controls (ii) increasing incidence of sickness and (iii) low level of professionalism, which have been adversely affecting the depositors' interest.

### **1.22 Constraint Relating to Member Awareness**

A successful cooperative requires enlightened and informed membership. Although the membership of cooperatives in terms of numbers has increased manifold, dormant membership and the absence of active participation of members in their management have not only resulted in sickness but also encouraged the dominance of vested interests causing blockages in the percolation of benefits to the members. In a large number of cases, elections and general body meetings in cooperatives are not held regularly. The non-conduct of elections and general body meetings regularly has been creating apathy among members towards the management.

### **1.23 Constraint arising out of excessive Government controls and Political Interference**

Unjustified suppression of elected managements by the government and bureaucratic controls over the management of cooperatives has rendered these institutions as government driven bodies rather than the member driven. There are institutions where the administrators continue for unduly long periods and members

are not allowed to exercise their right to elect their own management. This situation leads to a regulatory regime and excessive governmental control and political interference in the day-to-day management of cooperatives.

#### **1.24 India's National Policy for Cooperatives**

The Government of India in consultation and collaboration with the State Governments has framed the following National Policy for Cooperative Institutions of India: 54\_ While upholding the values and principles of cooperation, it recognizes the cooperatives as autonomous associations of persons, united voluntarily to meet their common economic, social and cultural needs and aspirations through jointly owned and democratically controlled enterprises. 54 [www.ncui.net/](http://www.ncui.net/)

40\_ Upholds the preservation of the distinct identity of cooperatives, its values and principles by providing an appropriate environment and taking the required administrative and legislative measures. Recognizes cooperatives as a distinct economic sector and an integral component of the socio-economic system of the country and an effective and potential instrument of socio-economic development. It considers them as essentially community initiatives for harnessing people's creative power, autonomous, democratically managed, decentralized, need-based and sustainable economic enterprises. Cooperatives will, however, remain the preferred instrument of execution of the public policy especially in the rural area. The regulatory role of the Government will be mainly limited to the conduct of timely elections, audit of the cooperative societies, and measures to safeguard the interest of the members and other stakeholders in the cooperatives. There shall, however, be no interference in the management and working of the cooperatives. Reiterates and reinforces its commitment to the cause of the SC/ST, women and other weaker sections of the society and their development through the cooperatives. Wherever members belonging to women or Scheduled Castes/Scheduled Tribes and other backward castes want to have their exclusive societies provided they find a socio-economic reason to form such a society, encouragement and assistance will be provided by the Government. Cooperative Societies, if they so decide, can provide for the representation of such category of persons in their by-laws which they are competent to frame. Government accepts the need to phase out its share holdings/equity participation in the cooperatives. It shall, however, endeavor and extend appropriate support for improving financial viability and resource mobilization by harnessing local savings and adequate refinance facility, and to the possible extent providing a policy framework to ensure that there is no discrimination against the cooperatives in the matter relating to resource mobilization to attain financial viability. The cooperatives shall be enabled to set up holding companies/subsidiaries, enter into strategic partnership, venture into

futuristic areas like insurance, food processing and information technology etc., and shall be independent to take the financial decisions in the interest of the members and in furtherance of their stated objects. Recognizes the role of the Government in ensuring that the benefits of liberalization and globalization in the emerging economic environment are extended to the cooperatives in equal measure through suitable fiscal policies and pledges to provide support and protection to the cooperative movement through suitably designed investment programmes with a view to providing the cooperatives a level playing field vis-à-vis other competing enterprises especially in the field of agro-processing and marketing. Recognizes the need for more effective regulation of cooperatives operating in the financial sector and accepting public deposits. Also recognizes the need for incorporating special provision in the Cooperative Societies Acts with regard to banking, housing, real estate development, processing, manufactures' co-operatives, infrastructure development, etc. Recognizes the need to provide preferential treatment, as far as possible, to the cooperatives engaged in areas such as credit, labour, consumer, services, housing, development of SC/ST and women development of emerging areas as well as sectors requiring people's participation especially in rural areas. Undertakes to devise and execute suitable programmes and schemes to build and develop cooperative institutions in the cooperatively under-developed states/regions with particular reference to the North Eastern States including Sikkim. Recognizes the need to support the cooperative movement to develop human resources, cooperative education and training, appropriate technologies and infrastructure facilities so as to promote professional management in cooperatives particularly at the primary level, for their greater functional and operational efficiency. It may also include the introduction of cooperatives as curriculum at school level. Undertakes to initiate structural reforms in order to improve the functioning of the cooperatives at various levels to ensure greater efficiency and viability. These may include steps to activate idle membership, enhance member participation and involvement, provision of multi cooperatives approach, ensure timely conduct of general body meetings and elections, provide for effective audit, devise suitable mechanism for rehabilitation of the sick societies particularly in the processing sector, expedite winding up of defunct societies; and providing legal framework for voluntary winding up of cooperatives. Undertakes to bestow autonomy to cooperatives to follow appropriate personnel policies including those relating to recruitment, promotions and other such matters with due emphasis on quality and transparency. Undertakes to introduce the required electoral reforms through legislative measures. Elections to the cooperative societies should be held through an independent authority like the State Election Commission and. Also undertakes to take other such measures as would be required for efficient and healthy growth of the cooperative movement. A plan of action for implementation of the

policy shall be formulated and pursued with adequate budgetary support by the central government, state governments and other concerned agencies including federal/national level cooperative organizations in a timebound manner.

## CHAPTER-2

### 2 PROFILE OF INDIAN SUGAR INDUSTRY

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## CHAPTER-2

### PROFILE OF INDIAN SUGAR INDUSTRY

#### 2.1 Introduction

Presently India is the largest producer and consumer of sugar in the whole world. Sugar industry has undergone phenomenal growth after independence in the country. It is also the largest agro-based industry located in rural India. Sugar industry occupies an important place among organized industries in India. Sugar industry, one of the major agro-based industries in India, has been instrumental in resource mobilization, employment generation, income generation and creating social infrastructure in rural areas. Indeed, sugar industry has facilitated and accelerated the pace of rural industrialization. At present, there are 594 registered sugar factories having a capital investment of more than Rs. 50,000 crores and an annual production capacity of 217.45 lakh tonnes (NFCFSF Report, 2007).<sup>55</sup> The annual turnover of this industry is to the tune of more than Rs. 42,000 crores. The central and state governments receive annually Rs. 2,200 crore as excise duty, purchase tax, and cess. More than 5 crore farmers are engaged in sugarcane cultivation and about 5 lakh rural people have got direct employment in the industry. Sugar industry has brought socioeconomic changes in rural India by way of facilitating entrepreneurial activities such as dairies, poultries, fruits and vegetable processing, and providing educational, health and credit facilities. According to central government sources it has been estimated that 45 million sugarcane farmers, their dependents and a large number of agricultural labourers are involved in sugarcane cultivation, harvesting and ancillary activities, constituting 7.5% of the rural population. Besides, about 0.5 million skilled and semi-skilled workers, mostly from the rural areas. Even after independence (up to 1960), the main centre of sugar industry was located in northern India i.e. Uttar Pradesh, Bihar, Haryana and Punjab. In 1920 Uttar Pradesh and Bihar produced 60 percent of sugarcane in India and had 13 out of 18 sugar factories.<sup>55</sup> 47th Annual Report, NFCFSF, 2006-2007<sup>56</sup> [www.coopsugar.org/home.php](http://www.coopsugar.org/home.php)<sup>57</sup> Government of India, Report of the committee on Revitalization of Sugar Industry, Ministry of Food, Consumer Affairs and Public Distribution (Department of Food and Public Distribution), (New Delhi), December 2004.

There were only 3 sugar factories in Mumbai Province in 1920. Since the sugar industry in the country uses only sugarcane as an input, sugar factories have been established in large cane growing states like Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, Punjab and Gujarat. Maharashtra leads the tally by contributing

32.11 % of the country's total sugar production and Uttar Pradesh stands next with 29.92% contribution.<sup>58</sup> The farmer's cooperatives own and operate the largest chunk of the industry's total capacity. About 53.38 % of these mills are in the cooperative sector, 36 % in the private sector and rest in the public sector. They are concentrated primarily in Maharashtra and Eastern Uttar Pradesh. The largest numbers of sugar companies in the private sector are located in Uttar Pradesh followed by South India, in the states of Tamil Nadu, Andhra Pradesh and Karnataka. India produces 15 percent of the world's sugar production. More over India is the largest consumer of sugar in the world. Even many sugar factories have established schools, colleges, medical centers and hospitals for the benefit of the rural population. Some of the sugar factories have also diversified into by-product based industries and have invested and put up distilleries, organic chemical plants, paper and particle board manufacturing factories and cogeneration plants. The industry generates its own replenishable biomass and uses it as fuel without depending on fossil fuel. The sugar industry's contribution to the Indian economy is, therefore, enormous. The minimum price of raw material, namely sugarcane, is statutorily fixed by the central government on the basis of the recommendation made by Commission for Agricultural Costs & Prices (CACP). Sale of sugar produced by the mills is regulated by the central government through monthly fixation of quota. 90% of the sugar produced is allowed to be sold as levy to state governments or their nominees at predetermined prices. The sale of sugar produced in 4-5 months of the sugar season is staggered over a period of a year or more. Agriculture in the country being largely rain fed, monsoon plays an important role in the production of sugarcane, the basic raw material for the sugar industry.<sup>59</sup>

<sup>58</sup> Cooperative Sugar, April 2008, p.64

<sup>59</sup> Report of the committee on Revitalization of Sugar Industry, (New Delhi), December 2004.

## **2.2 Genesis of Sugarcane and Sugar in India**

Sugarcane has been one of the major crops of India since times immemorial. The term of sugarcane is found in the Atharvaveda, Vajasaneyii, Maitrayani and Taittiriya, Samhitas and the subsequent Sutras.<sup>60</sup> The Aryans knew the plant from a very early time and the fact that sugarcane is indigenous to India is beyond dispute.<sup>61</sup> The word has no parallel in any other Indo-Aryan language, which suggests that the Indo-Aryans only came to know about the plant only after entering India. This is, supported by the fact that little evidence of sugar or sugarcane is found in any archaeological site of the prehistoric or early historical period, however, this negative evidence is no proof that it was unknown. The cultivation of sugarcane caught the attention of the Greek visitors to India who saw something singular and strange. They

speak of it as 'reeds that make honey without the agency of bees.<sup>62</sup> According to them, the sweet juice was due to the water, which the cane absorbed from the soil being so warmed by the sun's heat that the plant was virtually cooked as it grew. More over sugar industry sources and various literatures on the industry is also of the view that sugarcane cultivation and sugar manufacturing has originated from India in ancient time.<sup>63</sup> It is also universally acknowledged that India is the homeland of sugarcane and sugar. There are references of sugarcane cultivation, its crushing and preparation of jaggery in Atharva Veda as well as Kautilya's Arthashastra. The scribes of Alexander the Great, who came to India in 327 B.C. recorded that inhabitants chewed a marvelous reed, which produced a kind of honey without the help of bees. The Indian religious offerings contain five 'Amrits' (elixirs) like milk, curd, ghee (clarified butter), honey and sugar which indicates how important sugar is not only as an item of consumption but as an item which influences the Indian way of life. It is understood that sugar was initially made in India during fourth and sixth centuries by cutting sugarcane into pieces, crushing the pieces by weight to extract the juice and then boiling it to crystallize. These crystals were called 'Sarkara' meaning gravel in Sanskrit.<sup>64</sup> The word sugar is derived from the Sanskrit word 'Sarkara', which means larger lumps,

60 Asvalayana Grhya Sutra, II, 7; Kausika Sutra, 23.

61 J.B.O.R.S., IV, p. 436 R.V., X.60.4, A.V., XIX.39.9 Vedic Index 1p.75.

62 Nearchos in Strabo XV, 1.20 McCrindle, Ancient India as described in Classical Literature, p. 122.

63 [www.coopsugar.org/history.php](http://www.coopsugar.org/history.php)

64 Gopal, Lallanji, Sugar-Making in Ancient India, Journal of Economic and Social History of the Orient 1964, Vol. VII, No. 13, p. 61.

Which are called 'Khand' from which the English word 'Candy', is derived. Around 600AD the Chinese Emperor, Tsai Hang sent an emissary to Bihar where sugarcane was cultivated for making sugar and to learn the art of making sugar. Therefore it is from India that the art of making sugar went to Persia and subsequently to the world over. Only after the Crusades it began to rival honey as the sweetener in Europe. The Spanish began cultivating sugarcane in the West Indies in 1506 and in Cuba in 1523. It was first cultivated in Brazil in 1532 by the Portuguese.<sup>65</sup> Table Sugar or Sucrose comes from plant sources. Two most important crops from which sugar is manufactured are sugarcane (*Saccharum SPP*) and Sugar Beets (*Beta Vulgaris*); in which sugar accounts for 12% to 20% of the plant's dry weight. Some minor commercial sugar crops include the date palm (*Phoenix Dactylifera*), Sorghum (*Sorghum Vulgare*), and the sugar maple (*Acer Saccharum*).

### 2.3 History and Growth of Indian Sugar Industry

Sugarcane is being cultivated in India since ancient time and sugar production was also done in very traditional manner. There was no formal method developed since long in the country to manufacture sugar and other sweeteners. Sugar industry sources in India have also witnessed the fact. It is said that the French People at Aska in Orissa established the first sugar plant in India in 1824. Not much is known about this factory except that Late James Fredrick Vivian Minchin maintained it and that it stopped its operation around 1940. However, the first vacuum pan process sugar plant was set up at Saran in Marhowrah in Bihar in 1904 and scientific sugar processing by vacuum pan method had started in 1920. It got industry status in late 1920's and early 1930's when India had 29 sugar mills all in private sector. The initial development process of sugar industry in the country was slow. Up till then, India met its sugar requirement through imports. In mid 1920s number of sugar mills sprang up in Uttar Pradesh and Bihar. By 1931-32 there were 31 sugar factories in India all of which were in the private sector. The total production of sugar at that time was only about 1.5 lakh tonnes, whereas the consumption was about 12 lakh tonnes. To meet the domestic demand of sugar, India had to import sugar mainly from Java (Indonesia).<sup>67</sup> Under the structured Industrial Development Policy, sugar industry was part of the Five-Year Plans introduced in 1951 and has been under the direct control of the Government ever since. Sugar industry is highly politicized and so closely controlled by the Government, which has no parallel in the industry. Government controls, covers all aspects of sugar business i.e. capacity, cane area, procurement, pricing, sugar distribution and imports and exports.

India is the second largest producer of sugarcane next to Brazil. Presently, about 4 million hectares of land is under sugarcane cultivation with an average yield of 70 tonnes per hectare. India is the largest single producer of sugar including traditional cane sugar sweeteners, khandsari and jaggery equivalent to 26 million tonnes raw value followed by Brazil in the second place at 18.5 million tonnes. Even in respect of white crystal sugar, India has ranked No.1 position in 7 out of last 10 years.<sup>69</sup> Mostly the rural population in India consumes traditional sweeteners like jaggery and khandsari. In the earlier days, the industry faced competition from imported sugar, and hence was given tariff protection. Sugar production picked up under the Sugar Industry Protection Act passed in 1932 and country became self sufficient in 1935. Also cane pricing act was enforced to provide good cane price to farmer. This was followed by land reforms putting ceiling on land holdings to protect small farmers, formation of cane grower cooperatives and setting up of sugar mills jointly with farmers known as cooperative mills on ownership and sharing basis. Today this sector produces 53.38 % of country's production. In the early 1930's nearly 2/3rd of

sugarcane production was utilized for production of alternate sweeteners like jaggery and khandsari. With better standard of living and higher incomes, the sweetener demand has shifted to white sugar. Currently, about 1/3rd sugarcane production is utilized by the jaggery and khandsari sectors. Being in sector, these two sectors are completely free from controls and taxes, which are

67 [www.coopsugar.org/history.php](http://www.coopsugar.org/history.php)

68 Kansal Satish, Factors Determining Indian Sugar Production and its Comparative Advantage,,

Proceedings of the Fiji/FAO 1997, Asia Pacific Conference.

69 [www.indiansugar.com](http://www.indiansugar.com)

applicable to the sugar sector.<sup>70</sup> The era of planning for industrial development began in 1950-51 and Government laid down targets of sugar production and consumption, licensed and installed capacity, sugarcane production during each of the Five-Year Plan periods. The targets and achievements during various plan periods are given below.

The small size new units licensed by the Government were supported with a scheme of incentive announced on 25th November 1975 known as Sampath Committee Incentive. It provides higher percentage of free sale quota to both new sugar factories and expansion in existing units. This led to a mushrooming growth of relatively small sized sugar units in the country. Under the policy of licensing, Government initially permitted small sized new units of 1,250 TCD capacity only and later on increased the minimum economic size of plant to 2,500 TCD. Similarly, capacity expansions initially allowed up to 3500 TCD only were subsequently raised to 5,000 TCD and finally these expansion limits were withdrawn in 1990. As a result, the industry has grown horizontally with an all India per unit average capacity of 3,510 TCD. As against this, there have been consolidation and moved towards larger per unit capacity all over the world, as would be evident from the following table.

Just after India attained freedom, 61 years ago, Indian government's first and immediate concern was food production. In the words of the first Prime Minister of India "Everything can wait, agriculture can not." The words expressed common concern as population was growing at a much faster rate than food production. The country becoming self sufficient in food grains was a demonstration of unprecedented collaboration between policy makers, administration, scientists and overwhelming response of farmers. To give a further boost, farmers were provided incentive by way of an attractive support price and disposal mechanism by way of

procurement of the foodgrains by the government agencies. The agricultural thrust continued in other agriculture commercial crops as well like oilseeds, sugar cane where government appointed technology missions to make India self sufficient from a net importer. In sugar, it became an exporter, by exporting as much as 1 million tonnes in 1995-96.<sup>71</sup> Today India has made a place for itself in the world agricultural map where it enjoys a prominent position with rest of the world. More over India is the only country in the world that produces plantation white sugar. All other countries are producing either raw sugar or refined sugar

<sup>71</sup><ftp://ftp.fao.org/>, Factors Determining Indian Sugar Production and its Comparative Advantage, Proceedings of the Fiji/FAO 1997 Asia Pacific Conference or both. Thus the processing capacities are quite different and so also is the quality of sugar. In terms of number of mills, India ranks first with 501 Mills, followed by China 241, Brazil 231 and world total of 2,500 sugar factories. In India the average size of a sugar factory is 3,510 tonnes per day crushing capacity, which is much lower than world average. In India, we are still setting up 2500 TCD mills whereas the trend globally is to set up 10,000 TCD mills. <sup>72</sup> The committee on “Revitalization of Sugar Industry” is of the view that modernization and technology up gradation should be a continuous exercise for cost cutting and taking advantage of economies of scale in the industry. Indian Sugar Industry as a whole is attempting to minimize costs by adopting state of the art technology. The technology up-gradation of the sugar industry is therefore very important to ensure its global competence and therefore has to be a continuous process.

#### **2.4 Origin and Growth of Cooperative Sugar Factories in India**

The Co-operative Societies Act was enacted in India in 1904 with a limited objective to provide cheap credit to the farmers and save them from exploitation of moneylenders. It was only in the early 1930's that the cooperative movement penetrated into the sugar sector. The increasingly high rates of interest charged by money lenders and violent fluctuations in the jaggery and sugar markets, led the farmers to utilize the underlying notion of self help and self reliance, in the Cooperative Societies Act and led to the setting up of cooperative societies and cooperative sugar factories. However the real growth of the cooperative sugar sector started after India's independence, when the government decided to industrialize the country by expanding the cooperative sector. The principle of cooperation was assigned an important role for the country's economic and social development and was given priority over the other sectors. Due to the involvement of farmer's right from the inception, the sugar factories were never looked upon as merely processing units of sugarcane, but through the medium of the factories they endeavored for socio-

economic, educational and cultural development of the entire areas surrounding the sugar factories.

In 1930, the Tariff Board appointed by the Government of India decided to recommend grant of protection to Indian Sugar Industry by way of imposing custom duty of 7.25 percent plus surcharge of 25 per cent on the sugar imported to India. Accordingly, the Government of India promulgated in 1932 the Indian Sugar Industry Protection Act for a period of 15 years, thereby enabling the Indian Sugar Industry to develop, stabilize and compete with imported sugar. As a result of this protection granted to the Indian sugar industry, there was a spurt in the establishment of sugar factories and by 1935-1936, there were 135 sugar factories producing 9.34 lakh tonnes of sugar. However, as private capitalists established all the factories, the sugarcane farmers were exploited and the government had to take various measures and pass laws relating to sugarcane price and its payment to protect sugarcane growers. Although, the Cooperative Societies Act was already enacted in 1904, in the same year the first vacuum pan sugar factory was established. It was only in 1933-1935 that the cooperative movement entered into the sugar sector in Andhra Pradesh. Although sugarcane was not one of the principal crops of Andhra Pradesh, the sugarcane growers badly affected by the violent fluctuations of the jaggery market, decided to utilize the underlying notion of self-help and self-reliance in the Cooperative Societies Act and organized cooperative societies and set-up cooperative sugar factories at Etikoppaka, Thummapala and Vuyyuru. However, because of initial teething problems, lack of organizational and managerial ability and scarcity of funds, Thummapala and Vuyyuru had to be sold off to private enterprises. Thummapala, was however, returned to the cooperative fold in 1959 in the name of Anakapalle Cooperative Agricultural & Industrial Society Ltd. During 1933-1935, in Uttar Pradesh also a cooperative sugar factory was set up at Biswan, which also had to be sold off to private enterprise. Etikoppaka Cooperative Sugar Factory in Andhra Pradesh survived because of good leadership, strong backing of the Central Cooperative Bank, gradual and cautious expansion, and good relationship with members, payment of higher cane price and variety of other effective incentives.<sup>74</sup>

The promulgation of Indian Sugar Industry Protection Act in 1932 had brought some expansion in the sugar industry but the development was mainly in the private sector and in the sub-tropical belt, comprising, the States of Uttar Pradesh, Bihar, Punjab and <sup>74</sup> [www.coopsugar.org/history.php](http://www.coopsugar.org/history.php) Haryana. By 1940-1941 the number of sugar factories had increased to 148 and production was around 11 lakh tonnes. Even these 11 lakh tonnes of sugar production could not be depended upon, as there was fluctuation in the supply of sugarcane. After 1940-1941 there was no expansion in the Indian Sugar Industry for some time and India continued to depend

heavily upon imported sugar.<sup>75</sup> The growth of the Indian Sugar Industry in an organized manner had its Beginning, when the Government of India passed the Industrial Policy Resolution on April 6, 1948, followed by the Industrial Act, 1956, wherein the principle of cooperation was assigned an important role for the country's economic development, particularly for industries based on agricultural produce such as sugarcane. Under this policy, the Government of India started giving preference to licensing of new sugar factories in the cooperative sector.

