

## Open Text - Based Assessment Annual Examination-March 2014



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## OPEN TEXT MATERIAL

### 1. Theme – “Second Green Revolution”

#### Abstract:

*This case study begins by describing the importance of the agricultural sector in India. It provides a brief background to the rationale for undertaking the Green Revolution and the various kinds of changes that took place for the Green Revolution to be successful. Despite the successful rise in food grain production, agricultural growth rates in the ninth and tenth five year plans have not been up to expectations. Further, when compared to its neighbouring countries, India’s performance in the agricultural sector has been far from satisfactory. The time has come for a second Green Revolution. There are certain critical elements that are required for the Green Revolution to take place, both in terms of technology usage and issues to be considered. Further, India’s Food Processing Industry is at a fairly nascent stage and needs to develop rapidly in order to reduce wastage of food crops, fruits and vegetables, and help agricultural labour find new employment opportunities through which productivity can improve.*

Historically, India has been an agrarian economy. When we mention the word agrarian – it implies agriculture and its allied activities that have dominated not only in the contribution to India’s GDP but have also been the highest employer of the labour force. Over the years, the decline in the population engaged in agriculture has not been as substantial as compared to its decline in share of India’s GDP. The Economic Survey of India (2012-13), states that the contribution of agriculture and its allied activities has been to only about 14.1% of India’s GDP at constant prices (2004-05) in 2011-12 but the sector continues to be important in the Indian economy as it provides over 58% of India’s employment as per 2001 census. The importance of agriculture is also based in the fact that it produces foodgrain to match the population of the country.

Over the years, especially post independence, India’s population has seen a rapid increase. This can be seen from the table 1.

**Table-1:**

Year	Population (in millions)
1700	127
1900	271
1947	345
1960-61	439



1970-71	548
1980-81	683
1990-91	846
1999	1,000
2000-01	1,027

Source: *Mission India: A Vision for Indian Youth*

Prima facie it would seem to be a herculean task to match food grain requirements to the population needs of the country. This was particularly true in the 1960s when there were acute food shortages, especially when there was a long drought. This made India greatly dependent on wheat imported from the United States of America. The late G. Subramaniam, (who catapulted the Green Revolution from the political angle) and Dr. M. S. Swaminathan, (the agricultural scientist who handled the technological aspect), described India's mid 1960 crisis as: *'During.... That critical period of drought [1966-67], President Johnson, because of certain policies he had adopted, was releasing wheat only in dribbles. At one point, we reached a stage where there were stocks for only two weeks and nothing else in the pipeline.'* The 1960s crisis made India's leaders determined to take her out of this situation. They used India's strengths to remove its dependence on international supplies and become self-sufficient in food grains. It was felt that by adopting modern methods of production and bringing India's enterprising farmers together, there could be solutions to this problem. This effort became popularly known as the Green Revolution.

The Green Revolution was launched to liberate India from what was called 'ship to mouth existence'. During the period 1967 to 1978, there were *three major changes made* to the traditional agriculture practiced in India. *More land was brought under irrigation* through the use of diesel and electric pumps, *double-cropping was introduced* on existing farming land, and most importantly, *new, high yielding varieties of seeds were used* along with fertilizers, herbicides and pesticides. These changes were supplemented by institutional support to the farmers in terms of better transportation facilities and marketing of their produce. Certain *social innovations* were also initiated through *land reforms, easier credit facilities and changes in the distributive system*. As a result of this effort, yields increased, weeds and pests were controlled, farmers were able to buy seeds and other inputs. With mechanization on farms, less labour was needed on farms. India achieved food grain sufficiency in the 1970s, with a record 131 million tons of food grains produced in 1978-79.



**Figure-1:** Source: [www.pbs.org/thestoryofindia/gallery/photos/7.html](http://www.pbs.org/thestoryofindia/gallery/photos/7.html)

The table below shows that as a result of the Green Revolution, India’s food grain production has grown dramatically. When two of the worst droughts occurred in 1979 and 1987, there was no need to ask any aid giving nation for food. The need to import food grains is now minimal, and there are adequate buffer stocks. In June 2002, buffer stocks stood at 64 million tons. India even exports certain quantities of food grains. For example, between 1997 and 2007, agricultural exports have increased 10.9 percent annually. Milled paddy rice is the major agricultural export followed by cotton lint, soya bean cake, buffalo meat, sugar and maize. During the same time period, agricultural imports have grown at an annual rate of 9.8 percent. Main agricultural imports include palm oil, soya bean oil, dry peas, wheat, cashew nuts, and dry bean.

**Table-2:** *All figures in million tonnes*

	1950	1960	1970	1980	1990	2000
Food grain production	50.8	82.0	108.4	129.6	176.4	201.8
Food grain import	4.8	10.4	7.5	0.8	0.3	-
Buffer stock	-	2.0	-	15.5	20.8	40.0

Source: *Mission India: A Vision for Indian Youth*

Despite a rise in agricultural output, the sector has not shown the growth rates demonstrated by other sectors of the economy. In fact, the Eleventh Plan sought to reverse the deceleration of agricultural growth which occurred in the Ninth Plan and continued into the Tenth Plan. It has had



some success, in that foodgrain production touched a new peak of 250.42 million tonnes in 2011-12. The Agriculture Secretary mentioned that the country was able to achieve a bumper wheat crop in 2011-12 as crop yields rose due to favourable weather during February and March. This shows that the performance in the agriculture sector is still largely dependent on the vagaries of nature. Despite efforts, the Approach Paper to the Twelfth Plan states that agriculture and allied sectors is expected to grow at 3.3 – 3.5 percent per year against the target of 4 percent of the Eleventh Plan. The increasing divergence between the growth trends of the total economy and that of agriculture & allied sectors suggests an under performance by agriculture. It is also important to note that unlike the overall economic growth pattern, agricultural performance in India has been quite volatile.

