CHAPTER VI

SUMMARY AND CONCLUSIONS
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### SUMMARY AND CONCLUSIONS

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CHAPTER VI
SUMMARY AND CONCLUSIONS

6.1 General:

The present study has attempted to design planning strategy for sustainable of regional development under special economic zone. The strategy has been based on study of natural and human resources of the study region. The present investigation has revealed that the regional development can be achieved by adopting proper strategy to optimum utilization of the available local resources. Along with the findings, the present chapter has discussed applicability of the study, relevance, limitations and scope for the further study.

6.2 Findings of the study:

The present study has the major objectives are to study the possibilities of development of local people for implementation of special economic zone and to assess the impact of rehabilitation package under special economic zone and to suggest strategy for sustainable regional development under special economic zone. With these major objectives in mind, all objectives have been outlined in the previous chapters. The findings of the study according to these objectives given below:

6.2.1 Physiographic profile:

The study region is having hilly and undulating topography; it is divided into three parts. The eastern and western part of the study region has hilly characteristics; while, south-west part having plain region. The study region is comes under drought prone area. In the last decade, the average rainfall of the study region is 78.25 cm. The maximum agricultural land is under medium black soil. This physiographic characteristics and drought prone area compelled to subsistence agricultural based economy. Therefore, there is need to explore another way for sustainable development. The special economic zone may be one of the significant alternatives for regional development.

6.2.2 Socio-economic profile:

The following parameters are taken into account to understand the socio-economic status of the villagers.
a) General land use:

The total geographical area of the study region is 24663.52 hectare. The 68.24% (16829.73 hect) area under agricultural land shows that, the study region is favorable for agriculture; but, there is limited scope for expansion of agricultural land. Therefore, there is need to proper utilization of 10.45% culturable waste land (2577.52 hect) in the study region. The area under forest cover is insignificant (5.28%) in the study region.

b) Irrigation facility:

The general land use shows that, the agriculture is main occupation of the study region. But, the area under irrigation (44.90%) is less than the half of the net sown area. The proportion of irrigated area in proposed acquisition of land is 4.60% of total net sown area. It means that, the proportion of irrigated land for acquisition is very less. It will further help in modern agricultural development.

c) Distribution of crops:

The physiography and socio-economic situation are influences on the distribution crops in the study region. The undulating area, rainfed condition, medium black soil, irrigation facility, etc. are favorable for cereals cultivation. The distribution of crops shows that, the area under cereals is significant in both seasons. It is 48.33% in kharif and 55.03% in rabi season of net sown area of that particular season; followed by, vegetables, oilseeds, other crops, pulses and animal fodder respectively. It shows sustainable nature of agriculture.

d) Cost-benefit analysis of crops:

The present study has attempted cost benefit analysis of the crops like cereals, pulses, vegetables and oilseeds are cultivated in the region. The cost-benefit analysis have been carried out with considering of various growth stages viz. pre-sowing expenditure, sowing, growth and harvesting period of crops in review period 2006-07 to 2008-09.

The cost-benefit analysis of cereals shows that, the all cereals are having profit. The Bajara is the first ranking crops in kharif season and rabi Jowar in rabi season. The area under pulses is insignificant in both seasons; therefore, the economic gain through pulses is very less. Except cabbage, remaining all vegetables is having profit; but, it is not having regular trend by year to year. The groundnut is the first ranking crop not only in the area under cultivation but also have high profit in oilseeds.
The maximum crops have marginal profit. Therefore, less production is reached to the market and maximum used for subsistence. Hence, this subsistence farming is unable to give huge amount of profit. It means that, the present agricultural practices are not sufficient for development. Therefore, special economic zone may be contributed for regional development.

6.2.3 Demographic profile:

The study of demographic parameters is essential to understand the development of any region. Therefore, in the present study, the demographic parameters are taken into account.

a) Growth rate: In 2001, the total population of the study region is 40102. The growth rate of population is influenced on development of any region. Therefore, the population growth rate was considered during the period of 1961-2001. These four decades shows that, the maximum decadal population growth is observed in the decade 1971-1981; while, minimum in 1961-1971. The decadal population growth is decrease in recent decades due to increasing awareness about family welfare programme, increasing literacy, etc.

b) Density: Density is an indicator to measure the concentration of population. Due to agricultural based economy the average density of the study region (162.60 per sq. km) is comparatively less than the district average density (315 per sq. km).