This policy was re-emphasized in all the subsequent Industrial Policy Resolutions made by the Government till the delicensing of sugar industry in 1998. The preferential licensing policy was mainly responsible for the rapid development of the sugar industry in India. As a result of the preferential policy adopted by the Government in the matter of licensing, there was a spurt in the establishment of sugar factories, especially in the cooperative sector of Maharashtra. The evolution of cooperative sugar industry in Maharashtra has been a trendsetter for all the cooperatives in India. The establishment of sugar factories in areas which did not have any irrigation facilities and which were almost barren i.e. Pravara, Sanjivani and Sangamner represented a category of considerable significance, not only because of the success they achieved as agroindustrial units concerned with production of an important commodity like sugar, but also in terms of the distribution of socio-economic benefits to all their members spread over the entire sugarcane belt in the country. Another crucial development was the adoption of social land reforms policy by the Government of independent India. Ceiling was imposed on land holding, both irrigated and dry lands. This made private sugar factories with captive large sugarcane plantations unworkable. Even the sugarcane estates developed by private sugar factories in Maharashtra State were taken over by the State Government and brought under the control and management of State Farming Corporation, a State Government undertaking. The private entrepreneurs lost interest in sugar industry. On the other hand, the consumption of sugar was growing rapidly with the increase in population and with increased standard of living. The Government of India wanted self-sufficiency in sugar production, as it could not afford to spare foreign exchange for import of agricultural commodities. The exchange was to be utilized for import of other goods mainly food grains.<sup>77</sup>

The first cooperative sugar factory to be set up in Maharashtra was the Pravara Cooperative Sugar Factory at Ahmednagar. Ahmednagar district already had six joint stock companies three of them in Kopergaon Taluka. There was rampant exploitation of sugarcane farmers by owners of the joint stock companies. The land of large number of small cultivators was given to joint stock companies on long lease at a

very nominal rent of Re.1/- per annum/acre. On this, the joint stock companies established their own large sugarcane estate and made huge profits. The joint stock companies paid very low price for the sugarcane and as it was not binding on them to purchase all the sugarcane grown, the cane growers had to very often burn their sugarcane fields thus making them bankrupt. As there was no irrigation worth the name and as rainfall was scanty, the Pravara area was barren. Although the Pravara canal had come into existence in 1910, the farmers had not taken to canal irrigation. Because of the exploitation of the joint stock companies and deriving impetus from the Malis of Saswad village, who had made use of the Neera Canal and prospered, the farmers of the Loni area under the leadership of Padmashree Dr. Vikhe Patil and guidance of Prof. D.R. Gadgil, Dr. Vaikunthabhai Mehta and help of Maharashtra State Cooperative Bank which helped in the collection of share capital, registered the Pravara Cooperative Society and set up the Pravara Cooperative Sugar Factory with a capacity of 500 TCD in 1950-1951. Since then it has expanded three times until in 1976-1977 when it reached its present capacity of 4,000 TCD. Despite the shortage in irrigation facilities, the society with the help of lift irrigation projects increased sugarcane production and consequently this led to the prosperity of farmers.

The Pravara Cooperative Sugar Factory has introduced many features like social, educational and cultural as part of its total contribution for the well being, both of its farmer members and of the environment of which they are a part. It has throughout been a member controlled non-official organization. Loyalty of the members, based on the reciprocal assistance given continually by the factory and also on economic consideration, has been the special characteristic of this cooperative. From the social angle, the society has always paid special attention to small farmers. It takes step for the welfare of its factory labour as well and provides them with all the necessary amenities. Every village in its operational area has been linked with well-constructed road. A network of schools, colleges, professional colleges, medical colleges, all contributing to the economic resurgence of the region. The Pravara Cooperative Sugar Factory has been a trendsetter. Pt. Jawaharlal Nehru, when he visited Pravara Cooperative Sugar Factory in 1961 had said "I have heard about this cooperative sugar factory and had some idea of it, but a visit here and learning more about it has been a revelation. Ten years of growth since this was first started, has not only shown marked development but has begun to change the countryside. I would like people from other states to come here and see how a rural cooperative is organized and run.

This is an example for the nation. I wish it all success". The crucial factor of historical importance in the establishment of Pravara Cooperative Sugar Factory was

that of Prof. D.R. Gadgil wanted state partnership in cooperatives and he was strongly supported by Dr. Vaikunthbhai Mehta, doyen of the cooperators and also the then Finance Minister of the erstwhile Bombay State. Dr. Vaikunthbhai Mehta was persuaded by Dr. Vikhe Patil to help the cooperative venture at Pravaranagar by contributing share capital from State Government of Bombay. This satisfied the requirement of equity portion of the project cost and the balance amount was given by Industrial Finance Corporation of India as term loan against the State Government guarantee for repayment of the principal amount and payment of interest. The successful experiment of sugar factory at Pravaranagar came as a shot in the arm and the government announced in the 1956 Industrial Policy Resolution that included policy for encouragement to processing of agricultural commodities in the cooperative sector on priority basis. It also led to more and more factories being set up in the State of Bombay.

The Pravara factory was a torchbearer for others to follow. Not only was it replicated in Maharashtra, but in other states like Gujarat, Haryana, Karnataka, Tamil Nadu, Uttar Pradesh and Punjab where, the sugar farmers found the cooperative form of organization more attractive and advantageous. As more and more cooperative sugar factories were being set up, the need for an apex organization at the state level to mediate with the State Governments and guide them in all respects was felt. This led to the formation of state level federations of cooperative sugar factories. Simultaneously, it was also realized in 1957 that as 'Sugar' was central subject, there was a need of a spokesman at the center to take up all matters of cooperative sugar factories with central government and to guide them technically and thus the National Federation of Cooperative Sugar Factories Limited was established on December 2, 1960 for promoting and guiding the increasing number of cooperative sugar factories on a national level. However, for this the Cooperative Sector of the sugar industry should be permitted to function in a democratic manner. There are still some states where the Government appointed administrators manage the cooperative sector of sugar factories.<sup>78</sup>

## **2.5 Origin and Growth of Cooperative Sugar Factories in Gujarat**

Indian Economy is basically an agrarian economy. Demographic profile of Indian population comprises of 70% people inhabiting in rural areas and directly or indirectly is involved and dependent on agriculture for its livelihood. More over out of total cultivable land in our country, 1.5% to 2% land is used for cultivating sugarcane. States like Maharashtra, Andhra Pradesh, Tamilnadu, Karnataka and Gujarat situated on southern bank of river Narmada has most favourable climate required for growing sugarcane. In the beginning of the 20th century, Indian farmers were severely

exploited and had to bear huge losses due to private traders, mill owners and middlemen. The farming community as a whole was worried about their prevailing state of affairs and was also awakening for their rights and economic gains. They were looking for ways and means to get rid of the middlemen and private traders. Sugarcane growers in different parts of the country were dependent on private sugar mills for selling their sugarcane crop. But private mill owners paid very less price to sugarcane growers for supplying sugarcane. Sugarcane farmers were determined to start cooperative sugar mills as a way out to protect their interest from exploitive private sugar mills.<sup>79</sup> By this time 'Cooperative Movement' had started formally in India by 1904 and had already gained momentum and large-scale acceptance. Beginning of Cooperative Sugar Factories in Gujarat, Special Souvenir, Centenary Celebrations of the Indian Cooperative Movement, G.S.C.U., Ahmedabad, 2004, in different parts of the country. As a result, first cooperative sugar mill was setup in the year 1920 in Malegaon Village of Baramati Taluka of Pune District in Maharashtra. But it could hardly survive for 2 years. It was only in 1933-1935 that the cooperative movement entered the sugar sector in Andhra Pradesh.

The Central Government declared the policy to develop sugar industry in the country under cooperative sector. The Chief Minister of Gujarat at that time was Shri Jivrajbhai Mehta and he was a great visionary. He too accepted to develop the sugar industry through cooperative sector in the state. Later on other governments in the state also continued with the earlier policy of developing sugar industry only in the cooperative sector. Gujarat is the only state in whole of India where sugar factories are setup and operated in cooperative sector.<sup>80</sup> Start of sugar cooperative took place for the first time in the state of Gujarat with registration of Shri Khedut Sahakari Khand Udyog Mandli Ltd. at Bardoli, District Surat in the year 1955 under the able leadership of Shri Gopalbhai Patel who later on became the first chairman of the factory, Shri Naranjeebhai Lalabhai Patel as the Vice-chairman and Shri Dayarambhai Patel, Managing Director of the factory all of them who actively supported the factory through their dedicated services to the society. This factory was registered under Mumbai State Cooperative Societies Act, because during that time Gujarat was not an independent state. Later on Gandevi Sugar Factory and Kodinar Sugar Factory were registered and were issued license during the same period. The Bardoli factory procured the required plant and machinery from M/S Bakau Wolf of Germany at the cost of Rs. 47.5 lakhs and commenced its first commercial production from 21-04-1957 with annual installed crushing capacity of 1,000 tonnes per day. The initial capital of this sugar factory was as under:<sup>81</sup>

Bardoli Sugar Factory is one of the factories in India amongst other cooperative factories that were started in the initial phase of development of cooperative sugar factories. In fact this was the third sugar factory in India that had been set up in cooperative sector and first in Gujarat State. This was also the Beginning of "WHITE SWEET" revolution in Gujarat. Bardoli Sugar Factory is the oldest sugar factory in Gujarat and played an active role in setting up of other sugar cooperatives in different part of the state by providing necessary information and guidance. Since the inception of this factory, it has a successful track record of continued performance and growth. It has crossed several milestones, and some of them are worth noting. Bardoli Sugar Factory had managed to repay the loan of Indian Finance Corporation within a short duration of 7 years. In the year 1967, factory expanded with its own fund the plant capacity to 1,500 tonnes per day at the cost of Rs. 35.00 lakh. Factory also started paying income tax since 1963. Through committed efforts of members, management and employees, factory has achieved manyfold growth which can be observed from the capital structure of the factory as on 31-03-2007.

Bardoli Sugar Factory expanded its crushing capacity several times. In 1971-1972 factory had an annual crushing capacity of 3,000 tonnes per day. Factory further expanded the capacity to 5,000 tonnes per day in 1975-1976, expanded to 7,000 tonnes crushing capacity per day in 1979-1980 and further expanded to 10,000 tonnes crushing capacity in December 1993 and which is current capacity. Bardoli Sugar Factory is the largest factory in Gujarat in terms of crushing capacity; sugarcane crushed annually and sugar production. For success of this factory, the board of directors right from its inception played a very vital role as far as its management and administration was concerned. In initial days of the factory, members also made several sacrifices in betterment of the factory. For instance in initial first five years of operations of the factory, farmers accepted willingly price of sugarcane they supplied to the factory which was below statutory minimum price declared by the central government. 82

## **2.6 Profile of Cooperative Sugar Factories in Gujarat**

Bardoli Sugar Factory was registered in 1955 under then Mumbai State Cooperative Societies Act. Later on Bileshwar Khand Udyog at Kodinar and Gandevi Sugar Factory at Gandevi district Navsari were also incorporated. This was the formal beginning of cooperative sugar factories in Gujarat. After Gujarat became an independent state, more sugar factories were set up in cooperative sector. According to annual report of GSFCSF, Gandhinagar for the financial year 2003-2004, 31 cooperative sugar factories had been registered and 27 factories were the members of

this federation. All the sugar factories have been registered in cooperative sector only. In the financial year 2004-2005, 26 sugar factories had been members of GSFCSF, Gandhinagar an apex body of sugar mills of Gujarat. However, Palej Factory, Reva Sugar and Valod Sugar had been taken for liquidation due to severe financial, technical and other problems. Therefore 23 sugar mills hold the membership of GSFCSF, Gandhinagar. During the same period, out of 23-member mills, 17 sugar mills had operated. Daman-Ganga, Kaveri, Mahi-Panchmahal, Surat Zilla Uttarpurva, Ukai Asargrashta and Vanvasi Cooperative Sugar Factories are not commissioned as yet. Una Sugar Mill is also non-functional since long. As per the 46th annual report for the financial year 2005-2006 of GSFCSF Gandhinagar, 17 sugar factories operated during the crushing season. There are 8 distilleries attached to respective cooperative sugar factories also. There are 3.00 lakh families of farmers associated with various cooperative sugar factories in Gujarat. Annually sugar cane is cultivated in 1.50 to 2.00 lakh hectares of land and supplied to various sugar cooperative mills.

Sugar Industry in the state has been divided into two zones i.e. South Gujarat Zone and Saurashtra Zone. South Gujarat Zone consists of 6 districts. Amongst the 27 sugar factories, 23 mills were registered in South Gujarat Zone and 4 sugar factories were registered in Saurashtra Zone. The location of cooperative sugar factories in Gujarat, zone wise are as follows:

Zone Wise Location of Cooperative Sugar Factories in Gujarat

Sugar Zone Names of Cooperative Sugar Factories

South Gujarat Zone Bardoli, Madhi, Chalthan, Sayan, Mahuva, Ukai,

Kamrej, Valsad, Gandevi, Maroli, Ganesh, Pandvai

Narmada, Vadodra, Sardar, Surat Jilla Uttar Purva

Vibhag Khand Udyog, Kaveri Vibhag Khand

Udyog, Damanganga Khand Udyog, Mahi

Panchmahal Khand Udyog

## **2.7 Saurashtra Zone Kodinar, Una and Talala Cooperative Sugar**

Factories In 1960-61 crushing season, 2.60 lakh tonnes of sugarcane was crushed and 2.78 lakh tonnes of sugar was produced. The total crushing capacity of this industry in 1960 was only 2,450 metric tonnes per day. In 1995-1996 total crushing capacity increased to 57,250 tonnes per day. This industry also contributes Rs.60 crore to Central Government's treasury by way of different taxes and same amount to State Government's treasury. Due to favorable climate of Gujarat, high quality sugar cane is being grown in different regions of the state and has also made it possible to have 10.93-percentage average sugar recovery in the state. Sugar Industry of Gujarat has achieved phenomenal growth over the period of time. Currently sugar industry of Gujarat has an annual turnover of Rs.1, 500 crore and directly employees

approximately 20,000 employees and during the crushing season this industry indirectly gives employment to almost 3 lakh people. Majority of sugar factories in Gujarat are located in rural areas and that too in tribal inhabited areas. Almost 3 lakh farming families, who are small and marginal farmers, are associated with sugar industry of the state. Sugar Industry of the state also fulfills the entire requirement of white sugar of the state. According to one estimate per head consumption of sugar in India is approximately 12 kilograms and that of Gujarat is 14 to 15 kilograms. The annual requirement of white sugar of Gujarat state is 7 to 8 lakh tonnes. Against which in the year 2002-2003, sugar industry of the state crushed 118.3 lakh tonnes of sugarcane and produced 12.51 lakh tonnes of white sugar with an average sugar recovery of 10.571 %. During the crushing season of 2003-2004, sugar industry of the state crushed 97.53 lakh tonnes of sugarcane and produced 10.66 lakh tonnes of sugar with an average sugar recovery of 10.93 %. During the crushing season 2005-2006, sugar industry in the state crushed 108.87-lakh tonnes, producing 11.76 lakh tonnes of sugar with average sugar recovery of 10.823 %. During the crushing season 2006-2007, sugar industry in the state crushed 133.12-lakh tonnes, producing 14.11 lakh tonnes of sugar with average sugar recovery of 10.646 %. The following tables depict various facts about the sugar industry of the state to enable greater depth and understanding of sugar industry of Gujarat.

More over several by-products are also produced in process of manufacturing crystal white sugar like molasses, bagasse and press mud. During the crushing season 2005-2006, 4.66 lakh tonnes of molasses were produced by sugar cooperatives of Gujarat. Approximately 3.50-lakh tonnes of molasses were consumed within the state for different purpose and remaining quantity was sold outside the state or is exported. The closing stock of molasses at the end of season was 46,000 tonnes. More over 7 Distillery Plants are operational in cooperative sector with an installed production capacity of 2.78 lakh liters/day to process molasses to produce rectified spirit, ethanol etc. As on date two cooperative factories have already set up plants to manufacture ethanol and other 11 cooperative factories and 4 units in private sector have started the process of setting up ethanol plant in Gujarat. The following list of cooperative sugar factories in Gujarat that has setup distillery plants along with sugar mills to produce rectified spirit/ethanol. Narmada Sugar Factory and Bardoli Sugar have also plans to co-generate power and export it to power grid. According to report of GSFCSE, sugarcane had been cultivated in 1,72,518 hectares of land for crushing season 2006-2007, 112.89 lakh tonnes of cane had been crushed, 12.20 lakh tonnes of sugar was produced at 10.80 % of sugar recovery.

## **2.8 Administration of Cooperative Sugar Factories of Gujarat-by-State Government**

India has a federal system of governance. Accordingly central government frames broader economic and industrial policies. The earlier literature in this chapter reveals this fact pertaining to sugar industry in the country. Cooperative sugar factories in the country are part of sugar industry of India as a whole. Therefore all the policies framed by central government from time to time is also applicable to cooperative sugar mills registered and operating in different states and these policies to a greater extent are common for sugar mills located in different states irrespective of form of ownership of sugar mill as sugar mills are owned and operated by private companies, cooperative societies and state governments in public sector. Hence both central and state government administers and controls this industry.

However cooperative is a state matter and therefore formal registration and formation of cooperative sugar factories have to be done under the 'The Cooperative Societies Act' of respective state. In Gujarat, sugar cooperatives are registered under The Gujarat Co-operative Societies Act, 1961 and in accordance with the same law amended from time to time. This law prescribes all the matters related to administration and management of cooperative sugar mills registered and operating in Gujarat State. In the initial days after Gujarat became independent state and before sugar controls were enforced on sugar cooperatives of Gujarat, The Registrar of Cooperative Societies, Gujarat State, Gandhinagar was the chief official controlling sugar cooperative along with other types of cooperative societies that were operational like dairy cooperatives, cooperative banks etc. However with rapid growth and increasing number of cooperative sugar mills formed under the state cooperative law, a need for separate official was felt by the state government to look after formation, functioning and shorting out issues of cooperative sugar factories. As a result Department of Cooperation, Government of Gujarat passed a resolution wide no. CDE/2681/2082/k dated 20/12/1982 to create a separate body within the state administration that can focus on legal and administrative needs of cooperative sugar factories registering and operating within the state. This resolution was implemented and separate office of Director of Sugar was established from 1/4/1984. The Directorate of Sugar enjoys all the authority and power that Registrar of Cooperative Societies has under The Gujarat State Co-operative Societies Act, 1961.<sup>83</sup>

## **2.9 Sugarcane Agriculture in India**

It was in mid 1960's that sugar became a priority crop and central government set up taskforce to plan requirement and growth of this crop. Policy was to focus on cane production, utilization and processing capabilities. Remunerative cane prices led the farmer shift to sugar cane and oilseeds. The growth in sugar cane production has

been both in acreage and yield. Whether this trend will continue, will depend upon crop economics as farmer has been adopting commercial approach.<sup>84</sup> Sugar cane is a genus of tropical grasses, which requires strong sunlight and abundant water for satisfactory growth. As with most commercial crops, there are many cultivars available to the cane farmer, usually hybrids of several species. Some varieties grow up to 5 meters tall. The cane itself looks rather like bamboo cane and it is here that the sucrose is stored. In the right climate the cane will grow in 12 months and, when cut, will re-grow in another month provided the roots are undisturbed. Typical sugar content for mature cane would be 10% by weight but the figure depends on the variety and varies from season to season and location to location. Equally, the yield of cane from the field varies considerably but a rough and ready overall value to use in estimating sugar production is 100 tonnes of cane per hectare or 10 tonnes of sugar per hectare.<sup>85</sup>

Sugar cane industry was initially set up in the sub-tropical region. Till 1950, 90% of area under sugar cane was in this region. With commencement of planning process, sugar cane found its route in tropical area. Sugar cane being a tropical crop finds favourable agro climatic conditions for its growth in this region i.e. higher yield. Growth after 1950's was more in this region and by 1994-1995 the sub tropical region, sugar cane area was 65% and cane production was 55% of the total cane produced.

Sugar cane is an important commercial crop in the country occupying about 51.51 million hectares with an annual sugar cane production of 355.5 million tonnes (2006-07). Sugar cane occupies about 3.0% of the total cultivated area and it is one of the most important cash crops, contributing about 7.5% of the gross value of agricultural production in the country. About 50 million farmers depend on sugar cane cultivation for their livelihood and equal number of agricultural labourers earn their living by working in sugar cane farms. Sugar cane is the primary raw material for all major sweeteners produced in the country. It also supports two important cottage industries; viz. Jaggery and Khandsari industries, which together produce about 10 million tonnes of sweeteners consuming about 28-35% of the cane produced in the country. At present, sugar cane is being cultivated throughout the country except in certain hilly areas of Kashmir, Himachal Pradesh etc. The sugar cane growing areas in India are broadly classified into two agro-climatic regions viz. sub-tropical and tropical. Major portions of sugar cane cultivation in India lie in the sub-tropical belt which are states of Uttar Pradesh, Uttaranchal, Bihar, Punjab and Haryana which are important cane growing states in this region. Sugar cane is also grown in a few pockets of Madhya Pradesh, West Bengal, Rajasthan and Assam, but the productivity in these states is very low. Sugar cane is grown extensively in the tropical belt including states of Maharashtra, Andhra Pradesh, Tamil Nadu and Gujarat, as sugar cane, which is a tropical crop, has favourable agro climatic conditions for its growth in these states.

The yields are substantially higher in the tropical belt as compared to the sub-tropical regions. The sugarcane crop has been in growth mode though there have been fluctuations and a sharp increase came in last 15 years.<sup>87</sup> The growth can be attributed to:<sup>88</sup>

- \_ Government's thrust on sugar production – i.e. planned growth.
- \_ Central Government/State Agriculture Department's input on field extension, seed varieties, crop maintenance etc.
- \_ Cane development programmes of sugar mills.
- \_ Increase in cane support price covering more than input costs.
- \_ Crop switch resulting in more crop area in sugar cane due to better return.
- \_ Increased irrigation facilities and increase in energy consumption for irrigation.
- \_ Favourable monsoons

As of now sugarcane is the only raw material used for manufacture of sugar in India. It has been observed by sources of the sugar industry that sugarcane yield has remained stagnant for the past many years and the sugar content also has not shown any significant increase despite efforts by the industry in the country. This has brought deep concerns across the industry because any decrease in either production or recovery will affect the industry as a whole. Sugar Industry and its stakeholders have started looking for alternate crop, which can be used as raw material by the sugar industry. Agricultural Scientists and Industry Experts have conducted several studies in this line and these studies have revealed that it is possible to cultivate sugar beet under tropical conditions and that this can affect economics of the industry in many ways. Sugar beet can be used as a co-crop to sugarcane to extend the duration of the crushing season and also to enhance the sugaryields. It can also be used as a stand-alone crop too. Another crop that can have a good potential in improving the economics of the sugar industry is Sweet Sorghum. Sweet Sorghum can be processed alongside sugarcane or sugar beet to produce ethanol.

Therefore a combination of cultivation of Sugarcane, Sugar Beet and Sweet Sorghum can facilitate the sugar industry to have a right product mix and achieve commercial sustainability on a global basis.<sup>89</sup> Industry Experts are of the view that if all three crops are used in combination effectively, it will solve the problems of inadequate availability of raw material for the success of a 'Sugar Complexes' and make the sugar industry sustainable. Several study committee appointed for this matter has also recommended that the use of alternate feed stocks like sugar beet and sweet sorghum should be encouraged so that dependence on sugarcane as only raw material can be reduced and projects for seed development, cultivation and processing of such crops should be provided loans from Sugar Development Fund. Agriculture in India is being largely rainfed and monsoon plays an important role in the production of sugarcane, which is the basic raw material for the sugar industry. On the back of

successive good monsoons, sugar production in the country increased rapidly in the last five years, reaching 28.3 million tonnes in 2006-07.<sup>90</sup> The details of the same is given in the table

There are several Agricultural Research Institutes in the country working behind finding better variety of sugarcane, which is pest resistant and contains higher percentage of sucrose essential for high sugar recovery. The Sugarcane Breeding and Research Institute at Coimbatore Tamil Nadu, India is one of the prominent sugarcane research institutes in the country. Several Sugarcane varieties that were released by the Institute became popular as varieties across the country. Some varieties are known as early ripening varieties, which gets ready for harvesting within 12 months. Other varieties are known as late ripening varieties and needs 14 to 16 months for its maturity. The prominent early ripening varieties of sugarcane cultivated in Gujarat are Co 775, Co 975, Co 671, Co 8338 and the prominent late ripening varieties are Co 7527, Co 6304, Co 8021, Co 62175, Co 8011, Co 740. The Sugarcane Breeding and Research Institute at

Coimbatore Tamil Nadu, India has undertaken intensive research as to the requirement of sugarcane crop regarding the climatic conditions, type of soil needed, irrigation needed etc. As different regions in India has unique climatic and other factors pertaining to soil, irrigation etc, Sugarcane Breeding and Research Institute has recommended different varieties of sugarcane which will be most suitable in that region and gives desired output of sugarcane per acre.

## **2.10 Sugarcane Production in India**

The availability of sugarcane in sufficient quantity and of good quality in the mill area is an important pre-requisite for the factory to be economically viable. Moreover, the cost of transportation and deterioration in quality increases significantly with the distance of the areas from where sugarcane is procured. It was in mid 1960's that sugar became a priority and Government of India set up task force so as to plan the requirement and growth of sugarcane as to frame a policy which could focus on cane production, utilization and processing capabilities. Remunerative cane prices led the farmer shift to sugar cane and oilseeds. The growth in sugar cane production has been both in acreage and yield. It is therefore necessary that suitable steps be taken by the various stakeholders including State Governments to ensure that sufficient sugarcane is developed and grown in the mill area for the purpose. Therefore scientific rationalization of cane area will have a direct impact on the economy of the sugar industry to enable it to compete globally.