Data collected by the Food and Agricultural Organisation of the United Nations shows that even though India is an agrarian economy, it does not compare well with its neighbours on several agricultural indicators.

**Table-3: Comparative study of continuation and growth of agriculture with regard to India.**

Country	Average annual growth rate of agriculture production 1998-2008	Average annual growth rate of food production 1998-2008	Wheat yield per hectare in 2008 (in tonnes)	Rice yield per hectare in 2008 (in tonnes)
Afghanistan	0.8	0.9	2.06	2.16
Bangladesh	3.9	4.0	1.22	3.99
Bhutan	5.7	5.8	2.17	2.69
India	2.6	2.5	1.29	3.37
Nepal	3.1	3.1	-	2.77
Pakistan	2.9	2.9	2.22	3.52
Sri Lanka	1.6	1.7	2.45	3.75
China	3.2	3.1	4.76	6.56
Asia Pacific	3.0	2.9	2.75	4.38
World	2.3	2.3	3.07	4.31

Source: Food and Agricultural Organisation of UN, Report 2008



According to Dr. APJ Abdul Kalam if all Indians have to have good nutrition and plenty of food, then India needs 360 million tons of food grains by 2020. This will allow for good domestic consumption and still leave a sufficient margin for food exports and aid to other countries in need. This mission demands a great revolution in research, technology development, agricultural extension services and, above all, a major network of marketing, storage and distribution. Further the biggest challenge is that India is still heavily dependent on the rains for the success of its agricultural produce. If there is a succession of bad years, output gets affected. To resolve all these remaining problems, we require a Second Green Revolution.

The Second Green Revolution will enable India to further increase its productivity in the agricultural sector. This revolution focuses on matching soil to seed, and product to market. The key parameters required in this endeavour are high productivity and better value addition by agro-processing.

Some of the important issues that India needs to consider during the Second Green Revolution are:

**Better use of resources:** Since productivity of land needs to be increased to feed the rising population it is suggested that poorer land be utilized for building roads, agro-processing industries and storage facilities, all of which are needed for processing and selling farming produce. Further a lot of present-day farming techniques result in wastage of water. India needs to adopt water-conserving technologies, as many developed countries have done. This will also aid farming in areas with less water, and be environmentally more sustainable.

**Changing mindsets:** Farmers typically believe that their role is limited to growing of crops. A change in their mindset is required to help them realize that their scope of work can increase from grain production to food processing and marketing. For this, new technologies should be pressed into service. Nearly 60 percent of India’s population depends on agriculture for a living. This should be reduced to 40 percent or less, and the people formerly employed in agriculture should ideally move to agro-processing and services, where earnings are higher. This will enable both the farmers as well as the people shifting to the new areas to become prosperous.

**Diversifying products:** Farmers need to be encouraged to move to producing crops where they have a natural advantage, and for which there is good demand. Animal husbandry and growing cash crops are two of the many new areas which are emerging.





As mentioned before, there are certain important technologies that are required for the Second Green Revolution to be successful. These include:

- 1. Soil matching:** Using modern sensors, it is now possible to examine the soil and find out its characteristic deficiencies and excesses. If there are excessive salts, these have to be neutralized with chemical or biological treatment. Some deficiencies, such as that of zinc or phosphorus, can be rectified by adding supplements. Another aspect of soil matching is that it becomes possible to say which crop would grow best on that soil, and farmers can devote themselves to growing that crop, provided of course that there is a demand in the market for it.
- 2. Water technologies:** The amount of water used should be minimized. Technologies like drip irrigation, at its most sophisticated, using microelectronic circuits to control irrigation, should be increased. We should heed the example of Israel, a country with practically no rain, which is today a leader in many agricultural products and milk production.
- 3. Crop rotation and better seeds:** Farmers must more systematically implement age-old ways of increasing production. For example, they must use the multiple cropping technique, which gives greater yield from the same land, and judicious crop rotation, which helps in protecting the soil. High-yielding and hybrid seeds are now available, which give new and varied types of genetically improved crops. Simple biotechnological tools-like tissue culture-help to improve growth of vegetables like potatoes. Farmers can also look at new crops, such as herbs, as possible areas of diversification.
- 4. Fertilizers and pesticides:** Whilst fertilizers and pesticides are considered necessary for improving crop output, they can be reduced to a minimum if soil tests are conducted properly and irrigation is controlled. As chemical fertilizers are often expensive and polluting, farmers could consider using organic fertilizers. Biotechnology can help in creating these. Similarly, pesticide usage can be minimized through biological control of pests.
- 5. Animal husbandry:** India is one of the top milk-producing nations of the world. However, there is difficulty in exporting milk as we do not meet certain international standards in bacterial control. Agencies like the TIFAC (Technology Information, Forecasting and Assessment Council) have worked to establish such standards, especially in Punjab, Karnataka and Andhra Pradesh. Such standards need to be adopted nationally.
- 6. Phytosanitary conditions:** In order to reach export markets, it is important that all agricultural produce-whether poultry, animal or plants-meet certain international cleanliness levels in chemical, bacterial and other residues. Indian agricultural produce does not always meet these standards, as a result of which these products cannot reach export markets. If Indian villages have to prosper, the produce of the farms have to reach the high-value export markets. To achieve such phytosanitary conditions, the technologies involved are not complex, but farmers have to be made aware of these and provided with the tools necessary to achieve these.