c) Sex ratio: The sex ratio is one of the indicators for judging the level of development. It is well known that a balanced sex ratio is sign of proper human resource development. In 2001, the study region shows imbalanced sex ratio (981), due to male migration for employment to the nearest industrial zone and nearest cities. It means that, there is need awareness about improvement for increased sex ratio in the study region.

d) Working population resource: The working population is the major indicator of socio-economic status of the population. In 2001, the proportion of total workers to total population is 57.38%; while, remaining is non working population (42.62%). The working population includes 86.80% main and 13.20% marginal workers to total workers. The proportion of cultivators is significant (73.77%) in main workers; followed by other workers (12.93%), agricultural labourers (11.91%) and household industrial labourers (1.20%).
There are two reasons are responsible for socio-economic backwardness of the study region. First, the proportion of cultivators and agricultural labourers shows that, agriculture is the main occupation in the study region; but, the cost-benefit analysis shows that, the agriculture is subsistence in nature and second reason is, out of the received profit the maximum amount are to be spend for dependant population.

The special economic zone may helps to maintain growth rate, density and sex ratio to utilize optimum resources to the local people and develop quality population.

e) Facilities and amenities:

The role of facilities and amenities is significant in development of any region. The study region is socio-economically and demographically remains developed due to availability of poor facilities and amenities. The villages includes in the study region is connected to each other through roads; but, it is not well connected to nearest market places and industrial zones. Due to poor connectivity there is poor status of postal services, medical facilities and consequently education resources.

The present facilities and infrastructure are not conducive for development of the study region. In the present socio-economic and political scenario, it is unable to achieve the optimum facilities and amenities. It can be achieved with proper utilization of resources. The establishment of special economic zone may helps in development of public facilities and infrastructure.

f) Industries:

The field observation reveals that, there is no any big industry is established since independence. Only those occupations and small scale industries are established which are related to agriculture sector; but, generation of employment through in this occupations and small scale industries are very less (1.33% to total population). Presently, the agriculture sector and small scale industries are unable to provide employment opportunities on large scale. Therefore, after the establishment of the special economic zone may alternatives for employment generation and regional development will be occur.

6.2.4 Agricultural profile:

The general land use of the study region shows that, the maximum area in under agricultural land; while, working population shows that, the 73.77% main workers are
cultivators. It means that, the economy of the study region is based on agriculture. Therefore, the following three specific subsets have been separated to understand level of agricultural development.

a) **Agricultural situation:** The average size of landholding and proportion of literates to total population are considered to understand the agricultural situation of the study region. The average size of land holding of the study region is very less (0.37 hectare). The proportion of total literates to total population is 59.43%. The all villages are having high level of literacy (50.01-75).

Therefore, it is difficult to utilized modern techniques in small size holding of farms. Consequently, people prefer to work with traditional practices.

b) **Agricultural infrastructure:** The agricultural infrastructure has been determined on the basis of net sown area/agricultural worker, intensity of irrigation, proportion of electric motor pump sets, oil engines, threshers, primary agricultural credit societies, tractors and sprayers per 1000 hectare of net sown area.

The 58.82% villages are having moderate level of agricultural infrastructure in the study region. It means that, the present agricultural infrastructure is insufficient for agricultural development; consequently, regional development. Therefore, there is need to improve agricultural infrastructure in the study region.

c) **Agricultural productivity:** The agricultural productivity is measured with the help of commercialization of agriculture, cropping intensity, the percentage of net sown area to total geographical area and area sown more than once to percentage of net sown area. The 76.47% villages are having moderate level of agricultural productivity. It affects the profitability and standard of living of the villagers.

In the last, we concluded that, the overall present agricultural situation, agricultural infrastructure and agricultural productivity are insufficient for agricultural development. Therefore, the special economic zone may find one of the significant alternatives for the development. The capital generated through compensation and employment may find useful for agricultural development.

6.2.5 **Agricultural regionalization:**

In the present study, the agricultural regionalization is done with application of crop concentration, crop diversification, and crop combination methods.
a) **Crop concentration:** The season and village wise area under different corps was considered to understand the crop concentration of 2006-07. In kharif season, the concentration of oilseeds, bajara, pulses, maize, etc. observe in descending proportion, while, pulses, other crops, wheat, vegetables, Jowar and maize in rabi season.

