1. "Andhra Pradesh's reliance on public debt to finance its development projects has been increasing. Discuss the advantages and disadvantages of this strategy, and analyze the long-term sustainability of the state's debt burden. What measures can be taken to manage public debt more effectively?"

Public debt essentially refers to the total amount of money that a government owes to its creditors. Andhra Pradesh State incurred a debt of Rs 9,74,556 lakh crores. Andhra Pradesh's increasing reliance on public debt to finance development projects presents a complex scenario with both advantages and disadvantages.

Advantages of Public Debt-Financed Development:
1. Infrastructure Development: Borrowed funds enable the state to invest in essential infrastructure projects, such as roads, ports, and power facilities, which can stimulate economic growth and attract private investments.

2. Social Welfare Programs: Public debt allows for the implementation of social welfare schemes like NTR Aarogya Sree, Thalliki Vandanam, Annadata Sukhibhava aimed at improving health, education, and livelihoods, thereby enhancing the overall quality of life for residents.

3. Economic Stimulus: In times of economic downturns or unforeseen challenges, such as natural disasters, public borrowing can provide the necessary stimulus to revive economic activities and support affected communities.

Disadvantages of Increasing Public Debt:
1. Debt Servicing Burden: A significant portion of the state's revenue is allocated to servicing existing debt. In the fiscal year 2024-25, Andhra Pradesh is projected to require ₹46,633 crore for debt servicing, indicating a substantial financial commitment that could limit funds available for other developmental needs.

2. Fiscal Imbalance: Continuous borrowing without corresponding revenue growth can lead to fiscal deficits, potentially resulting in a situation where new borrowings are used primarily for repaying existing debts rather than funding new projects.

3. Credit Rating Implications: Escalating debt levels may adversely affect the state's credit rating, making future borrowings more expensive and potentially limiting access to additional funds.

Long-Term Sustainability of Andhra Pradesh's Debt Burden:
- The sustainability of Andhra Pradesh's public debt is a growing concern. Between 2018-19 and 2022-23, public debt increased at an average rate of 16.5%.
- Notably, the state's own tax revenue experienced a compound annual growth rate (CAGR) of -6% during the same period, indicating a decline.
- Additionally, committed expenditures as a percentage of revenue receipts rose from 57.5% in 2018-19 to 64.6% in 2022-23. These trends suggest that a significant portion of the state's revenue is being consumed by obligatory expenses, leaving limited fiscal space for development initiatives.
- Furthermore, a NITI Aayog report highlighted that Andhra Pradesh's debt sustainability reached zero for the fiscal year 2022-23, implying that the state is struggling to meet its debt obligations.

This situation could lead to potential downgrades in credit ratings, further exacerbating financial challenges.

Measures for Effective Public Debt Management:
1. Enhancing Revenue Generation: The state should focus on broadening its tax base and improving tax collection efficiency to increase its own tax revenue. This could involve leveraging technology for better compliance and exploring new revenue streams. For instance, The Andhra Pradesh state government, on Friday (February 28, 2025), presented the annual budget for the financial year 2025-26 with a total outlay of ₹3,22,359 crore. Of this, revenue expenditure is estimated at ₹2,51,162 crore, and capital expenditure at ₹40,635 crore.

2. Expenditure Rationalization: Conducting a thorough review of existing expenditures to identify and eliminate inefficiencies can help in reallocating resources to priority sectors.

Implementing performance-based budgeting could ensure that funds are utilized effectively. For instance, revenue expenditure is estimated at ₹2,51,162 crore, and capital expenditure at ₹40,635 crore in the 2025-26 budget.

3. Prioritizing High-Impact Projects: Allocating borrowed funds to projects with high economic returns can enhance the state's capacity to service its debt. Rigorous cost-benefit analyses should be conducted to select projects that offer substantial long-term benefits. For instance, The Budget proposes to allocate ₹19,264 crore for the Health, Medical and Family Welfare Department for 2025-26, and the finance minister said that the government was ready to start the Amaravati project on a grand scale. ₹6,000 crore is shown as allocation for Amaravati project.

4. Strengthening Fiscal Responsibility Legislation: Revisiting and reinforcing the Andhra Pradesh Fiscal Responsibility and Budget Management (FRBM) Act can provide a structured framework for fiscal discipline, setting clear targets for deficit and debt levels. For instance, Fiscal deficit for 2024-25 is targeted at 4.2% of GSDP (Rs 68,743 crore), as compared to 4.3% of GSDP at the revised estimate stage in 2023-24.