7. **Cash crops:** Crops like tea, cotton and spices have the potential to be high earners. It is essential that these are given the technological attention they require. New cash crops also need to be explored. For example, in Uttaranchal, farmers, in collaboration with agricultural researchers, have made geranium into an important mass-produced crop that yields valuable revenue. Aloe vera, which grows in abundance in the wild in India, is much in demand internationally. It is only one of many herbs which may sell well internationally. Vanilla beans and flowers are other cash crops which yield high incomes.

There are many specialists at different agricultural universities who have been working on these areas. For example, TIFAC has been providing information and help to the farmers in areas of Bihar, UP and Uttaranchal where the crop yield was low. In Bihar alone, between 1999 and 2003, the yield in paddy went up from 2 tons per hectare (1 hectare = 2.54 acre) to 5.8 tons per hectare, and the yield in wheat went up from 2 tons a hectare to almost 5. This caused dramatic changes in the income of the farmers.



In the past decade or so, Indian shops have increasingly become flooded by processed foods of various kinds. As a result, there has been a rise in demand for agricultural products which are used in the food processing industry.

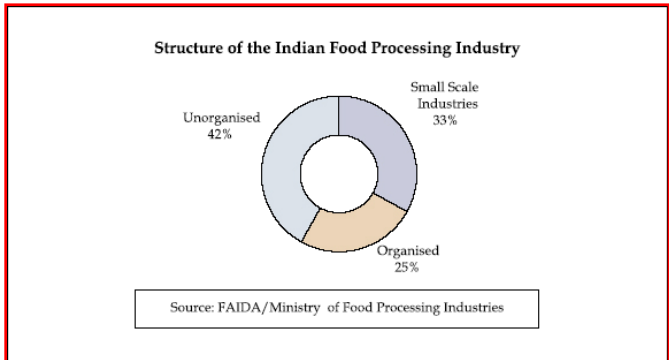


Figure-2

There is a wide variety of processed foods available today that people now eat, which was not common, say, thirty years back. For instance, cornflakes, that is a breakfast cereal, needs a special





kind of corn, and potato chips required by fast food places need a special kind of potato. Since there is a demand for these products, it makes sense for farmers to grow these.

Some agricultural produce have very short shelf-lives if they are unprocessed. Processing helps to preserve and add value to agricultural products such as rice, wheat, vegetables, fruits, potato and fish. As a result of preserving and proper refrigeration, these products can reach more people without getting spoilt. This ensures less loss for the producers as well as better food for people. Farmer's incomes will also increase.

India is the largest producer of fruit in the world (annual production 46 million tons in 2002). However, more than 30 per cent of the fruit is wasted as it cannot reach the market and there is limited scope for processing it. In the US, 70 per cent of the fruit produced is processed, in Malaysia 83 per cent. In India this is a mere 2 per cent. Recently, however, with the increasing popularity of processed fruit juices in the market, this trend is improving. Other major processed items include fruit based ready-to-serve beverages, canned fruits and vegetables, jams, squashes, pickles and chutneys. The new arrivals in this segment are vegetable curries in reportable pouches, canned mushrooms, dried fruits and fruit juice concentrates.

Processing is especially important for dairy farming. Milk needs to be pasteurized in order to last for any length of time. It is essential that processing facilities are available reasonably close at hand for the dairy farms.

India has the highest livestock population in the world. It accounts for 50% of the buffaloes and 20% of the world's cattle population, most of which are milch cows and milch buffaloes. India's dairy industry is considered as one of the most successful development industries in the post-Independence era.

In 2005-06 total milk productions in the country was over 90 million tonnes with a per capita availability of 229 gms per day. During 1993-2005, the dairy industry recorded an annual growth of 4%, which is almost 3 times the average growth rate of the dairy industry in the world. The total milk processing in India is around 35%, of which the organized dairy industry accounts for 13% while remaining is either consumed at farm level, or sold as fresh, non-pasteurized milk through unorganized channels.

In an organized dairy industry, dairy cooperatives account for the major share of processed liquid milk marketed in India. Milk is processed and marketed by **170 Milk Producers' Cooperative Unions**, which federate into **15 State Cooperative Milk Marketing Federations**. Over the years, several brands have been created by cooperatives like Amul (GCMMF), Vijaya (AP), Verka (Punjab), Saras (Rajasthan). Nandini (Karnataka), Milma (Kerala) and Gokul (Kolhapur).

The milk surplus states in India are Uttar Pradesh, Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu. The manufacturing of milk products is very much concentrated in these states due to the availability of milk in huge quantity.



According to the Ministry of Food Processing Industries, exports of dairy products have been growing at the rate of 25% per annum in terms of quantity and 28% in terms of value since 2001. Significant investment opportunities exist for the manufacturing of value-added milk products like milk powder, packaged milk, butter, ghee, cheese and ready-to-drink milk products.

*In the book 'An Unfinished Dream' by the milkman of India, Dr. Verghese Kurien, he says, "It was by chance I became a dairy man." He heard a British expert say that "the sewer water of London is superior to the milk of Bombay". This served as a challenge to young Kurien, who started the Anand cooperative in Gujarat in the 1950s. He has taken dairying from strength to strength over the decades so that today India is the world's second largest milk producer.*

However, it is not enough merely to grow good crops. In order to reach the markets where they will be sold or processed, it is important that a good transportation network is built.

