

# Identification and Prioritizing the Investment Opportunities in Chabahar Free Zone using Analytical Hierarchy

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## **Abstract**

Investment on one hand is one of the most important factors in economic growth and development in every country and on the other hand, investing is not a casual phenomenon, identification and prioritizing the investment opportunities in every country and region could improve the economic growth and development in addition to attracting the investors. Accordingly, the main aim of the present research is to identify and prioritize the investment opportunities in Chabahar Free Zone (CFZ) from the perspective of investment managers and experts and active investors in this zone based on four criteria "creation and foreign exchange earnings, attracting foreign investment and technology transfer, creating industrial linkage between industrial areas, penetration in foreign markets" using the analytic hierarchal process. To this end, after collecting data from 30 individuals of the study population and analyzing them using Expert Choice Software, findings show that the most important priorities of investment in CFZ are including infrastructure, industry, educational, agriculture, fisheries, tourism, service and business sectors respectively.

**Keywords:** investment, free zone, analytic hierarchal process, CFZ.

## **Introduction**

As the majority of economic Scholars concluded in their researches that one of the effective factors in sustainable development is effective investment in that country (Islami Bidgeli et al 2005); the empirical evidence also signifies that investment is the most important factor of production and service delivery and it is an important element in development and prosperity programs. Lack or shortage of investment distorts the implementation process of national and regional development programs. Therefore, investment attraction is important for developing. On the other hand, investment usually applied to where the appropriate ground for it is prepared firstly and investment return and expected profit is possible with the least risk secondly (Jahanbani, 2001). Stieglitz emphasizing on foreign investment believes that macroeconomics should create a space to attract investment namely foreign investment. This investment can provide new employment opportunities for foreign trade, technical knowledge and access to foreign markets. Foreign companies also access the financial resources which are important for developing countries with poor financial institutes. Direct foreign investment had played an important role in the most successful samples of developments including Singapore, Malaysia and even China. (Stieglitz, 2001).

For this purpose, countries endeavour to develop some mechanisms for attracting more investment from home and foreign resources. Of the used mechanisms in some countries to achieve this goal is creating commercial-industrial free zones and economic-specific zones which in the case of success can bring technology transfer, employment, human resources development and export as well (Karimikia & Moqadam, 2012). These zones in the world are created as a window for synchronizing and economic linkage of countries with the global economy, making growth in export and utilizing home and overseas investments in order to achieve economic development goals, creating and increasing employment and technology transfer. Economic changes in the 21st century are developing such that there is not any hope for sustainable development without entering the world market. Now, many of developing countries are experiencing the way of peace with the global economy by the commercial free zone window, a window which can convert the potential priorities of developing countries into actual.

In Iran Also, some specific economic free zones are established in order to attract investment for economic development since 70s which one of them is Chabahar industrial-commercial free zone in southwestern part of Iran with industrial, agricultural, commercial potentials. With strategic planning, this zone with its potentials can turn into the entrance gate of the country for attracting home and foreign investors. For this purpose, it is a necessary to identify and prioritize the suitable opportunities for investment along the re-identification of capabilities, strengths and weak points, current opportunities and threats. Thus, the main aim of this research is answering to these questions: 1. What is the most important investment priorities in CFZ? 2. How we should prioritize them in order to facilitate achieving the goals in CFZ.

## **2. Literature Review**

### **2-1. Investment concept in commercial free zones**

Economic development requires investment in different economic sectors and activities. One cannot expect to improve employment, production and economic welfare without investing in infrastructure and superstructure plans. Today, a lot of countries tend to attract investment