The cost of sugarcane is nearly 70% of the total cost of sugar production. The quality and yield of cane therefore has a significant influence on the cost of sugar

production. According to industry sources, 32 % of the 355 million tonnes of sugarcane produced in India is utilized for the purpose of manufacture of jaggery and khandsari and for chewing purposes.<sup>92</sup> The manufacture of jaggery and khandsari is predominant in Karnataka, Tamil Nadu and Uttar Pradesh but large quantities of jaggery and khandsari are also produced in Andhra Pradesh, Haryana and Punjab. 93

The production of sugarcane suffered serious setback in 2003-04 and 2004-05 sugarcane seasons. After reaching a peak level of 299.32 million tonnes in 1999-2000, the production of sugarcane has been declining. It declined to 295.96 million tonnes, 287.38 million tonnes and 237.31 in 2000-01, 2002-03 and 2003-04 respectively. The area under sugarcane, which was 42.20 lakh hectares in 1999-2000, increased to 43.16 lakh hectares in 2000-01 and to 45.20 lakh hectares in 2002-03 but decreased to 40.23 lakh hectares in 2003-04. The average productivity also showed a mixed trend. In a state like Maharashtra, the productivity declined from 90.07 tonnes per hectare in 1999-2000 to 74.37 tonnes per hectare in 2002-03 and sharply to 57.9 tonnes per hectare in 2003-04 mainly under the impact of drought and incidence of white woolly aphid in some areas. In Gujarat and Tamil Nadu, area and production declined in 2003-04, but productivity improved a little. Uttar Pradesh is the largest producer of sugarcane in the country where area and production increased from 20.11 lakh hectares and 115.42 million tonnes in 1999-2000 to 21.49 lakh hectares and 120.95 million tonnes in 2002-03 respectively, but both area and production declined to 20.3 lakh hectares and 112.75 million tonnes in 2003-04 respectively.<sup>94</sup> The Indian Government is seriously concerned with the fall in production and productivity of sugarcane. It is looking for ways and means to increase production of sugarcane through increase in productivity of sugarcane, as there are limitations in bringing additional area under sugarcane. Commission for Agricultural Costs and Prices under Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India New Delhi, has recommended the government to adopt tissue culture based sugarcane variety. For this, the commission visited the Vasantdata Sugar Institute (VSI), Pune and acknowledged its work and achievements. The tissue culture laboratory of the institute was engaged in multiplication of selected varieties of sugarcane using tissue culture technique. The commission was apprised that the plants produced through this technique are absolutely disease free and true to their original type and are being supplied to the sugar factories and sugarcane growers for raising breeder's seed nursery in three-tier system of seed multiplication. When the seed nursery was raised using tissue culture plants, the seed multiplication ratio of 1:25-30 was obtained as against 1:10 planted using conventional method. The increase in the yield of crop was approximately 20-25 percent. The institute was providing tissue-cultured plantlets at no loss no profit basis (Rs. 4 per piece). The Government of

Haryana has informed that the cost of seed raised through tissue culture remains high at about Rs. 18,000 per acre as against Rs. 4,000 per acre in the conventional method of cane planting.<sup>95</sup> As on March 31, 2007 the area under sugarcane cultivation in India was 51.51 lakh hectares, producing 355.52 lakh tonnes with a yield of 69 tonnes per hectare.<sup>96</sup>

## **2.11 Sugarcane Pricing Policy in India**

Price of sugarcane paid by sugar mills becomes the important base of cane cultivation in India as farmers have started making cost benefit analysis of alternate crops. Cropping trends have shown that even when monsoon was favourable in sugarcane growing states, farmers opted to cultivate other cash crops, which were more lucrative than sugarcane. Price of sugarcane has become one of the most important factors for ensuring required quantity of sugarcane for sugar production. More over sugarcane is the main raw material for sugar industry and accounts for 70% of the cost of production of sugar. It is also the major source of income for millions of farmers. The determination of price for sugarcane is, therefore, a matter of critical importance both for the sugar industry and the cane growers. It has been noted by the industry experts that for a sustainable production both of sugarcane and sugar, the sugarcane price should be fixed on a realistic basis. The <sup>95</sup>Government of India, Report of The Commission for Agricultural Costs and Prices, on Price Policy for Sugarcane for the 2006-2007 Seasons, Ministry of Agriculture, Department of Agriculture and Cooperation, New Delhi,

Central Government fixes a Statutory Minimum Price factory wise, in terms of Clause 3 of the Sugarcane (Control) Order, 1966 in respect of each sugar season taking certain factors into consideration. Till mid 1960's industry was fully controlled by central government. To provide support to farmer, in 1965-1966, the sugar cane price for sugar mills was fixed based on production and input costs called SMP (statutory minimum price). Jaggery and Khandsari producers could pay lower or higher than SMP. This would result in diversion of sugar cane to khandsari and jaggery units causing a decline in sugar production. Therefore, Government adopted partial decontrol policy i.e. mills could sell 35% sugar in free market enabling mills to pay more than SMP (like khandsari & jaggery) but the same was administered by states called State Advised Price (SAP). Thus sugar production went up from 2.13 million tonnes in 1966-1967 to 2.16 million tonnes in 1967-1968 to 3.75 million tonnes in 1968-1969.<sup>97</sup> In early 1970's, Government appointed a commission, to recommend mechanism to stabilize sugar cane supplies to sugar mills.

The commission was known as Bhargava Commission, which took the views of industry, cane growers and Cooperative Sugar Federation. The cooperative mills wanted 100% benefit of free market of sugar to benefit farmer on the logic that levy price was fully covering the production cost whereas private mills wanted 50% sharing. While sugar cane constituted 70% of the sugar cost, Bhargava Commission recommended 50% of the profit sharing (on the logic that sugar mills will have to pay 60% income tax on 50% profit - mills will effectively get 20%). The government accepted the Bhargava formulae and incorporated the same in the Sugar Cane Control Order of 1966. However to stabilize the prices of sugarcane on one hand and protect the interest of all the stakeholders of this industry, Central Government fixed the SMP of sugarcane in terms of Clause 3 of the Sugarcane (Control) Order, 1966 for each sugar season. The SMP is fixed on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP) and after consulting the State Governments and associations of sugar industry and cane growers. The SMP is fixed by CACP taking following factors in to consideration:

- \_ Cost of production of sugarcane
- \_ Return to the growers from alternative crops and the general trend of prices of agricultural commodities
- \_ Availability of sugar to consumers at a fair price
- \_ Price at which sugar produced from sugarcane is sold by sugar producers; and
- \_ Recovery of sugar from sugarcane

Normally the CACP prepares its report on SMP of sugarcane well in advance before the new sowing season of sugarcane starts and submits to central government, enabling it to announce the SMP for the next crushing season. The purpose is to give the right price signal to sugarcane growers before they take a decision to grow sugarcane crop or other alternate crops. Thus in practice, India has dual system of sugar cane pricing. In cooperative mills dominated states, i.e. Maharashtra, Karnataka, Gujarat, sugar cane price is based on profit sharing formulae while in other states dominated by private mills, State Government advise the sugar cane price known as State Advised Price (SAP). The statutory minimum price or SMP is used only to determine the price for levy sugar.

The government of India recently set up a high-powered committee known as "The Mahajan Committee" to study the development and growth of the sugar industry in India vis-à-vis other sugar producing countries, and suggest modifications, amendments and repeal of existing laws and controls. This committee also has recommended central government to continue to declare sugarcane prices as a guarantee of a minimum price to the growers. In the words of this committee "This

should be continued even under system of complete decontrol on sugarcane prices as a guarantee of a minimum price to the growers. It has however suggested that the SMP should be based mainly on the cost of production of sugarcane and return to the growers from alternative crops and should be linked from the price of sugar in the market. It has also recommended that instead of linking SMP to percentage of recovery of sugar, which is also influenced by the state of machinery and the operational efficiency of the mill it may be linked to the sugar content of cane supplied by growers to the mills and a premium may be allowed on the varieties which have higher sugar content.<sup>99</sup> But at the time of shortage of sugarcane, jaggery and khandsari manufacturers pay higher price to farmers and divert sugarcane for jaggery and khandsari production. However the farmers need to understand that sugarcane price has to be in relation with sugar price.

This concept is already in place in some parts of the country. The sugar mills, farmers and cooperatives need to work together and agree on the principle of cane pricing which should have a relation to sugar sales proceeds, quality and productivity. Then only a natural continuous growth can be expected. Both farmer and mills will have to become competitive in their respective areas. According to crop economy statistics, it has been observed that sugarcane cultivation is generally more profitable relative to other crops. According to an international report, India ranks second in field cost of sugarcane next to Australia. Presently, about 4 % of cultivated area is under sugarcane. India thus offers great potential for expansion of area and consequently that of sugarcane and sugar production in the world. The high-powered committee in their report on "Revitalization of Indian Sugar" has expressed its views that there is a major difference between sugarcane and other raw materials. Sugarcane is a perishable crop, which must be crushed at the earliest after harvesting. For this, and other considerations, the sugarcane grower is obliged to supply cane to a particular mill. Therefore the sugar mill becomes a monopsonic buyer. An enlightened mill owner may be expected to fix a remunerative price for sugarcane taking into account the relative prices of competing crops, as otherwise, the cane growers would divert the land to growing of other crops, thus adversely affecting the availability of sugarcane to the mill. competing crops, the sugar mill may be tempted to fix an unduly low price, thus adversely affecting the earnings of the sugarcane grower the committee is therefore of the view that the present arrangement of payment of SMP along with benefits of price sharing with sugarcane farmers as per Clause 5A of Sugarcane (Control) Order, 1966 is equitable and may continue. Sugar Mills has always lobbied on various platforms to pay sugarcane prices on the basis of its quality i.e. sucrose content and not on its weight, which is done in many of other sugar producing countries. The high-powered committee in their report on "Revitalization of

Indian Sugar Industry” has expressed its views on this issue also and says that the latter system has an advantage as it provides incentives to the growers to plant high sucrose varieties and adopt cultural practices which increases the sucrose content of the cane at the time of its supply to the mills including harvesting of cane at maturity and minimizing the time involved from harvesting of cane and its supply to the mills. As this issue has been discussed on various occasions in the past, this Committee feels that there would be serious practical problems in introducing the system in the country at present, as a large number of farmers are involved and there may be difficulties in instilling sufficient confidence among them on the transparency of assessment. Reliable and quick methods for assessment of sugar cane are being developed both in India and abroad. Various research institutions in our country are evaluating these methods. The mechanism to ensure authenticity of the tests has also to be evolved for its success. However, as the Central Government has already set up an Expert Group on New Sugarcane Pricing Policy to go into this question, the Committee felt that the report of the Group might be awaited.<sup>100</sup>

## **2.12 Supply of Sugarcane in India**

Almost 32% of the 355 million tonnes of sugarcane produced in India is utilized for the purpose of manufacture of Gur and Khandsari and for chewing purposes. In India, as of now sugarcane is the only raw material available for producing sugar and related sweeteners. There has always been a controversy and stiff competition among sweeteners<sup>100</sup> Government of India, “ Report of the Committee on Revitalization of Sugar Industry manufacturers and sugar mills as to sugarcane procurement for sugar processing and manufacturing of traditional sweeteners. Industry experts are of view that healthy and efficient competition should be there as regard to demand and supply of sugarcane amongst the various users of this important natural resource. However, it has been observed that jaggery and khandsari units are inefficient in utilizing precious raw material, i.e. sugar cane. The following table reveals that traditional sweetener manufacturer are lacking far behind in extracting juice from sugarcane and even in recovery of sugar as compared to sugar mills.<sup>101</sup>

## **2.13 Comparative Extraction and Recovery from Sugar Cane**

More over diversion of sugarcane to jaggery and khandsari manufacturing will disturb the most needed sugar production. To streamline the supply of sugarcane to various users, central and state governments have enacted several controls. Sugar Cane (Regulation of Supply & Purchase) Act, 1953 regulates the supply and purchase of sugarcane required for use in a sugar factory, khandsari unit and for manufacture of jaggery. To ensure that every sugar mill gets required quantity and quality of sugarcane for crushing, central government has made provision for cane reservation

area and distance between two sugarmills in its licensing policy. Under this system all cane growers in the reserved area of the mill are required to supply cane to the specified mill and the mill is obliged to crush all cane bonded by the growers from the reserved area for supply to the mill. Currently government has fixed the distance between two sugar mills of 15 kilometers radius.<sup>102</sup> The high-powered Mahajan Committee in its report submitted to central government has recommended decontrolling the Indian Sugar Industry. However it has recommended continuing with the existing system of “Cane Area Reservation”.<sup>103</sup> The Mahajan Committee is of view that in the absence of this system, it will be difficult for sugar factories to regulate the supply of cane by the farmers according to the crushing capacity available on each day, resulting in inadequate sugarcane available on some days and excessive cane coming to the mill on other days leading to long waiting period for the growers, some of whom may have to carry their cane to distant mills for disposal. This will involve higher transportation cost as well as drying of cane. The Committee has made a number of recommendations to strengthen the system and make it more equitable. In order to strengthen the incentive for cane development by the mills it has recommended that reservation of area should be on permanent basis and any area should be transferred from reserved area of a factory to another only if cane availability in its area is surplus to its requirement for its existing capacity including expansion under implementation. In order to provide disincentive against neglect of cane development by any factory, it has suggested that if the per hectare yield of cane in the reserved area of a factory is lower than the average in other similar areas due to insufficient cane development work, the availability of cane in the reserved area may be based on the average yield in similar areas. Through cane reservation area, sugar mills are protected and assured of sugarcane supply irrespective of their efficiency and overall performance and even mills’ ability to pay lucrative price to sugarcane growers as compared to their neighboring mills.<sup>104</sup>

The CACP in their report submitted to central government on price policy for sugarcane for 2006-2007 sugar season has observed that some of the sugarcane growers argued that when the Government was considering of freeing the sugar industry from regulated release mechanism, in that case the Government should also consider allowing sugarcane growers to supply sugarcane to any sugar factory of their choice. Their argument was that the SMP factory-wise varied from factory to factory depending upon recovery rate of the individual factories. The sugarcane growers in the reserved area of a low sugar recovery factory received lesser price notwithstanding the quality of sugarcane supplied not being inferior to that of their neighbour sugarcane growers supplying cane to a high recovery rate sugar factory. They suffered for no

fault of theirs, therefore they should be allowed to supply cane to sugar factories having higher recovery rate.

## **2.14 Sugar Production in India**

Presently India is among the largest producers of sugar in the world and ranks as the largest growing global market for the product. India has 20% of the total sugar mills in the world and accounts for about 15% of the global production. On the back of successive good monsoons, sugar production in the country increased rapidly in the last couple of years, reaching 28.3 million tonnes in 2006-07 from 15.5 million tonnes in 1998-99. Indian sugar production growth came up under structured and planned sugar programme of central government. The demand, the production requirement, the capacity needed and cane production went through a planning process and close monitoring was done by the government authorities over past 58 years. Further in order to achieve the demand-supply targets of the country, central government has been setting up committees and task forces from time to time to make policy changes in consultation with Industry and State Agriculture Departments for matters related to sugarcane, sugar pricing policy, levy price fixation, free sale and levy sugar ratio etc. There are 553 installed sugar mills, of which 501 were in operation in the year 2006-07 and utilized 355.5 million tonnes of sugarcane (68% of total cane production) to produce 28.33 million tonnes of sugar.<sup>106</sup> About 5 lakh workmen are directly employed in the sugar industry besides many in industries, which utilize by-products of sugar industry as raw material.<sup>107</sup> Government has been encouraging for setting up of new sugar mills as well as expansions up to 5,000 TCD and allows up to 100% of sugar for new mills and 80% for expanded units, to be marketed in free market for certain number of years. The Government of India licensed new units with an initial capacity of 1250 TCD up to the 1980s and with the revision in minimum economic size to 2500 TCD, the government issued licenses for setting up of 2500 TCD plants thereafter. The government de-licensed sugar sector w.e.f. September 11, 1998. Entrepreneurs have been allowed to set up sugar factories or expand the existing sugar factories as per the techno-economic feasibility of the project. However, they are required to maintain a radial distance of 15 kms from the existing sugar factory. After delicensing, a number of new sugar plants of varying capacities have been set up and the existing plants have substantially increased their capacity.

In India, sugar cane is also utilized for production of traditional sweeteners like jaggery and khandsari. The country produces a total of about 5.69 million tonnes of jaggery and khandsari. This sector enjoys all the freedom. With no controls, no restriction on cane prices, the sector can pay commercial price. Thus poses a direct threat to sugar industry and hence sugar production has not followed cane production.

However, over a period of time with changes in government policy on free sale/levy ratio from 35:65 to 60:40, currently 90: 10, cane utilization for sugar production has gone up from 30% to 57% and for jaggery/khandsari sector has come down from 58 to 32%. As a step towards decontrol of sugar, the levy obligation on sugar factories was gradually reduced from 40 percent to 30 percent with effect from January 1st, 2000 and then to 15 percent and 10 percent with effect from February 1st, 2001 and March 1st, 2002 respectively. The Government announced in February 2002 that sugar would be completely decontrolled in 2002-03 i.e. by March 31st, 2003 however it is not materialized till April 30th 2008.

The production of sugar is directly related to sugarcane production. In the years of high sugarcane production, sugar produced was also higher and vice versa. The sugar production was 201.32 lakh tonnes in 2002-03 season when the country produced 287.38 million tonnes of sugarcane in the season. With the fall in sugarcane production by 50.07108 Report of the Committee on Revitalization of Sugar Industry, New Delhi, December 2004. 81 million tonnes in 2003-04, sugar production decreased by 61.74 lakh tonnes to 139.58 lakh tonnes in 2003-04. The sugarcane production has decreased further by 2.63 million tonnes in 2004-05. Sugar production up to April 2005 was 129.89 lakh tonnes (including sugar produced by processing imported raw sugar). As a result of fall in the sugar production in 2003-04 and 2004-05 sugar seasons, the closing stocks were at 57.63 lakh tonnes at the end of 2004-05, which would be less than the normative requirement of keeping three months stocks. In order to augment domestic supplies and stocks of sugar, the government liberalized the Advance Licensing Scheme for import of raw sugar to be processed and sold in the domestic market and to fulfil the export obligation in 24 months, which has now been increased to 36 months. This decision of the government to go for raw sugar import rather than importing refined sugar was a prudent decision especially the phased flow of imported sugar, as there was no abnormal increase in international price when Indian Sugar Factories contracted for import of raw sugar. Further, the value addition took place in the country. Also, it was possible for sugar factories importing raw sugar to extend the crushing season, which otherwise would have been shorter due to shortage of cane. Sugar output in the country is likely to fall by 8% to around 260 lakh tonnes in 2007-08 season (October-September) compared with 283.28 lakh tonnes last year.

## **2.15 Sugar Consumption in India**

India is the largest consumer of sugar in the world. The average per capita consumption of sugar is estimated at 17.2 kilograms per year in the year 2002-03. Based on the existing trend, this is estimated to increase to 23-24 kilogram per year-by-year 2010. At an annual population growth rate of 1.6% per annum, the population

of India is expected to be 116 crores by the year 2010 and therefore the corresponding estimated requirement of sugar will be 24.3 million tonnes. To achieve this, the sugarcane needs to be cultivated on an area of about 5.5 million hectares with an average yield of 65 tonnes/hectares. As the increase in area of the sugarcane from the present 4.36 million hectares to 5.5 million hectares, may not be possible due to other competing crops, it becomes necessary to improve the productivity and yield of sugarcane and sugar recovery.<sup>112</sup> The following table gives the details pertaining to internal consumption of sugar, excluding consumption of imported sugar in each sugar season from 2000-2006:

## **2.16 Consumption of Sugar in India**

### **Sugar Season Internal Consumption**

Apart from white sugar India also consumes alternate sweeteners like jaggery and khandsari, which are produced in large quantities, representing about 32% of the total sweeteners production in the country. The following data shows per capita consumption of sugar in various countries.

<sup>110</sup> <http://www.fnbnews.com/article/detnews.asp?articleid=22502&sectionid=29>

In urban cities and towns with higher income and better standard of living, the sugar consumption is relatively higher. In the States with higher GDP, such as Punjab, Haryana the sugar consumption in the urban areas is much higher and compared favourably with the consumption trends obtaining in the developed countries

## **2.17 Sugar Processing**

The processing of sugarcane into sugar involves a number of process steps. The cost of conversion from sugarcane to sugar is nearly 1/3rd of the total cost of manufacture of sugar. The major costs include manpower, energy and consumable costs. In addition, the sugar loss in processing and the maintenance of plant and equipment have a direct impact on the economics of sugar production. Sugar (sucrose) is a carbohydrate that occurs naturally in every fruit and vegetable. It is a major product of photosynthesis, the process by which plants transform the sun's energy into food. Sugar occurs in greatest quantities in sugarcane and sugar beets from which it is separated for commercial use. The natural sugar stored in the cane stalk or beetroot is separated from rest of the plant material through a process known as refining.<sup>113</sup> Sugar manufacturers crush the harvested sugarcane in a machine called milling tandem for extracting the cane juice, which is collected in raw juice tank, and then this juice is filtered. On extraction of juice, dry sugarcane waste remains, which is called Bagass. Sugar mills use this bagass as a fuel to feed their bagass fired boilers to generate steam. Steam is then fed into steam turbines for generating electricity. Raw juice

then is treated with lime to remove impurities. This mixture is then neutralized with sulfur dioxide. The juice is then boiled, the sediment settles to the bottom and can be dredged out, scum rises to the surface and this is skimmed off. The heat is removed and the liquid crystallizes, usually while being stirred, to produce sugar crystals. It is usual to remove the un-crystallized syrup with a centrifuge. The resultant sugar is then either sold as it is for use or processed further to produce lighter grades. This processing may take place in another factory in another country. Little difference exists between sugar produced from beet and that from cane. Laboratory tests can distinguish the two, and some tests have been developed in order to reduce fraudulent abuse of European Union subsidies, and also to aid in the detection of adulterated fruit-juice. The production of sugar results in residues, which differ substantially depending on the raw materials used and on the place of production. While cooks often use cane molasses in food, molasses from sugar beet often becomes a spread for sandwiches and pancakes, industrial fermentation feedstock, or animal feed. Once dried, either type of molasses can serve as fuel for burning. Raw sugar comprises yellow to brown sugar made from clarified cane-juice boiled down to a crystalline solid with minimal chemical processing. Raw sugar is produced in the processing of sugar beet juice but only as intermediates in route to white sugar. Types of raw sugar available as a specialty item outside the tropics include demerara, muscovado, and turbinado. Mauritius and Malawi export significant quantities of such specialty sugars.<sup>114</sup> Raw sugar is sometimes prepared as loaves rather than as a crystalline powder. In this technique, sugar and molasses are poured together into molds and allowed to dry. The resulting sugar cakes or loaves are called Jaggery in India, Pingbian Tong in China, and Panela, Panocha, Pile, and Piloncillo in various parts of Latin America.<sup>115</sup> Mill white sugar, also called plantation white, crystal sugar, or superior sugar, consists of raw sugar where the production process does not remove colored impurities, but rather bleaches them white by exposure to sulfur dioxide. This is the most common form of sugar in sugarcane growing areas, but does not store or ship well after a few weeks; its impurities tend to promote discoloration and clumping. Blanco Directo, a white sugar common in India and other South Asian countries, comes from precipitating many impurities out of the cane juice by using Phosphatation Ñ a treatment with Phosphoric Acid and Calcium Hydroxide similar to the Carbonation technique used in Beet-Sugar refining.<sup>116</sup> In terms of sucrose purity, blanco directo is more pure than mill white, but less pure than white refined sugar. Granulated sugar comes in various crystal sizes for home and industrial use depending on the application. Sugar produced in India is mainly of granulated type. Granulated sugar is further classified into various types based on color and grain size. According to the Indian Standards Specifications (ISI), there are around 20 grades of sugar based on the grain size and colors. The color series has four grades designated as 30, 29, 28 and 27, while the grain

size has five grades namely A, B, C, D, E. Bulk of production in the country is of C, D and E grains, branded as large, medium and small and has color specification of 30. The D grade produced in the country is comparable to world standards. 117

## **2.18 Sugar Pricing Policy in India**

In India there is dual pricing policy for pricing sugar. One policy is known as Levy Sugar Pricing and the other is known as Free Market or Free Sale Pricing. Levy Sugar Price is fixed by Central Government irrespective of the cost of producing sugar. In other words sugar price for the levy quota is fixed without taking into consideration all the costs that go into production of sugar. Since 1967-1968 government of India has introduced partial control on sugar industry where by the ratio of levy and free sale was fixed at 60% and 40% respectively. According to the partial control, every sugar mill has to sale 60% of its total sugar production under levy quota at a price fixed by central government and remaining 40% can be sold by sugar mills at prevailing market prices and accordingly release orders received from Ministry of Food and Public Distribution, Government of India. Since 01/03/2002, central government has changed the levy-free sale ratio to 10% and 90% respectively. Under the provision of sub-section 3(c) of section 3 of the Essential Commodities Act, 1955, the ex-factory prices of the levy sugar requisitioned from the sugar mills is fixed having regard to the following factors: 118

- \_ The minimum price, if any, fixed for the sugarcane by the Central Government.
- \_ The manufacturing cost of sugar.
- \_ The duty or tax, if any, paid or payable thereon and
- \_ The reasonable return on the capital employed in the business of manufacturing sugar.

