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## Concept note

### **i-BUILD: Online knowledge sharing platform**

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As part of *i-HOUSE*, a new initiative for housing sustainability, UN-HABITAT is launching an online knowledge sharing platform for sustainable housing and slum upgrading, *i-BUILD*, which will be hosted on the Urban Gateway. *i-BUILD* is underpinned by the fact that to achieve sustainable human settlements in developing countries, stronger networks and more accessible up-to-date knowledge on sustainable housing and slum upgrading is urgently required.

Given the vast magnitude of new construction that will take place in developing countries in the coming decades due to continued rapid urbanisation, and the need to upgrade existing slums and informal settlements, if new housing and upgraded slums fail to be the most energy efficient and sustainable as possible, the globe faces a multi-decade lock-in of dangerous energy consumption patterning which will certainly aggravate economic, social and environmental challenges. To address this an essential task is improving the availability of, and disseminating knowledge on sustainable housing practices to contribute to environmentally, economically, socially, and culturally sustainable housing and settlements.

#### **The need for an online knowledge sharing platform:**

A wealth of knowledge exists on how to make buildings that are environmentally sustainable. However, information is scattered, often inaccessible and therefore time-consuming to gather, analyse, and use in practice.

While developed countries have networks of knowledge exchange (professional networks, conferences and events, trade shows, etc), knowledge sharing mechanisms are currently very weak in developing countries. In particular, there are few networks and no up-to-date and accessible resource platform which are tailored to the specific challenges facing the built environment in developing countries, such as the need to increase the provision of new affordable housing and improve the living conditions of existing slums. This lack of up-to-date and accessible knowledge is a significant impediment to improving the environmental sustainability of the built environment in developing countries.

There are many sustainable building materials and technologies—both traditional and new—but the knowledge of these often does not reach the actors who developing housing and upgrading informal settlements, such as local government, planners, designers, etc. There is no clear ‘starting point’ from which to search for sustainable housing options: information is scattered and uncoordinated. There is no concise, direct online platform that canvases the state of the field and provides a quick reference point for information. Furthermore, as the ‘People’s Process’ gains momentum and grassroots communities and organisations are placed at the centre of development, accessible, up to date information on options for sustainable affordable housing are crucial to support these bottom-up housing processes.

#### **The vision:**

To be the number one online resource and first point of contact for information on sustainable housing options.

**The aim:**

The online platform has three aims:

- To increase the accessibility, availability and dissemination up-to-date knowledge on sustainable housing.
- To act as a repository of knowledge that will remain in perpetuity and can be freely accessible by all.
- To complement a Global Network on Sustainable Housing that seeks to improve the sustainability of affordable housing in developing countries.

**Proposed content and structure:**

The platform will be hosted on the Urban Gateway, as an element under the Global Housing Sustainability Network page. The content of the platform will be uploaded by contributors at their discretion. Contributions will be either:

- (a) uploads of pre-published information (e.g. e-books, reports, powerpoints, audio files, etc), or links to them;
- (b) contributions made by completing a standard template, is pre-published/formatted information is not available. (See attached proposed template).

Contributions will be tagged according to several pre-defined thematic areas. Users will be able to search information according to these areas(s) (accessed through drop down menus):

- (a) Context: <Slum upgrading>, <new build>, <retrofitting>, <post disaster/conflict>,
- (b) Building element: <Foundations>, <floor>, <walls>, <windows and doors>, <services and infrastructure>, <roof>, <landscape elements>.
- (c) Building typology: <detached house>, <terrace/row housing>, <condominium>.
- (d) Services and infrastructure: <energy sources (renewable)>, <waste disposal (water, human waste)>, <streets and transportation>.
- (e) Location: <Region>, <Country>, <City>
- (f) Climate: <Climatic zone X>, <Climatic zone Y>, <Climatic zone Z>, <etc>.
- (g) Passive building design strategies: <thermal storage>, <solar orientation>, <etc>.
- (h) Technologies: <Cooking appliances>, <lighting>, <space heating and cooling>, <rainwater collection>,
- (i) Economic: <International financial instruments>, <housing finance>,
- (j) Regulation and codes and sustainability assessments: <Building codes>, <Design guidelines>, <building sustainability assessment methods>
- (k) Training and capacity building: <e-courses>, <workshops>, <methodologies>

As an element of the Global Sustainable Housing Network, the platform will function not only as a knowledge library but also as an interactive platform that could:

- Host design international and local competitions (students and professionals).
- Give news on events in this field of knowledge and practice
- Give professional network updates: upcoming conferences, etc.
- Give downloadable and/or streaming 'podcasts' of people speaking on field activities, product development, case studies, lectures, etc.

**Operational considerations of the platform:**

The following are operational considerations that require further consideration:

- Language(s)?
- Quality control?
- Ease of use for those in developing countries (internet speed/connectivity/etc)?
- Will the platform be abused by private developers, through a focus on self-promotion of their products and services?
- A set of rules and guidelines for the platform need to be developed (i.e: a-political, existing as a knowledge library (encyclopedia), content is free, etc).
- Copyright issues with patented materials/products/systems?

## **Proposed Template** (examples of contents given below each heading)

### **1. Broad overview/brief description**

Approximately 100 words that summarises the whole page.

### **2. Background/origins**

When it started?

Who started it?

Why it was started: what did it respond to?

### **3. Description/explanation of system/building material/product/strategy**

Where to use it: possible applications

How to use it: construction process, types of use

How to make it (construction elements, etc)

Considerations for where or how not to use it

### **4. Environmental strengths and weaknesses**

Embodied energy

Baseline data: CO<sub>2</sub> per unit (m<sup>2</sup>/m<sup>3</sup>), etc.

Lifecycle assessment (LCA) of environmental impact

Climatic considerations: climate, natural hazards

### **5. Economic strengths and weaknesses**

Capital/start-up cost requirements

Per unit cost, cost per m<sup>2</sup>/m<sup>3</sup>

Cost savings/comparisons over/with other similar products

Lifecycle costs

Economies of scale

### **6. Social and cultural strengths and weaknesses**

Occupant health,

Employment generation,

Training and education,

Responsiveness to gender, indigenous groups, youth needs.

### **7. Institutional aspects**

Necessary institutional and regulatory frameworks for implementation

Building code requirements/changes/considerations.

### **8. Technical specifications/data/characteristics**

Element size, weight, material composition, etc.

Building material production information

Quality control in production and installation

Performance criteria: durability, life expectancy, maintenance requirements, etc

### **9. Case studies of application**

Location

Date/year

Context/background

Helpful conditions

Challenges faced during implementation and how they were overcome

### **10. Current work/application/use**

Current application: location and effect

### **11. Further information:**

Downloads (product information sheets, fact sheets, technical specifications, case study reports)

Web links: video(youtube, online), media documentation (newspaper articles, etc), product suppliers, company website.

### **11. References** (from this online article)