

# Weeds to Wealth

Published On: 22-09-2025

The "Weed to Wealth" initiative, launched under the *Waste to Wealth Mission* of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC), aims at turning problematic weeds like *water hyacinth* into valuable resources.

#### **Issues with Invasive Weeds**

#### 1Ecological Imbalance

oInvasive weeds like *water hyacinth*, *lantana*, *parthenium* outcompete native flora, reducing biodiversity and altering natural habitats.

## **2Loss of Agricultural Productivity**

oThey spread rapidly across farmlands, competing for nutrients, sunlight, and water, leading to yield loss and higher input costs.

oExample: Parthenium hysterophorus reduces crop output significantly.

## **3Water Resource Depletion**

oAquatic weeds like *water hyacinth* increase water evaporation and block sunlight, affecting fisheries and irrigation efficiency.

## 4Impact on Livelihoods

oFisherfolk, farmers, and communities depending on natural ecosystems suffer from reduced productivity and incomes.

## **5Public Health Hazards**

oSome weeds cause skin allergies, respiratory issues, and act as breeding grounds for mosquitoes, aggravating vector-borne diseases.

# **6Obstruction of Transport & Navigation**

oAquatic weeds clog waterways, affecting inland water transport and increasing maintenance costs of dams, canals, and reservoirs.

## 7Increased Disaster Vulnerability

oDense weed mats worsen flooding by obstructing water flow and damaging embankments.

## 8High Economic Burden

#### Kamaraj IAS Academy

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040

Phone: 044 4353 9988 / 98403 94477 / Whatsapp: 09710729833

oConsiderable financial resources are spent annually on weed management, yet complete eradication remains elusive.

# 9Threat to Forestry & Grazing Lands

oWeeds like *lantana* invade forests and grasslands, reducing fodder availability for cattle and threatening pastoral livelihoods.

## 10Climate Change Amplification

• Invasive weeds often thrive under changing climatic conditions, expanding into newer ecosystems and intensifying the problem.

# **Government Initiatives for Turning Weeds into Wealth**

- 1. Waste to Wealth Mission (PM-STIAC)
- Launched under the *Office of the Principal Scientific Adviser*, it promotes scientific solutions for converting waste (including weeds like water hyacinth) into bio-fertilizers, handicrafts, compost, and energy products.
- 2. "Weed to Wealth" Project (2021, Chhattisgarh pilot)
- Collaboration of **DST**, **UNDP**, and local SHGs for using *water hyacinth* to produce **cultural artifacts**, **briquettes**, **and compost**, empowering women and local communities.
- 2. National Mission on Biodiversity and Human Well-Being (NMBHWB)
- Encourages ecosystem restoration and sustainable livelihood creation through weed removal and conversion into useful bio-resources.
- 2. Swachh Bharat Mission (SBM 2.0)

1.

1.

1.

1.

1.

- Promotes circular economy approaches where weeds and organic waste are processed into manure and value-added products.
- 2. National Mission for Clean Ganga (NMCG)
- Engages in large-scale removal of aquatic weeds like water hyacinth and reuses them for composting, biogas generation, and handicraft production.
- 2. ICAR & State Agricultural Universities Initiatives
- Research on using invasive weeds (e.g., *Parthenium*, *Lantana*) for **vermi-compost**, **bio-fertilizers**, **paper pulp**, **and bio-char**.
- 2. National Rural Livelihood Mission (NRLM)
- Supports **Self-Help Groups** (**SHGs**) in converting weeds into handicrafts, ropes, mats, and eco-friendly products, enhancing women's entrepreneurship.

#### Kamaraj IAS Academy

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040 Phone: **044** 4353 9988 / 98403 94477 / Whatsapp: **09710729833** 

- 1.
- 2. Ministry of Environment, Forest and Climate Change (MoEFCC) Projects
- Promotes **eco-restoration of weed-infested landscapes** and community-based utilization of weeds like *Lantana camara* in furniture and crafts.

1.

- 2. State-level Initiatives
- Assam, West Bengal, and Kerala have launched water hyacinth handicraft clusters; Madhya Pradesh and Uttarakhand promote Lantana-based furniture making.

1.

- 2. Startup India & Atal Innovation Mission Support
- Encourages startups to innovate in **bio-processing of weeds** into energy (briquettes, pellets), sustainable packaging, and green construction materials.

## Way Forward for Enhancing "Weed to Wealth"

- 1. Strengthen Research & Innovation
- Promote R&D through **ICAR**, **CSIR**, **IITs** to develop cost-effective technologies for converting weeds into bio-fuels, compost, eco-materials, and pharmaceuticals.

1.

- 2. Community Participation & Livelihood Integration
- Train **SHGs**, **FPOs**, **and rural youth** in weed-based entrepreneurship to link weed management with income generation.

1.

- 2. Policy & Institutional Support
- Frame a **National Strategy on Weed Utilization** with guidelines for large-scale adoption under SBM, NMCG, and NRLM.

1.

- 2. Public-Private Partnerships (PPPs)
- Involve private companies and startups in scaling up processing units, branding weed-based products, and ensuring market linkages.

1.

- 2. Integration with Circular Economy & SDGs
- Align weed management with SDG 12 (Responsible Consumption & Production) and SDG 15 (Life on Land) by promoting zero-waste models.

1.

- 2. Skill Development & Capacity Building
- Incorporate **weed-to-wealth modules** under *Skill India Mission* to create a skilled workforce for sustainable weed management.

#### Kamaraj IAS Academy

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040

Phone: **044 4353 9988 / 98403 94477** / Whatsapp : **09710729833** 

1.

# 2. Awareness & Behavioral Change

• Conduct awareness campaigns to encourage communities to see weeds as resources rather than nuisances.

1.

#### 2. Incentives & Financial Mechanisms

• Provide subsidies, tax breaks, or carbon credits for enterprises engaged in weed-to-wealth projects.

1.

#### 2. Local Innovation Clusters

• Promote state-level **handicraft and bio-energy clusters** using locally abundant weeds like water hyacinth, lantana, and parthenium.

1.

# 2. Monitoring & Impact Assessment

• Establish mechanisms to track **ecological**, **economic**, **and social benefits** of weed utilization programs to replicate successful models.

#### Conclusion

Turning "weed into wealth" is not merely an environmental clean-up exercise but a transformative approach that integrates ecological restoration with socio-economic empowerment. By leveraging science, community participation, and circular economy principles, invasive weeds can be transformed from a liability into a resource that generates livelihoods, supports women's empowerment, and contributes to SDGs, Swachh Bharat Mission, and Atmanirbhar Bharat. With sustained policy support, innovation, and grassroots involvement, India can set a global example of how waste and weeds can become engines of sustainable development.