Levy sugar price is paid on zonal basis to sugar mills. However, the Central Government also determines the average all-India levy sugar price. For the sugar season 2003-04, the average all-India levy sugar price has been determined at Rs.1305.92 per quintal as against Rs.1259.99 for the preceding sugar season. The levy sugar prices for 2006-07 was Rs 1328.58. The retail issue price of levy sugar under the PDS (Public Distribution System) has been fixed at Rs. 13.50 per kg with effect from March 1st 2002, which is still continued. 119 According to non-levy quota or free sale sugar quota sugar mills can sale the sugar at prevailing market rates. However the sale of this portion of sugar is also monitored by central government. Every sugar mill receives release order from central government on the basis of production and inventory data of individual sugar mills available with the department and that is the maximum quantity that sugar mill can sale in that month. Normally institutional users who are free to charge on their product use 80% of the sugar sold as free sale in the market. Thus, there is no mechanism by which sugar

mills can price or hedge their product in the market where price fluctuation can be as much as 8 to 10%. The following table shows the range of retail prices of non-levy sugar i.e. free sale sugar in the four metropolitan cities (Delhi, Mumbai, Kolkata and Chennai) during 1998-99 to 2005-06 (up to August, 2006) sugar.

India perhaps is the only country in the world where sugar cane price is going up and the sugar price is not keeping pace. Sugar cane prices, both SMP and SAP have been going up. Sugar prices have not followed cane prices. India is the only country where there is no relation between sugar realization and cane prices. Therefore, if the growth is to be assured, cane pricing, one of the key issues for the health of sugar industry, has to be realistic.

#### 2.19 Release Mechanism of Sugar in India

Under the partial control of sugar industry followed by the Central Government, sugar mills can sell 90% of the sugar produced by sugar mills, without any restriction on price and movement. The balance 10% is to be supplied by them at prices fixed by the Central Government. However, both free sale sugar and levy sugar are subject to monthly quotas decided by the Central Government. The sugar produced in 4 to 5 months in a sugar season is controlled and regulated so that it can be sold throughout the year. This release mechanism has been in place since 1942, when the Sugar and Sugar Products Control Order was first promulgated and has since been followed except for a break during 1978-1979, when monthly release was given up. The reason for monthly release of sugar has been to ensure that sugar is available throughout the year at reasonable prices to consumers, while at the same time maintaining the price at a steady level helps the industry. The Central Government decided in February 2002 to dispense with the release mechanism by March 31st 2003, after operationalization of futures and forward trading in sugar during the financial year 2002-03. Government accorded clearance, in principle, to set up exchanges in futures and forward markets in sugar. Fearing drastic fall in sugar prices following decontrol, a number of factories approached the Courts in 2002 for release orders for sale of free sale sugar. Courts held that the Central Government had no authority to enforce restrictions on the sale of free sale sugar and allowed in many instances sale of sugar leading to fall in sugar prices. Apex organizations of sugar industry simultaneously urged the Government to continue with the release mechanism. Under these circumstances, the Central Government decided in March 2003 to continue with the regulatory release mechanism up to September 2005 and to review the position in February 2005 and it is yet continued. According to the report of Committee on "Revitalization of Indian Sugar Industry", the committee has recommended to continue with the release mechanism. With the present availability and production prospects of sugar, steep fall in prices was unlikely to take place. At the same time, augmentation in stocks, as and when required, would take place through import of raw sugar, thereby reducing cause

of concern in terms of availability at reasonable prices from the point of view of the consumers. Allowing market forces of demand and supply to operate to bring prices to reasonable levels would serve interests of all the stakeholders, via the consumers, industry and the farmers. The industry's financial health would improve contributing to higher investments in improving efficiencies of production thereby bringing down the cost to the consumers. The sugarcane farmers could expect to get cane price payments in time, once the industry is in good financial health, operating in a free market. This may lead to further gains in competitiveness of the domestic sugar industry in the global sugar market. Shri S.K. Tuteja committee has recommended the Central Government that it may dispense with the release mechanism for free sale sugar with effect from October 1st 2005 but still it is not materialized.

## **2.20 Decontrol of Indian Sugar Industry**

As mentioned in the introductory discussion of this chapter that Indian Sugar Industry is highly regularized. Several government controls are exercised on this industry right from sugarcane cultivation to sugar production, sale, pricing, distribution, consumption etc. because sugar falls under the category of essential commodity. However, as the wave of liberalization has spread in other industries in our country since 1991, different stakeholders of sugar industry have also put a demand to government to decontrol sugar industry of India too. Even various task forces and high-powered committees set up by Central Government has recommended the government to decontrol Indian Sugar Industry in a phased manner. The High-Powered Committee on Sugar Industry (Mahajan Committee) in its report submitted to the Government in April 1998 recommended decontrol of sugar. By decontrol of sugar, the Committee meant only removing levy obligation on sugar factories as it recommended continuance of regulated release mechanism. The Committee also recommended that supply of sugar through Public Distribution System (PDS) should be discontinued and if the Government wished to continue sugar supply under PDS, then the required quantity should be purchased from industry/trade by tendering or at fixed prices. Some sections of the Indian Sugar Industry were of a view that the sugar price would abnormally increase within a few months after decontrol of sugar. They cited the earlier experience when the Government decontrolled sugar in 1978. In the first few months of decontrol, sugar prices declined but skyrocketed thereafter. They were apprehensive that history would repeat itself; therefore they were of the view that the Government should continue to carry with the release mechanism. Their fear is unfounded. Industry experts and government officers felt that situation was different in 1978. At that time, imports of sugar were restricted and the country faced severe shortage of foreign exchange. Now, imports of sugar are on OGL and the country is having comfortable foreign exchange reserves. In case of

any abnormal increase in the sugar prices, sugar imports will flow into the country and lower the domestic prices. The import duty could always be used to regulate imports of sugar. The domestic prices have to be consistent with the international prices. Further, the stock of sugar at close of 2004-05 sugar season would be about 42 lakh tonnes, just enough to meet two and half months requirement. The Government did not accept these recommendations of the Committee to decontrol the industry and decided to go for complete decontrol of sugar in a phased manner and after setting up of the future markets so as to avoid destabilization of sugar industry. As a step towards decontrol of sugar, the levy obligation on sugar factories was gradually reduced from 40 percent to 30 percent with effect from 1st January 2000 and then to 15 percent and 10 percent with effect from 1st February 2001 and 1st March 2002 respectively. Following this decision of the Government, the millers apprehended that sugar prices would crash on decontrol of sugar as they were carrying large stocks of sugar exceeding 11 million tonnes. They approached courts and obtained release orders for sale of sugar circumventing the release mechanism. This move of the millers upset the market and the market prices of free sale sugar declined by about Rs. 200 per quintal, which constrained the capacity of factories to pay cane price to sugarcane growers. Ultimately, the Government had to defer its decision to decontrol sugar by two years and to review the position in February 2005. The Government also amended the Essential Commodities Act, 1955 in May 2003 to undo the effect of an order of the Allahabad High Court handed down in March, 2002 wherein the High Court held that the Government had no authority to impose restrictions on the sale of free sale sugar. No doubt, the said amendment restored the authority of the Government to make orders for releases of free sale sugar but the sugar factories have again succeeded in obtaining Court Orders for sale of extra free sale sugar over and above the quota released by the Government. The setting up of futures markets in sugar was one of the conditions before decontrol of sugar. The futures markets are supposed to perform twin functions of hedging and price discovery. The hedgers reduce their price risk from potential price movements in future. The main participants in sugar contracts in futures are the sugar mills, traders, commission agents, speculators and processed food manufactures. They have their own perceptions of futures prices and take position accordingly. In the process, the futures price of sugar is discovered. The Government allowed futures trading in sugar in May, 2001 and has given recognition to four exchanges viz. National Multi Commodity Exchange Ltd. Ahmedabad with effect from February 6, 2003, M/s E-Sugar India Ltd. Mumbai with effect from July 25, 2003, National Commodity and Derivative Exchange Ltd. Mumbai with effect from July 27, 2004, and Multi-Commodity Exchange Ltd. Mumbai with effect from February 7, 2005. The futures trading in sugar has already commenced in these four

exchanges. Thus, the condition to do away with the release mechanism has already been met. More over the Central Government has lifted restrictions on fortnightly sales by the sugar factories. It has also removed the stockholding and turnover period limits on the dealers of sugar.

#### 2.21 International Trade of Sugar

India has always been in the International market either for imports or exports. The volume of exports and imports are based on surplus or shortfall anticipated or determined between demand and supply. As sugarcane cultivation in India is largely in rain fed areas. Monsoon plays a crucial role in the production of sugarcane and consequently sugar. In times of good monsoon, sugarcane production remains high leading to high sugar production and accumulation of stocks as was witnessed in the years 1998-1999 to 2002-2003. Likewise, failure of monsoon in major sugar producing states may cause decline in sugarcane production and sugar production, as was seen in 2003-2004. Stability in sugar production, though desirable, is not likely, given Indian conditions. In the years of excess production, while the consumer gains, the industry loses heavily because of low realization and huge carrying costs, leading to mounting cane price arrears. The situation can be remedied, by providing WTO compatible incentives for boosting exports, as was done during the years 2002-2004. In a situation of low production of sugar, the domestic demand can be met through augmentation of supply by import of sugar. However, import of white sugar is likely to be detrimental to the interest of the sugar industry and should be avoided as far as possible. The present customs duty regime imposes a tariff of 60% ad-valorem, besides countervailing duty of Rs.850/- per tonne to protect the domestic industry. The other option is to allow import of raw sugar to be processed into white sugar by the domestic industry. This has the advantage of increasing the capacity utilization, extending the season, enabling the factories to cover some of the overheads and create value addition, etc. Both the above situations are extreme affecting the health of Indian Sugar Industry. To augment its demand and supply situation, India also actively participates in International Trade of sugar depending upon domestic consumption and production. Sugar is produced in 110 countries. The leading sugarcane producing countries are Brazil, India, Australia, Thailand, China and Cuba. The Russian Federation, Ukraine and Europe account for around 80 per cent of total beet sugar production. In addition to weather conditions, diseases, insects, and quality of soil, production of sugarcane and beet are affected by international trade agreements and domestic price support programmes.

The International Sugar Organization (ISO) has estimated a higher global sugar surplus of 11.1 million tonnes for the year 2007-08. The ISO had in May, 2007 pegged the surplus at around 9.1 million tonnes. In its quarterly report released in November 2007, the ISO said global sugar output is estimated at 170.308 million

tonnes against a consumption demand of 159.169 million tonnes. World consumption is projected to grow by 2.4%, only a fraction down from the 10-year average of 2.3%. For 2007-08, world export availability is projected to exceed import demand by more than 4.272 million tonnes, the organization said.

## 2.22 Sugar Exports from India

Although India is the world's largest producer of sugar and has freight advantages because of its geographical proximity to the major importing nations India exported a total of 10.5 million tonnes of sugar during 1957-1995 where as it imported a total of 6.5 million tonnes during the same period, meaning a net export of a meager 1 lakh tonne per annum. The major net exporters in the world market are Australia, Brazil, the EU, Cuba, Thailand, Guatemala, Columbia, Mauritius, Fiji and Turkey with percentage market share of 19.8, 15.8, 14.3, 14.0, 11.9, 3.3, 3.2, 2.4, 2.1 and 1.7, respectively, as of 1994, where India is nowhere in the picture. On the other hand, because of regular cycles of surplus and deficit of sugar production in India, in certain years India tops the list of importers, has in fact happened in 1994. The percentage shares of the major net importers of sugar in 1994 were 11.5 for India, 8.6 for Russia, 7.4 for Japan, 5.4 for China, 5.0 for the US, 4.7 for Canada, 4.3 for the Korean Republic, 3.6 for Malaysia, 3.5 for Algeria and 2.8 for Iran. So being an occasional large importer/exporter of an essential item like sugar, India has to guard against the possible repercussions of its entry into the international market either as an importer or as an exporter. So being a large country, international price would always tend to move against India.<sup>122</sup> India entered the world market as an exporter in the year 1957 and has exported sugar in all along the years. The quantity has been as low as 20,000 tonnes in the year 1984-1985 to as high as 1.02 million tonnes in the year in 1995-1996. The exports have never been an economic proposition due to dual sugar pricing policy, which makes the free market prices high.<sup>123</sup>

The Government's efforts to promote the export of sugar have borne fruit. Sugar export which was merely 0.13 lakh tonnes in 1999-2000 financial year, increased to 3.39 lakh tonnes and 14.56 lakh tonnes valued at Rs.420.18 crore and Rs.1,728.04 crore in 2000-01 and 2001-02 respectively. As per published data of the Directorate General of Commercial Intelligence and Statistics, Kolkata, the quantity of sugar exported between April 2002 and December 2002 is 9.79 lakh tonnes valued at Rs.1034.42 crore. The exports up to July 2006 were 10,04,317 lakh tonnes. The central Government took the following measures to promote export of sugar.<sup>124</sup> Exemptions from compulsory levy obligation on the exported quantity of sugar. Deferment of adjustment of the exported quantity of sugar in the stocks of the sugar factories for the purpose of domestic free sale releases. (This deferment was initially given for six months, which was later increased to twelve months and in November 2001 to eighteen months). Reimbursement of expenditure of internal transport and

freight on exportshipment of sugar\_ Neutralization of disadvantage in ocean freight charges to the extent of Rs.350/-per tonne of sugar exported. Reimbursement of marketing and handling charges @ Rs.500/- per tonne of sugar exported.

### **2.23 Import of Sugar by India**

Government under advises of the Food Ministry, would access the shortfall and give adirective for import. In 1993-94, anticipating a heavy shortfall of over 2 million tonnes,central government allowed free imports under open general license. Almost half ofimports were private. Today imports are freely allowed. Import of sugar, which wasplaced under Open General License (OGL) with zero duty, in March 1994, continuedwith zero duty up to April 27, 1998. Government imposed a basic customs duty of 5%and a countervailing duty of Rs.850 per tonne on imported sugar with effect from April28, 1998. The basic custom duty was increased from 5% to 20% w.e.f. January 14, 1999in addition to the countervailing duty. In the Union Budget for the year 1999-2000 dutieson imported sugar was further increased from 20% to 25% with surcharge of 10%. Thecustoms duty on imports of sugar was again increased to 40% on December 30, 1999 and60% on February 9, 2000 along with continuance of countervailing duty of Rs. 850/- pertonne. In order to augment sugar stocks for the year 2004-2005 and enable thegovernment to meet the normative three months' consumption requirement of thecountry, the Advance License Scheme has been liberalized for raw sugar import, in asmuch as the imported raw sugar under advance license was allowed to be sold in thedomestic market, after processing it into white sugar and allowing such importers andsugar mills to fulfil export obligation within 24 months period or such extended period asallowed by D.G.F.T. by exporting indigenously manufactured white sugar. Importedsugar is also subject to the monthly release mechanism and stock holding limits asapplicable to domestic sugar. Importers are also required to surrender 10% of importedsugar as levy at prices notified by the Government.<sup>125</sup> The following table givesdetails of sugar imported by India in different periods:

### **2.24 Various Regulations Imposed by Central and State Governments**

Prior to liberalization of Indian Economy, the industrialization in our country was highlyregulated and protected leading to monopolization and centralization. The face ofindustrialization has however changed after 1991 reforms. Protection has disappeared.Imports exports liberalized. Productions have overtaken demand, competition hasincreased, and new technology has come in which is supported by foreign directinvestments. All this has resulted in growth of consumerism driven by better productquality and availability at reasonable prices. More over sugar being an

essential commodity, producers and consumers exert lot of influence on sugar trade. This industry is highly regulated and controlled both by central and state government. In fact every activity i.e. from plantation of sugarcane, harvesting, processing, packing, pricing, distribution etc is regulated. Even post liberalization, sugar industry remains insulated. Economic Liberalization and reforms could only bring some relaxation in sugar imports, exports or partial decontrol of certain activities. The following discussion will give brief review of major regulatory measures that are imposed by the central and state government on India Sugar Industry:

## **2.25 Central Government Controls and Measures**

Important provisions for getting license to manufacture and set up new Sugar **Factory:**

Sugar Industry falls under the category of schedule industry under Industrial Development Regulation Act and thus requires license to manufacture sugar. Earlier, minimum time taken by the central government machinery to process the application of availing license to manufacture sugar was three years, which has been reduced to one year in recent time. Government shall not issue license for setting up new sugar mills for a capacity of less than 2500 tonnes per day. In other words minimum size of the plant capacity of a new sugar mill has to be 2500 tonnes per day and is expandable up to 5000 tonnes per day. Minimum distance between 2 sugar mills has now been reduced to 15 kms, instead of earlier ceiling of 40 km to streamline sugarcane supply to sugar mills. Government gives incentives to new sugar mills by allowing newly setup mills to sell upto 100% of the sugar in free market against 90% of existing mills. Government of India has also extended this incentive to sugar mills that expands their existing small capacities to 5000 tonnes per day. The impact of this incentive has been horizontal growth-causing cane shortage leading to higher per unit processing cost etc. The various controls exercised by central government are discussed as under:

## **2.26 Essential Commodity Supply Act**

Sugar is a commodity covered under The Essential Commodities Act, 1955 and is subject to various controls in terms of the provisions of the said Act and the Rules made under this act. The objective of this act is to control the production, supply, distribution of and trade and commerce in the essential commodity. Section 3(3C) of the EC Act makes specific provision with regard to the payment to be made for sugar sold by the producer in compliance of an order made under Section 3(2) (f) of the Act by the Central Government for supply of levy sugar. This Section lays down the guidelines for determination of price payable to the producer for levy sugar supplied

by him. Under this sub-section, levy sugar price is required to be fixed by the Central Government having regard to –

- \_ The minimum price fixed for sugarcane by the Central Government;
- \_ The manufacturing cost of sugar;
- \_ The duty or tax payable thereon and
- \_ Securing of a reasonable return on the capital employed in the business of manufacturing sugar.

It is also provided that different prices may be determined from time to time for different areas or factories or for different kinds of sugar. Section 3 of the Act confers wide power on the Central Government to make orders to provide for achieving the primary objective of exercising effective control to check inflationary trend in prices and to ensure equitable distribution of the essential commodity.

#### 2.27 The Sugar (Control) Order 1966 for Production Control of Sugar

The Sugar (Control) Order 1966 provides for power to the government to regulate production of sugar, restrict sale etc. of sugar by producers, movement of sugar and quality of sugar, call for information from producer or recognized dealer, inspection, entry, search, sampling and seizure of sugar and delegation of powers conferred by the Sugar (Control) Order, 1966 to any officer or authority of the Central or State Government. On the basis of the quarterly free sale quota decided by the Government, month-to-month release orders for sale of sugar in open market are issued under clause 5 of the Sugar (Control) Order, 1966. It also prescribes standard of quality to which sugar must conform at the time of delivery.

#### 2.28 The Sugarcane (Control) Order 1966 for Sugarcane Pricing

Sugarcane (Control) Order, 1966 provides for price (SMP) for sugarcane purchased by sugar mills during each sugar season. (Clause 3) provided for payment of interest at 15% per annum on amounts due beyond 14 days of delivery of sugarcane at factory gate. (Clause 3(3-A) makes provision for payment of additional cane price to the growers. (Clause 5-A) provided for regulation of distribution and movement of sugarcane. (Clause 6) provides for licensing of power crushers and khandsari units and regulation, issue of directions to producers of khandsari sugar. (Clause-8) provides for power to call for information etc. from producers. (Clause-9) provided for power to entry, search and seizure. (Clause 9-A) provided for delegation of powers conferred by the Sugar (Control) Order, 1966 to any officer or authority of the Central or State Government. Sugar Cane (Control) Order 1966 was issued to promote sugar industry and to ensure fair deal to cane growers by fixing minimum price payable by sugar mills to sugarcane growers. This Act provided cane price fixation on the basis of 50% profit sharing. This Act is not enforced in states where such state fixes its own price. In cooperative mills dominated states, i.e. Maharashtra, Karnataka, Gujarat, sugar cane price is based on profit sharing formula while in other

states dominated by private mills, state government advise the sugar cane price known as State Advised Price (SAP). The statutory minimum price or SMP is used only to determine the price for levy sugar.

### **2.29 The Levy Sugar Supply (Control) Order 1979 for Sugar Supply to Public Distribution System**

The Levy Sugar Supply (Control) Order 1979, was issued empowering the central government to direct sugar mills to supply levy sugar to authorized persons/organization etc. at a price fixed for that respective season. Month-to-month release orders for delivery of levy sugar are issued in exercise of the powers conferred by this order.

### **2.30 Sugar (Control) Order 1966 for Dual Sugar Pricing Policy of Sugar**

Under the provision of the Sugar (Control) Order 1966, central government has been regulating the sugar supplies for distribution under PDS (public distribution system) and free market sale. Several times in the past, industry has gone through complete control or partial control to complete decontrol and back to partial control. Under the current policy 10 % of the sugar produced is to be delivered by mills, for public distribution, at a price fixed from season to season. Balance 90% can be sold in the free market as per quantity decided by Ministry of Civil Supplies, Food and Public Distribution, Government of India and on month-to-month basis for each mill.

### **2.31 Sugar (Packing and Marking) Order, 1970 for Sugar Quality and Packaging**

Sugar (Packing and Marking) Order, 1970 provides markings to be indicated on sugar bags. Unless otherwise permitted by Central Government, sugar is required to be packed in A-twill jute bags conforming to Indian Standard Specifications. Sugar meant for the purpose of export, and small-consumer packs of 5 kg and below have been exempted from the compulsory use of jute bags. The quality of sugar is governed by Indian Standards specified for food items like Grade 31, 30, 29 etc. Packaging of sugar has been permitted only in 100 kg jute bags. The size, weight and other features of jute bag have also been specified. Central government has allowed packing of sugar in consumer packs of 1, 2, and 5 kg in any packaging material. The size of packs of sugar for exports is 50Kg and it can be packed in any packaging material and the same is applicable for imports

### **2.32 The Sugar Export Promotion Act**

The Sugar Export Promotion Act, which casts an obligation on all sugar mills in the country to export, has been repealed by an Ordinance, which, however, has not been subsequently converted into an Act within the stipulated time. With the de-canalization of exports, it is no longer mandatory for all manufacturers of sugar to export. Export can be made voluntarily. But, resorting to export of sugar,

would not exempt any sugar mill either from its obligation to supply levy sugar which is requisitioned by the Government in terms of Section 3(2) (f) of the EC Act, 1955, or to effect sale of sugar in open market in compliance of the month to month release orders issued by the Government.