Management of agricultural waste is another important area which can turn out to be a source for revenue generation. Agricultural waste should be put to use by developing appropriate and cost-effective technologies, such as generation of biogas, and production of vermin-compost and paper, as well as other products.

This discussion highlights the large potential that exists within the agricultural sector of India. Whilst India's growth patterns mirror those around the world – that the contribution of agriculture to GDP decreases, in India's case what is significant is that agricultural industries needs to provide employment opportunities for farmers. This will not only improve productivity in agriculture but also farm income.

### **Bibliography**

*This case study has been collated by taking excerpts from the following sources:*

- ☆ APJ Abdul Kalam: Mission India: A Vision for Indian Youth
- ☆ Economic Survey of India 2012-13
- ☆ Approach Paper to the Twelfth Plan
- ☆ Food and Agriculture Organisation of the United Nations, 2008
- ☆ Ministry of Food Processing Industries, Annual Report 2005-06

### **Sample Questions**

1. Why should agricultural processing industries be an integral part of the second green revolution?
2. How important is education towards improving the agricultural sector? Elucidate.

### **Marking Scheme**



**Question 1:**

Outline Answer	Value Points	Marks
<ul style="list-style-type: none"> <li>☆ Farm production has too many people employed in it. This leads to disguised unemployment. Agricultural processing industries will provide alternative employment opportunities.</li> </ul>	Explaining the importance of agricultural processing industries	2
<ul style="list-style-type: none"> <li>☆ Will reduce division of farm size as less people will be dependent on farms for income.</li> </ul>	Reasoning	2
<ul style="list-style-type: none"> <li>☆ Will increase farm productivity – increase farm income.</li> </ul>	Conclusion	1
<ul style="list-style-type: none"> <li>☆ Save agricultural output from being spoilt and wasted.</li> </ul>		
<ul style="list-style-type: none"> <li>☆ Can increase export earnings– if catering to export markets.</li> </ul>		

(Any other relevant point written by the student)

(1x5 = 5)

**Question 2:**

Outline Answer	Value Points	Marks
<ul style="list-style-type: none"> <li>☆ Education is critical for improving the agricultural sector:</li> </ul>	Explaining the importance of education towards improving Agricultural Sector	2
<ul style="list-style-type: none"> <li>☆ Farmers can learn new methods of production – soil/crop matching – increase productivity.</li> </ul>	Reasoning	2
<ul style="list-style-type: none"> <li>☆ Farmers will understand how marketing of their produce can improve – can interact directly with hypermarkets and reduce middle men.</li> </ul>	Conclusion	1
<ul style="list-style-type: none"> <li>☆ Understand the international market needs and cater to meet those demands – eg aloe vera / vanilla beans.</li> </ul>		
<ul style="list-style-type: none"> <li>☆ Helps match local conditions to global technology – farmers can make informed choices regarding seeds, technology used.</li> </ul>		
<ul style="list-style-type: none"> <li>☆ Improves their ability to understand credit conditions – take informed decisions regarding bank loans/ credit vs money lenders.</li> </ul>		
<ul style="list-style-type: none"> <li>☆ Can collaborate with agricultural researchers to improve farm output.</li> </ul>		

(Any other relevant point written by the student)

(1x5 = 5)



## OPEN TEXT MATERIAL

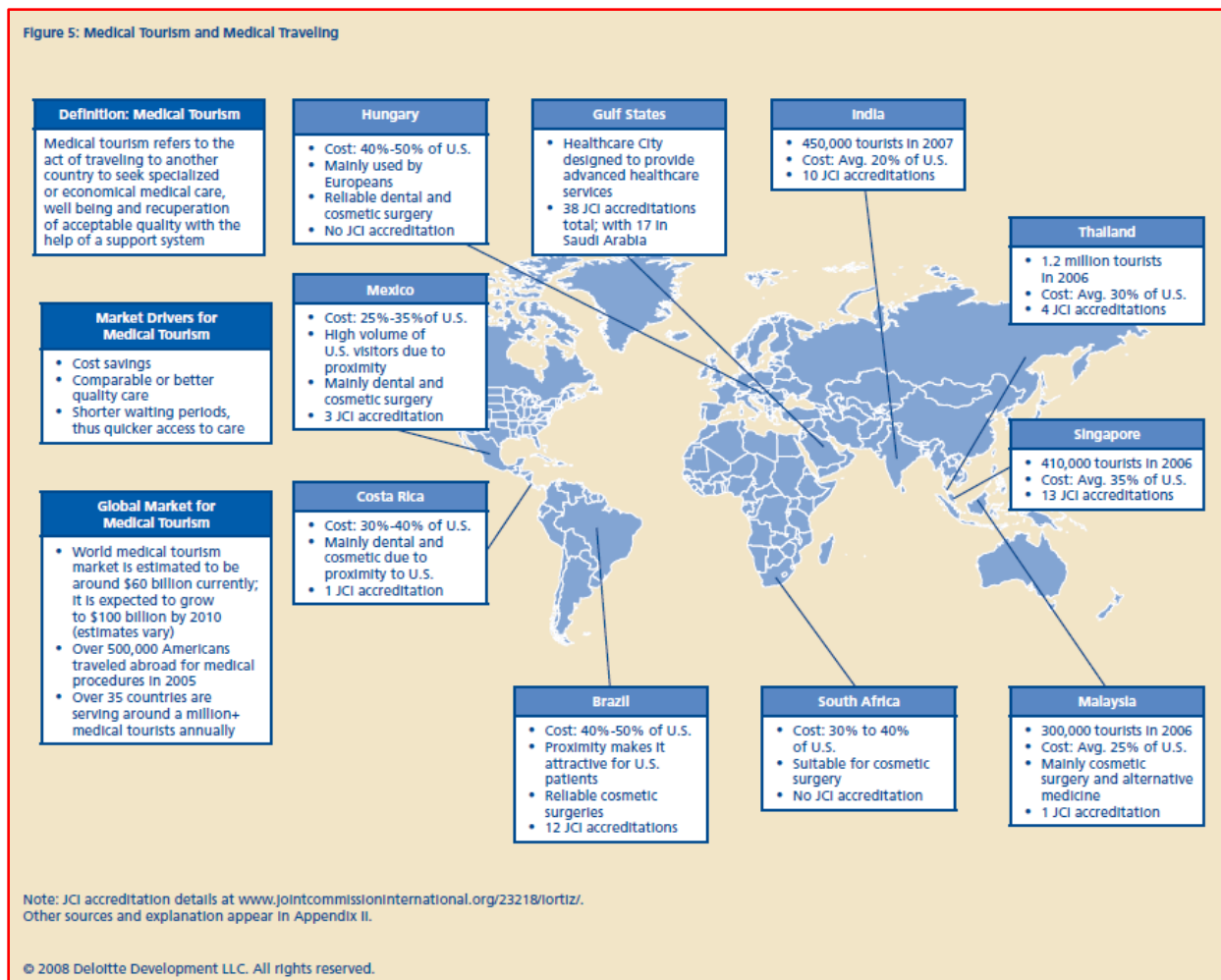
### 2. Theme – “Medical Tourism in India”