(Karimikia & Moqadam, 2012). Thus, investment is increasing the present investment in a society in a specific period; in other words, investment means capital formation (Kalantari, 2005). Investment means spending current funds and resources in order to achieve more funds flow or resources in the future. Investor is hopeful that more inputs in the future will compensate for the immediate consumption ignorance, inflation and risk-taking (Anvari Rostami, 1999). Moreover, investment is the conversion of fiscal funds into one or some kinds of assets which will be kept for a while in the future (Charles, 2003). Today, there is a belief that free zones can enter technology and investment management into the country, incorporate home production factors with science and modern technical knowledge and put the country in the way of development and in line with the global economy. Free zones are the instruments for entering the global markets and utilizing the relative superiority of the home economy in international business and they should be used as a catalyst for linking the national economy with the global economy (Eftekhari et.al, 1387). The main aim of establishing free zones is providing grounds for increasing the output and export industrial goods and entering global markets based on free competition. The most substantial approach for achieving this goal is attracting investment and technology from other countries (Latifi & Aqae, 2006). The first aim of most developing countries which began to establish free zones is attracting foreign investment. Developing countries know that their slow growth in economic and industrial development due to the limited investment. Thus, most of these countries make their economic planning according to the attracting foreign capital. Commercial free zone is one of the ways for attracting foreign investment. Some countries use different exemptions including duties in order to make their free zones attractive. The main factor of attraction in these zones for investing is the inexpensive workforce in developing countries. Asian Productivity Organization (APO) reports the main causes of these zones 'attraction for the foreign investors: suitable infrastructure facilities, inexpensive workforce and proximity to neighboring markets. In other hand, host countries also consider these following aims for attracting the foreign investment: employment, obtaining the exchange earning by export, transferring new technology, improving technical knowledge of indigenous people and establishing linkage between local industries and modern technology which are used in these zones (Manian, 1988).

## **2-2 Chabahar commercial-industrial free zone**

Chabahar commercial- industrial free zone is located in the extreme southeastern Iran, near Oman Sea in the east of Chabahar Bay, in Chabahar city, one of the cities in Sistan & Baluchestan with the area of 14000 Hectare in 25° and 25 min northern latitude, 27 min eastern longitude and located at a 7km distance from Chabahar (Bavar, 2010). Geographical location of Chabahar Bay in northern part of Oman Sea and Indian Ocean turned it into one of the important bays in the south of Iran and the most important commercial port in Baluchestan bank. Due to strategic location and access to the international open waters, this seaport has a special place in Iran's trades with other countries in the region. On the other hand, due to its proximity to countries like Afghanistan, Pakistan and Central Asia, it will have a special importance in transiting goods to these countries with connecting rail network to in the near future. Also, Chabahar as the only oceanic port in Iran is one of the key points in Oman seaside and will have an important part in the north-south transit corridor (Hosseinpour Pouyan et al, 2010).

Investors constantly study the situation and accommodation of that specific region with their activities before investing in a region. What are considered in every investment both home and

foreign by investors and are the main and primitive presuppositions of entering the investor to a specific area are including: forensic facilities, assets, infrastructures, administrative costs and economical and political components (Honarvar Sediqian, 1999). About 20 years have passed since the establishment and triggering the free zone; over this time, in spite of costs and endeavors, there are not the necessary infrastructures and structures for defining a developed and organized model according to international standards available yet. Attracting investors happen slowly and unfortunately in spite of abundant resources and reserves and potential economic perspectives of free zones which are in the excellent regional and international rank regarding this indicator, home and foreign investment are not salient.

### **3. Research Goals**

The aim of this research is identifying the grounds and opportunities for investing in different parts of CFZ and choosing the best priorities using analytic hierarchal process.

### **4. Research Questions**

According to the theoretical framework of the research, this research's questions are including:

1. What are the investment opportunities in CFZ?
2. How we should prioritize them in order to facilitate achieving the goals in CFZ?

### **5. Research Method**

The present research aim is applied and the research method is descriptive-survey. The aim of research is prioritizing the investment opportunities in CFZ using analytic hierarchal process. In this research, we rank the investment priorities in CFZ using the effective indicators related to the free zone aims. The statistical community of the current research is including the managers and experts in the investment section of free zone organization and active investors in the zone which 30 individuals from them are selected randomly by judgmental sampling. For collecting data, firstly the theoretical literature and background were studied using library studies. Then in order to collect data from a real environment, a questionnaire was developed and its validity was reviewed by the authors. In reliability aspect of the questionnaire, because the methods of collecting data in AHP are constant and the method and framework are determined in the techniques, the only one can do is changing in how to receive answers and changing the questionnaire structure. Moreover, due to this fact that in the AHP method, the incompatibility rate of the answers is calculated and those answers with high incompatibility rate are excluded, it is somehow indicative of the reliability of the answers.

### **Developing AHP Tree**

Decision-making hierarchy in AHP is the major key part in AHP, which should be developed according to the prioritizing aim.

Aim: the main question or problem of the research is called aim. Aim is the highest level of AHP tree which in this research the aim is prioritizing the investment opportunities.

