GOVERNMENT OF NAGALAND
LAND RESOURCES DEPARTMENT

ANNUAL ADMINISTRATIVE REPORT
2020-21

VISION

"Waste to wealth" is upheld as the vision of the Department for the transitional values and benefit it has for our mother earth and it's inhabitants.

MISSION

Evolve integrated strategies for management of Natural resources, aimed at achieving functional ecological economy on a sustained basis.

SIGNIFICANCE

The triangle provides a simple illustration of the power of perception. Metaphorically, it represents the three important aspects, incorporated in the department's venture:

* **The Land**,
* **Resources** and
* **Development/Management**.

The triangle is a continues line which implies infinite cycle or order.

* A downward-positioned equilateral triangle, on which is imprinted a tilted oval on the left-upper portion and an abstract curves resembling human body which also forms a boundary between the two halves of the triangle .
* A twice folded decorative band is appended to the lower half of the triangle on which is imprinted the motto of the Land Resources Department "waste to wealth".

- Brown - signifies barrenness , inactivity and wasted, and therefore represents the underdeveloped and unutilized earth and its resources.
- Blue- colour of the abstract curve represents water –the elixir of all life.
- Green - on the right-half of the triangle signifies: hope progress, rejuvenation, strength and vitality, which are signs of being alive. It also signifies sustainable and eco-friendly green-wealth-giving development of land resources.
- White - color tilted oval signifies purity and clarity – mindset one needs to learn, think and act effectively.
- Black - color has been known to symbolize knowledge in many Asian cultures and has been used here on the border of the triangle to emphasis the importance of knowing the values and benefit of prudent use of land resource by one and all.

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ANNUAL ADMINISTRATIVE REPORT (AAR) 2020-21

Land Resources Department (LRD), Government of Nagaland was established on 14th September, 1993.

The Department implements various community based Natural Resources Management programmes with funding from Central and State governments.

A. CENTRALLY SPONSORED SCHEME (CSS)

PRADHAN MANTRI KRISHI SINCHAYEE YOJANA-WATERSHED DEVELOPMENT COMPONENT (PMKSY-WDC)

PMKSY-WDC is a flagship programme of the Ministry of Rural Development, Department of Land Resources, Government of India.

Altogether, 06 (six) batches were sanctioned for treatment of 4,76,611 hectares having 111 projects, out of which, 04 batches have successfully been completed and the remaining 02 (two) in the final stages of completion within this FY.

OBJECTIVE

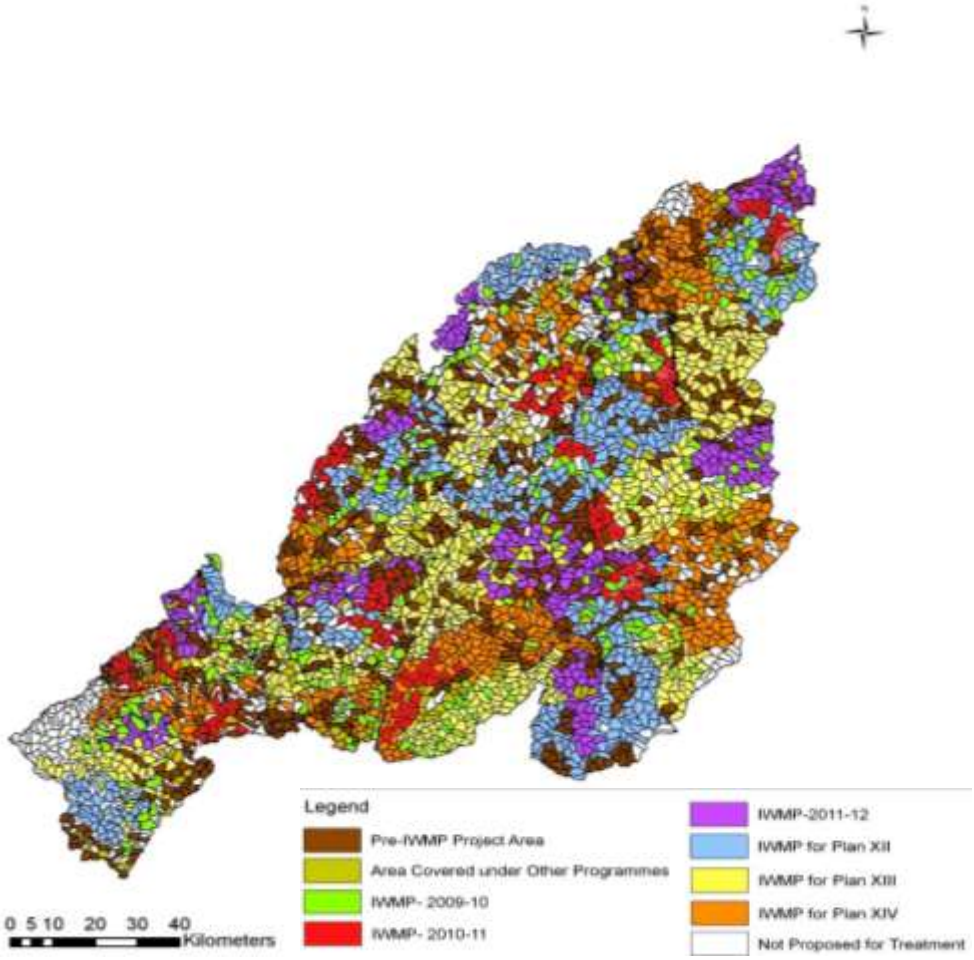
To restore ecological balance by harnessing, conserving & developing degraded natural resources such as soil, vegetative cover & water.