#### Abstract:

*The case study commences by explaining the meaning of health and medical tourism. It brings to notice the fact that whilst medical tourism may be a relatively nascent and new industry, the concept has existed for centuries. The case highlights the countries that are destinations for medical tourism and argues that affordability, cost effectiveness and quality of services provided are the primary reasons why patients from developed countries are using medical tourism. The study ends by focussing on the medical tourism industry of India in which alternative, non invasive forms of medicine offered by India are discussed.*

Travelling is a natural human instinct. People travel across the globe for leisure, work, study and health. The WHO (World Health Organization) defines health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’. According to the IMTJ (International Medical Travel Journal) - medical tourism is the broadest of all possible categories of travel related to health. Medical tourism is defined as the providing of cost effective medical services in collaboration with the tourism industry for patients needing surgical and other forms of special treatment. Medical tourism may be a nascent industry but the concept is very old. Florence Nightingale in her letters written in 1856 explained the dietary and physical conditions of some patients to doctors in Turkey. She wanted these patients to be treated in the spas of Turkey as similar treatment was expensive in Switzerland. During the eighteenth century, wealthy Europeans used to visit health resorts in North Africa. But in the last decade, travelling for health purposes has increased tremendously and has led to a plethora of opportunities for countries with medical infrastructure, trained manpower and easy connectivity with the world. According to a report by Deloitte, travelling across borders for medical purposes is a 40 billion dollar market and is growing at 15% annually. There has been an immense increase in the medical tourism industry worldwide of \$ 60 billion in the last 8 years, as indicated in the simple bar diagram (Fig. 2). These facts only point towards the increasing popularity of medical tourism in the world.

There are many favourite destinations in the world for medical tourism. Ten such destinations have been identified by Deloitte in its report on Medical tourism, as depicted in the world map.



Source: Deloitte Report on Medical Tourism

Figure-1: A World Map showing the 10 most preferred destinations for medical tourism.

As you observe the map carefully you will find most of these destinations are developing countries like India, South Africa, Brazil, Mexico, Thailand, etc. Cost of treatment here is much lower than in a developed country. In fact the cost of medical tourism is the lowest in India. On an average any treatment in India can be done at only 1/5<sup>th</sup> of its cost in the USA, followed by Mexico and Malaysia. It is also clear from above that patients travel for a variety of reasons ranging from cosmetic surgery, to dental treatment. Going back to another term recurring in the map is JCI. **What is JCI?** JCI is the Joint Commission International body launched in 1994 to evaluate the uniformity and safety of patients travelling for medical treatment. The organization reviews the facilities provided by the hospitals and then issues an accreditation certificate. JCI has so far approved and accredited 120 hospitals all over the world. There are several other organizations like ISQUA (International Society for Quality in Health Care) which do the same task of ensuring uniformity of services in medical treatment.

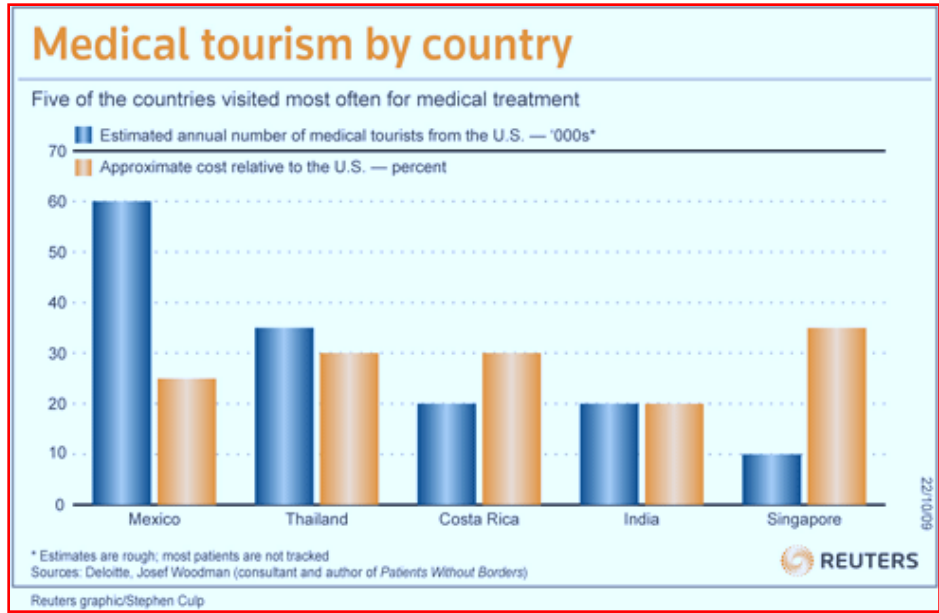


Figure-2: A multiple bar diagram showing comparative cost and medical tourism in select countries-in comparison with the US.