The agricultural based economy shows that, only those crops are highly concentrated which is cultivated for subsistence. Therefore, there is need to increase area under other crops with proper planning strategy for development.

b) **Crop diversification:** The crop diversification examined for the year of 1997-98 and 2006-07 with season wise. The crop diversification is not only changed in agricultural year wise but also season wise. Before the declaration of special economic zone, the degree of crop diversification is concentrated in moderate and high level; while, after the declaration of special economic zone, the degree of crop diversification move towards the specialization. The reason for their changing crop diversification is farmers are getting capital through compensation of land.

c) **Crop combination:** The crop combination examined for the year of 2006-07 with season wise. In kharif season, crop combination is observed upto eight crops; while, in rabi season, it is observed upto five crops. In kharif season, maximum percentage (29.41%) of villages is having two crops combination; it includes crops like bajara and oilseeds. On the other hand in rabi season, there are 41.18% villages are having two crops combination, it includes vegetables and jowar.

The agricultural regionalization shows that, only those crops are concentrated and rotated on large scale in concentration and combination respectively; which is utilized for subsistence. It means that, the maximum crops are cultivated for the purpose of subsistence. This type of agricultural regionalization is not suitable for agricultural development as well as regional development.

6.2.6 **Strength of the study region:**

In the field study and group discussion, it reveals that, the areal strength of the study region has good potential of fertile soil in physiographic profile and high literacy rate, equity of women and ability of hard work of villagers in demographic profile.
There is need to utilize the areal strengths of the study region. It includes, providing the irrigation facility for fertile soil, to generate employment opportunities for villagers and to increase involvement of women in development.

6.2.7 Weaknesses of the study region:

There are many reasons are responsible for the low development of the study region. It includes lack of technical education, high dependency ratio, subsistence farming, traditional culture and lack of industries based on agricultural sector. The major weaknesses are occurred due to subsistence agricultural based economy.

There is need to prepare planning strategy to overcome and convert them into areal strengths of the study region. The special economic zone may help will be increase the areal strengths with providing technical based education for villagers, employment generation, to reduce dependency ratio and consequently, it will be changed subsistence farming and traditional culture.

6.2.8 Human resource development:

The level of human resource development is essential to understand the regional development. For this, the 19 parameters are selected from the socio-economic, demographic, facilities and infrastructure of the study region. The composite score techniques is employed to understand the level of human resource development. The range of such composite score is 41 to 63. There is except Chaudharwadi village remaining all villages are having moderate level of human resource development.

The planning strategy for improvement of sustainable human resource development is essential. The special economic zone may help to employment generation, availability of facilities and infrastructure in own village, availability of formal and technical education, involvement of women in development, etc.

6.2.9 Possibilities of development of local people:

The group discussion was carried out to understand the possibilities of development of local people. After the assessment of socio-economic, demographic, agricultural and human resource development aspects, the following observations have been noticed with respect to the study region for possibilities of development of the local people.
a) **Agricultural development**: After the implementation of complete special economic zone, the area under net sown area will be available 46.19%. The agricultural development will be possible with capital investment for modernization of agriculture and according to change in cropping pattern to get high return from agriculture.

b) **Irrigation facility**: The area under irrigation will be available 40.30%. There is possibility of irrigation from Bhima river, Vel river, left canal of Chaskaman dam, Wafgaon dam and also possibility of water supply for irrigation from Thitewadi dam will increase the area under irrigation which is not acquired. It will be optimum use of available land.

c) **Education facility**: The study region has lack of higher education and technical education facility. The establishment of special economic zone may helps to improve the higher education as well as technical education in the study region.

d) **Employment generation**: Presently, in the study region only 534 (1.33%) workers are working in small scale industries and service sectors. There is essential to proper utilization present natural and human resources for employment generation. The establishment of special economic zone is may helps to increase the employment generation.

e) **Service sector**: In the study region, before the announcement and establishment of special economic zone the availability of service sector is insignificant. It includes bank facility, two wheeler and mobile service stations, etc. There are possibilities of establishment of automobile repairing work shops, mobile repairing, recharges and sales centers and bank facility.

f) **Transport facility**: The study region is remains undeveloped due to unsatisfied accessibility towards tahsil headquarters, nearest industrial zone and market places. The improvement of infrastructure facilities may be possible with establishment of special economic zone.

g) **Export market linkages**: There are many agricultural products are cultivated for the purpose of export; but, due to low quality of product, lack of packaging facility and market knowledge, the export is negligible. Consequently, export market linkages are very limited. There is a possibility of export market linkages with the help of improvement in these fields.
On the basis of assessment, the present agricultural based economy is not sufficient for agricultural as well as regional sustainable development. The capital will be available through compensation for agricultural development, improvement for irrigation facility, employment generation and consequently, there will be possibilities of increase service sector.

