Sustainable and adaptable health services designed specific to community requirements can transform the social, economic and environmental wellbeing of a settlement. Health is a key area that is both the cause and symptom of the vicious poverty cycle. MediTree provides medical infrastructure and appropriate system design for off-grid, under-served communities by understanding the issues of basic health care in South East Asian contexts. Like the ever-growing, versatile and locally compatible nature of trees, this health care unit approaches modularity with a keen focus on the user access, development and empowerment.

The unit is specially designed to be utilized by governments, NGOs, private entities and individuals that work on critical health based issues in lacking areas.

**PROGRAM DISTRIBUTION**
The MediTree facility seeks to provide basic health access in remote locations and is much in line with a Primary Health Centre (PHC). But unlike a PHC the MediTree setup approaches requirements in an incremental and need-based manner. This has been achieved by identifying patterns of growth, which progress from basic needs to desirable ones.

**Incremental growth modules**
- Doctors room + Pharmacy
- Immunization facility + Cold storage
- Basic procedure facility + Lab testing facility
- Specialised facility (dental care/eye care etc.)

**MODULE DESIGN**
Breaking down the function into modules has various positive implications:
- The design can be easily adapted to varying space availability
- The setup can be done depending on fund availability—where an entire health centre need not be constructed all at once
- Single modules can be constructed / attached to existing infrastructure where only certain additional facilities are required (e.g., laboratory) and not an entire health centre.

**STAKEHOLDER COMFORT & EMPOWERMENT**
- Patients- ease of access and use
- Medical staff- organized internal spaces, ample storage and other support facilities
- Funder- flexibility in choosing need and resource based facilities + can opt for incremental growth of health centre
- Locals- empowerment through livelihoods generation (construction+maintenance)
- Healthy, hygienic and comfortable

**SUSTAINABILITY**
- Going local- use of local materials and craftsmanship
- Energy- use of passive cooling techniques + off grid solar power
- Maintenance- Systems that are easy to maintain and replicate in case of damage

**BUILD ABILITY & MOTIVATION**
- Technology- All components can be made by a local carpenter and fabricator—no factory/pre-fabrication required
- Setup- Systems are simple to understand and install (and re-install)
- Growth- Modular system lets one build as per need and necessary

**UNIQUE SERVICES**
- Audio visual aids for health awareness, education and tele medicine services
- GPS equipment that provides information on nearest health service (hospital / pharmacy / ambulance)
- Intra MediTree server which provides up-to-date information on medical stock between all centres
1. Place the vertical columns as per grid marking
2. Tie the bottom framework together with the floor beams and intersection cross beams
3. Bolt into position the 'tree' column members
4. Bolt into position the remaining peripheral roof framework
5. Fix the deal wood planks onto floor framework
6. Fix into position the core unit
7. Place the wall lintel band at 2.1m height and bolt in place
8. Place and lock the wall panels into position
9. Fix the vertical wood framework into position
10. Fit in the bamboo mat louvers into the slots, and cover the remaining open space with mat
11. Fix the roof sheets onto purins and then install the solar panels. Route the wiring through the tree columns into the modules

**SYSTEMS**

**TREE CORE**
- Integration of structure & service.
- Columns are used as conduits that carry electrical wiring as well as water downtake pipes.
- Electrical outlets and water outlets on tree column

**FRAMWORK**
- Adopting triangular layout optimizes steel usage
- Nut-bolt+cleat system used for joining members
- Long members are further broken down to make transport and relocation easier

**MEMBRANES**
- Low mass, breathable, local materials used for walls such as coir, straw and bamboo.
- Partially porous materials will help maintain cross ventilation
- Lower segments have operable louvers for visual connectivity and air circulation
- Upper levels have fixed louvers which help keep the dust out, let the wind through and prevent wind driven rain from entering. All louvers are easy to remove and clean

**FIXING MECHANISM**
- Walls fit into position with rotating metal anchor at the top, and a floor channel at the bottom
- Upper level panels and louver frames are bolted onto the roof framework and lintel frame
MEDI TREE
CONTEXT
ADAPTABLE HEALTHCARE

Beacon Light is an indication for distant hamlets after sunset diverting people towards the center.

Solar ultrasonic device to keep away flies, mosquitoes and other insects for a radius of 850 sq meters.

Rain water harvesting gutters.

Raised height ensures ventilation of hot air.

Breathable walls.

Pharmacy counter
Doctors clinic

Locally built toilets for staff and visitors will be built in close proximity.

Three inaccessible medical waste disposal pits will be built behind the center.

Purified drinking water and hand sanitizing area.

Gantry open public area where medical camps and talks will be held.

Audio Visual area for information and awareness.

MediTree in a tribal setting

Curative
Local common ailments and incidents- scablies, snake bites etc

Preventive
Preventing potential issues- immunizations, IFA tablets etc

Promotive
Information, awareness and education- nutrition, BCC, anti-natal care etc

Rehabilitative
Leprosy, diabetes, de-addiction, Malnutrition etc