On completion of all the batches, the old generation PMKSY-WDC shall officially wind up. The department is in all preparedness to step into the new generation PMKSY-WDC programme which is due for launching as directed by the Ministry within this FY.

KEY PROGRAMME COMPONENTS INCLUDE

- Soil & moisture conservation works
- Afforestation, plantation and horticultural crops.
- Livelihood and micro-enterprises for the less privileged section of the society

MICRO-WATERSHED MAP OF NAGALAND DEPICTING THE PERSPECTIVE PLAN OF THE STATE



MWS Benefits: ridge to valley/measurable

Item	*Detail*	
	No.	*Area (Ha. in lakhs)*
Total micro-watersheds (MWS) in the State	3541	16.58
Total untreatable MWS (Reserved Forest, Barren Rocky, human settlements like township, etc.)	19	2.64
Total treatable MWS in the State	3522	13.94
Total MWS covered under IWMP /PMKSY-WDC DoLR	1064	4.76
Balance micro-watersheds not covered	2458	9.18

GLIMPSES OF VARIOUS DISTRICT ACTIVITIES UNDER PMKSY-WDC

Check Dam, Jalukiezangdi, Peren

Gully plug in Mongtikang, Longleng

Water Harvesting Structure, Anaki Old, Kiphire

Contour Trenching at Tezatse, Phek

Arecanut plantation at Pangti, Wokha

Cardamom plantation at Yezami, Zunheboto

Orange plantation Chunlika, Kohima

Sugarcane plantation at Longkhitpeh, Tuensang

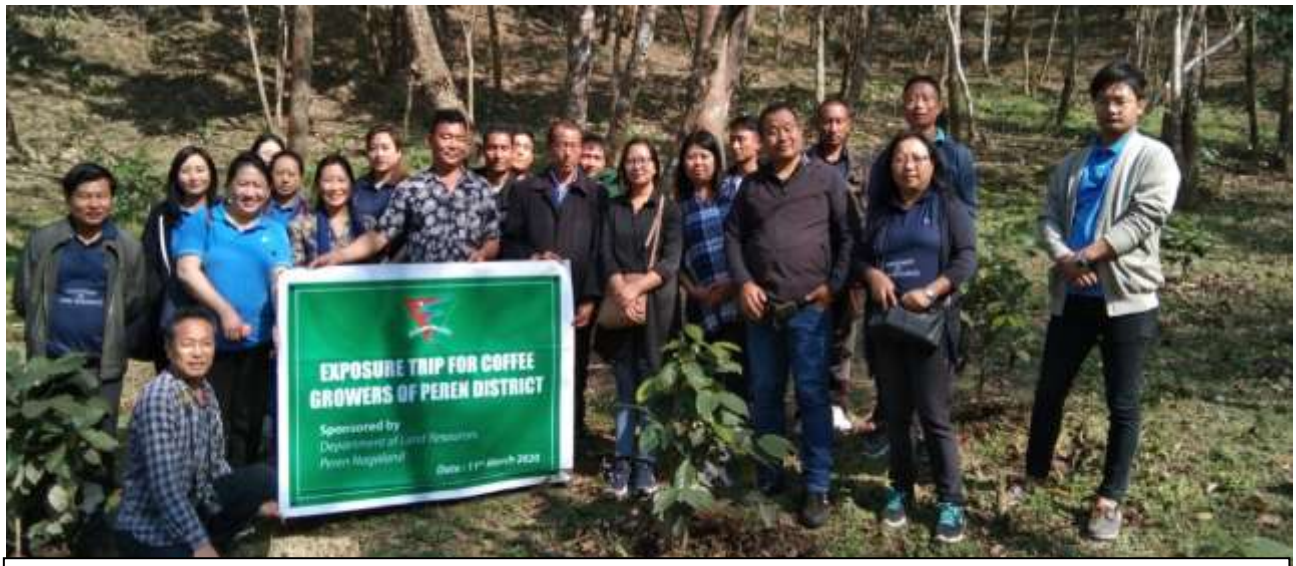
Distribution of blacksmithy tools for entrepreneurs, Kohima