6.2.10 Impact of rehabilitation package under special economic zone:

The state government was proposed 17 villages for acquisition of land; but, presently land is already acquired only in four villages. The assessment of rehabilitation package under special economic zone is mainly related to these four villages. Presently, the implemented rehabilitation package includes aspects like, except compensation of land, availability of technical education facility and employment opportunity for some affected people and other facets of rehabilitation packages are yet to be implemented. After the declaration of special economic zone and acquisition of land, following some positive and negative impacts have been noticed.

3) Positive impact:

a) Agricultural sector: The amount received as compensation has been utilized as capital for agricultural development in available field such as to use of modern techniques and high yield varieties.

b) Industrial sector: In phase I of special economic zone, one industry is established i.e. Raj enterprises. Similarly, due to local demand eight cement block plants are started.

c) Education facility: The special economic zone developers have started technical training courses, which are expected to useful for industrial need. They has announced to start school from next academic year with the help of institutes namely, Janana Prabodhini for project affected people with adequate focus on sports and technical education.

d) Service sector: The positive impact of special economic zone on service sectors has just started now. Presently, it is only observed on bank facility and garage facility. There are three branches of nationalized and co-operative banks and four garages are started in the phase I after the distribution of compensation of land.

e) Employment: The special economic zone developers expected 1,20,000 new employment opportunities. Presently, In phase I, there is generates only about 450
(1.12%) new employment opportunities in unskilled labour work in construction of wall compounds, roads, construction of industrial shops, etc. The special economic zone will be generates employment opportunities for skilled and unskilled labourers of directly as well as indirectly also.

f) **Social life:** Many scholars, planners and NGOs are not sure about social life after establishment of special economic zone. On the basis of assessment, the center of social activities (gaothan) is remaining same and only those families and its social activities will be disturbed which are actually situated in acquired land. After the receiving of compensation of acquired land, there is increased active participation of villagers in social activities like annual fair, ganesh uttsav, etc.

4) **Negative impacts:**

i) **Agriculture sector:** After the declaration and acquisition of land for SEZ, the agricultural development (leveling, digging of wells, etc.) is partially stopped. In phase I, the percentage of cultivators, net sown area and agricultural labourers was decreased 8.10%, 7.82%, and 2.41% respectively in 2011-12 than 2001-02; while, the availability of workers is decreased due to he was demanded more wages charges.

ii) **Education sector:** Before the declaration and acquisition of special economic zone many students can not take higher education due to unavailability of higher educational institutes and lack of money. But, after that, there are 43 students leaved out secondary school in four villages due to achieving capital from the compensation of land.

iii) **Family life:** The distributed compensation of acquired land adversely affected on joint families and joint account holders. The conflicts are increased in joint families and joint account holders due to compensation. The many joint families are separate due to conflicts.

iv) **Wastage of money:** After the distribution of compensation of land, there are many people investing the money on unnecessary needs like two wheeler, four wheeler, etc.

   In phase I, the positive impact is comparatively more than the negative impact. On the basis of assessment, we concluded that, the special economic zone is appropriate alternative for regional development in the selected study region, in terms of industrial development and agricultural development as well.
6.2.11 Planning strategy for sustainable regional development:

The regionalization is meaningless due to almost have similarity in physical resources and socio-economic conditions in the study region. The effective development of the study region could be planned on experience of existing condition and future plan of execution. The planning strategy is mainly related to the improvement of following fields for sustainable regional development.

d) Management of land resources:

The following planning strategy is essential for sustainable management of land resources.

6) Agricultural development: After the implementation of complete special economic zone, the 15628.73 hectares (63.37% of TGA) land will be available for agriculture. The capital will be available through compensation of land for agricultural development. It may have impact as modernization of agriculture and change in cropping pattern. Consequently, agriculture will also be profitable economic activity.

7) Increase net sown area: The area under net sown area will be available 11391.60 hect. (46.19%) of total geographical area. The net sown area will be increased with utilizing agricultural land which is not cultivated regularly i.e. 4237.13 hectares (17.18%). This land may be possible to convert in net sown area. The culturable waste land may be brought under cultivation by taking appropriate efforts and in addition to this, the capital availability after compensation.

8) Increased of irrigation facility: The area under irrigation will be available 40.30% (4908 hect.) of the total net sown area. There is also possibility of irrigation source from Bhima river, Vel river, left canal of Chaskaman dam, Wafgaon dam and water supply for irrigation from Thitewadi dam. It will increase the area under irrigation for agricultural development.