**What do you find in common amongst these destinations? Isn't the cost of treatment much less?** The multiple bar chart above shows a comparison between the cost and number of patients visiting five different countries. These are the popular destinations not only for the US citizens but also for all medical tourists across the world coming from Europe and Middle East. The diagram clearly brings out the popularity of Mexico because of the distance and cost, while a developed country like Singapore attracts lesser patients due to higher cost. **Will it be correct to conclude that maximum no. of out patients from the USA visit Mexico and Thailand, while the cost is least in India?**

**Do you observe any irony in the concept of medical tourism?** Yes there is an irony. The citizens from the developed countries come to the developing countries for treatment. It is well known that the developed countries have the best, state of art health facilities and infrastructure, then **why do patients from developed countries flock to the developing countries even though there are flaws in the system?**

We need to look into the pitfalls of the Medical Tourism industry. Since patients come for treatment and then go back to their own country, it is difficult to conduct a follow up. If any side-effects develop, then it is not always possible to get medical support. Most of the insurance companies don't pay upfront and hence the patients have to pay in cash from their own pocket. The laws and implementation in developing countries is weak and hence no recourse can be found in the event of a mishap, by the patient. Yet these patients prefer to travel due to the following reasons-

- ☆ The cost of medical treatment is several times more in their native country, about 3 to 4 times more.

- ☆ The employers and patients don't have to pay for expensive medical insurance as they avail of medical tourism.
- ☆ There is shortage of medical personnel in the native countries which causes delay in treatment and a long waiting time.
- ☆ The accreditation of hospitals assures the patients of quality services.
- ☆ The attractive packages offered by the medical travel companies lure them. These include travelling cost, accommodation, treatment expenses, post-operative care expenses and a holiday to recover.

*Cost is the most important determinant of medical tourism as far as the flow of patients from developed to developing countries is concerned.*

As the medical tourists have a great deal to gain, the incidence of medical tourism is constantly on the rise. The graphs below explain how the out-patients from the USA are increasing in leaps and bound, from less than 5 million to 15 million between 2007 to 2012.

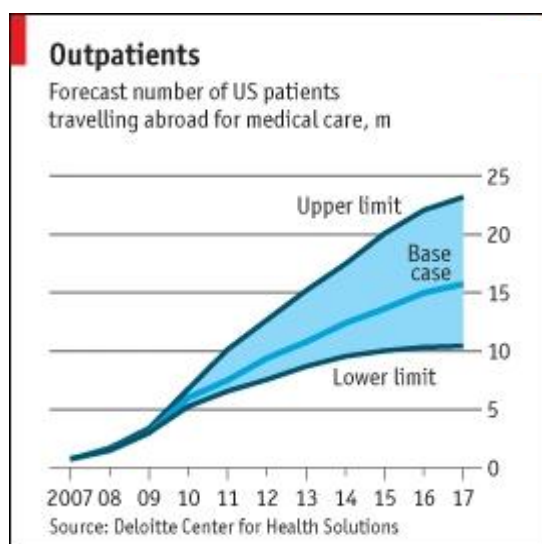


Figure-3: Forecast reg. number of US patients travelling abroad for medical care

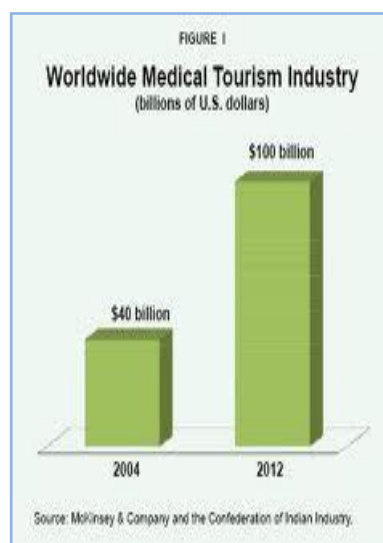


Figure-4: Worldwide medical tourism industry

It is interesting to note that patients travel from different countries for different reasons. Those who come from USA and other European countries look for life saving surgeries like facelift, dental treatment, and cosmetic surgery. This is primarily because such treatments don't get covered by their insurance companies. The reason for the European patients to travel for medical treatment is again unique. In Britain, for instance, free health care treatment is provided to all the citizens under the National Health Service programme. It was setup in 1948 and is struggling today to cope with the shortage of both doctors and hospital beds. Private treatment is limited and expensive. Patients have to wait for 3 months or more for getting a surgery like hip replacement or cataract operation. It is difficult to wait all the time and hence these patients travel abroad for medical treatment. The patients flock out of the rich Middle East countries as specialized medical facilities are unavailable



in their country. They travel for diverse services—from open heart surgery to problems of infertility. Many patients come to India from Nepal, Bangladesh and Pakistan as well for want of better medical infrastructure in their native countries.