Training educated unemployed in mechanized carpentry, Kohima

Training for educated unemployed in baking, Dimapur

Awareness campaigns on Covid-19, Peren

Distribution of carpentry tools to landless villagers, Kiphire



Peren team exposure trip to Kohima

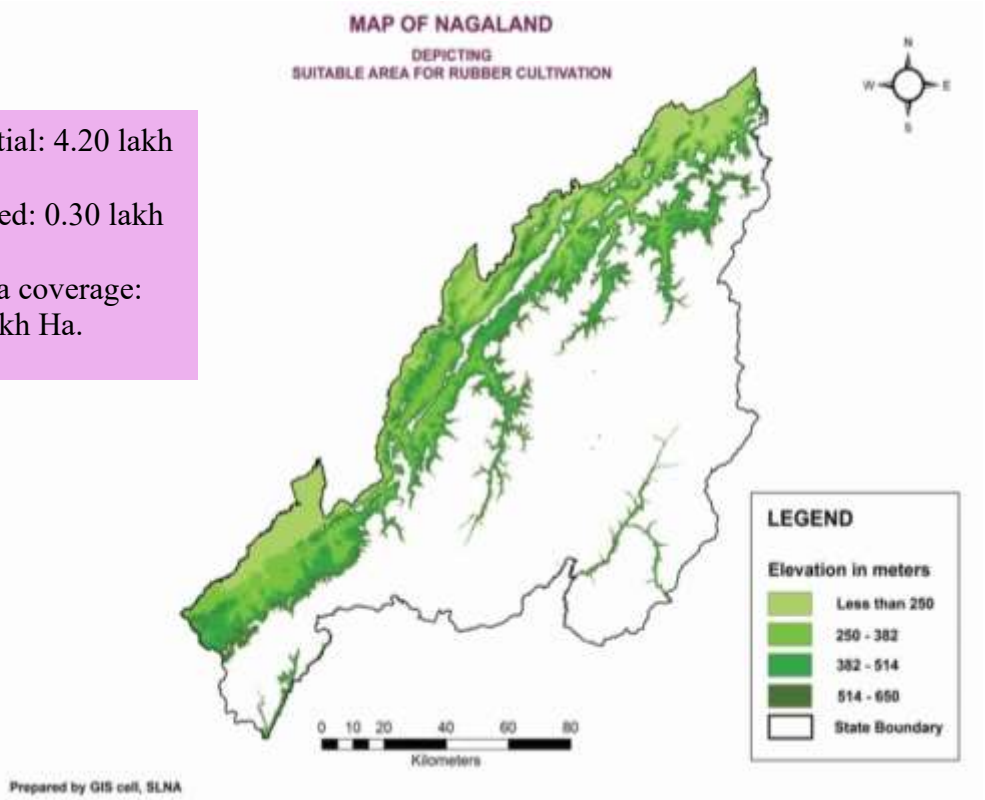
B. STATE SCHEMES

I.RUBBER DEVELOPMENT SCHEME

Rubber – An Alternative to Jhum

Rubber has been identified as one of the thrust areas in Nagaland, in view of its agro-climatic suitability and acceptability amongst the people.