### 2.33 Sugar Cess Act, 1982

The Sugar Cess Act 1982 was enacted to provide for the imposition of a cess on sugar for the development of sugar industry and for matters connected therewith. The Act empowers the Central Government to levy the cess, by way of a duty of excise, on sugar, which will help to generate funds for supplementing financial assistance for rehabilitation and modernization of sugar factories and for development of sugarcane, and research activities connected therewith. The Sugar Cess Rules, 1982 (which were made under the Act) provide for the manner of accounting reports and returns to be furnished by sugar factories, maintenance of accounts etc. An amount equivalent to the proceeds of the duty of excise levied and collected under the Act, reduced by the cost of collection as determined by the Central Government, shall be credited to the Sugar Development Fund formed under Section 3 of the Sugar Development Act, 1982.

### 2.34 Sugar Development Fund Act, 1982

The object of The Sugar Development Fund, 1982 (briefly the SDF Act) is the formation of the Sugar Development Fund to be applied for the purpose of rendering financial assistance through loans at concessional rates for rehabilitation and modernization of sugar factories as well as for sugarcane development and for encouraging research aimed at development of sugar industry by making grant. The fund shall also be applied for defraying expenditure for the purpose of building up and maintenance of buffer stock of sugar with a view to stabilizing price of sugar.

### 2.35 Sugar Development Fund Rules, 1983

The Sugar Development Fund Rules, 1983 were made in exercise of the powers conferred by Section 9 of the SDF Act, 1982, to provide for (a) the manner in which any loss or grants out of the fund and the terms and conditions thereof, (b) the manner and form in which applications are to be made; (C) the composition of the committee and the procedure to be followed by it in the discharge of its functions and (d) the form in which and the period within which statistical and other information may be furnished by sugar factories. From 1st November 1982 the amount of cess payable by sugar factories is Rs.14/- per quintal of sugar.

### 2.36 LSPEF ACT 1976

The Levy Sugar Price Equalization Fund Act 1976 (briefly LSPEF Act) was enacted to provide for the establishment, in the public interest, of a fund to ensure that the price of levy sugar may be uniform throughout India and for matters connected therewith or incidental thereto. The LSPEF Act provides for

establishment of a fund called the Levy Sugar Price Equalization Fund (briefly LSPEF) into which shall be created (a) the amounts representing all excess realizations made by the producers either before or after the commencement of the Act, and (b) the amounts of loans advanced or grants made, if any, by the Central Government for carrying out the objects of the fund. The fund shall be administered by the Central Government (Section 3). Money remaining unclaimed for a period of six months from the date on which they are credited shall vest in the Central Government and shall be utilized, having regard to the interests of consumers of levy sugar as a class and the need to ensure that the retail issue price of levy sugar is uniform throughout the Country (Section 8). The LSPEF Act also empowers the Central Government to recover excess realizations made by sugar factories as ' Arrears of Land Revenue' (Section 11) Penal Provisions, prescribing imprisonment or fine or both, in respect of defaulting sugar mills in the matter of crediting excess realizations are also contained in the Act (Section 13). Section 16 of the Act provides for power to make rules. In exercise of such power, the Levy Sugar Price Equalization Fund Rules, 1977 were made, to provide for the manner of (i) crediting moneys to the fund (ii) accounting and transactions of the fund (iii) inviting applications from buyers for refund, (iv) utilization of the fund by the Central Government, etc. besides prescription of forms for various purposes in terms of the LSPEF Act. The Act was amended in 1984 to provide for certain modifications in the principal Act, with a view to obviating litigations on the subject in the light of the experience gained during the administrations of the LSPEF Act, 1976.

### 2.37 Regulations Imposed By State Government

Over and above the central government controls, each state government has also enforced its own regulatory measures to protect the state government interest and sugarcane growing farmers. Following are some controls, which are enacted by states governments.

#### **2.37a Restriction on Sugar Cane Purchase Order, 1966**

Sugar Cane Purchase Order, 1966 provides for restriction on purchase of sugarcane by jaggery producers. It also provides for permits for purchase of sugarcane by a khandasari manufacturer holding a valid license from respective state government.

#### **2.37b Sugar Cane Cess Act, 1956**

This Act has been promulgated for imposition of cess on sugarcane sold to a sugarcane factory. At present the rate of cess is Rs. 140 per tonne on sugar, which is collected at the time of delivery of sugar.

#### **2.37c Sugar Cane (Purchase Tax) Act, 1961**

This Act proposes to impose a tax on the purchase of sugarcane by the owner of a sugarfactory. A sugar factory is not allowed to remove any sugar until Purchase Tax has beenpaid thereupon. At present the rate of Purchase Tax is Rs.220 per tonne on sugar.

#### 2.37d Sugar Cane (Regulation of Supply & Purchase) Act, 1953

This Act regulates the supply and purchase of sugarcane required for use in a sugarfactory, khandsari unit and for manufacture of jaggery. Some important provisions of thisAct are as under:

- \_ Every sugar factory has to give declaration of reserved area/assigned area for thepurpose of supply of cane to a sugar factory.
  
- \_ Every sugar mill is required to pay to farmers within 15 days from the date ofsupply of sugarcane to the sugar factory.
- \_ Sugar Factories have to purchase sugarcane through cane grower's cooperativesocieties.
- \_ Payment of commission if any for purchase of sugarcane should be done to canegrower's cooperative societies.
- \_ State government has the power to declare some cane unsuitable for sugar mills.

#### 2.37e Sugar Cane (Supply & Purchase) Order, 1954

This act provides for rules and regulations governing purchase of cane in a reservedarea/assigned area and purchase for cane at cane purchasing centers within the reservedarea of a sugar factory.

#### 2.38 Molasses Control Order

While the Central Government has decontrolled the molasses, the State Governments hasimposed its own regulations like:

- \_ Ban on interstate movement of molasses.
- \_ Restriction on end use i.e. sale to a specified license holder consumer only.
- \_ Ratio for sale of molasses has been fixed. Sugar Mills have to sale certainquantity at control fixed rate and remaining quantity can be sold at free market rate.
- \_ These orders also specify the names of consumers of molasses who will getmolasses at control price.

#### 2.39 Levy Sugar Sales/Distribution System

Currently 10% of total sugar production done by the sugar factory is to be sold under levyquota. This quantity for distribution per month is fixed according to per

kg/family etc. However during important festivals additional quantity of sugar is released to augment the festival demand. The entire release mechanism of sugar is controlled by Ministry of Food and Public Distribution and issues release orders through various food departments and corporations. These government departments in turn approaches individual mills to lift the sugar and for onwards supply to various public distribution system (ration shops) appointed by the State Governments. Consumers get their sugar allocation on fortnight basis against the ration card issued to each family by respective state governments.

#### **2.40 Free Sale of Sugar Marketing System: Quantity**

Currently 90% of the total sugar production of older sugar mills is sold under free sale quota. Extra free sale sugar is allowed to sugar mills for late and early crushing and also to new sugar mills. Ministry of Civil Supplies, Food and Public Distribution assesses the monthly requirement for the whole country on the basis of historical demand pattern over the previous years and make provision for growth in sugar consumption ranging 4% to 5%. Then after state wise allocation of sugar is fixed on the basis of historical data plus any specific festival demand for the month in that state. This exercise will enable the authorities to fix the total quantity that would be demanded by respective state. Sugar Factory wise allocation is then made on the basis of production and stock of the respective sugar mills on pro-rata basis. Individual mill adjustments are made for the extra release of the previous months or additional incentives out of late/early crushing.

#### **2.41 Period of Sale**

Sugar Factories have to complete the sale and dispatches of 100% of such sugar released by the government on monthly basis and within stipulated period, so prescribed. Also in order to reduce speculation and ensure supplies in market, mills are bound to sell the quota evenly in two fortnights of the month i.e. 50:50. However, the only relaxation is that mills can sell up to minimum 47.5% in a fortnight and a maximum of 52.5%. Failure can lead to prosecution under the Sugar Control Order and such quantity can be converted in levy sugar. Thus mills are forced and have to comply with this requirement. This is one singular factor, which determines the price of sugar in market.

#### **2.42 By-Products Utilization and Diversification**

The global and domestic competition has heated up and is going to become fierce further, once decontrol of the industry will take place. The sugar industry is cyclical in nature. It is dependent upon monsoons for both production and price realization. The traditional business model of this industry i.e. focusing only on main

product of sugar and underutilizing or simply disposing the by-products without further value addition, is the common practice followed by majority of sugar factory in cooperative and public sector and other few in the Joint Sector of this industry. As the business environment is becoming more complex and uncertainties becoming a prominent feature of every business, Sugar Industry needs to diversify its present product portfolio through optimum and efficient use of its by-products like Bagasse, Molasses and Press Mud. There exist tremendous potential for optimizing and creating meaningful products out of the by-products of this industry. By using proper diversification strategy and value addition to its by-products sugar industry can generate substantial revenues which in return will improve overall sustainable profitability of the industry. Many private sector sugar factories has already installed sugar complex to utilize its by-products and has achieved positive results. Few of cooperative sugar factories have also started adding value and use of its by-products. Balrampur Chini Mills, India's largest sugar producer, is looking at growth through a partnership model. Mr Vivek Saraogi, Managing Director of Balrampur Chini Mills in an exclusive interview in Business India has said, 126 "We recognized very early that the way to move ahead in this industry, is to move with the entire engine, sugar and its by-products, molasses and bagasse. Therefore, we went in for complete integration. Today we generate power from bagasse and make alcohol from molasses." Diversification strategy will enable the industry to de-risk its traditional business model and generate revenues from other integrated and diversified product value chain. This strategy will surely create sustainable competitive advantage and act as shock absorber in the depression situation. The various uses of by-products are discussed as under:

### **2.43 Utilization of Bagasse**

Bagasse is one of the most important by-products of the sugar industry. It is used for generation of steam and power required for processing of sugarcane. With energy saving, around 5 to 10% of bagasse is saved by a majority of the units and is utilized for production of paper, particleboard and in some cases cogeneration of power. Bagasse contains 40% cellulose, 30% pentasone and 20% lignin. It is suitable raw material for paper industry. 30% of cellulose requirement comes from agricultural residues. According to one estimate of the Development Council for Pulp & Paper, 21.06 million tonnes of mill wet bagasse was used for production of paper in 1994-1995, 36.0 million tonnes in 2000-2001, 43.2 million tonnes in 2005-2006 and further this council has forecasted that 50.40 million tonnes of bagasse will be used by 2015-2016 in production of paper. However, since the sugar mills are scattered all over the country, collection of surplus bagasse poses a problem and makes paper units

uneconomical. In addition, the bagasse can also be used for cogeneration of power by the sugar industry.

#### **2.44 Co-Generation of Power from Bagasse**

Bagasse is used as captive fuel in the mill. Most efficient as well as balanced mills can save bagasse to the extent of 10% of its production. Indian Sugar Industry has a potential for co-generation and export of power to the power grid after meeting its own requirement of energy. Experts in the sugar industry estimate that this industry has a potential of generating 5000 MW of power (Report on Revitalization of Indian Sugar Industry). India has not exploited this huge potential. Countries like Hawaii, Mauritius etc. where co-generation of power from sugar mills has become a dependable source for supply of power. The Government has plans to increase the share of environment friendly cogeneration of power by sugar mills and has indicated that preferential tariff for cogenerated power would be given. Many sugar factories have gone ahead and made large investments in such projects. It also needs to coordinate with state government electricity boards for utilization of the surplus power, which sugar mills even can generate. The investment required is about 60% of what will be required for setting up a conventional thermal power plant. A Beginning has been made with 5 such plants in India commissioned and many more coming up. The Government amended the Sugar Development Fund Act, 1982 in May 2002 to enable it to give loans from the Sugar Development Fund at concessional rates of interest to sugar factories for undertaking bagasse-based cogeneration of power projects and for production of anhydrous alcohol or ethanol from alcohol.

#### **2.45 Utilization of Molasses for Rectified Spirit and Ethanol Production**

Molasses is an important by-product of the sugar industry constituting about 4.2 % to 4.5% on cane utilized for sugar production. Molasses is used extensively for the manufacture of ethyl alcohol and alcohol based down stream chemicals in addition to manufacture of potable alcohol. During 1998-1999, the molasses production was 7.0 million tonnes, 7.3 million tonnes in 1999-2000, 7.7 million tonnes in 2000-2001 and 13.09 million tonnes in 2006-2007. 291 distillery units with a capacity of 35,000 lakh litres per annum are operating in the country. Annually about 15,000 lakh litres of alcohol is produced from molasses. Molasses is also utilized in the manufacture of animal feed. About 90% of molasses is utilized for alcohol production and the balance for cattle feed and other purposes. 129 Molasses for many decades have been fully controlled in every aspect i.e. price, movement and end-use. In 1993, the Central Government decontrolled the molasses. Most states have complied with the centre's directive but some state government's like Bihar; UP have re-imposed controls like dual pricing, movement and end use controls. This policy of state governments is only

helping in keeping free market molasses prices high, leading to making availability difficult for distilleries and country liquor production thereby encourages illicit liquor production from jaggery which further leads to more diversion of sugar cane. There are total 291 distilleries and 119 sugar mills having distilleries attached to it. Total installed capacity of all this distilleries is 3500 million litres. At current level of sugar production and surplus availability, total is estimated at 400 million litres, which went up to 700 million litres in the year 2000. 130 The following table shows the production of molasses, ethanol and consumption of ethanol in India during different periods.

The latest research shows that dehydrated alcohol (ethanol) is a good oxygenate and when used as a blend with motor spirit, substantially reduce the vehicular emissions. Its blending therefore can help reduce pollution in large cities. Ethanol has a high anti knock quality and its addition up to 10% raises the octane rating of regular petrol by 3 units and blending up to 25% raises the octane number by 8 units thus, eliminating the need for using environmentally harmful lead additives for raising the octane number of petrol. Ethanol is produced from the fermentation of molasses. Government's ethanol blending programme announced in December 2002 making the sale of petrol blended with ethanol mandatory has opened up additional revenue stream for ethanol produced by the sugar industry. The ethanol-blending programme is to be implemented in phases. In the first phase, the sale of petrol blended with 5 percent ethanol has been made mandatory in nine states and four Union Territories. In the second phase, the 5 percent blending programme is to be extended to remaining states. In third phase, the proportion of ethanol in the blend is to be doubled to 10 percent. The high-powered committee of Shri S.K. Tuteja, in its "Report on Revitalization of Indian Sugar Industry" has felt that the Government's policy to encourage utilization of by-products is a step in the right direction to enable sugar factories to be in good financial health. The outstanding success of Brazil's ethanol programme is a case in point. Brazil is encouraging automobiles with flexi-fuel engines, which are capable of taking any ratio of ethanol to gasoline. The Committee recommends the following policy interventions to central government for ensuring success of initiatives to exploit by-products:

- \_ Oxygenation of gasoline may be made compulsory.
- \_ The Central Government may formulate a long-term policy for blending of petrol with ethanol.
- \_ Fiscal and other incentives provided may be in place for a minimum period of five years, without any rollback.
- \_ Purchase price of ethanol may be fixed for a period of three years (with suitable price escalation clauses) in place of the present practice of fixing the price annually.

\_ National Energy Policy may have provisions for (i) mandating the proportion of 'green' power to be purchased in the overall power purchase in a state and (ii) preferential tariff for co-generated power. The Central Electricity Act may also be suitably amended to provide teeth to the policy to support 'green' power.

#### **2.46 Utilization of Press Mud**

Press Mud is another by-product generated in the process of manufacturing sugar. The raw cane juice contains several residues and needs to be treated with chemicals, which facilitate to get the residues settle down. These residues are called Press Mud. The Press Mud contains various minerals and is used as organic manure to improve the health of the soil and replenishes the minerals consumed by other crops. It increases the productivity of soil and facilitates higher returns to farmers. Many sugar mills auction this press mud in loose to sugarcane growers. Some sugar mills have also started packing press mud in 50-kilogram packs and market it. Sugar mills have got a very good response from the farmers and commercial nurseries and buy it and use it as organic fertilizer. Huge potentials exist if appropriate marketing strategies are used to sale this by-product.

#### **2.47 Sugar Situation during different Five-Year Plans in India**

The growth of the Indian sugar industry in an organized manner had its Beginning, when the Government of India passed the Industrial Policy Resolution on April 6, 1948, followed by the Industrial Act, 1956, wherein the Principle of Cooperation was assigned an important role for the country's economic development, particularly for industries based on agricultural produce such as sugarcane. Then after Indian Sugar production growth came up under structured and planned sugar programme. The demand, the production requirement, the capacity needed and cane production went through a planning process and close monitoring by the planners over past 5 decades. Further in order to achieve the set targets central government has been setting up committees, taskforces from time to time to make policy changes in consultation with industry, their national and state level federations, state agriculture departments etc. for issues pertaining to sugarcane pricing policy, levy price fixation, free sales ratio, levy sugar ratio etc. Also government has been closely monitoring the licensing policy. Government has been encouraging setting up of new sugar mills as well as expansions up to 5000 TCD allowing up to 100% of sugar for new mills and 80% for expanded units, to be marketed in free market for certain number of years. As on March 31, 2005, the installed annual sugar production capacity was 189.3871 lakh tonnes comprising 695 installed sugar factories in the country, 315 in the cooperative sector, 62 in the public sector and 189 in the private sector. The average size of sugar factory is 3510 tonnes per day with some units of 10,000 TCD and few of 5,000 TCD.

Sugar Industry too, has gone through a structured planned growth based on projected requirement of sugar for domestic consumption. The era of planning for industrial development began in 1950-51 and Government laid down targets of sugar production and consumption, licensed and installed capacity, sugarcane production during each of the Five Year Plan periods. The targets and achievements during various plan periods are given below.

Government enacted the Sugar Development Fund Act & Rules, which provide for levy of Rs.14/- per quintal of sugar known as Sugar Development Fund (SDF). The SDF is utilized for granting several term loans to sugar mills for modernization and grants for research projects in the sugar industry besides creation of buffer stocks as and when required ensuring price stability. A number of units are in the process of expanding their capacities and modernizing their plant with the assistance available from SDF. Government delicensed sugar sector in August 1998. It is now open to entrepreneurs to set up sugar mills without a license but at a distance of 15 kms away from the existing factory. Sugar units are now free to expand their capacity and also put up higher capacity new units. This will help the units to consolidate and expand their capacities wherever cane potential exists.

According to Indian Sugar Mills Association, the Indian sugar industry has achieved a number of milestones. They are as under:

- \_ Largest sugar producer for 7 years out of 10 years
- \_ Second largest area under cane production
- \_ Amongst the cost-effective industries with its field cost (sugar cane) being the second lowest, despite small land-holdings and low productivity
- \_ Fourth efficient processor of sugar despite low capacity of its sugar plants as compared to very large-size plants in other parts of the world.

#### **2.48 Current Sugar Policy of Government of India for Indian Sugar Industry**

The highlights of major provisions of India's sugar policy according to sources of Ministry of Food, Consumer Affairs and Public Distribution (Department of Food and Public Distribution), Government of India, are as under:

1. Central Government has delicensed sugar industry with effect from September 14 1998, however the criterion of minimum location distance between two factories of 15 km is still to be followed and minimum plant size has to be of 2500 TCD.
2. Government has been following a policy of partial control and dual pricing for sugar. Under this policy, a 10% percentage of sugar produced by sugar factories is requisitioned by the Government as compulsory levy at a price fixed by Government in every sugar season for distribution in the Public Distribution System (PDS). The non-levy portion of 90% sugar is allowed to be sold as per the quantity released by the Government under the free sale sugar release mechanism.

3. The levy obligation now stands at 10% of the production w.e.f. March 1, 2002.
4. In February 2002, the Central Government decided to dispense with the releasemechanism with effect from April 1, 2003. However, in March 2003, it wasdecided to continue with the release mechanism up to September 2005 and toreview the position in February 2005 and still it is continued. As per this policyprovision, no producer, importer or exporter of sugar shall sell or otherwisedispose of or deliver any kind of sugar except under and in accordance with thedirection issued by theGovernment.
5. Sugar was approved for futures trading in May 2001. At present, threenationalexchanges viz. National Commodity and Derivative Exchange Ltd. (NCDEX),Mumbai, Multi Commodity Exchange Ltd., (MCX), Mumbai, National MultiCommodity Exchange (NMCE), Ahmedabad and E-Sugar India Ltd., Mumbai &E-Commodities Ltd., Delhi have been given recognition for future trading insugar. Except E-Commodities Ltd., Delhi, trading in sugar is taking place in allother exchanges. Bulk of the futures trading in sugar takes place at NCDEX.
6. Central Government has withdrawn the stockholding limits on wholesale dealersof sugar with effect from July 7, 2000.
7. Central Government has abolished the turnover limits on wholesale dealersof sugar with effect from August 20, 2001.
8. With effect from February 1, 2001, the population base for supply of levy sugarunder the PDS has been changed to the projected population as on March 1, 2000.
9. In order to ensure better targeting, levy sugar supply under the PDS has beenrestricted only to the BPL families in all states /UTS except the North EasternStates, Hill States and Island Territories, with effect from February 1, 2001.
10. The minimum per head per month quantum of levy sugar allotted under the PDSwas increased from 425 grams to 500 grams with effect from February 1, 2001.
11. The Sugar Export Promotion Act, 1958, is repealed w.e.f. January 15, 1997 andthus the export of sugar is decanalised.
12. Government removed the quantitative ceiling on export of sugar and alsodispensed with the requirement of the issue of the Registration-Cum-Allocation Certificates (RCAC) by APEDA, w.e.f. April 1, 2001 on sugar exports. Now theexport of sugar can be undertaken by the various sugar mills/exporters, afterobtaining the export release order from Directorate of Sugar.
13. Import of sugar, which was placed under Open General License (OGL) with zeroduty, in March 1994, continued with zero duty up to April 27, 1998. The customsduy on imports of sugar was increased to 40% on December 30, 1999 and 60%on February 9, 2000 along with continuance of countervailing duty of Rs. 850/- per tonne.

## **2.49 Environment Analysis of Indian Sugar Industry**

The study on Indian Sugar Industry would remain incomplete without evaluating it by using Porter's Five Force Model to analyze its business environment. The following model reflects the major forces that affect the industry.

### **2.50 Functions of Directorate of Sugar-Gujarat**

1. To register the newly formed sugar cooperative within the state and accept its bylaws and also approve the amendments in the by-laws.
2. To appoint Board of Directors, remove them when needed, nominate state government nominees on the board and also to conduct the election of board of directors from time to time. He also has the authority to appoint administrators/custodian of sugar cooperative if needed, take the sugar factories into liquidation if required, appoint liquidation officer and keep a watch on such officers.
3. To inspect the audit memos of sugar factories, carry out special audit if malpractices are found and fix the responsibilities of all those concerned indulge in mal-practices.
4. To appoint his nominee on the board of directors of cooperative sugar factories or personally remain present in the meetings of board of directors and provide guidance.
5. To sort out all the issues of cooperative sugar factories and also to represent them with central and state government in the event if certain problems can not be settled at his level. More over he also becomes an important connecting link and represent sugar cooperative with financial institutions/boards/banks for solving financial matters.
6. To help sugar cooperatives to get loans from financial institutions.
7. To declare the sugarcane reserved areas for respective sugar cooperatives under the Sugarcane (Control) Order 1966, put a ban on supply of sugarcane during low production of it, grant permission to sale sugarcane to other states occasionally and also to ensure that farmers are paid according to statutory minimum price declared for different sugar seasons.
8. To issue license to jaggery and khandsari manufacturing units, cancel the license, renew the license under Gujarat Jaggery and Khandsari Sugar (Production Control) Order 1977.

The above functions are just to name a few out of various administrative and legislative functions that are performed by Directorate of Sugar, Gujarat State. For effective administration of sugar cooperatives, and to facilitate its operations at district levels, the offices of District Registrar (Sugar) had been established one each at Surat and Junagadh. However, the office of District Registrar has been abolished since October 16, 2003.

