

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 2369**  
ANSWERED ON 12/03/2026

**TECHNOLOGY DELIVERY UNDER SUNIL PROGRAMME**

2369 SHRI SUJEET KUMAR:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) the institutional mechanisms under the Strengthening, Upscaling & Nurturing Innovations for Livelihood (SUNIL) Programme to ensure effective participation of CBOs, SHGs, and FPOs in grassroots technology delivery for EWS;
- (b) whether any sector-wise evaluation has been conducted on STI interventions in health, education, natural resource management and clean energy and if so, the key findings thereof;
- (c) the mechanisms to assess the long-term socio-economic impact of field-tested technologies implemented through the Land-Lab-Land model; and
- (d) the extent to which the programme has contributed to enhancing S&T knowledge, skills and capacity among rural and underserved communities?

**ANSWER**

MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE  
MINISTRY OF SCIENCE AND TECHNOLOGY & EARTH SCIENCES  
(DR. JITENDRA SINGH)

(a) The Strengthening, Upscaling & Nurturing Innovations for Livelihood (SUNIL) programme of the Department of Science and Technology (DST) follows a decentralized and participatory institutional framework to ensure effective participation of Community Based Organisations (CBOs), Self Help Groups (SHGs), and Farmer Producer Organisations (FPOs) in grassroots technology delivery for Economically Weaker Sections (EWS). The key mechanisms include participatory need assessment, technology co-creation, and field validation involving local communities; engagement of S&T based Knowledge Institutions of regional/ state/ national level & NGOs as implementing partners and presence of local organizations like Panchayats, cooperatives, voluntary groups, FPOs, SHGs etc. for last-mile delivery of scientific knowledge & locally appropriate technologies; capacity building and hand-holding through training, demonstrations, and exposure visits; convergence with State Governments, line departments, and other schemes & programmes of Govt. of India to strengthen outreach of S&T interventions, community ownership and long-term sustainability of the work supported under SUNIL programme.

(b) The project-wise assessments of Science, Technology and Innovation (STI) interventions supported under SUNIL programme have been undertaken through annual monitoring and periodic reviews by Expert Committee members. These evaluations have covered sectors such as Health, Education, Natural Resource Management, and Clean Energy. Key findings indicate:

- Improved access to affordable and appropriate health and sanitation technologies in underserved areas;
- Enhanced learning outcomes and digital inclusion through technology-enabled educational interventions;
- Adoption of sustainable practices in agriculture, water, and natural resource management;
- Increased uptake of decentralized clean energy solutions, contributing to livelihood generation and reduced environmental impact.

The projects supported under SUNIL programme follows livelihood-centric and multi-sectoral approach identifying needs of the local community and providing innovative, low-cost and user-friendly S&T based solutions to address the challenges in following livelihood sectors such as precision agriculture and farm automation, sustainability in traditional handicraft and handloom, supply chain optimization in on-farm and off-farm ventures and S&T driven eco-tourism for preserving natural ecosystems, supporting local communities, and promoting economy.

(c) The programme encourages the Land-Lab-Land approach of project implementation, first to identify regional/ local and livelihood-centric issues or challenges being faced by target population and then, deployment of adapted technologies & sustainable scientific solutions from Lab to field.

The long-term socio-economic impact of technologies implemented through the Land-Lab-Land (LLL) model is assessed through a combination of baseline and end-line surveys, outcome and impact indicators, beneficiary feedback, and independent evaluation studies. The parameters such as productivity gains, income enhancement, employment generation, social inclusion, and environmental sustainability are being assessed towards sustained benefits and scalability.

(d) The SUNIL programme has contributed significantly to enhancing S&T knowledge, technical skills, and innovation capacity among rural and underserved communities. This has been achieved through skill development and training programs, S&T inputs for entrepreneurship, improved access to appropriate technologies, and training of local community, women, and participatory institutions. The programme has enabled communities to adopt, adapt, and manage technologies independently, thereby strengthening local capacities and promoting inclusive and sustainable development.

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