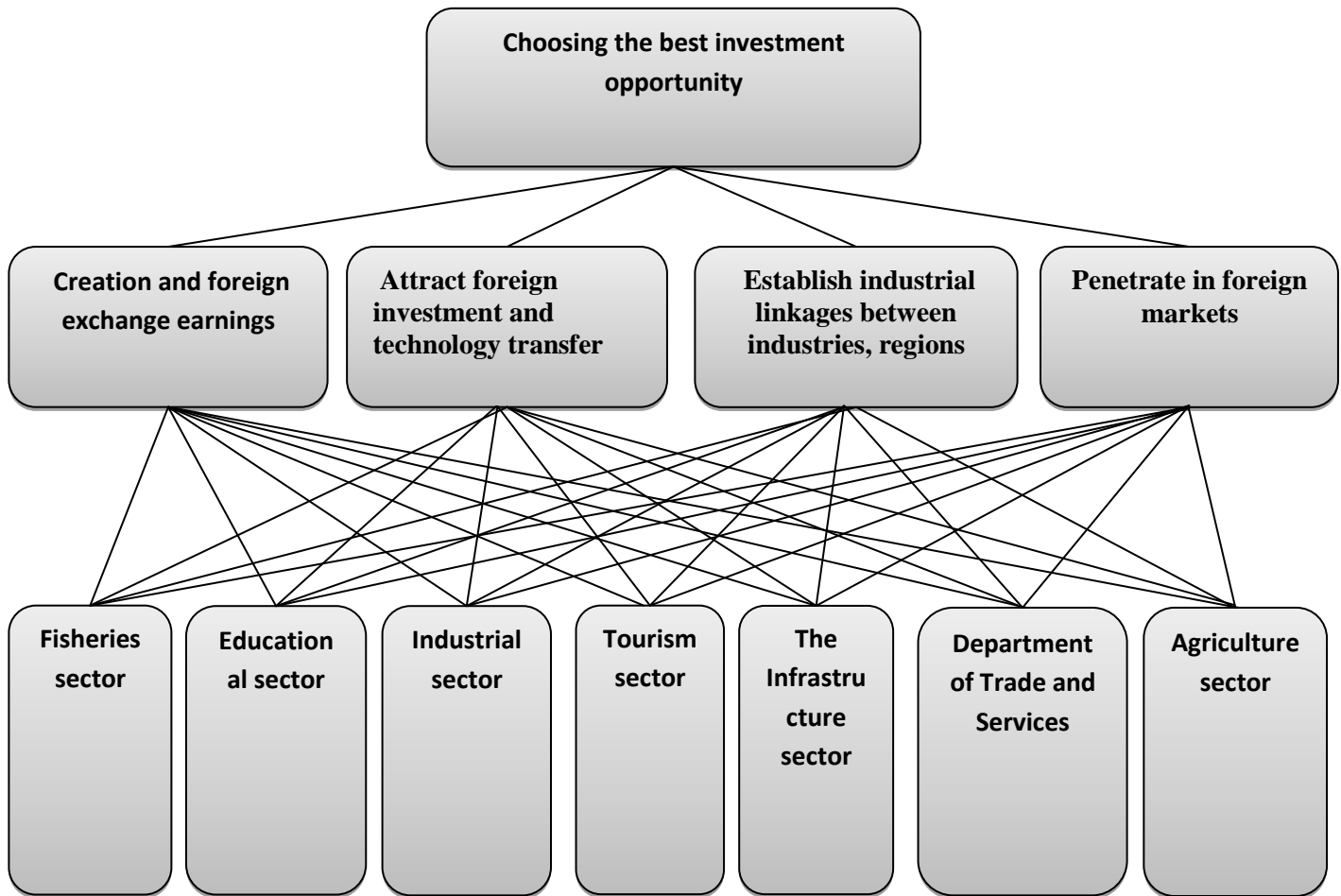
Criteria: Criteria are the second level of AHP tree following the aim. The more the criteria cover the aim fragments, the more indicative the aim and the chance of increase in receiving the exact result will be. In this research, the following are selected due to the free zone aims:

1. Creation and foreign exchange earnings
2. Attract foreign investment and technology transfer
3. Establish industrial linkages between industries regions
4. Penetrate foreign markets

Alternatives: Alternatives are the last level of AHP tree and depend on how to use AHP. In fact, the purpose and the target of the aim are in AHP tree and the answer is achieved among the designed alternatives. According to explorative studies which are done by investment professionals and experts in CFZ, the following investment opportunities are identified:

1. Fisheries sector
2. Education sector
3. Industry sector
4. Tourism sector
5. The infrastructure sector
6. Department of trade and service
7. Agriculture sector

According to the obtained results, the AHP tree is developed like this:



