Section 1 Background Information

1a) Case Study

Unstopable Wetland Development:
The Heaven of Birds in Deep Bay is in Grave Danger!

Development in the Northern New Territories and the Deep Bay area is increasingly frequent. The controversial Northeast New Territories development, the land use and conservation problems following the opening up of the Frontier Closed Area, and the Lok Ma Chau Loop development have all attracted public attention.

Last month, the government launched the finalized development plan of Lok Ma Chau Loop, and plans to develop it into a 'tertiary education hub'. Conservationists staged a sit-in protest the government headquarters, claiming that the Loop situates in-between the Wetland Conservation Area (WCA) and Hoo Hok Wai, in which large areas of fishponds can be found. The government’s development plan has neglected the integrity of wetlands inside Inner Deep Bay.

Conservationist Mr Green explains that Deep Bay, which covers an area of 2,700 hectares, was originally brackish red rice paddy and marshes. This was subsequently changed to gel wal shrimp ponds and fishponds. The area now contains large natural and artificial wetlands that provide shelter and supplies for tens of thousands of migratory birds. The area has seen more than 400 species of wild birds, including many globally threatened or endangered species. Due to the area's high ecological value, the government set up the Mai Po Nature Reserve in the 1980s, and it signed the Ramsar Convention in the 1990’s, which implemented the policies of a Wetland Conservation Area. These policies contribute to the conservation of our wetland ecology.

Mr Green criticized that the Loop development is a very reckless decision by the Hong Kong government. Its implementation will affect the route of the birds' flight between fishponds in Hoo Hok Wai and the wetlands in the Deep Bay area. He urges the government instead to optimize the ecology in the Loop, or even include Hoo Hok Wai into the Wetland Conservation Area.

Fishpond operators in Hoo Hok Wai are very worried about the effect of the development. The plan to include Hoo Hok Wai in the section planned for development may destroy their livelihood.

The Chief Executive listed the Loop development as one of ten major infrastructures proposed in his 2007 policy address. A public consultation found that most supporters preferred that the area should be developed for higher education. A number of universities and colleges agree, and they believe the development would help Hong Kong to maintain its competitive edge in higher education, supply more space for students, and could offer the possibility of future collaboration with schools and students from mainland China. Residents near the Loop have revealed their support for the plan as they believe the development will create more employment opportunities.

The government has expressed that they have considered all concerns, and that the development outline now balances the requirements of different parties. They state that site formation works are expected to start by the end of the year and that they expect to provide land for progressive development from 2016 to 2018.
Unstoppable Wetland Development:
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1920-1960:
Deep Bay was originally brackish red rice paddy and marshes, which was changed to gel wal and fishponds in the 1940s and 1960s respectively.

1995:
The government signed the "Ramsar Convention", and added the 1,560 hectares of land in Deep Bay into the "Mai Po and Inner Deep Bay Ramsar Site".

2013:
The Frontier Closed Area of Lok Ma Chau opened. The government announced the finalized outline of development for the Loop, which mainly involves development for higher education, in association with high-tech research and creative industries.

1976-1983:
The government listed Mai Po as a "restricted area" and a "Site of Special Scientific Interest" and it established "Mai Po Nature Reserve" to conserve the ecology of Deep Bay.

2007:
The Chief Executive listed the Lok Ma Chau Loop development as one of ten infrastructure projects proposed to stimulate economic growth in his Policy Address.

(This story is modified based on true incident, yet the characters and their comments are sheer fabrication.)
Hi everyone, I'm Forrest. The rapid urban development across Hong Kong in recent years has caused a negative impact to our society and our natural environment. To help you learn more about this, I will guide you to use critical thinking skills while we investigate, and I will teach you more about the concept of sustainable development in the process.