- Area potential: 4.20 lakh Ha.
- Area targeted: 0.30 lakh Ha.
- Present area coverage: 19,132.5 lakh Ha.



Potential area vis-vis the target and achievement

OBJECTIVE
Rubber plantation was introduced to wean the rural populace away from jhumming practice and encourage settled farming, to reclaim the degraded lands and to uplift the rural economy through rubber cultivation.

Impact/Benefits of Rubber plantation:

- Transforming rural lives from jhumming to settled form of farming thereby promoting ecological balance
- Encouraging polyculture and not monoculture by promoting diversified farming under rubber plantation such as rearing livestock and horticultural plantation – thus leading to maximum benefits within a single unit of land.
- Generates employment opportunity on regular basis to the growers.
- Carbon sequestration ~680 MT per Ha.
- Conserve soil and reduce soil erosion and runoff water losses
- Increase in ground water level and moisture content of the soil

30,000 by 2030

The Department has made an ambitious target to achieve 30,000 hectares under rubber plantation by 2030.

Till date the present coverage is 19,132.5 Ha. which is 63.75% against 30,000 ha target set for rubber plantation in the state

Promoting harmonious biological farming for achieving functional ecological economy


Water absorption trenches for trapping runoff water in the rubber fields

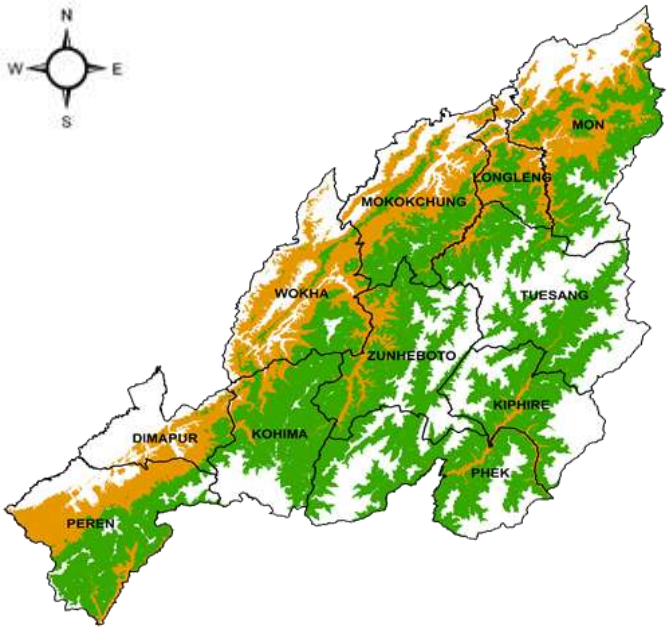

(Left) Rubber Sheet Rollers distributed to rubber growers (Right) Rubber sheets being sun-dried


(Left) Dried rubber sheet ready for market (Right) Sample finished/end use rubber products

II.COFFEE DEVELOPMENT

As Nodal Department for promotion of Coffee in the State, the Land Resources Department, Nagaland has been promoting coffee plantation in the State in collaboration with Coffee Board of India (CBI) since the year 2015-16.

Nagaland map showing Coffee suitable areas



Total Geographical Area:16,57,900 Ha
Potential Area : 10,40,100 ha (62.7%)

OBJECTIVES

- Coffee was introduced due to the state's favorable agro-climatic condition. Being a shade loving crop, cultivation of coffee under existing vegetation helps conserve environment including the community that depends on it. This conservation offsets the destructive effects of traditional jhumming practices to a great extent which in itself is one of the best strategies for climate change adaption.
- Being labor intensive, it also provides employment opportunities and high economic returns leading to upliftment of the rural economy.

50,000 by 2030

The Department has made a comprehensive plan to develop 50,000 ha under coffee plantation by 2030.

Coverage till date

1000.3 Ha. developed during 2020-21, bringing total area under coffee plantation in the state to 8996.5 Ha.

Impact/Benefits of plantation

- More than 5000 families are engaged in coffee cultivation thereby generating employment opportunity on regular basis to the growers.
- Creates a viable alternative to traditional jhumming by diverting to coffee plantation. Hence, reduce jungle slashing and burning thereby bringing ecological balance
- Reduce soil erosion and runoff water losses, thus leading to increase in ground water level and moisture content of the soil.
- Coffee houses have been an important social gathering point around the globe.
- Coffee being a shade loving crops multiple cropping's/permaculture ways of cultivations will not only brings additional benefits to the farmers but will also contributes for Earth Care.