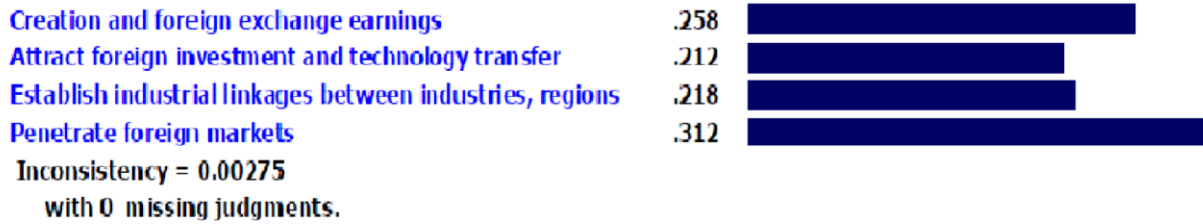
**Figure.1. The hierarchical structure of selecting the investment opportunity priority in CFZ**

After making synthetic matrix, in this step all the resulting numbers from geometric mean for every question they transferred to Expert Choice software. Expert Choice software is designed in order to analyze the multi-criterion decision making problems using analytic hierarchy process. This software allows the user to design the decision making hierarchy shape, determine the priorities and calculate the final weight. One can enter the assessment criteria to this software and use of this capability to perform pair comparisons and calculate adaptation rate (Abdollahi et.al, 2012). Thus, the pair comparative matrices which presented in the previous section entered this software and finally the outputs are obtained as presented in next chapter.

## 6. Findings

As mentioned before, after pair comparison of Expert choice, software was used for calculating the relative values, rating and inconsistency of criteria and choices which results are shown in the following charts.

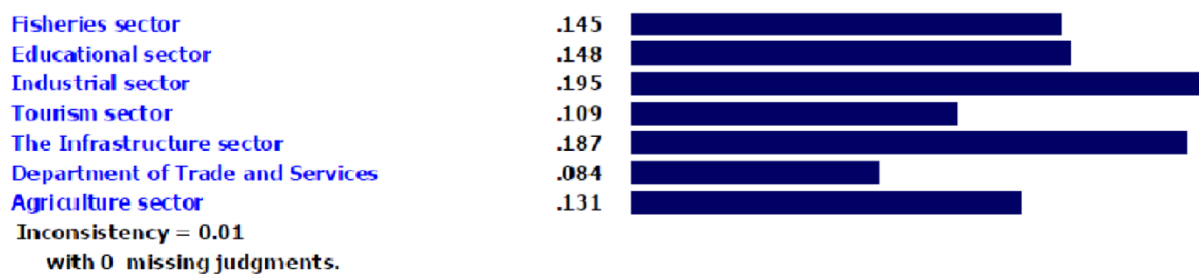
**Priorities with respect to:  
Best investment Opportunity**



**Figure.2. Ranking of the investment development criteria**

Comparing in pair among criteria, the highest rank was penetrating in foreign markets 0,312 followed by the other criteria ranked as: creation and foreign exchange earnings; establish industrial linkages between industries, regions and the lowest attract foreign investment and technology transfer with 0,258; 0,218; 0,212 respectively. As the inconsistency rate in this ranking is 0, 00275 and this amount is less than 0, 1; so there is a consistency among the pair comparison of criteria.

**Priorities with respect to:  
Best investment Opportunity  
> Creation and foreign exchange earnings**



**Figure.3. The relative values and ranking of choices based on exchange earnings.**

Priorities with respect to:  
**Best investment Opportunity**  
 >Attract foreign investment and technology transfer

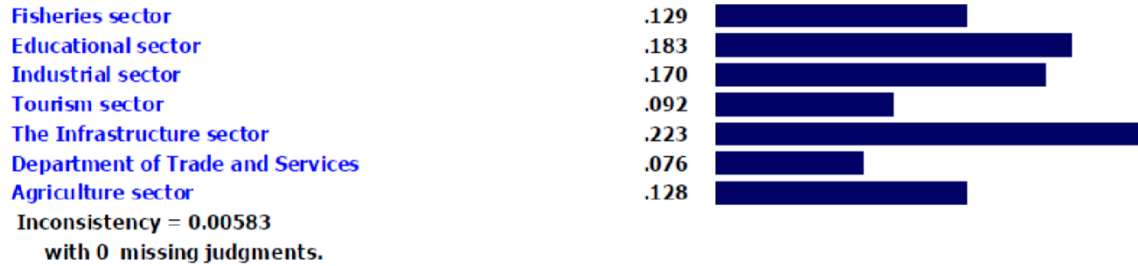


Figure.4.The relative values and ranking of choices based on attracting foreign investment and technology transfer.

