**Positive Effects**

* **Remote sensing, drones, satellites** → real-time monitoring of forest cover, health, fires, and illegal logging.
* **GIS & GPS mapping** → precise planning for harvesting, roads, and reforestation with minimal ecological damage.
* **Big data & AI models** → predict forest growth, carbon storage, and climate impacts for better decision-making.
* **Blockchain & digital tracking** → certify and trace sustainable timber, reducing illegal trade.
* **Mobile apps & digital platforms** → enable community participation, reporting, and education.

**Negative Effects**

* **Advanced harvesting machines** → risk of overexploitation if not regulated.
* **Digital divide** → some communities lack access to advanced tools, limiting participation.
* **Overreliance on technology** → may weaken traditional ecological knowledge.
* **High costs & energy use** → drones, sensors, and data systems can be expensive and increase carbon footprints.