## **2.51 Role of ‘Gujarat State Federation of Cooperative Sugar Factories Ltd, Gandhinagar’ in Promotion and Growth of Sugar Industry in Gujarat**

Sugar Industry in Gujarat has crossed several milestones over the period of time and has carved a niche for its self in sugar production in the history of sugar industry of India. As the sugar industry of the state grew, several problems and issues of the factories cropped up. Hence, a need was felt to establish jointly an apex body to cater to the needs of cooperative sugar factories of the state. Bardoli Sugar Factory, Kodinar Sugar Factory and Gandevi Sugar Factory are the oldest factories of the state and were registered under The Mumbai State Cooperative Societies Act, because at that time Gujarat was not an independent state. These three sugar factories were already the member of The Maharashtra State Federation of Cooperative Sugar Factories Ltd, Mumbai. However in 1960, Gujarat was made an independent state. As a result, to take care of various interests and growth of sugar cooperatives in the state, Gujarat State Federation of Cooperative Sugar Factories Ltd., an apex body of cooperative sugar factories of Gujarat had been created in the year 1960 with an objective of promoting growth and development of cooperative sugar factories in Gujarat. This federation had been founded by active efforts of Late Shri Kalyanjeebhai, Late Shri Gopalbhai, Late Shri Ramsinhbhai Wala and Late Dr.Dayarambhai Patel. This federation has its registered office at ‘GH’ Road in sector-16 at Gandhinagar. Presently Shri Mansinhbhai Patel is rendering his services as Chairman of this federation and Shri H.A. Badi I.A.S. (Retd.) as Managing Director of the federation. All the factories registered in Gujarat are its members and this federation works to promote and protect interest of the member units with regard to matters related to sugar, sugar cane, by-products policy etc. It also represents sugar factories of the state for solving their problems to State Government and Central Governments and their concerned departments and also before various committees and commissions appointed from time to time. The Objectives for which this federation has been formed are as under:

1. To coordinate various activities of co-operative sugar factories in the state, frame policies and take policy related decisions.
2. To provide technical guidance to existing and operational factories regarding diversification, modernization, modification, rehabilitation, setting up by-product processing units etc.
3. To guide and provide direction to new upcoming factories.
4. To help new factories in arranging finance from various financial institutions and also for availing financial assistance from government.
5. To help factories to select and purchase plant and machinery and other consumables and non-consumables items of purchase.

6. To help sugar factories to sale their by-products and also guide them about alternative uses of by-products.
7. To undertake research to increase per hectare productivity of sugar cane and also improve sugar cane quality which gives high recovery.
8. To short out problems related to sugar cane cultivation like methods to control pests and diseases, to introduce new and better varieties of sugar cane in collaboration with Agricultural Universities.
9. To become a connecting link between state, central government and sugar factories of the state.
10. To provides guidance on legal issues pertaining to financial and labour issues etc. Gujarat State Federation of Cooperative Sugar Factories Ltd., Gandhinagar is alsomember of several other national and state level associations like National Federation ofCooperative Sugar Factories Ltd.-New Delhi, National Heavy Engineering Co-operativeLtd.-Pune, National Co-operative Development Corporation-New Delhi, National Cooperative Union of India, Gujarat Traders Association etc.

## **CHAPTER-3**

### **3 RESEARCH METHODOLOGY**

- 3.1 Background of the Research
- 3.2 Survey of Existing Literature
- 3.3 Statement of the Problem
- 3.4 Justification for Research
- 3.5 Objectives of the Study
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## CHAPTER-3

### RESEARCH METHODOLOGY

#### 3.1 Background of the Research

Cooperative Sugar Factories with its tremendous strengths and age-old weakness are in the crossroads now in the present era of liberalization, privatisation and globalisation in a market oriented economy. Old values and relationships have been overpowered by new values and relationships. The earlier regimes of 'Command and Control' have been changed. The command and control has shifted to the market oriented forces from the hands of the cooperative forces. Customers and Profitability have become the focus. Some of the leaders of the cooperatives movement still feel that cooperatives are insulated and the members will not change their loyalty. But they fail to understand that the economic interest of the people has now become primary and social interest has become secondary, in the background of 'Consumerism' in a 'Market Economy'. The new sugar policy in the Indian Sugar Industry, has paved the way for free market mechanism.

The market forces will decide the fate of highly protected industry. With these developments, multinational and private sector companies has been attracted to take the advantage of new economic policies of sugar industry, which had been reserved exclusively for cooperative sector. For instance, Reliance Industries' proposed foray into ethanol production has rattled Maharashtra's powerful sugar lobby, which fear that India's largest private sector company will use its immense financial clout to procure bulk of the sugarcane from farmers. Market sources say that Reliance could offer Rs1,600 per quintal, compared to Rs 1,300 that most cooperatives now pay. "No one will supply sugarcane to you once Reliance enters with its big pocket," said Sharad Pawar, Union Agriculture Minister and de facto guardian of the local sugar industry in Maharashtra addressing a rally at Pune recently. The sugar sector is in for a major turmoil, with the Mukesh Ambani controlled Reliance set to take the plunge.<sup>133</sup> As a result, cooperative sugar industries will have to face competition from multinationals and domestic private sector, which has efficient management and large capital to capitalize the situation. It has been a matter of concern across the cooperative sugar sector of India and Gujarat in particular for its survival and profitability. Key to gain competitive strength and stand still against professionally managed multinationals and private sector companies is to improve over all efficiencies and effectiveness of the sugar cooperatives of India in general and Gujarat in particular. This can be achieved by transforming the cooperative factories into professionally managed and good governed business enterprises. In spite of the

giant economic strength of this sector, it has not been given due attention as far as its management is concerned. The times have ripened for this sector to shed of its traditional practices of managing the sugar business and adopt professional management practices if they have to compete with the private and multinational enterprises.

### **3.2 Survey of Existing Literature**

For survey of existing literature, the researcher referred research papers published in journals, reference books, magazines, internet, government reports etc. as the basis for understanding as well as for exploring possible research gaps as the starting point. The observations and findings presented in this section are based on these literature reviews. Dr Peter Davis (1999) studied and explored the relation between current management thinking in a broad sense and the particularities of managing a cooperative enterprise. In the author's words "managers managing cooperative organizations should have access to not only the best and latest management techniques, methodologies and strategies but they should also understand how to apply them in the context of the cooperative values and purposes that their organizations serve". This publication hopes to make a conceptual contribution to the improvement of cooperative management practices enabling cooperatives to better face the challenges posed by increasingly competitive markets.

Samar K.Datta, Vijay Paul Sharma, Souendra Nath Ghosh, Pritte Sharma and Madalsa Gandhi (2000) conducted a study on "Economic Efficiency of Indian Sugar Industry" and examined three fundamental managerial functions-namely, procurement, processing and marketing on the basis of enterprise data from a suitably drawn sample of reasonable size from the Indian sugar industry and recommended several policy measures to be taken by industry and government for making it competitive in the globalized world. T.Subash (2003) in his paper expressed grave concern about the management of cooperatives. In the era of de-regulation, liberalization, globalisation and privatization cooperatives which once protected will have to face stiff competition from various domestic private players and foreign multinationals. He is of the view that strategic planning is necessary and important for cooperatives as it helps for the determination of the overall objectives of the cooperatives and the policies and strategies adopted to achieve those objectives. He also has suggested certain strategies for the planned and integrated development of cooperatives.<sup>136</sup>

V.M.Rao (2001) in his case study observed that the basic factors were neglected while setting up a new sugar factory. Both technical and financial parameters were below industry standards. Government policies such as cane price fixation, sale price of sugar, and release mechanism of sugar had taken their

toll. Pratapsinh Chauhan (1993) conducted opinion survey of cooperative sugar mills in Gujarat through direct personnel interview of managers, workers and cooperative leaders related to the problems and prospectus of the cooperative sugar mills in Gujarat and highlighted certain crucial obstacles faced by the factories and suggested strategies and methodologies to overcome them. 138

Mr Satish Kansal (1997) in his paper titled "Factors Determining Indian Sugar Production and its Comparative Advantage" is of the view that India can manage its inventory to its advantage by rotating the same through imports and exports. He further 135 Datta, Sharma, Ghosh et. al., "Economic Efficiency of Indian Sugar Industry," Center for Management in Agriculture, Indian Institute of Management, Ahmedabad, (August 2000) 136 Subash T., "Strategic Management for Cooperatives," Cooperative Perspective, Vol.37, No.4, (January- March 2003) p.1 137 Rao V.M., "Hanuman Cooperative Sugars: A sick unit in Andhra Pradesh," Cooperative Perspective, Vol.36, No.3, (October-December 2001) p.54 138 Chauhan Pratapsinh, "Problems and Prospects of Cooperative Sugar Mills in Gujarat," Cooperative Sugar, Vol.24, No.9, (May 1993) p. 512

highlighted that there exists a potential in terms of increase in productivity, extraction and production. The planners, policy makers, farmers and producers should get together to form a policy which is also acceptable to politicians in the country. He favoured capacity optimization and stressed on vertical growth of the industry. According to him, decontrol may not be the answer at the same time dual pricing policy has to be scrapped to provide level playing field for all sweeteners. Government can procure sugar from open market and subsidize it in case; it is a must for public distribution system. (PDS) 139 Dr. Samwel Kakuko Lopoyetum and Mr. Velu Raj. R (2003) discussed various fundamental management dimensions of cooperatives. According to them professionalisation and modernization of operations of cooperatives involves a wider range of management strategies which is capable of solving problems of various sectors of cooperative like marketing, banking, housing, producers, processors, trading and consumer cooperatives. The authors have identified several practical and operational difficulties, which obstruct modernization of operations of cooperatives and suggested measures to overcome them. 140

Dr. C.S. Rayudu (1999) has highlighted the professionalisation of cooperative management as an emerging discipline for practicing managers. He discussed the characteristics of a profession and matched it with various functions that a cooperative manager performs. According to the author, cooperative management in India has to grow further to get the recognition of a profession. In line with this, many institutions have been established at district, state and national level to impart professional management education with special reference to cooperatives. 141 G.A. Nikam (1988) studied three cooperative sugar factories of central Maharashtra, taking

data of these factories for last 11 years. On the basis of crushing capacity formula, 139 Kansal Satish, "Factors Determining Indian Sugar Production and its Comparative Advantage," proceedings of the Asia Pacific Sugar Conference 1997, Fiji. 140 Kakuko Samwel Lopoyetum and Raj.R Velu, "Fundamental Management Dimensions of Cooperatives: An Analysis of Major Imperative Issues," Indian Cooperative Review, Vol.40, No.4, April 2003, p.217 270 141 Rayudu C.S., "Professionalisation of Cooperative Management-An Emerging Discipline," Indian Cooperative Review, Vol.XXXVI, No.4, (April 1999) p.283-338

he worked out percentage of utilized crushing capacity of three factories under study and on this basis he segregated capacity utilization in six broader categories. He also reviewed the different situation of capacity utilization and sugarcane supply. He concluded that not a single factory utilized 150% of its capacity. 142 M.S. Marathe (1995) in his paper titled "Problems and Prospects of Development before Cooperative Sugar Industry in India" has mentioned that cooperative sector of sugar industry is facing problems and is likely to face many more problems under the new economic policy and this may considerably affect the prospects of development of cooperative sector of sugar industry in future in our country. He addressed certain important issues like licensing, decontrol and deregulation of this industry and measures to overcome the challenges. 143

R.Satya Raju and P.N. Apparao (2004) The authors studied cooperative sugar factories in India and in Andhra Pradesh in general and Anakapalli cooperative in particular. Out of 12 cooperatives sugar factories in Andhra Pradesh, only two were profit making, rest mills incurred losses. The main reasons for poor performance of these factories cited by authors were surplus labour, obsolete technology, high costs, political interference etc. Finally, in this paper authors concluded by giving important tips like adopting professional management practices, training of employees, computerization of various functions, reduction of staff etc to improve the profitability and survival of cooperative sugar factories of Andhra Pradesh. The coordinated approach from the government, employee unions and management is urgently required to turnaround these cooperative sugar factories. 144

P.N. Gavade and Dr.J.F.Patil (2001) have detailed out the problems and prospects of sugar industry of India in 21st Century. Sugar Factories are faced with multiple problems 142 Nikam G.A., "Utilization of Crushing Capacity "A Case Study of Cooperative Sugar Factories Located in Central Maharashtra," Cooperative Sugar, Vol.20, No.3, (November 1988) p.169 143 Marathe M.S., "Problems and Prospects of Development before Cooperative Sugar Industry in India", Cooperative Sugar, Vol.26, No.5, (January 1995) p.341 144 Raju R.Satya and Apparao, P.N. "Managing a Cooperative Sugar Factory in the Globalized Environment," Cooperative Perspective, Vol.39, No.3, (October- December 2004) P.99 like inadequate supply of

sugarcane/sometimes excessive cane supply, lack of competent management, lack of technical efficiency, government policies, overstaffing and high cost of production. Some of the major challenges faced by cooperative sugar factories are lack of enlightened and responsive membership and dynamic and forwarding looking leadership, erosion of cooperative values due to excessive government interference in their management etc. The authors concluded that through excellent management of cooperative sugar factories, it could gain competitive advantages and fight out private sector domestic and multinational units with greater rigor. 145

Dr.G.S.Kamat (1966) in his PhD. dissertation titled “Management of Cooperative Sugar Factories in Maharashtra” studied 12 cooperative sugar factories in Maharashtra and concluded that large gap remains in what is being accomplished and what would be done with higher standards of cooperative business management practices. The researcher pinpointed that some problems apparently appeared to be serious in nature but with farsighted outlook there exist immense potentialities of the cooperative processing movement initiated by the cooperative sugar industry in Maharashtra.146 Dr.V.Palanichamy (2003) in his book “Administrative Challenges in Sugar Industry” addressed various issues pertaining to problems of policies and administration in sugar industry faced by central government, respective state government with special referenceto Tamil Nadu and the individual sugar factories. 147Samar K.Datta and Kriti Bardhan Gupta in their paper titled “Global Competitivenessand Future of the Indian Sugar Industry” have shown that India is fairly importcompetitiveeven under distorted world market conditions and has even the capability of145Gavade P.N and Patil J.F., “ Problems and Prospects of Sugar Industry in 21st Century,” IndianCooperative Review, Vol.XXXVIII, No.4, April 2001, p. 197-264

146 Kamat G.S., “Management of Cooperative Sugar Factories in Maharashtra,” Maharashtra Rajya

Sahakari Sangh, Mumbai, India Printing Works, page 1-189147Palanichamy V., Administrative Challenges in Sugar Industry, Sri Maruthy Book House, Chennai, FirstEdition 2003, pages 1 of 267.becoming export competitive in the coming years, provided the industry is not made avictim of the wrong policies.148

S.P. Singh (2007) had studied 36 sugar mills in Uttar Pradesh taking data for the period of 1996-97 to 2002-03 to study the performance of sugar mills in the state by ownership, size and location. The researcher found that during the period, the average overall technical efficiency in the sugar mills of the state had been 93 percent. The performance of the mills is found to vary significantly across the sector, plant size, ownership and region. The private sector mills achieved the highest efficiency scores, followed by the cooperative sector. Moreover, the mills located in the western region are found better performer as compared to their counterparts of other regions.

Labour and energy inputs are found highly underutilized in almost all the inefficient mills.<sup>149</sup> The high-powered committee 'Tuteja Committee', in their report titled "Revitalization of Sugar Industry" (2004) after reviewing the Indian Sugar Industry has recommended several policy reforms for balance and sustainable growth of Indian Sugar Industry. The recommendations made are extensive and covers every aspect of sugar industry like deregulation in the sugar industry, sugarcane cultivation, sugarcane varieties, harvesting, pricing, technology, finance, human resources, research and development, imports and exports of sugar, diversification, utilization of by-products, water conservation, reservation of cane areas etc. The government has accepted many of these recommendations and latest policy for sugar industry has been framed which is currently implemented.<sup>150</sup>

B. Niranjan Raj Urs (2002) in his paper titled "World Trade Organization and Role of Cooperatives" has highlighted that social institution like cooperatives cannot remain<sup>148</sup> Datta Samar, Gupta Kriti Bardhan, "Global Competitiveness and Future of the Indian Sugar Industry" from proceedings of National Seminar on "WTO Its Impact on Indian Agriculture and Rural Sectors" at National Institute of cooperative Management, Gandhinagar p.150-170<sup>149</sup> Singh S.P, "Performance of Sugar Mills in Uttar Pradesh by Ownership, Size and Location," Prajnan, Pune, Vol. XXXV, No.4, 2006-07, p.333-359<sup>150</sup> Government of India Report of the committee on "Revitalization of Sugar Industry," Ministry Of Food, Consumer Affairs & Public Distribution (Department Of Food & Public Distribution), New Delhi, December 2004, pages 1-66<sup>151</sup> Amarendra P. Singh and J.K. Sharma (2005) had highlighted on management strategies for promotion of agribusiness. The authors stressed on value addition to agricultural products. In most of the development programmes operating in the country, farmers often raised the issue of marketing. Hence authors were of the view that there is an urgent need to promote value addition to their farm produce. For this, a paradigm shift in the agricultural policies and programmes to create a conducive atmosphere for promotion of agriculture as a business is needed. <sup>152</sup>

N.R. Inamdar (1965) indicated that the institution of cooperative sugar factory represents the rising economic power of the landlord rich peasant class.<sup>153</sup> D. Joel Edwinral (2002) provided an excellent description on the importance of human resources development in cooperatives. According to him, the major area, which needs immediate attention, is the management aspect of cooperatives because cooperatives lack professionalism in their management. The development of human resources will ensure the development of any organization. The author also pinpoints

that organizational development and human resource development go hand in hand and it is now time that the cooperatives pay more attention to these important aspects and develop both employees and members. 154

Dr. V.O. Varkey (1988) has stressed on importance of training for development of personnel. To identify the training needs of personnel of cooperative sugar factories, the 151 B. Niranjan Raj Urs, "World Trade Organization and Role of Cooperatives," *Co-operative Perspective*, Vol.36, No.4, (January-March, 2002) p.42152 Singh Amarendra P. and Sharma J.K., "Management Strategies for Promotion of Agri-Business," *Journal of Rural Development*, Hyderabad, Vol.24, No.4 (October-December 2005) p.445-458153 Inamdar N.R., "Government and Cooperatives Sugar Factories," Popular Prakashan, Mumbai, 1965154 Edwinral D. Joel, "Human Resource Development in Cooperatives," *Cooperative Perspective*, Vol.37, No.3, (October-December 2002) p.79

author had undertaken this research in one of the successful cooperative sugar factory in the state of Maharashtra. The author identified major departments in this factory and personnel performing various tasks in this factory and suggested various training programmes, along with training duration for these personnel. 155S. Shanmugasundram and C. Natarajan (2005) reviewed the existing human resource management practices of the cooperative sugar factories in Tamil Nadu. The main factor that can be attributed to un-economical working of cooperative sugar factories is overstaffing. The findings of the paper show that none of the cooperative sugar factory in Tamil Nadu had separate HR department and there were also no formal and specific human resource policies in the cooperative sugar mills. They also observed that because of lack of human resource planning human resources of the factories was not utilized effectively. Even not a single factory of the sample had scientific performance appraisal system. At the end, practical recommendations were made to develop the required competencies of human resource that will make cooperative sugar factories more professionally and profitable business organizations. 156

A.R. Viswanath and M.R. Lokesh (2002) attempted to look at structure and methodologies followed in cooperative training. According to them, Human Resource Development is a comprehensive concept, it does not only include training of employees but recruitment, placement of personnel, personnel development, career planning, performance appraisal, training and development etc. Human Resource Development in cooperatives in India has not been evolved as a system but as a training and education function. It is yet to emerge as a system to become the integral part of Human Resource Management policies. They identified number of limitations in the existing model and suggested measures to overcome the same. 157

155Varkey V.O, "Training Requirements of Cooperative Sugar Factories," Cooperative Sugar, Vol.20, No.1,(September 1988) p.31156Shanmugasundram S.and Natarajan C., " Human Resource Management Practices of the Cooperative Sugar Mills in Tamil Nadu," Cooperative Perspective, Vol.40, No.2, (July-September 2005) p.6157Viswanath A.R. and Lokesh M.R., "Human Resource Development in Cooperatives A Critical Analysis," Co-operative Perspective, Vol.36, No.4, (January-March, 2002) p.9

C.Vijaya (2001) highlighted the means of knowledge management, and its uses in the day-to-day operations. Cooperative organizations should adopt two broad thrusts in applying knowledge methods. The author has observed that cooperative enterprises are very poor in maintaining databases. The author also suggested measures to be taken to generate information in general and knowledge in particular. The executives should reward the innovative and creative human components.158Kohak and K. Ramkrishna (2003) in their paper outlined the computerization efforts in the Warna Complex (WaranaNagar). They were of the view that computerization transformed the outlook of the villagers and facilitated by way of reduced timings.159B.J. Pandian, R.Durai, S.Nasir Ahmed and Dr.S. Rajasekaran (1988) conducted field experiment under AICRP on sugarcane at Sugarcane Research Station, Cuddalore from 1985 to 1987 to investigate the suitable chemical and cultural methods for controlling weeds in sugarcane. The results revealed that highest number of cane population, cane yield and sugar yield were recorded by the manual weeding on 30th, 60th and 90th days after planting.160

S.K.Sharma (1993) in his paper has mentioned use of bagasse as raw material for meeting the raw material requirement of Pulp and Paper Industry and the contribution that cooperative sugar mills can make to this industry. Owing to the increasing shortage of pulp fibres in the world, particularly the countries with agro-based economy, the use of bagasse as a raw material for pulp and paper manufacturing is fast increasing. He also suggested taking a detailed study of the ways on making this raw material available for the paper industry, which will reduce the burden on already depleting forest resources through bagasse, which is a renewable annual crop of India.161158Vijaya C., "Knowledge Management: A Ticket for Survival of Cooperatives Enterprises," Co-operative Perspective, Vol.35, No.4, (January-March, 2001) p.34159Kohok M.A. & Ramkrishna K., "Organization case study of computerization at Warna Cooperative Sugar Factory, Warna," Co-operative Perspective, Vol.37, No.4, (January-March 2003) p.19160Pandian B.J., Durai R., Ahmed Nasir S. and Rajasekaran S., "Weed Management in Sugarcane," Cooperative Sugar, Vol.20, No.1 (September-1988) p.21161Sharma S.K, "Raw Material

Requirement for Pulp and Paper Industry-Role of Cooperative Sugar Mills," Cooperative Sugar, Vol.24, No.12, (August 1993)

Devendra Kumar (1988) suggested a scheme which when implemented would go a long way in preventing water pollution by sugar factories. The author has suggested collecting wastewater in equalization tank first to smoothen the peak loads and to remove settleable suspended solids. Then it can be taken to anaerobic filter and latter to aerobic filter followed by the activated sludge technique. The effluent can be further be polished by using chemical dose and decantation and then discharge the water and sludge can be dried and used as compost. 162

P.J. Manohar Rao (1995) in his article briefly touched some of the achievements of the Indian Sugar and By-Product Industries, comparing them with those in other countries he visited and highlighted latest developments in other countries, which are suitable for adoption in India for improving the efficiency of the Indian industries further so that the Indian Sugar Industry may top the world sugar industry. 163 R.C. Tyagi and S.S.A. Jafri (2007) in their article have raised concern about sugarcane marketing and transportation in India. The authors are of the view that sugarcane production, area and yield has increased in the country but also the problems of sugarcane marketing and transportation too has increased to a greater extent. The problem of sugarcane marketing and transportation from field to crushing centers affect not only to the cane growers but also to the sugar mills due to loss of sugar contents. They finally concluded by suggesting that sugarcane being perishable item, it is necessary to transport it by quicker mode of conveyances like truck or train instead of using bullock carts. 164

A. Narasaiah and Dr. K. Jayachandra (1994) undertook a case study on management of cash at the Kovur Cooperative Sugar Factory Ltd., Nellore, Andhra Pradesh. The authors studied the current ratio, quick ratio, liquid ratio and cash flow coverage ratio of the 162 Kumar Devendra, "A Practical Solution to Avoid Water Pollution by Sugar Factories," Cooperative Sugar, Vol.20, No.4 (December 1988) p. 251 163 Rao Manohar P.J., "Building Up Indian Sugar Industry to Top the World Sugar Industry," Cooperative Sugar, Vol.26, No.5, (January 1995) p.353

164 Tyagi R.C and Jafri S.S.A., "Sugarcane Marketing and Transportation in India," Fifty Years of Indian Agriculture, Concept Publishing Company-New Delhi, Vol.1, (First Edition 2007) p.1-339 factory. The authors have found that cash and bank balances of the factory are low as compared to current assets. The factory also maintained the current ratio below the standard ratio of 2:1. Even inventory occupied a major item in current assets of the factory and net cash flow coverage ratio of the factory was also found to be negative. 165