By now we have gathered enough interest in the topic to find out **how medical tourism takes place.**

Look at the pictorial flow chart given below, (fig.5). These are the steps involved in the process of medical tourism. At first the patient researches the best possible treatment options in the world. He/ she then files an application for becoming a medical tourist. The form submitted with the moderator or travel agent or travel company will contain the place, time, payment and other preferences. The moderator responds, answers queries about packages and the payment details are finalized. Once the payment is done the treatment will commence.

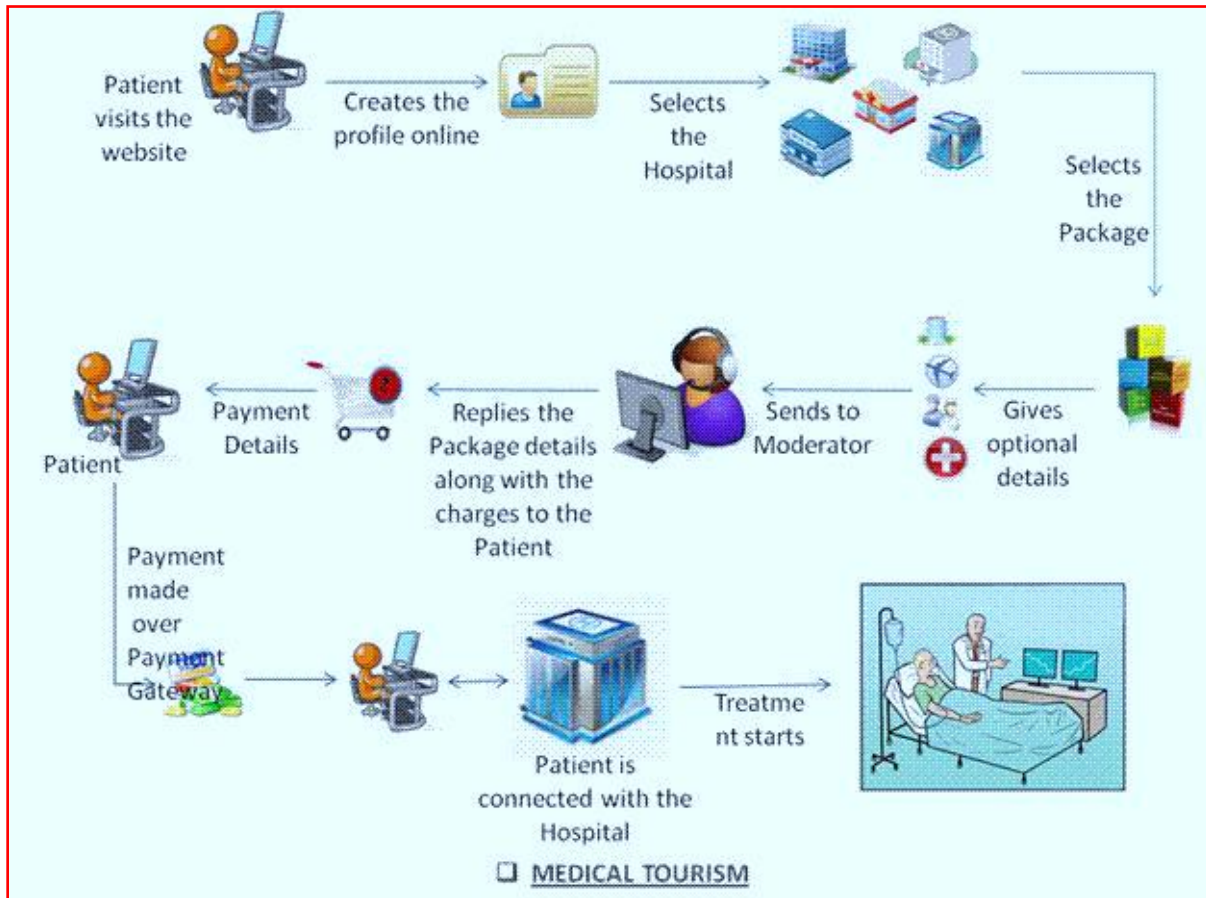


Figure-5: A pictorial flow chart showing process of how to become a medical tourist.

So you see the process is certainly not complicated. It is just booking an appointment with the medical specialist well in advance. The tedious task of booking tickets, accommodation, and paper work is all done by medical travel companies. This industry in itself sparks the growth of many other industries like hospital industry, medical equipment, travel industry and pharmaceuticals.



Now let us turn towards the Indian medical tourism industry. Syed Abdul Basir brought his 10 months old daughter from UAE to India for a heart surgery. John came from USA to get a hip replaced. Lisa flew down from UK to get a liposuction surgery. All these and many more patients come to India throughout the year to ease their medical problems. They are popularizing “medical tourism in India.

The Indian health sector is developing a new arm to cater to the interest of foreign patients. These are people of all ages and gender. They mostly come for heart surgery, knee replacement, cosmetic surgery, bone marrow replacement and dental care. Most patients come from the neighbouring countries, Middle East, USA and UK. The following is a clipping from an article printed in the Financial Express on 4 January, 2009, ‘A Sweet-Bitter Pill’. This data states the current status of medical tourism in India.