Priorities with respect to:  
**Best investment Opportunity**  
 >Establish industrial linkages between industries, regions



Figure.5. The relative values and ranking of choices based on establishing industrial linkages between industries and regions.

Priorities with respect to:  
**Best investment Opportunity**  
 >Penetrate foreign markets

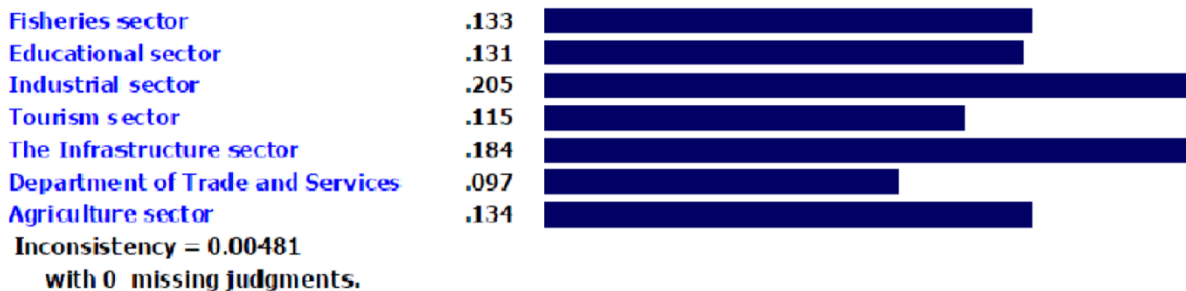
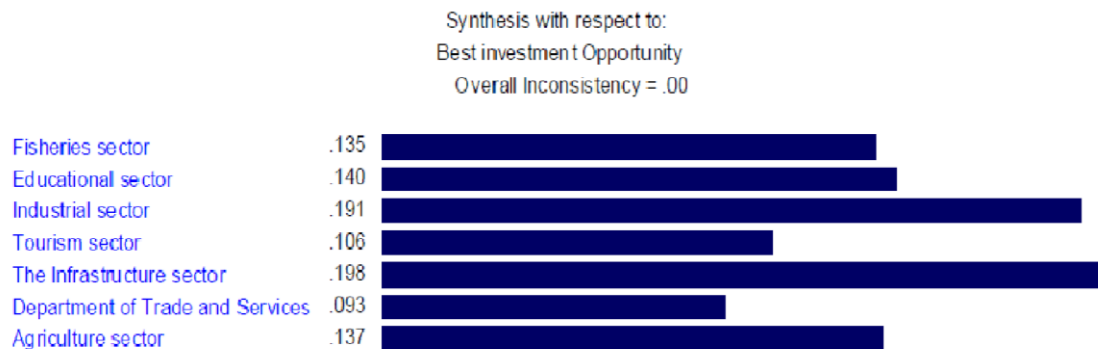


Figure.6. The relative values and ranking of choices based on penetrating in foreign markets.

Calculating the final value was obtained by integrating the relative values from the total multiplying of each criterion by each value of the relative choice related to that criterion. Finally the choices were prioritized using matrix pair comparisons and mathematical operation and the excellent choice was determined (Saaty & Models, 2001; Gass, 2004).



In this step of the research, after pair comparison of and calculating the relative values of indices and models, this is necessary to calculate the final value of each model. After calculating the final value of the models by software, the final answer will be given such as the following:



**Figure.7. The final value of priorities based on the aim.**

Investment in infrastructure sector was determined as the best priority (0.198) which followed by industry sector, educational sector, agriculture sector fisheries sector, tourism sector and department of services and trade as the last priority with levels 0.191; 0,140; 0,137; 0,135; 0,106; 0,093 respectively. Due to the zero inconsistency rate in this ranking, there is total consistency between the pair comparison of the models.

### Discussion and Results

Developing any factor in countries requires investing in economic sectors and activities in that country. One cannot expect to increase employment, production and economic welfare without investing in infrastructure plans. Establishing and promoting free zones can act as a fast policy and a shortcut for achieving the goals such as attracting foreign and home investments and rapid industrialization in order to develop non-oil export. Having very suitable potential for investing and transiting goods and even enjoying of touristy, fisheries, agricultural opportunities CFZ requires developing modern technologies of communication and telecommunication than any other part of the country to be able to show itself among Iranian and international free zones timely. The analysis results showed that the infrastructure sector in the first priority as you can see in Figure 8.