Dr.S.M. Chockalingam and Mr.M.Thirunarayanamy (2007) in their paper highlighted the industrial sickness in the selected cooperative sugar mills in Tamil

Nadu, through financial analysis especially using ratio analysis. The authors calculated the financial health by applying Altman's Z score analysis. The causes of industrial sickness are analyzed covering three different aspects namely financial, operational and managerial and suggested revival measures for Cooperative Sugar Mills in Tamil Nadu.<sup>166</sup> Abdul Aziz Ansari (1984) in his paper highlighted the application of effective costing techniques to save the cooperative sugar factories from losses and to make them economically and commercially viable units. He suggested using techniques like Budgets, Standard Costing System, Material and Inventory Control, Management Reporting System etc. The researcher also suggested amending the cooperative laws so that it does not become a hurdle in implementing the costing techniques and systems.<sup>167</sup>

Sushil Kumar (1994) stressed the need to co-generate power by sugar factories in India. By co-generating power, factories would be earning additional revenues, which would make them more competitive not only within the country but also in the overseas market. To a greater extent, with few modifications existing factories can co-generate without much technical problems. However, he is of the view that implementation of co-generation is much more cost effective in a new upcoming sugar plant as compared to an existing plant.<sup>168</sup> Narasaiah A. and Jayachandra K., "Cash Management in Cooperative Sugar Factory-A Case Study," *Indian Cooperative Review*, Vol. XXXII, No.1, July 1994, page 1-9.<sup>166</sup> Chockalingam S.M and Thirunarayanamy M., "Cooperative Sugar Mills in Tamil Nadu-An Analysis of Sickness and Revival Measures," *Indian Cooperative Review*, Vol.42, No.1, (January 2007), p. 181-258.<sup>167</sup> Ansari Abdul Aziz "Cost Control in Cooperative Sugar Factories in Uttar Pradesh," *Cooperative Sugar*, Vol.15, No.6, (February 1984) p.331.<sup>168</sup> Kumar Sushil, "Co-generation for Competitive Advantage," *Cooperative Sugar*, Vol.25, No.11, (July 1994) p.449

Prakash Naiknavare, Managing Director of the Maharashtra State Cooperative Sugar Factories Federation Ltd., believes that the cooperative movement has been "a tremendous success" and has achieved its objective of promoting rural development. But opponents of the system, such as Subhash Jadhav, vice-president of the Maharashtra Sugarcane Cutters and Transporters Union, agrees with him to some extent but says that it has been a limited success. "The rot set in about 15 years ago," says Jadhav. "While the cooperatives have benefited medium and poor farmers to some extent, the original goal of the cooperative movement of making farmers prosperous has clearly not been achieved." Jadhav feels "corruption and political interests result in poor management, excessive processing costs and the proliferation of sick units."<sup>169</sup> Chief Minister of Maharashtra Shri. Vilasrao Deshmukh holds the view regarding functioning of the sugar factory, that the factory management is accountable for both profits and losses and that financial indiscipline and irregularities

should be punished. "In many cases, there is interest only up to the commissioning of the factory. No effort is made to ensure its proper functioning. This has crippled the whole cooperative movement,"<sup>170</sup> Lack of professional management and human resource development are also some of the traditional institutional constraints faced by cooperative societies operating in different sectors of the economy. Maharashtra's sugar cooperatives, which have played a key role in the state's economy and politics for more than 50 years, are on a downward trend, thanks to corruption, mismanagement and undemocratic functioning.<sup>171</sup>

The cooperative sugar sector in Maharashtra has not woken up to the alarm signals coming from the industry in the past five years. Thirteen cooperative sugar factories in the state have been declared liquidated and 56 are sick. The accumulated losses from the sick factories are over Rs.1, 900 crores. Last year 100 factories could crush cane; this season, only 70 to 80 factories could commence work. A steady decline in the cultivation of sugarcane is directly affecting the factories.<sup>172</sup>

169 Frontline, Vol. 22-Issue 08, A Movement in Decline, March 12-25, 2005

170 Frontline, Vol.20-Issue 26, Crisis in Sugar Cooperatives, December 20, 2003-January 02, 2004

171 Frontline, Vol. 22-Issue 08, A Movement in Decline, March 12-25, 2005

172 Frontline, Vol. 22-Issue 08, Cooperatives, A Case for Reform, March 12-25, 2005

Sharad Pawar, Union Agriculture Minister and a powerful presence in the sugar factory sector in Maharashtra, noted on the occasion of the centenary of the cooperative movement that financial indiscipline, lack of transparency and non-professional management had crippled the sugar cooperatives. Although sugar factories form the lifeline of the state, they should learn to stand on their own, he said. The State's sugar industry is urgently in need of a transformation of its cooperative management and the professional approach displayed by AMUL, Gujarat's milk cooperative movement, can be a model for this.<sup>173</sup> The present problems facing the sugar industry in India are created by the industry itself and not caused by any governmental interference. Most of the players in the industry have not maintained, modernized or expanded their plants. But a few have changed with the times and have pursued an agenda for reform. They have realized that the by-products of sugarcane such as molasses, bagasse and press mud can yield profits too. "Over 95 per cent of the factories are incurring losses and may continue to do so unless the industry changes its myopic outlook," says Kushagra Nayan Bajaj, chief executive officer, Bajaj Hindustan Ltd. (BHL). BHL is already India's largest producer of ethanol or alcohol, from sugarcane, with 145 lakh kilolitres a day. It crushes 31,000 tonnes of sugarcane a day in its plants at Golagokarannath, Palia Kalan and Meerut in Uttar Pradesh. BHL, also

the country's largest sugar producer, now aims to triple the plants' capacity to around 1,00,000 tonnes a day (TCD) over the next three to four years through expansions and acquisitions.

The plight of Indian Sugar Industry in general and the sugar industry of Uttar Pradesh in particular is pathetic, says Mr. G.R. Morarka, Chairman and Managing Director of Dwarikesh Sugar Industries Ltd. at ninth annual general meeting of the company. He said "Whatever meagre resources endowment the sugar industry has had, have suddenly depleted to inexplicable levels. Not only have the resources depleted the resourcefulness which is so important to keep the spirit alive is virtually eroded. Multitude of 173 Frontline, Vol. 22-Issue 08, Cooperatives, A Case for Reform, March 12-25, 2005 174 Frontline, Vol. 22-Issue 08, Cooperatives, A Case for Reform, March 12-25, 2005 governmental policies followed has crippled the industry totally (2001-2002)".<sup>175</sup> At the dawn of the new millennium, with the reforms, globalisation, rapid technological changes, the world around us is changing very fast. To sustain and accelerate growth of four sugar cooperatives, economic, legislative and governance policies must be reviewed and amended to meet the requirements of the day. Survey of literature reveals that there is an urgent need to undertake a systematic study of management of sugar industry in India with special reference to Gujarat, understand its problems and challenges in context of ongoing liberalization process. The present study is aimed to fulfil these requirements.

### **3.3 Statement of the Problem**

#### **"comparative analysis of financial efficiency of co-operative sugar industries in saurashtra region"**

Professional Management is essence for improving overall efficiency and effectiveness in every business, which makes business organization sustainable in changing political and economic environment. Since couple of years more and more cooperatives in different sectors and different parts of India has experienced grave problems related to management which has threatened the profile and identity of the whole cooperative system. It is felt that the financial efficiency of cooperative sugar factories of saurashtra region should be studied so as to know whether all sugar factories are managed well as compared to their other competitors. Hence, here the researcher wants to study and find out whether all cooperative sugar factories are managed well and reasons if any for poor management. Much of it can be studied from the management angle in the broad sense. It has been felt that large gap remains in what is being accomplished and what would be done with higher standards of Cooperative Business Management. This is the study of comparative analysis of financial efficiency of co-operative sugar industries in saurashtra region.. Therefore the statement of the problem under study that has been selected by the

researcher is “comparative analysis of financial efficiency of co-operative sugar industries in saurashtra region”.<sup>175</sup> [www.dwarikesh.com/oil\\_site/speech.htm](http://www.dwarikesh.com/oil_site/speech.htm)

### **3.4 Justification for Research**

India's economic policy reforms since 1991 and the agreement on agriculture as a part of the World Trade Organization (WTO) agreements signed in 1994 and implemented since January 1995 are the landmark developments in the history of independent India. Since then, game of business has changed. Opening of the Indian economy has brought tremendous opportunities and challenges in varied fields of business and agriculture in India. Indian Sugar Industry is also faced with these dilemmas. This industry operated in the protected environment for several decades together but now it has started feeling the burnt of much heated competition of new Global Economic Environment. The Chapter No.1 and 2 have given some glimpses of the cooperative movement and sugar cooperatives. An important feature that would catch everyone's attention is that in growth of Indian Sugar Industry, the share of cooperative sector has increased substantially. Particularly it is wisely recognized that cooperative sugar factories have made significant contributions to regional economic development of the area surrounding them. The sugar cooperatives have undertaken several growth oriented activities and welfare schemes which benefited not only their members but also the society at large. This has been widely recognized by scholars, media and government also. The sugar cooperatives played a major role in giving the Indian Sugar Industry a place of pride in the world map. It has done laudable job and have been mainly responsible for the socio-economic transformation of rural India. But since the economy reforms, even successful cooperatives have been finding it difficult to maintain their position, leave alone reaching up to their full potential. There is no doubt that liberalization has brought efficiency through the process of competition. In such a situation cooperative sector has to play its role in a more constructive manner in order to survive in the competitive environment. The cooperatives have to strengthen their resource base and develop technologies to improve the functioning in various segments. They have to lay emphasis on cost effectiveness in operations and ensure returns from investments. They will have to reduce cost of its services by adopting modern management techniques there by improving the productivity of labour and capital. However, at the same time the cooperatives will have to bear in mind its main role of promoting economic justice and removal of exploitation at the grass root level. In a competitive economy, it may not be possible for the government to extend liberal financial assistance to sugar cooperatives for all times to come. Therefore the sugar cooperatives must strengthen their internal financial resources by building strong vertical and horizontal infrastructure linkages. A dedicated and competent team of Cooperative Leaders and Managers would be

required to manage the affairs of this important sector of the economy. These leaders and managers will have to be equipped with skills that can add depth and breadth to their vision and ensuring that leaders are the true guardians of cooperative values. The approach of these leaders and managers will have to be rational, professional and zeal to push cooperatives ahead, capable to serve the people in much better way. Hence there is urgent need of honest, hardworking, impartial, dedicated and professionally competent leaders and managers to manage competitively Indian Sugar Cooperatives in the 21st century. Huge accumulated losses and large-scale industrial sickness is the prevailing state of affairs in cooperative sugar sector. There is at least one piece of news regularly in different media witnessing the above phenomenon of Indian Sugar Cooperative. Hence one can easily conclude without further doubts that cooperative sector of sugar industry is facing severe problems and is likely to face many more problems in the new socio-economic environment of the other wise it would be too late. It will badly affect the prospects of survival and development of cooperative sector of sugar industry in future of our country. Another important point that needs to be highlighted is mechanism of sugar business. The manufacturers of sugar to a greater extent are not required to compete for the customer as sugar being a bare necessity item and that too in India, where 1.9 billion consumers are living. The competition is for the resources in general and sugarcane in particular, which is the only raw material available as of now. Sugar mills have no control on farmers as to which crop they should rear in their fields. In spite of sugarcane areas reserved for respective sugar mills, farmers will tend to supply sugarcane to those mills that pay them the best prices timely of their crop or will switch to other commercial crops that will fetch them the best returns. Many mills are sick because of non-availability of required quality and quantity of sugarcane or farmers are not willing to grow sugarcane any more or supply them. There are several legislations in place protecting the farmers and sugar mills interest in this industry. But legislations are not the solutions to every problem in a free market economy. The resources market of this industry decides the fate of sugar mills. Gone are the days when the members were loyal and committed to their sugar cooperatives. But in recent times ideology and mindsets of members has changed because of dynamic behaviour of human beings and changed socio-economic conditions of members. They too have become rational in their outlook and approach. A sugarcane grower also wants to maximize his maximum gains. This is where the actual challenge lies in front of sugar cooperatives for fulfilling the economic and other interest of their members in the best possible manner. To cherish and accomplish the objectives and goals of various stakeholders of sugar cooperatives, they too will have to change their practices of functioning and managing their business, after all sugar cooperatives are also in business and rules of business game remains the same irrespective of the form of business organization they have adopted. Here the question

is not that sugar cooperatives are not managed at all. In fact there are policies and procedures that have been specified by state cooperative laws as to the management and control of sugar cooperatives are concerned. More over respective sugar cooperatives has also developed their own system of management as per their need without bypassing the law and accordingly these factories have operated and are operating for all these years. Many cooperative sugar mills in India and particularly in Gujarat are more than five decades old and are yet operating at its full potential. However this approach of management was suitable in the protected and control regime. The cooperative sugar mills need to understand the underlying fact that micro and macro environment of sugar business has changed since the economic liberalization and sugar cooperatives will have to shape up themselves in a manner that will make them most suitable to the new business environment or else ship out of the business. They need to undertake a stock taking exercise by finding what they have been doing for all these years, what are the outcomes of it and what they are ought to do to sustain their business in the changed scenario. An introspection of various practices, systems, methods, procedures and strategies is urgently required to be undertaken by cooperative sugar factories in India. Another point that needs to be highlighted about cooperative societies in general and sugar cooperatives in particular is about the leaders, management and managers mindsets towards cooperative business. The cooperative societies board and managers when questioned about their performance, they defend themselves by saying cooperatives enterprises are not created for earning profits, they are meant for social cause. Even if this argument is accepted, they need to understand that they at least need to be self-reliant so as to keep the business running. Scarc and valuable resources of the nation have been invested in these enterprises in expectation of enhancing lives of millions of members and other stakeholders of these enterprises. If we talk about the prevailing scene of sugar cooperatives in Gujarat State, it's not worth encouraging. Out of 26 sugar cooperative registered in the state, only 17 factories actually functioned during crushing season 2000-2001, 15 could function during 2001-2002 season, again only 15 could function during 2002-2003 season, once more only 15 could operate during season 2003-2004, 17 sugar factories operated during crushing season 2004-2005 and again only 17 factories could operate and complete the season 2005-2006. Out of the 17 factories that functioned for the season 2004-2005, 6 sugar cooperatives has reported negative profits and incurred the losses of Rs.3474.83 lakh together. For the crushing season 2005-2006, 3 sugar cooperatives showed negative profits to the tune of Rs.1479.66 lakh together.<sup>176</sup> In recent time, three cooperative sugar factories in Gujarat have been liquidated. Una Cooperative sugar factory is breathing its last days. In 1980's two sugar cooperative one at Dhoraji in Junagadh district and another at Gawadka in Amreli district have been liquidated in Gujarat. The above point shows that all is not

well in sugar cooperatives mills of Gujarat. In recent times amongst various factors of production, management has been accepted universally as most important factor that leads and directs the efforts of organization as a whole. Management is the principal activity that makes a difference in how well organizations serve people affected by them. Peter Drucker, one of the most respected writers on management has written of efficiency and effectiveness. As he puts it, efficiency means “doing things right” and effectiveness means, “doing the right things.”<sup>177</sup> According to him, an efficient manager is one who achieves, outputs or results that measures up to the inputs (labour, materials, time etc.) used to achieve them. Managers who are able to minimize the cost of the resources needed to achieve goals are<sup>176</sup> Gujarat State Federation of cooperative Sugar Factories Ltd. Gandhinagar, Annual Reports No.45 & 46, 2004-2005 & 2005-2006<sup>177</sup> Stoner James A.F., Freeman R. Edward & Gilbert Daniel R., Jr. Management, Sixth Edition, Prentice Hall of India Pvt. Ltd, New Delhi-1996 page 9 of 630 acting efficiently. Effectiveness, in contrast involves choosing right goals. A manager whose selects an inappropriate goal is an ineffective manager even if he produces something with maximum efficiency. From the foregoing discussion, it becomes clear that many of the managers in sugar cooperatives of Gujarat have been ineffective in recent times. Therefore through this research work, researcher wants to find out where the sugar cooperative managers in Gujarat have gone wrong or have been inefficient by asking many questions to key managers pertaining to various functional departments of cooperative sugar factories in Gujarat State. In a federal system of government, role of central and state government is also very important because they devise broader industrial policies for concerned industry. Governments have to provide conducive environment where the industries can operate smoothly and flourish without harming any stockholder’s interest. Dr. V. Palanichamy, a senior bureaucrat in Tamil Nadu government and eminent scholar in his book titled “Administrative Challenges in Sugar Industry” has pointed out that governments—central and states, formulates its industrial policy against numerous pressures from agricultural and industrial sectors, it often ignores the structure of organization and excellence in administration in executing the policy. He further says, “In formulating the industrial policy, agricultural and industrial sectors have not been adequately considered as interdependent”.<sup>178</sup> Hence this study aims to study various issues related to management, administration and governance at individual level i.e. various unit of cooperative sugar factories registered and operating in Gujarat state. Many scholars, academicians and policy makers of sugar industry have conducted plenty of studies related to technical and economic aspects of sugar industry, at different point of time, but there is paucity of studies in connection with the management aspects of sugar industry undertaken in recent time. Therefore the researcher felt that there is an emergent need to undertake a study on management of cooperative sugar factories in

Gujarat as it has not received due attention in recent times. More over there is hardly any literature available on the subject. This study will pave the way for generation of new information, data and strategies that will help the policy makers like government department, sugar industry as a whole, Palanichamy V., Administrative Challenges in Sugar Industry, Sri Maruthy Book House, Chennai, First Edition 2003, pages 1 of 267. management of various sugar units, creditors etc. by way of enabling them to make necessary changes in framing up their operational policies and procedures which will in turn enable them to become most competitive and profitable business ventures of the new era of globalization and liberalization by improving overall management of cooperative sugar factories. This study will also focus on bringing about the level of awareness about the provisions and principles of good management practices among the various stakeholders of the respective cooperative sugar mills like management and members, employees, creditors, suppliers, government and policy makers and the society as a whole. It will also focus on problems and professionalisation of management of sugar units and implementation of good management policies and practices. This study will also try to fill the knowledge gap between the needed and existing.

### **3.5 Objectives of the Study**

The broader aim of the research is to study the various practices of “comparative analysis of financial efficiency of co-operative sugar industries in saurashtra region”.

However the specific objectives of the study are as under:

1. To Know the growth and development of sugar industries in general.
2. To Know the financial efficiency of co-operative industries in saurashtra region.
3. To examine the financial strength and efficiency of the co-operative sugar industries in saurashtra region
4. To suggest an appropriate strategy for the co-operative sugar industries.

### **3.6 Motivation for the Study**

Cooperative sugar factories are basically agriculture processing units and located in rural areas of the country. Experts and researchers are of the view that private companies and some of the public sector organizations mainly took the benefits of modern business management practices and concepts. Central and respective State Governments occasionally constituted high-powered committees to study policy matters affecting the sugar cooperative factories at a macro-level. More over research and development expenditures of cooperative sugar factories are mainly

incurred for improving the technical efficiencies of the plant or for enhancing productivity of sugarcane crop. State's Federations of cooperative sugar factories of respective sugar producing states or National Federation of Cooperative Sugar Factories Ltd., New Delhi also at times undertakes studies related to certain issues faced by cooperative sugar factories but at industry level. There is hardly any evidence of studies being conducted at individual level of sugar factories and that too, on issues related to management practices of cooperative sugar factories. As evident from the foregone discussion regarding the contribution of cooperative sugar factories in socio-economic development of their members and its surrounding areas, researcher was motivated to undertake this research work and study the units at individual level that will contribute towards well being of cooperative sugar factories of Gujarat and make them self reliant and sustainable. The broader objective of this research work is not merely to develop a piece of academic literature but to contribute in true spirit, well being of millions of sugarcane growing farmers and their families who toil day and night in rearing the sugarcane crop to keep the nerves of cooperative sugar factories alive.

### **3.7 Major Concerns of the Study**

The major concerns of cooperative sugar factories, which the study has brought across, can be summarized as follows.

1. How the various functions of cooperative sugar factories are organized and performed.
2. Ways to improving the overall efficiency and effectiveness of management decisions.
3. Adopting professional management systems and procedures in managing cooperative sugar factories.
4. Making cooperative sugar factories cost conscious.
5. Improving and enhancing the productivity of manpower of cooperative sugar factories.
6. Issues related to governance and administration of cooperative sugar factories

### **3.8 Research Design**

A research design is a framework or blue print for conducting the research project. It details the procedures necessary for obtaining the information needed to structure and/or solve research problems. A research design lays the foundation for conducting the project.<sup>179</sup> The Cross-Sectional descriptive research design is used for conducting this research work because this design enables the researcher to study the problem at a given point of time of the population of interest. To identify the problem, to develop an approach to the problem and to formulate an appropriate research

design, secondary data has been used. To collect information for the study from managers, primary research will be used. The various managerial activities performed by managing director and important functional departments of cooperative sugar factories have been identified for conducting this research. More over within each functional department, key variables are identified which will lead the research work.

### **3.9 RESEARCH METHODOLOGY**

#### **Sampling Element**

All the cooperative sugar factories registered and located in saurashtra zone.

#### **Sampling Technique**

Judgmental Sampling occurs when a researcher selects sample members to confirm to some criterion. 180 Judgemental sampling method has been used for the purpose of data collection. The population elements have been selected on the basis of researchers own judgement. The samples have been selected taking into consideration following factors.

1. Sugar factories saurashtra zone should be in cooperative form of organization and registered in Gujarat under 'The Gujarat Cooperative Societies Act, 1961'.
2. Factories should have plant capacity ranging between 1,250 to 10,000 TCD and it should be located either in Saurashtra or South Gujarat zone.
3. It should be engaged in manufacturing of white sugar.
4. Factories should be functional and not closed, liquidated or on the verge of liquidation and required data is available for last five years or at least for last four years.

### **3.10 Sampling Frame**

The directory/annual report of saurashtra zone of Cooperative Sugar Factories Ltd., kodinar and talala have been considered as sampling frame to identify target population.

### **3.11 Factories Located in Saurashtra Zone**

- 1 Shri Bileshwar Khedut Sahakari Khand Udyog Mandli Ltd.-Kodinar
- 2 Shri Talala Taluka Sahakari Khand Udyog Mandli Ltd.-Talala Gir

### **3.12 Sampling Unit**

In a cooperative sugar factory, Managing Director is the chief operating officer, who is also the member of board of directors and mainly responsible for carrying out all the managerial functions of the factory. More over there are also other key posts such as Chief Engineer, Chief Chemist, Cane Manager, Chief Accountant and Secretary cum Manager who are functional heads and assist managing director in

carrying out other routine managerial functions of the factory. Therefore managing director and his team of key posts form the sampling unit.

### **3.13 Data Source**

Secondary data have been collected from the libraries of IIMA, Udaibhansinhji Regional Institute of Cooperative Management, Gandhinagar, Gujarat State Federation of Cooperative Sugar Factories Ltd., Gandhinagar, National Institute of Cooperative Management, Gandhinagar, National Federation of Cooperative Sugar Factories Ltd., New Delhi, summary proceedings of seminars and conferences, Internet etc.

### **3.14 Research Plan of Saurashtra Region**

#### **Introduction**

Shree Bileshwar Sugar Industry Association Limited Kodinar and Shree Talala Sugar Industry Association Limited Talala are included in Saurashtra zone. This study is prepared on the basis of secondary information. This study is prepared on the basis of the annual report of the Sugar Mills. In this study, Gujarat State Co-operative Sugar Industry Association Limited, Gandhinagar, Surat news and many magazines are used, as well as the visits of various library and sugar industry also has been done. In Indian economic life sugar industry has second number after the clothing industry. Sugar is well known for India from many years, as well as India is the home for sugar cane and sugar. India has many of proof also to prove that. In the context of farming, sugar industry has more importance in rural India of India. The development of sugar industry is an important constituent in economic and social condition of India.