<b>Mapping the growth path</b>					
	SAARC	Africa	MiddleEast	US	Europe
No. of Medical Tourists in India	43,500	16,000	18,000	13,000	13,000
Exp GrowthRate	10%	10%	15%	20%	20%
Motive for Travel	Lack of facilities	Lack of facilities	Better quality care	Cost	Long waiting period
International Competition	Singapore, Thailand	Europe, US, Singapore	Dubai, Europe, US, Thailand	Latin America, Singapore	Turkey, Dubai
Pricing Premium	—	—	50%	100%	100%
Overall Attractiveness	★★	★	★★★★	★★★★	★★★★

Source for graphs: Feedback Ventures, Healthcare Advisory Practise

Figure-6: The growth of medical tourism

### What do you understand from the above table?

The obvious conclusion is that India has many advantages as a medical tourist destination. Though cost of any medical treatment is a decisive factor, the quality of medical care is also important. As can be seen, medical tourists from the USA, UK and Middle East enjoy a huge cost benefit. According to a report of IMTJ (International Medical Travel Journal) on medical tourism the medical costs are the lowest in India, about 20% of average expenses incurred in the USA. The popular slogan is that India provides ‘first world treatment at third world prices’. For instance the cost of a heart surgery in India is \$8000 while in the USA the surgery will cost \$25000 and in the UK it costs \$28000. NABH India (National Accreditation Board for Hospitals and Healthcare) classifies and approves select medical services and hospitals; it works in co-operation with the JCI. India has world class medical facilities, comparable to any western country of the world, 15,000 hospitals and over 8,70,000 hospital beds 30,000 doctors and nurses are added each year to the existing pool of 14 lakh doctors



and nurses. State of the art hospitals like AIIMS, Christian Medical College, Tata Memorial Hospital, Apollo hospitals, just to name a few are providing various specialities like Paediatric, Neurology, Dermatology, Dentistry, Plastic surgery, Gynecology, Pulmonology, ENT and many more . Based on the analysis provided in the research report of RNCOS (Research and Industry Data Analysis Company) 'Booming Medical Tourism in India', the medical tourism industry is expected to register a CAGR (Cumulative Annual Growth Rate) of more than 20% during 2013 to 2015. It is anticipated that India's share in the global medical tourism industry will climb to 2.4% by 2012. In an article dated 27th June 2013, the Economic Times stated that as many as 400,000 foreigners travelled to India in 2012 for health treatments, making it the fifth most-visited country for medical tourism. Also high-difficulty operations such as coronary artery bypass, graft surgery were successfully performed in India. The cost of such operations was 90% less expensive in India than in the west. Moreover the recessionary trends in the west had only added to India's popularity. Since foreign currency is more powerful than the rupee, it is cheaper for them to get these surgeries done in India. Many private information agencies in India are offering attractive packages to the medical tourists, which include customised travel, post-operative treatment itineraries, a holiday destination and accommodation facilities.

Alternative forms of traditional medicines like Ayurveda, aromatherapy, yoga, pranic healing and the like are also becoming popular with the patients. These are non-surgical treatments for various ailments. For example Kerala Ayurveda centres have been established at multiple locations in various metro cities. The health tourism publicity also showcases the advantages of this traditional form of medicine. There are over 7 lakh registered practitioners who are catering to the needs of traditional healthcare.



### **Ayurvedic Medicines**

**Ayurvedic Medicines** have also entered the wellness services through spas and Ayurvedic massages. These give India an edge over other Asian countries. The patients are attracted to the personal care, immediate operative facilities and this is adding to the popularity of India as a preferred destination for health treatment.



A study by CII (Confederation of Indian Industries) and McKinsey Consultants in 2005 estimated that India had the capability to attract one million medical tourists annually and could add \$ 5 billion to the country's income. In an article of the Financial Express 2012, it was anticipated that India could be hosting 24 lakh medical tourists by 2020, almost four times the number it catered to in 2010. And that's not all. The figure is projected to rise to 49 lakh tourists by 2025, according to an estimate by Technopak. However, in order to achieve any of these targets, the health industry needs to promote its hospitals and allied services abroad and improve upon its transport facilities, especially air connectivity, to the metros.

Indian medical tourism industry's phenomenal growth is fuelled by quality, availability and cost factors. It is surely on its way to making India a Global Health Destination.

### Sample Questions:

1. Is it correct to state that development of Medical tourism has led to the development of many other trades? Justify your stand. (5)
2. What additional measures need to be taken to promote the medical tourism industry in India? (5)

### Marking Scheme

#### Question 1:

Outline Answer	Value Points	Marks
<ul style="list-style-type: none"> <li>★ Yes, medical tourism has led to other trades being developed.</li> <li>★ Patients come both as tourists and patients</li> <li>★ For patients- medical infrastructure especially private sector has developed</li> <li>★ Development of medical equipments, consumables- manufacturing. Distribution of these through trades – wholesale markets.</li> <li>★ Educational institutions required to train people in these fields</li> <li>★ To improve tourism – need for better infrastructure               <ul style="list-style-type: none"> <li>– Airlines travel</li> <li>– Rail- road linkages therefore, construction industry</li> <li>– Food industry- need for chefs/servers/helpers</li> <li>– Guides to tourist places</li> <li>– Hotels</li> </ul> </li> <li>★ Any other relevant trades that the students can justify.</li> </ul>	Explanation of ancillary trades  Justification & Reasoning  Conclusion	2  2  1



**Question 2:**

Outline Answer	Value Points	Marks
☆ Improvement in supporting infrastructure such as rail-road linkages	Explanation of measures to promote medical tourism industry	2
☆ Improvement in manufacturing of medical equipment/ consumables	Justification & Reasoning	2
☆ More hospitals to be accredited to JCI.	Conclusion	1
☆ Marketing of alternative methods of medication - Ayurvedic, Yoga, Yunani, Homeopathy		
☆ High quality staff		
☆ Any other relevant measure that is justified by the student		