Glimpses from the field

(Left) Primary coffee nursery. (Middle & Right) Transplantation of seedling into polybags for secondary nursery

Secondary coffee nursery

(Left) Ripening coffee cherries (Right) Harvested coffee cherries


(Left) Coffee cherries being pulped (Right) Coffee cherries being dried

The department has two certified baristas trained on Level 2 Barista skills from British Coffee School, Kathmandu, Nepal and certified by Beverage Standards Association-BSA UK.

Baristas manning the Nagaland Coffee Bar located at the Directorate

III.SPRINGSHED DEVELOPMENT

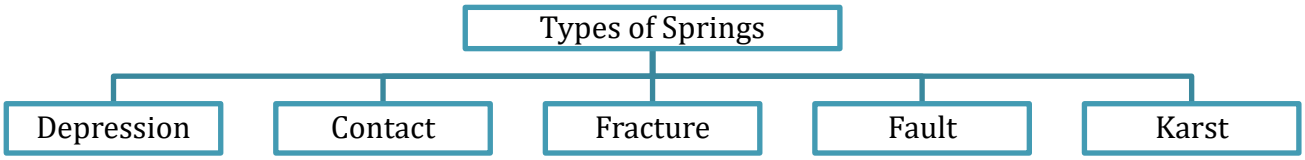
Springs are a "*window*" in the groundwater flows which emerge to the surface as a spring. By and large, the rural communities of the state are largely dependent on springs and sub-surface flows for both their domestic and irrigation purposes. However, these springs have become seasonal or either dried up due to various factors such as; changes in precipitation, physiography of the state which consists of narrow strips of hills which does not allow water retention leading to quick run off and also due to anthropogenic activities.

Springshed is the unit of land where the rain falls, seeps into underground aquifers and then emerges at discharge points of the spring. It is the natural unit for revival and management of spring. Springshed is based on valley-to-valley approach.

OBJECTIVES

To recharge the underground water for drinking and irrigation purpose through intervention at the recharge area. It seeks to address the issues of regenerating springs, streams and underground flows and ensure water quality of the springs through community-led (participatory) actions, proper management and equitable distribution of water.

Springshed Management: Based on hydrogeological studies, the recharge area of the springs is demarcated and accordingly implementation of water recharge structures such as dug out ponds, continuous or staggered trenches, water absorption trenches, vegetative measures etc., in the catchment area of springs or springshed is taken up.



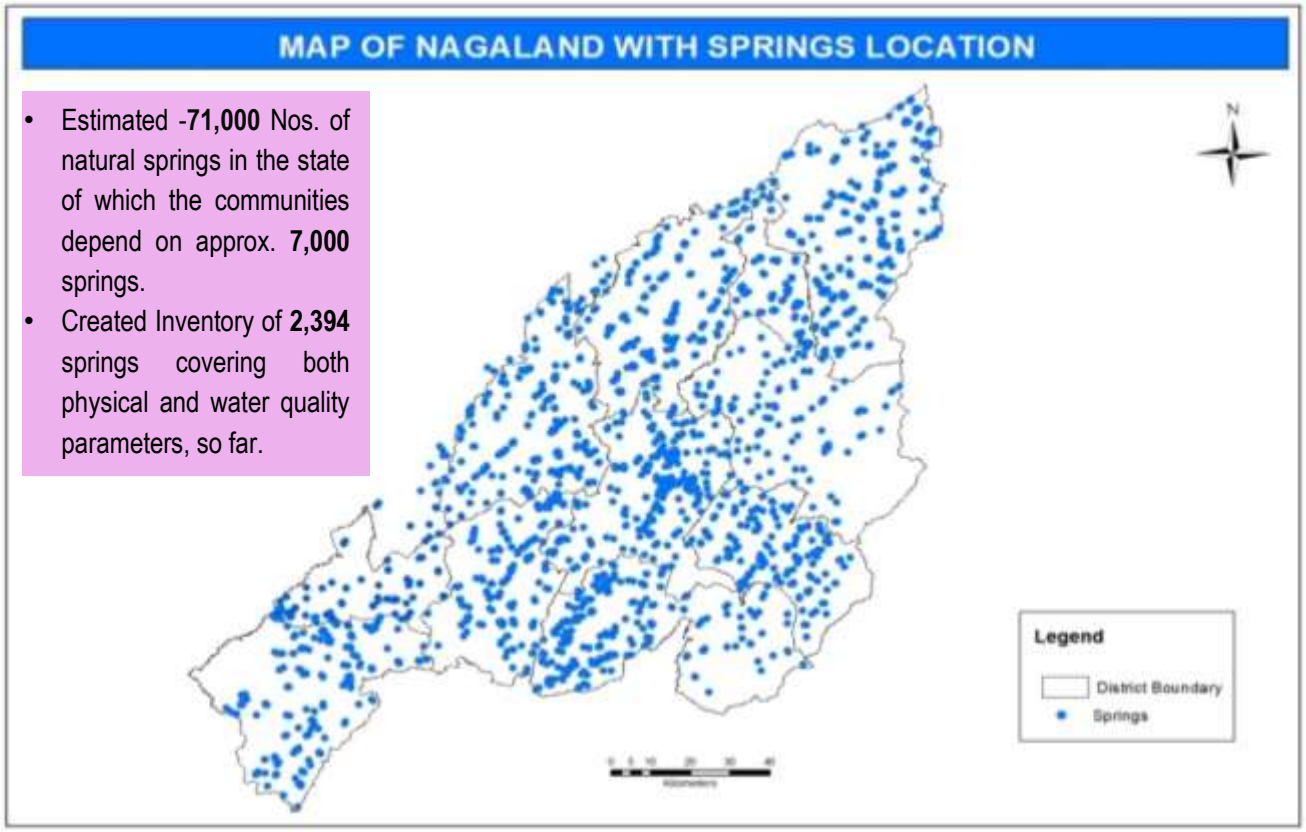
Benefits & Outcomes of Springshed management

