

GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
LOK SABHA
UNSTARRED QUESTION NO. 1661
TO BE ANSWERED ON MARCH 6, 2018
PROMOTING AFFORDABLE HOUSING

No. 1661 SHRI G. HARI:

Will the Minister of HOUSING AND URBAN AFFAIRS be pleased to state:

- a) whether the Government is considering to give a big push to the prefab industry for promoting affordable housing;
- b) whether it is true that prefab is the way to go to solve the housing shortage in the country;
- c) whether a house can be built in just two hours with prefab product;
and
- d) if so, the steps taken/being taken by the Government in this regard?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF
HOUSING AND URBAN AFFAIRS
(SHRI HARDEEP SINGH PURI)

(a): Yes Madam. A Technology Sub-Mission (TSM) under Pradhan Mantri Awas Yojana (Urban) {PMAY(U)} Mission has been set up with the objective of providing "Sustainable Technological Solutions for Faster & Cost Effective Construction of Houses suiting to Geo-Climatic and Hazard Conditions of the Country." Towards expediting the housing delivery process for meeting the target of 'Housing for All by 2022', the Ministry of Housing and Urban Affairs is actively promoting the use of prefab technologies in housing construction under the overall purview of TSM.

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(b) Hindustan Prefab Limited (HPL), a Government of India Enterprise, under the aegis of the Ministry of Housing and Urban Affairs has reported that prefab construction is one of the options which can help in addressing the housing shortage of the country through provision of quality housing in lesser time. Off site construction involving manufacturing of building component in factory and installation at site also helps in reducing dust pollution and optimizes use of natural resources as the prefab component are generally lighter than the conventional technologies.

(c) HPL report states that use of prefab technologies considerably reduce the time of construction which is normally 50% to 60% lower than the conventional system of construction. There are various technologies which enable small houses to be fully constructed in factory with basic services and assembled at site in a very short span of time. A 10 stories building in Mohali was also erected within 48 hours using steel construction technologies.

(d) The Government of India has been promoting the use of prefab technologies extensively to all stakeholders. In the recently published National Building Code (NBC) 2016 by Bureau of Indian Standards (BIS), the provisions have been updated to ensure utilization of number of prefab building materials and technologies to provide for innovation in the field of building construction. Updated provisions on new alternate technologies for speedier construction have also been included in the NBC 2016.

Building Materials & Technology Promotion Council (BMTPC) has so far identified 16 emerging technologies and building materials for faster and quality construction of houses. List of the technologies identified by BMTPC is at Annexure-I. Central Public Works Department (CPWD) has published Schedule of Rates (SoR) for seven technologies towards promoting use of these technologies. List of the technologies for which SoR has been published is at Annexure-II.

Hindustan Prefab Limited (HPL) has also developed a Housing Technology Park at Jangpura, New Delhi showcasing alternate housing construction prefab technologies, which could be utilized for construction of housing units. The technology park provides stakeholders an option to assess and compare all the technologies for identifying the most appropriate technologies for their respective use. BMTPC and HPL is organizing Sensitization/Capacity Building Programmes in various States on prefab and emerging technologies in order to create confidence amongst the architects, engineers and other stakeholders.

The Government of India has recently announced to organise the “Global Housing Technology Challenge-India (GHTC-I)” in 2018-19 in the World Urban Forum (WUF), 2018 at Kuala Lumpur, Malaysia. The main objective of the challenge is to explore innovative technologies for mass housing which would bring paradigm shift to housing construction scenario that is cost-effective, fast, safe, sustainable and adaptable to suit different geo-climatic conditions of the country.

ANNEXURE REFERRED TO LOK SABHA UNSTARRED QUESTION NO. 1661
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List of Emerging Technologies Identified and Evaluated by BMTPC for
Mass Housing Construction

(A) Formwork Systems:

1. Formwork for Monolithic Concrete Construction
2. Modular Tunnel form
3. Sismo Building Technology

(B) Precast Sandwich Panel Systems:

4. Advanced Building System - EMMEDUE
5. Rapid Panels
6. Reinforced EPS Core Panel System
7. QuickBuild 3D Panels
8. Concrewall Panel System
9. Glass Fibre Reinforced Gypsum (GFRG) Panel System

(C) Light Gauge Steel Structural Systems:

10. Light Gauge Steel Framed Structure (LGSFS)
11. Light Gauge Steel Framed Structure with Infill Concrete
Panels (LGSFS-ICP)

(D) Steel Structural Systems:

12. Factory Made Fast Track Building System
13. Speed Floor System

(E) Precast Concrete Construction Systems:

14. Waffle-Crete Building System
15. Precast Large Concrete Panel System
16. Industrialized 3-S system using cellular light weight
concrete slabs & precast columns

ANNEXURE-II

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Details of seven new technologies for which Schedule of Rates (SoR) has been notified by Central Public Works Department (CPWD)

Serial Number	Details of New Technology	Item already included in Delhi Schedule of Rates (DSR) - 2016
1	Light Gauge Steel Framed Structure (LGSFS)	26.41
2	External and Internal wall Systems on LGSFS	26.42 & 26.43
3	Expanded Polystyrene Core (EPS core) Panels	26.46 & 26.47
4	Monolithic Concrete Construction by using Aluminium Formwork	26.48
5	Prefab Technology	5.50 to 5.57
6	Bamboo Technology	26.1 to 26.6 & 26.6A to 26.6E
7	EPS Cement sandwich light weight solid core panels	26.49