The NEED

The government is planning to develop the Lok Ma Chau Loop into a "tertiary education hub". You will now act as town planner interns employed by an independent agency to provide rational and objective opinions about the development project. You will investigate the Mai Po Nature Reserve in the Loop with your

1c) Field Study Map

[Map of the area showing key points such as Inner Deep Bay, Mai Po Nature Reserve, Tam Kon Chau, Mangrove, Lut Chau, Fairview Park, Castle Peak Road, Tam Kon Chau Road, San Tin Highway, Wo Shang Wai, Palm Springs, and Lut Chau.]
**Section 2 Checkpoint Mission**

**Checkpoint 1  AFCD Information Board**

1. With reference to the AFCD (Agriculture, Fisheries and Conservation Department) Information Board of the ‘Mai Po and Inner Deep Bay Ramsar Site’, link up these numbers with their corresponding descriptions.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>The year when the Mai Po Marshes and Inner Deep Bay were identified as the Ramsar Site.</td>
</tr>
<tr>
<td>20,000</td>
<td>The standard population of waterbirds in the region, one of the assessment criteria of ‘Ramsar Convention’.</td>
</tr>
<tr>
<td>350</td>
<td>The annual average number of waterbirds in the region.</td>
</tr>
<tr>
<td>300</td>
<td>The size of the largest mangrove area in Hong Kong and the Pearl River.</td>
</tr>
<tr>
<td>100,000</td>
<td>The number of globally threatened and near-threatened species that live in the region.</td>
</tr>
<tr>
<td>35</td>
<td>The area (in hectare) of inter-tidal mudflats within the region.</td>
</tr>
</tbody>
</table>

**Checkpoint 2  3-storey Tower Hide**

1. There are various conservation zoning boundaries in Deep Bay. Please match the names with their corresponding boundaries shown on the map.

   - A: Boundary I — WCA
     - Boundary II — WBA
     - Boundary III — Ramsar
   - B: Boundary I — WBA
     - Boundary II — WCA
     - Boundary III — Ramsar
   - C: Boundary I — WBA
     - Boundary II — Ramsar
     - Boundary III — WCA

"Urban Planner @ Deep Bay" Student Worksheet (Reference Answer)
Checkpoint 3 Fishpond

1. Observe the fishpond in front of you. Select 5 correct sentences below.

- Fish farmers use machinery to assist in managing the environment of fishponds.
- A fishpond is not considered wetland.
- In Hong Kong, the only operational fishponds can now be found in Mai Po.
- Migratory birds forage in fishponds.
- All the fishponds are freshwater ponds.
- All the dried up fishponds are abandoned.
- Fishponds with regular drain-down and sun drying have higher ecological value.
- The large amount of pond fish imported from China reduces the income of local fishpond operators.
- Fish farmers sprinkle the bottom and the wall of ponds with lime powder to prevent growth of plants.
- In 2011, the local pond aquaculture production accounted to about 5% of the local freshwater fish consumption.

2. Fairview Park is in close proximity to the Mai Po Nature Reserve. Try to find the shortest distance between two places from the information provided in the map below.

- A: 10m
- B: 45m
- C: 100m
- D: 450m
Checkpoint 4  Floating Bird-watching Hide

1. Take a look at the aerial photo below. Pay attention to the area marked “Futian Mangrove Nature Reserve” and state the differences between Hong Kong and Shenzhen’s conservation planning methods.

(Marks can be given if students could state the difference.)

Reference answer:
In Hong Kong, a land width of 500m along the landward boundary of the “Wetland Conservation Area” (WCA) is included in the “Wetland Buffer Area” (WBA). Ecological Impact Assessment has to be done for any development project within the area.

“Futian Mangrove Nature Reserve” is close to the city of Shenzhen with little or no buffering zone.

Checkpoint 5  Rain Shelter

Okay everyone. We’ve studied different views from stakeholders. And now, it’s time for you to complete your task. Please base your opinion on the information you’ve just received and start the group discussion:

The government is planning to develop the Lok Ma Chau Loop into a “tertiary education hub”. Now you will act as urban planner interns employed by an independent agency. You are required to provide rational opinions, as well as suggestions for improvements to the development plan.

Marks can be given if answers are reasonable.