9) Use of culturable waste land: The aim of industrial as well as agricultural development may be possible with maximum acquisition of culturable waste land for establishment of special economic zone.

10) Forestry: The area under forest cover is already insignificant (5.29%) in the study region. Therefore, there is essential of culturable waste land and area not available for cultivation brought under forest cover.
e) Small scale industries:

Before the establishment of special economic zone, the availability of small scale industries is insignificant. On the basis of assessment, due to maximum availability of agricultural land and increasing industrialization, there is needed to prepare planning strategy about small scale industries for sustainable regional development. It includes manufacturing and repairing of farm implements, agro based industries including potato chips, tomato sauce and milk chilling plants, establishment of pipes and bricks industry and ancillary products related to main products. These industries will be helpful to crate for employment opportunities and will maintain and the secure the life style of people.

f) Education facility:

The study region has lack of higher education and technical education facility. It can be suggested that, the literacy mission and the spread of technical education in this region should be rooted deep into their system. It is not only helpful for human resource development but also regional development.

d) Provision of employment generation:

The following planning strategy has designed for project affected people.

5) The technical education related to employment should be made available to the project affected people.
6) The skilled based education should be made available for remaining family members.
7) The priority for every project affected person for employment against vacancies.
8) The guaranteed employment to one person in skilled based industry from every project affected family.

g) Productive use of available forest resources:

The deciduous forest has good potential for the grass, firewood and minor forest products like non edible oilseeds and gum, etc. The utilization of this potential may helps to increase economic gain of villagers as well as development.

6.3 Applicability of the study:

The present assessment has mainly focused on the status of socio-economic development and spatial distribution of land use. This is helpful to understand the possibilities of development of local people for implementation of special economic zone. This also may be applicable to the other special economic zone in Maharashtra as
well as in India. The study may be representative of number of areas which are having hilly terrain, proportion of high agricultural land, less irrigation facility, lack of industrialization. Thus, the selection of the study region has improved the applicability of the present study for regional development.

6.4 Relevance of the study:

The study will be useful to focus on following objective with respect to area specific characteristics such as, regional development of backward area, optimum use of local natural resources, less negative impact on existing agricultural field, it will give impacts for human resource development.

The present investigation has attempted to identify the weaknesses of the study region and to understand causes for the same. This kind of investigation can be useful to prepare a planning strategy for villagers, developers as well as government. The present study provides proper guidelines to the NGO’s, social workers and policy makers. Thus, the present study is socially relevant for the special economic zone affected people in the country.

6.5 Limitations of the study:

The present investigation is bound to have some following limitations regarding availability of data.

a) The data collected from the tahsil office shows no change in cropping pattern for the period of 1997-98 to 2006-07. But during the fieldwork some extent changes have been noticed.

b) The authentic documented data for the period and after implementation of special economic zone is not available. For this, data analysis was carried out on the basis of data collected in the field work.

c) The cost-benefit of the major crops has been carried out on the basis of information collected from the villages. The input-output cost varies in the market. It may be differ in less extend from reality.

d) The present study has to rely on the provisional census data made available by the tahsil office.
e) The acquisition of land and establishment of special economic zone is sensitive issue. The affected people, government officer and officers of concern corporate field were reluctant to give information on the special economic zone related issues.

6.6 Scope for the further study:

The present study has potential of further research work in the field of economic geography and regional geography; specifically in the context of special economic zone implementation for regional development. The study focuses on change in spatial dynamic of the space with respects to government policies and attempted to understand the diverse opposites view about implementation of special economic zone. The study has analyzed all aspects of the conflicts, which will be guideline for the public policy and execution of the plan. The study has put forth the specific approach regarding analysis of physical resources, human resources and socio-economic background of the study area. It is proper guidelines for the analysis of the special economic zone demarcation and execution level. The study is good example for area specific analysis of special economic zone implementation. It has set good example to carry out similar studies in various geographic socio-economic situations.

6.7 Concluding remarks:

The study may conclude that, the existing physical and human resources and socio-economic set up of the study region is not sufficient for sustainable regional development. It shows the industrial growth is necessary along with agricultural development. The special economic zone is appropriate alternatives of the regional development. Therefore, there is need to would be implemented all stages of special economic zone efficiently to achieve the well being of the local people along with this minimum disturbance of existing socio-economic and cultural set up of the area in terms of the proper utilization of compensation, employment opportunities and sharing in development. On the basis of rigorous set up, this special economic zone will be known as ideal example of regional development in the country.