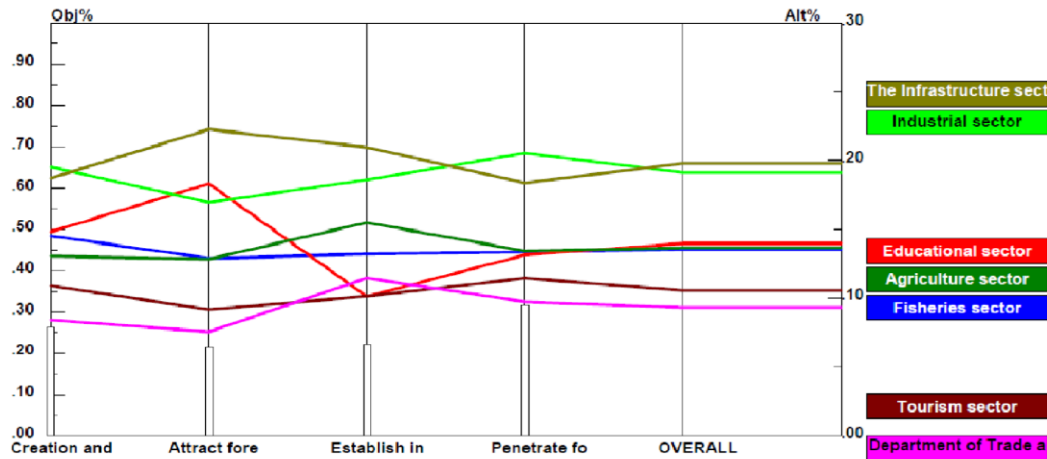


Figure.8. Analysis of the choices sensitivity and criteria to each other.

Among the four selected criteria, penetration in foreign markets showed the highest level (31, 2) and exchange earning was in the second priority level. Creating industrial linkage with the region's industry and attracting foreign investment and transferring technology is followed by a slight difference 21, 8; 21,2 respectively. The infrastructure sector in both the industrial linkage with regional industries and attracting foreign investment and transferring technology is in the highest level. Of the other two criterias i.e. exchange earnings and penetrating in foreign countries, the industry sector covers the highest level. On the other hand, department of services and trade received the lowest level in three criteria including exchange earnings, penetrating in foreign markets and attracting foreign market and transferring technology. According to the obtained graph in some criteria, alternatives have the same percent. For example, in exchange earning criterion two alternatives of educational and fisheries sectors; in attracting the foreign investment and transferring technology criteria in both fisheries and agriculture sectors, in creating the industrial linkage with regional industries both educational and tourism alternatives and finally in penetrating in foreign markets three sectors including agricultural, fisheries and educational sectors received the same percent. In this regard, more introducing the advantages of CFZ by the zone managers for investment volunteers is one of the most effective in developing cooperation in this zone, because the necessity of considering the investment advantages in the zone indicate the reduction of the final product price and can become as the leverage of added value of the product goods. Dedicating budget to CFZ from the general budget of the country in order to establish communicative paths and necessary infrastructure including routes, railways, sea lanes and airlines; and significant investment by the government can pose Chabahar as a transit hub. In development oriented approach, connecting high capacity gas pipeline for establishing industrial and productive units in all competent sectors of CFZ for maintaining industries is an undeniable necessity and provides the grounds for attracting investment. Moreover, considering the obtained priority in decision-making for investment can cause providing facilities and infrastructures, accelerating in infrastructure and construction affairs, developing economic growth, investment and increasing general revenue, creating healthy and productive employment, adjusting the labor market and goods, presence at international and global markets, production and export and finally will be in line with free zone goals.

### **Suggestions for promoting CFZ place**

1. Strengthening important infrastructures such as railway transportation and transit roads.
2. Establishing the necessary structures for boosting the eastern corridor due to Chabahar strategic position.
3. Connecting Chabahar to gas network.
4. Promoting the trans- regional position of Chabahar and attracting the neighbor countries citizens based on their common regional interests.
5. Introducing CFZ advantages in investing by the regional managers for investment applicants.
6. Promoting CFZ and making it into the main center of transit transportation within east corridor development framework.
7. Providing the required facilities for Central Asia and Afghanistan in order to transit and transport the goods.
8. Reinforcing the current state of facilities and equipment in Chabahar port organization for developing modern trade.

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