### **3.15 Hypothesis**

Hypothesis means the research, which creates temporary answers of solutions, which is decided after the completion of research problems and title. In English the word Hypothesis (Hypo+thesis) means 'Less than establishing facts'

### **3.16 Purview and duration of the study**

In this study stationed mills of Saurashtra Co-operative Sugar Industry are included. In this study with the help of various ratio analysis has been done of economic and financial condition of Shree Talala Co-operative Sugar Association and Shree Bileshwar Sugar Co-operative Sugar Association – Kodinar. Shree Una Co-operative Sugar Industry is closed from last many years. Thus, it is not discussed here. In this study, four year's study has been done from year 2011 to 2013-2014

(4) The information which is used for the Saurashtra Sugar Industry's financial liquidity, is taken from annual reports at the end of year. In this study analysis of the information has been done of two current units, which is selected from three units of Saurashtra area. The information is taken from the head officers. In this study, magazines, news paper and accounting literature is used. Thus, this research is specially dependent on secondary information.

The information is taken from selected sugar units of annual reports. The various ratio has been found of concerning information to profitability and economic condition, as well as it is analyzed on the basis of this ratio.

(5) The foremost commerce dealer publications and magazines concerning to industry for the financial liquidity and the analysis for economic condition of Saurashtra Co-operative Sugar Industry are as under:

- (1) The Indian Sugar Crop Journal
- (2) Gujarat State Co-operative Sugar Industries Ltd.
- (3) Sugar news
- (4) The management Accountant
- (5) The Chartered Accounts
- (6) Economic Time
- (7) Financial Express.
- (8) The Reserve Bank of India Bulletin
- (9) Sugar federation New Delhi
- (10) National Sugar Institute Kanpur.
- (11) Vasant Dada Sugar Institute, Pune.

### **3.17 Resources of Research analysis**

Firstly, the Alexandar Pole introduced the methodological structure of analytical ratio. The process of analyzing financial registers with the help of ratio is called analytical ratio, as well as the success base of analytical ratio is dependent on working administrator of Saurashtra Co-operative Sugar Industry.

In this study of research various accounts ratio's are included:- i.e. current ratio, inventory ratio, cash current ratio, cash turn over ratio, sugar sale fixed assets ratio, net profit ratio, Return of capital employed, Returned on share holder's equity, proprietary ratio, Debt equity ratio, fixed capital assets ratio.

### **3.18 Limitations of study**

(1) This study is researched by being subjected to secondary data's resource's like, published annual reports from selected units, various research articles concerning to sugar industry. Hence, the findings of the study is truly based on this absolute information.

- (2) This research is dependent on analytical ratio. The ideal ratio is not established for this industry. This limit of the ratio analysis also applies to the study.
- (3) The data is used for the purpose of this study is taken from year 2010-11 to 2013-14
- (4) During this study, Una Section Co-operative Association is closed. Hence, it is not included in this study.
- (5) Una, Talala and Kodinar Co-operative Association of Saurashtra zone is included in this study. But Una Factory is closed, as well as due to previous times weak monsoon, Talala and Kodinar factory does not get raw materials during year 2013 – 2014. Hence T-test, F-test is not used here.

## **CHAPTER-4**

### **Analysis of cooperative sugar factories of Saurashtra Region**

- (A) Co-Operative sugar factories of Saurashtra Region.
  - (1) Shree Bileshwar Farmer Cooperative Sugar Industry Association Limited – Kodinar
  - (2) Shree Talala Co-operative Sugar Industry Association Limited Talala :
- (B) Shree Bileshwar Industry farmer Co-Operative Association Ltd. Kodinar
- (C) Shree Talala Taluka Co-operative Sugar Industry Asso. Ltd. Talala (Gir)

## CHAPTER-4

### **Analysis of cooperative sugar factories of Saurashtra Region**

#### **(A) Co-Operative sugar factories of Saurashtra Region.**

Shree Una Taluka Farmer co-operative Sugar Industry Limited., UNA, Shree Bileshwar Farmer Co-Operative Sugar industry Association Limited – Kodinar and Shree Talala Taluka co-operative Sugar Industry Association Limited, Taluka located in Saurashtra Zone.

Shree Una Taluka Farmer Co-operative Sugar Industry was registered on date 16.09.1963 as per rule. The registration number of Industry is 7/1963. It is located in Junagadh District. The number of member in the organization is 4964. The official share capital of Industry was 29140000. Against it issued and paid-up share capital was 28769200 and reserve fund including other funds were 43486481. This industry has kept reserve fund 14785770.

The machinery of industry was old from too many years and because of depreciation in machinery. It reduced the ability to function, but due to some improvements in machinery the ability to function is improved for some years. In spite of having bad economic condition and no source of finance. This industry has been ran in barrowing condition for the benefit of committee members and workers of Industry. But since many years this industry is now closed. Thus, detailed discussion of this Industry does not have done.

The information given below is of Saurashtra Zone's Shree Bileshwar Farmer Co-operative Sugar Industry Association Limited – Kodinar and Shree Talala Taluka Co-operative Sugar Industry Association Limited – Takula (Gir)

#### **(1) Shree Bileshwar Farmer Cooperative Sugar Industry Association Limited – Kodinar**

Shree Bileshwar Cooperative Sugar Industry Association Limited was established in 1925 by Mumbai Cooperative Registration G.276, dated 01.01.1956. It is registered under the laws section No. 10.

The information of this Industry has been taken from date 31.03.2011 to 31.03.2014. The Share Capital as per 53 Annual Report from date 01.04.2010 to 31.03.2011 was 53200000 and paid share capital was also 53200000. committee members permanent deposit was 14111311 committee members development deposit was 36434040. While looking reserve fund and other funds it was 214071265. This industry reserve and other funds were 4 times much more then paid share capital, which shows good opportunities of development.

The crushing season 2010-11 of this industry started from date 03.12.2010 and ended on 27.05.2010. In which total 351307728 tone sugar cane crushing was done and 328800 sacks of sugar was manufactured with the requisite of 9.31%. Due to lack of laborers 30 to 40 working days was increased. Because of that the expenses per sack of sugar was raised.

This industry paid 1250 price per tone crusher sugar cane for the period of 2010-2011 zone committee has been paid 1564 as gate delivery including 314 of harvest work. This industry was in profit of Rs. 9,33,99,713 by submitting the annual report at the end of the year. The average prices of 12 months sugar selling has generated Rs. 2718.07.

Total loss of the previous year was Rs. 9,23,29,907. In current year all the loss was covered by profiting Rs. 10,69,806. The industry was enabled to give Rs. 300 per tone more to the farmer members. But due to overhang and lack of modesting funds more prices could not be given.

Date from 1-4-2011 to 31-3-2012, the official share capital was Rs. 5,32,00,000. As well as reimbursement of the share capital was also Rs. 5,32,00,000. The permanent deposit of committee member was Rs. 14121896 and the development deposit of the committee member was 3,64,00,399. If we see reserve fund and other funds of this industry, it was much more than paid share capital, which indicated opportunity of development.

Crushing season 2011-12 of this industry was started from date 15-11-2011 and it ended on 31-3-2012. During this crushing season 261695 sacks of sugar was manufactured by crushing 2,92,932.239 tone sugar cane with the requisite of 8.91 %

By presenting annual report at the end of the year from 1-4-2011 to date 31-3-2012, the profit was Rs. 3,37,694.

Considering requisite and stock of sugar cane Rs. 1455 + charge of harvest including gate delivery of Rs. 360 was paid for per tone sugar cane. While Rs. 100 has been paid as promoting for early maturing variety

From date 1-4-2012 to 31-3-2013, the official share capital was 5,32,00,000, as well as paid share capital was Rs. 5,32,00,000. The permanent deposit of committee members was 1,50,91,351. The development deposit of committee members was 3,73,62,646. The reserve fund and other funds of this industry was 25,27,44,161. This industry's fund and other fund was more than paid share capital, which indicates good opportunities of development. Crushing season of this industry started from date 29-10-2012 and it ended on 1-2-2013. During this crushing season 183610 sacks of sugar has been manufactured by crushing 2,09,102 tone sugar cane with the requisite of 8.72 % . While prices of sugar per sack was Rs. 3500 to Rs. 3600.

By presenting annual report at the end of the year from date 1-4-2012 to 31-3-2013, the loss was Rs. 2,62,57,893. Considering requisite and stock of sugar cane, Rs.

2020 + charge of harvest including gate delivery charge of Rs. 2439 has been paid per tone sugar cane. While it was announced that Rs. 100 would have been paid for promoting early maturing varieties. After that announcement of Rs. 50 per sugar cane tone has been paid and Rs. 50 was pending to being paid.

From date 1-4-2013 to 31-3-2014, the share capital was Rs. 5,32,00,000, as well as paid up share capital was Rs. 5,32,00,000. The permanent deposit of committee member was Rs, 1,50,91,351. The development deposit of committee member was Rs. 3,73,57,702. Reserve fund and other fund of this industry was Rs. 25,23,74,954.

This organization/Industry's reserve fund and other fund were much more than paid share capital, which indicates good opportunities toward development. This industry's crushing season was closed during 2013-2014, because the raw material was not found during that period. During the period of 2013-2014 at the end of the year Rs. 7,62,09,295's loss was found, where the main expenses were of interest.

## **2. Shree Talala Co-operative Sugar Industry Association Limited Talala :**

Shree Talala taluka co-operative sugar industry association limited was established on 28-10-1968. Its Registration Number is Se/24. The information of this industry has been taken from date 31-3-2011 to 31-3-2014, wherein as per information from date 1-4-2010 to 31-3-2015, the official share capital was Rs. 5,00,00,000 against it paid up share capital was Rs. 4,85,26,000. Reserve fund and other fund was Rs. 17,85,71,757, which was much more than paid up deposit, which shows good opportunities of development, Area development fund was Rs. 4516105. This factory manufactured 171125 sack of sugar by crushing 1,69,197 sugar cane in sugar crushing season 2010-2011 and the requisite was 10.13 %

The final noted price in sugar cane crushing season 2010-2011, was decided Rs. 1287, from which compulsory deposit as 20 and adding Rs. 2 as area development fund, total 22 was minused and cash Rs. 1265 out of Rs. 1250 was paid by two installments and rest of Rs. 15 was pending.

As per information from date 1-4-2011 to 31-3-2012, the official share capital was Rs. 5,00,00,000 against paid up share capital was Rs. 4,85,16,000. Reserve fund and other fund was Rs. 19,20,25,811, which was much more than paid deposit, which is a good thing.

Area development fund was 48,83,643, which shows increasement in comparison of previous year. This industry manufactured 1,38,620 sacks of sugar in sugar crushing season 2011-12 by crushing 1,36,016 sugar cane with the requisite of 10.16 %

In sugar cane crushing season 2011-12, the noted sugar cane prices was received Rs. 1222 from which compulsory deposit of Rs. 20 including of Rs. 2 as area

development fund total Rs. 22 was minused and cess Rs. 1200 was paid in two installments.

The official share capital was Rs, 5,00,00,000 as per information from date 1-4-2012 to 31-3-2013. Against it paid share capital was Rs. 4,85,16,000. Reserve fund and other fund was 19,66,89,971, which was much more better than paid deposit, which indicated better situation. Area development fund was Rs. 48,86,237, which shows some increasement in comparison of previous year. The monsoon season of year 2012 was almost failed. Thus for crushing season 2012-13 the industry was closed and for that reason, the production of that season was not described.

As per information from date 1-4-2013 to 31-3-2014, the official share capital was Rs. 5,00,00,000 against it paid up share deposit was RS. 4,85,16,000. Reserve fund and other fund was 19,92,59,708, which is much more than paid deposit. It is calculated as good condition. Area development fund was 48,46,237 which was same from previous year. The production of crushing season 2013-14 has been not declared due to stoppage of industry.

**(B) Shree Bileshwar Industry farmer Co-Operative Association Ltd. Kodinar**

Sr. No.	Information	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14
1.	Started date of factory.	3-2-10	15-11-11	29-10-12	-
2.	Days of season	176	137	96	-
3.	Days of cane crushing	145	116	86	-
4.	Total of cane crushing ( tone)	351307	292932	209102	-
5.	Plantation of cane in Acres	16323	15825	13586	-
6.	Estimated planting received by factory (Acre)	12476	11022	8055	-
7.	The average yield of sugar	9.31%	8.91%	8.72%	-
8.	Overall sacks of sugar production	328800	261695	183610	-
9.	Stock sacks of sugar in the end of the year	215284	216124	189861	-
10.	Number of members	12089	12104	11804	-
11.	No. of total share	14000	14000	14000	-
12.	Molasis per tone yield	2232	3626	5256	-
13.	Production of sugar per sack	2718	2684	2984	-

14.	Production of molasis per sack	138	296	432	-
15.	Other income per sack	32.32	51.36	64.82	-
16.	Paid up of sugar from cane per sack	1701	2065	2778	-
17.	Sugarcane purchase tax per sack	30	35.53	48.68	-
18.	Production expenditure per sack	472	504	820	-
19.	Administrative expenditure per sack	297	341	548	-
20.	Depreciation and maintenance	29	87	55	-
21.	Net profit – Loss per sack	+359	+1	-143	-

\* Source (Annual Report)

(C) Shree Talala Taluka Co-operative Sugar Industry Asso. Ltd. Talala (Gir)

Statement of Institute

Sr. No.	Information	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14
1.	Started date of factory.	8-12-10	16-11-11	-	-
2.	Days of season	131	128	-	-
3.	Crushing of sugar can ( tone)	169197	136016	-	-
4.	Production of sugar sack	171125	138620	-	-
5.	Recovery percentage	10.13%	10.16%	-	-
6.	Manufacturer members	6341	6341	6341	6563
7.	Non manufacturer members	59	59	59	59
8.	Shree Government of Gujarat	-	-	-	-
9.	Total Number of members	6400	6400	6400	6622-
10.	On farm prices of sugar cane	Rs.1257	Rs. 1222	-	-

\* Source (Annual Report)

## CHAPTER-5

### Analysis and management of Accounting Ratio:-

- (1) Current Ratio
- (2) Inventory Ratio
- (3) Cash current Ratio
- (4) Turn over Ratio of Cash Bank
- (5) Assets Ratio of daily sugar selling
- (6) Net Profit Ratio
- (7) Return on capital employed
- (8) Return on share holder equity
- (9) Proprietary Ratio
- (10) Debt Equity Ratio
- (11) Fixed capital assets Ratio

## CHAPTER-5

### Analysis and management of Accounting Ratio

In Saurashtra zone Una Co-operative Sugar Association is closed. Here the information is displayed of Shree Kodinar Association and Shree Talala Sugar Association.

#### (1) Current Ratio

The current ratio is found by dividing current assets with current debt. Store spares, closed sugar stock and monalis closing stock includes in current ratio. While raw materials expenses, luggage expenses and other responsibilities are included in current liability.

During year 2011, 2012, 2013 and 2014 current ratio of Shree Kodinar Co-operative Sugar Industry was 3.67, 4.78, 9.30 and 17.92. This indicates the proportion of current assets is continuously increasing in comparison of current liability, which indicated better situation of it. The average current ratio is 8.92. In year 2011 and 2012, the average current ratio is less than 8.92%, while in 2013 and 2014, this ratio demonstrates more.

During year 2011, 2012, 2013 and 2014 consequently current ratio is 2.58, 4.84, 6.62 and 6.42. In year 2012 current ratio is doubled than 2011, while in 2013, it also increased. But some declination is seen in 2014. The average current ratio is 5.11. During 2012 and 2011, average current ratio is less than current ratio, while in year 2013 and 2014, this ratio is more. Generally it indicates good opportunity.

#### (2) Inventory Ratio

In this inventory ratio closed stock of sugar is described against the selling of sugar. This information is described in Shree Kodinar Co-operative Sugar Industry. Consequently inventory ratio in 2011, 2012, 2013 & 2014 is 122%, 148%, 103% and 70%. Here selling of sugar is more than stock of sugar till the year 2011 to 2013, which indicates better situation. But in year 2014, the proportion of it, is much more decreased.

In the inventory ratio stores proportion and stock against is described for Shree Talala Industry. During 2011, 2012, 2013 and 2014, the proportion of sugar selling is 81%, 104%, 657% described, while selling of 2014 is not described, because the selling was not done during that period.

### **(3) Cash current Ratio**

The different units of the sugar industry does not determined that how many percentage of cash currency is required. But Co-operative Associations to the analysis of cash current ratio as per requirement/necessary. Here analysis has been made of Shree Kodinar and Talala Co-operative Sugar Industry Association. The cash current ratio assets of years 2011, 2012, 2013 and 2014 is consequently 0.79%, 2.26%, 0.09% and 3.41 in Shree Kodinar Sugar Co-operative Industry. Here, the proportion of cash bank against current assets is lower than 1%, while in 2012 it was doubled. In 2013 the proportion of cash is to low. While the proportion of cash ratio in 2014 is better, which indicates that administrators might have used cash bank very well.

The proportion of stores and stock is described against cash bank in Shree Talala Co-operative Sugar Industry. While in year 2011, 2012, 2013, 2014 described repeatedly 1.02%, 1.58%, 4.66% and 2.63%, which indicates the liquidity of cash bank.

### **(4) Turn over Ratio of Cash Bank**

This ratio suggests the proportion of sugar selling against cash bank. Shree Kodinar and Shree Talala Co-operative Sugar Association is comprising in Saurashtra zone. Shree Una Co-operative sugar Association is in closed condition. Hence, the analysis of it, is not done here.

The turn over ratio of cash bank of Shree Kodinar Co-operative Sugar Association in year 2011, 2012, 2013 and 2014 is consequently 135, 54, 104 and 18, which described the point og liquidity in cash bank against sugar selling. The deficiency of cash bank in 2012 is more than 2011 and in 2013 it is increased. While in 2014, it is much more decreased. How much cash Silak to be hold in industry is depend on administrators.

In Talala Co-operative Sugar Association, the consequent turn over ratio for year 2011, 2012, 2013 and 2014 was 76,66,141 and in 2014 the selling of sugar was not been done. Hence, it is not declared here. In comparison of 2011, the deficiency is found in 2012. While in year 2014, the cash bank is doubled, which shows the liquidity of cash bank.

### **(5) Assets Ratio of daily sugar selling**

This ratio shows how much sugar selling has been done against daily assets with the help of this ratio, administrators working capacity can be measured.

In Shree Kodinar Co-operative Sugar Association, the daily assets ratio against sugar selling in year 2011, 2012, 2013 and 2014 is consequently 2.32, 2.84, 2.21 and 0.85. The proportion of sugar selling is doubled against daily assets during

the year 2011 to 2013. While in the year 2014, it is less than 1. Daily assets shows the condition of Industry's daily assets.

During year 2011, 2012, 2013 and 2014, the daily assets ratio against sugar selling of Shree Talala Co-operative Sugar Industry is 2.24, 3.13, 2.60. The ratio of 2014 is not declared, because the sugar selling was not done during that period. From year 2011 to 2013 sugar selling was twice and thrice more than daily assets. As the ratio is more than the sugar selling, working capacity depicts good condition.

#### **(6) Net Profit Ratio**

Net profit ratio shows the percentage of net profit against the sugar selling. During years 2011, 2012, 2013 and 2014 the net profit percentage of Shree Kodinar Co-operative Sugar Association is consequently 13.22%, 0.04%, -3.81% and -28.64%. In the year 2011, the profit is 13.22%, which shows good condition and then decrease is noted in profit. As well as during last two years loss has been done, which shows weak condition of profit.

During years 2011, 2012, 2013 and 2014 the net profit percentage of Shree Talala Co-operative Sugar Association is consequently 13.42%, 14.72%, -12.95% and in the year 2014, the selling has not been done. Hence, it is not described here. In comparison to year 2011, more profit has been noted in 2012. While in year 2012, the net profit percentage is 13%. Thus, it is loss for industry, which shows weak condition of profit.

#### **(7) Return on capital employed**

This ratio is most significant for measuring the profitness of Industry. It is notified to the power of earning. This ratio has been taken by considering clear profit and invested fund. It is called when this ratio is more, the fund of industry has been used as per working capacity.

The return rate on helded fund of Shree Bileshwar Sugar Industry Kodinar for year 2011, 2012, 2013 and 2014 was consequently 10.71%, 0.04%, -2.41% and -8.25%. During year 2011, profit has been done, because monsoon was good, while in 2012 due to less production profit rate was decreased. In 2013 and 2014 monsoon was weak, due to this the return rate on helded fund is depicts in negative (-)

The return rate on the holding fund of Shree Talala Co-operative Sugar Industry Talala, during 2011, 2012, 2013 and 2014, consequently it was 7.57%, 11.20%, -12.69% and -8.48%. In compare to year 2011, the increase is noted during 2012 on the holding fund, which shows the good situation of profitness. But in 2013 and 2014, the rate of holding fund is indicates loss. The weak monsoon was the important reason behind it, Due to the production of share fund was decreased.

#### **(8) Return on share holder equity**

This ratio indicates that the industry is getting either the rate of return or not, in which the industry raises the fund to prevent the risk of share holders in the business. The profitness is based on, How is the requirement of staff, how is the directors and administrator, how is the condition of staff (sugar cane) etc. The paid share capital, reserve fund and other fund and reserved capital are included in the capital of share holders.

The return rate on the share holder of Shree Bileshwar Sugar Industry Co-operative Association Limited, Kodinar during year 2011, 2012, 2013 and 2014 was consequently 29.39%, 0.12 %, -7.33% and -21.29%. In 2011, the situation of share holder is well, but in 2012 it loses the profitness and the lack of sugar cane is the important reason behind it. During year 2013 and 2014, the situation was of loss. Weak monsoon was the important reason behind it. Hence, the production of sugar cane is less.

The return rate on share holders of Shree Talala Sugar Industry Co-Operative Association limited Talala for year 2011, 2012, 2013 and 2014 was consequently 17.04%, 24.72%, -17.74% and -11.82%. The profitness is better in year 2011. While because of the weak monsoon, the loss was cited in year 2014.

#### **(9) Proprietary Ratio**

The proprietary ratio is the ration which indicates that how much total assets or total debt is in the share capital. Hence, the comparison is made between the share capital and total responsibilities. As this ratio is high the economic situation of the industry considered it well. The proprietary ratio of Shree Bileshwar Sugar Industry Association during year 2011, 2012, 2013 and 2014, consequently it is 28.88%, 25.66%, 29.89% and 36.74%. This ratio indicates the situation of share capital against the total debt. The proportion of total debt relatively the share capital of year 2013 and 2014 is well in comparison of year 2011 and 2012, which indicates good situation.

The proprietary ratio of Shree Talala Co-operative Association during year 2011, 2012, 2013 and 2014 consequently it is 25.44%, 39.06%, 69.09% and 69.36%. Here also the proprietary ratio is higher of year 2013 and 2014, than the year 2011 and 2012, which indicates good economic situation.

#### **(10) Debt Equity Ratio**

This ratio is used to know the long term loans (debt) in the proportion of the share capital. Here the long term loan's are included, while share capital and equity is included in the equity

The debt equity Ratio of Shree Bileshwar Sugar Industry Association Limited – Kodinar for year 2011, 2012, 2013 and 2014 consequently it is 176%, 210%, 204% and 158%. Here in all the years the proportion of debts ( loans) are more than the

share capital which thing indicates the weak situation. During year 2012 and 2013, the proportion of debts is doubled than the share capital, which is considered very weak situation for that year.

**(11) Fixed capital assets Ratio**

Industry's share fund, reserved and long terms loans are included in indelible fund, as well as in assets the immigrated assets is being considered. Fixed capital assets Ratio is acquired by dividing immigrated fund with immigrated assets. It is called good situation, while the ratio is more than 1, as well as if this ratio is less than 1, the financial viability is called the weak situation.

The fixed capital assets Ratio of Shree Bileshwar Sugar Association Limited – Kodinar from year 2011, 2012, 2013 and 2014 it was consequently 286%, 294%, 349% and 246%. So here the proportion of immigrated fund against 100% immigrated assets is better in every years. Thus, keeping in concern the immigrated assets, it is good situation.

The fixed capital assets ratio of Shree Talala Sugar Industry Association limited during year 2011, 2012, 2013 and 2014, it was consequently 388%, 412%, 266% and 267%. Here, also the proportion of immigrated fund is better against of immigrated assets of every years. Thus, the situation of immigrated fund is good.

Through above mentioned all ratio's concept the overall situation of Shree Bileshwar Sugar Industry Association Limited – Kodinar and Shree Talala Sugar Association Limited is better during year 2011 and 2012. The important reason was the good monsoon, because of that the enough staff was available, due to it, the profitness was also good. But because of the weak monsoon in year 2013 and 2014, it was hard to get enough staff, due to it, the situation is weak.

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