5. Exploring Public-Private Partnerships (PPPs): Engaging the private sector in infrastructure and service delivery through PPPs can reduce the immediate fiscal burden on the state while still advancing development objectives. For example, the budget announced a ₹2,000 crore corpus fund for Viability Gap Funding for PPP projects in the 2025-26 budget.

While public debt can serve as a tool for development, its prudent management is crucial to ensure long- term fiscal sustainability. Andhra Pradesh must adopt a balanced approach, focusing on enhancing revenue, rationalizing expenditures, and making strategic investments to mitigate the risks associated with rising debt levels.

2. Evaluate the status of forest resources in Andhra Pradesh and their role in environmental conservation and livelihoods.

The State is ranked 8th in terms of the Recorded Forest Area (RFA) which is 37,258 sq km. Reserved Forest, Protected Forest and Unclassed Forest constitute 31,959 sq km, 5,069 sq km and 230 sq km of the RFA respectively.

Positive Aspects:
- **Recent Increase in Forest Cover:** As of February 2025, the state witnessed an expansion of approximately 95.59 square kilometres in forest cover across 10 districts. Notably, Vizianagaram and SPSR Nellore districts recorded the highest increases, with 35.35 sq. km and 17.77 sq. km, respectively.
- **Mangrove Conservation Efforts:** Andhra Pradesh has about 3,188.74 hectares of mangrove forests, which play a crucial role in coastal protection and biodiversity. For instance, between 2021 and 2023, the state experienced an increase of 12.39 square kilometres in mangrove cover, reflecting successful conservation initiatives.

Challenges/ failures:
- **Decline in Forest and Tree Cover:** Despite recent gains, the combined forest and tree cover in Andhra Pradesh decreased from 35,470.98 sq km in 2021 to 35,424.98 sq km in 2023, marking a loss of 46 sq km.
- **Deforestation Concerns:** In 2020, Andhra Pradesh had 2.46 million hectares of natural forest, covering 15% of its land area. However, the state lost 6.67 thousand hectares of natural forest, leading to 2.87 million tonnes of CO_2 emissions.

Role of Forest Resources
In Environmental Conservation:
1. **Biodiversity Preservation:** The state's forests, particularly the Eastern Ghats, are rich in biodiversity, serving as habitats for numerous endemic plant and animal species. For example, Krishna Wildlife Sanctuary, Koller lake and Pulicat Lake.

2. **Mangrove Ecosystems:** Andhra Pradesh encompasses approximately 3,188.74 hectares of mangrove forests, which play a crucial role in coastal protection, acting as natural barriers against erosion and extreme weather events. For example, Coringa Wildlife Sanctuary.

In Livelihoods:

1. Community Engagement: The state has implemented the National Afforestation Programme (NAP), which empowers Joint Forest Management Committees (JFMCs) at the village level.

This initiative promotes community involvement in forest conservation and management, providing local populations with opportunities for sustainable livelihoods. For instance, TREE Foundation's primary focus is marine conservation. Olive Ridley turtles nest along the sandy beaches of the East coast of India and share their offshore habitat with hawksbill turtles and green turtles. Since the 1970s, there has been a 90% reduction in nesting numbers of Olive Ridleys.

2. Employment Generation: Afforestation and reforestation projects under schemes like the Green India Mission create employment opportunities in rural areas, contributing to poverty alleviation and economic development. For instance, In Andhra Pradesh, the "Arogyasri" scheme, which is part of the larger Green India Mission, has significantly generated employment in rural areas by initiating large-scale afforestation and reforestation projects, particularly in the Eastern Ghats region, providing local communities with opportunities for tree planting, nursery management, and forest protection, thereby contributing to poverty reduction and economic growth within these regions.

Andhra Pradesh focuses on diverse ecosystem protection through various conservation schemes. Key areas include forest (especially Red Sanders), wildlife, coastal, and water conservation. Initiatives like the Forest Fire Prevention & Management, Red Sanders Protection, Nagaravanam schemes, and national programs like the Green India Mission and Mission Amrit Sarovar, aim to enhance green cover and protect natural resources.