Decentralized Autonomous Organizations

Why in news?

Decentralized Autonomous Organizations (DAOs) represent a groundbreaking innovation at the intersection of blockchain technology and governance.

What is DAOs?

- **Legal structure**- It operates without centralized control and is governed by smart contracts and the consensus of its members.
- **Decision making**- It uses *blockchain technology* and smart contract to take decisions in a *bottom-up management approach*.

> *Blockchain is a type of shared database that differs from a typical database in the way it stores information, it store data in blocks linked together via cryptography.*

- **Community driven**-It is represented by rules encoded as a computer program that is transparent, controlled by the respective organization members, and not influenced by a government.
- **Smart contracts**- It executes predefined rules without the need for intermediaries, ensuring trust through code rather than traditional authorities.
- **Enhanced cooperation**- They enable global, borderless cooperation on an unprecedented scale.
- **Constructive engagement**-Participants, often referred to as token holders, can propose and vote on decisions related to the organization's goals and resources.
- **Self-executing systems**- This decentralized decision-making process ensures that no single entity holds undue influence.

What is the significance of DAOs?

- **Decentralization-** The authority of decision making is broad and made by a collection of individuals independent of third-party intermediaries.
- **Transparency-** In DAOs votes are cast via block chain and made publicly viewable.
- **Fosters trust-** As vote and their decisions will be made publicly viewable, this will incentivizes actions that will benefit voters' reputations and discourage acts against the community.
- **Inclusivity**-The concept of a DAO encourages people from all over the world to seamlessly come together to build a single vision.

- **Simplicity-**With just an internet connection, token holders can interact with other owners wherever they may live.
- **Versatility-** It demonstrates the potential to reshape industries across various sectors like finance, supply chain, governance etc.,

Applications of DAOs
• **Finance-** Platforms like Compound and MakerDAO have introduced lending and borrowing services, enabling users to participate in the global financial ecosystem without relying on traditional banks. • **Intellectual property protection**-In the art world, artists are tokenizing their creations and utilizing DAOs to manage royalties and maintain control over their intellectual property. • **Supply chain management**- DAOs offer transparency and traceability in global supply chains, ensuring the authenticity and quality of products. • **Online governance**- DAOs have emerged as tools for decision-making, with platforms like DAOstack facilitating decentralized governance structures for internet communities

What are the challenges of DAOs?

- **Lack of regulation-** It is a new concept and there is lack of regulation and legal frameworks to govern their use, this can create uncertainty and expose to legal risks.
- **Technical complexity**- They are built on block chain technology which is difficult and complex to understand.
- **Forgery-** Malicious actors could exploit vulnerabilities in smart contracts as they are transparent, use DAOs to launder money or engage in illegal activities.
- **Security breach-**DAO hack in 2016 exposed vulnerabilities in the code, leading to a contentious hard fork in the Ethereum block chain.

Hard fork refers to a change in a network's protocol that makes previously invalid blocks and transactions valid or vice-versa.

- **Lack of Accountability**- DAOs operate through a *consensus-based decision-making process*, which can lead to slower decision-making and potential conflicts among members.
- **Taxation compliance**- DAOs have to comply with various regulations such as Anti-Money Laundering and Know Your Customer further add layers of complexity to the legal framework
- **Dispute resolution-** It often rely on code-based solutions, present a unique challenge in the absence of traditional legal mechanisms.

What lies ahead?

- Stakeholders are working together to create legal frameworks that balance innovation with compliance for DAOs.
- DAO need to adhere to the complexities of the law while harnessing their transformative potential.
- It is crucial for regulators, developers, and participants to work collaboratively to

harness the full potential of DAOs while addressing their evolving challenges.

Reference

- The Hindu- DAOs shaping the future