

CASE STUDY

You are a District collector of a district, which is famous for water intensive textile industries. The district is facing a severe drinking water crisis due to which the municipal corporation sells fresh water to the industries at high prices, which is reducing the competitiveness of the industries.

Further, the waste water generated by industries is full of a variety of dyes and chemical additions. The city is also facing a challenge of solid waste management. Both textile industries and household waste are the major contributors in solid waste generation. Several regulations have been issued for the segregation of dry and wet waste at the household level but to no avail. The landfill sites face frequent fires resulting in air pollution. The poor condition of the city is affecting the well-being of the residents.

What are the issues and dilemmas involved in the case? What measures would you take to resolve the issues faced by the residents?

Approach:

- Identify the stakeholders.
- Identify the issues and dilemmas in the case.
- Suggest measures to resolve the issues.
- Conclude appropriately.

Answer:

Stakeholders

- Me, as a district collector
- Industrialists of the district
- General public of the district

Issues involved in the case

- Severe drinking water crisis.
- Decline in competitiveness of the textile industries due to high cost of water.
- Waste water generated by textile industries.
- Solid waste management.
- Attitude of residents towards segregation of dry and wet waste.
- Fire in landfill sites causing air pollution.
- Adverse impact on well-being of the residents.

Ethical dilemmas involved in the case

- Economic progress Vs. Environmental sustainability
- Competitiveness of industries Vs. Drinking water requirements of the residents

Measures to resolve the issues

- **Severe drinking water crisis and high cost of water for textile industries and waste water generation.**
 - I will establish sewage treatment plants, which will convert sewage into potable drinking water.
 - I will write to the government for funding for the sewage treatment plants.
 - I will also try to get funding through public private partnership mode or ask the big industries for CSR.
 - Considering that people may feel hesitant to drink it knowing that the sewage has been treated scientifically to make it potable, I will try to arrange supplying this treated water for industrial use at a lower price than that of fresh water.

- It will be a financially sustainable project.
- With the establishment of the sewage treatment plant there will be no diversion of drinking water for non-potable purposes.
- I will issue regulations for the industries after negotiating with them for reducing waste water quantity by adopting water saving equipment, reduction in waste concentration by recovery and reuse of chemicals or process modification, etc.
- I will persuade them to use of eco-friendly chemicals or dyes.
- This will resolve the dilemma of- Competitiveness of industries Vs. Drinking water requirements of the residents.

- **Solid waste management and fire in landfill sites**
 - **For households**
 - To manage the biodegradable waste, I will try to set up Biomethanation plants across the city to generate biogas that will generate electricity and enriched organic manure from waste.
 - These plants will help reduce the frequent fires at the landfill sites.
 - I will also run a campaign to encourage houses to construct their own biogas plants and use it for part of their cooking.
 - The biogas generated can be used to generate electricity that can be linked to the grid. This will also help in providing cheaper electricity to the textile industries increasing their competitiveness.
 - **For industries**
 - I will write the government for introducing solar sludge drying technology to address sludge disposal problems.
 - The sludge dried also has good calorific value which can be used as a fuel.
 - Also, an effort can be directed towards introduction of high efficient and compact Fiber Disc Filtration technology to trap suspended solids.

 - I will request the state government or through the state government to the ministry of housing and urban affairs for sanction of amount for the project from urban development fund.

- **Attitude of residents towards segregation of dry and wet waste.**
 - Corporations will be encouraged to generate awareness among the residents regarding the benefits of segregation of waste through various advertisements, schemes and incentives etc.
 - Focus on behavior change of residents is required, which can be achieved through stricter laws/rules imposing fines.

- **Well-being of the residents.**
 - Availability of drinking water, employment in textile industries as they become competitive, reduction in solid waste and air pollution will help to promote physical, social, and psychological well-being of residents.
 - Further, I will make an effort to implement all the existing schemes of the government in its letter and spirit in the district.
 - I will also make an effort for building a sports stadium or public parks in the places from where landfills have been removed.
 - All the above steps will provide a healthy and wealthy environment to the residents promoting their overall well-being.