- Springs rejuvenated and turned into perennial springs,
- Increased availability of water in the lean season,
- Informed Community on springs and groundwater management,
- Informed community on sanitation and water quality.

PROJECTS UNDER SPRINGSHED

- Nagaland is one of the first states to initiate Springshed development, initially piloting in one spring each from all 11 districts (April, 2016-march, 2017).
- 02 research projects supported by NMHS completed
- 09 projects supported under NABARD in 08 districts of the state.
- 100 villages under multi-stakeholder initiative to provide water security in rural areas of Nagaland.

Glimpses of activities in the Recharge zones



IV.CUSTOMISED AUTOMATIC WEATHER STATION (CAWS)

CAWS prototype installed at the Directorate of Land Resources, Kohima

Key features of CAWS

- Built for remote, rough and difficult terrain
- Works on GSM/EDGE/2G network. internet is not required.
- Built-in battery which can last up to 10 non-sunny days. gets charged from mounted dual solar panels.
- Data from all stations is collected over a period of 24 hours and sent to the server daily located at the headquarter & saved on the onboard microSD card.
- Customizable SMS short codes to get the health status, data as well as remote troubleshooting of each stations.

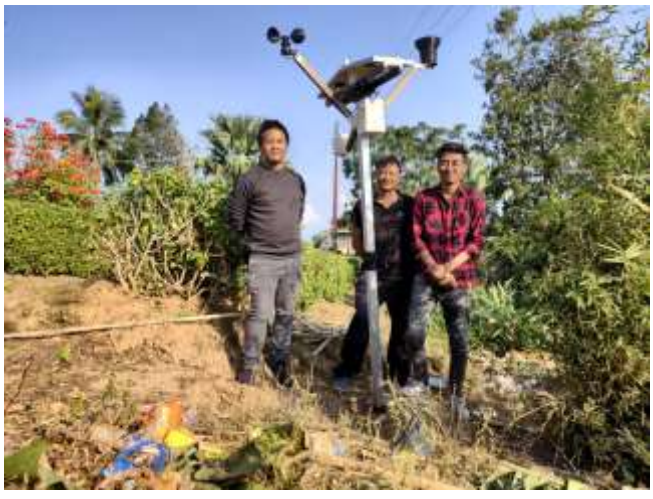
Glimpses of CAWS installed in the project villages

(Left) Resource Centre, Dimapur (Right) Thizama, Kohima

(Left) Pellhang, Peren (Right) Aliba, Mokokchung


(Left) Chesezu, Phek (Right) Old Riphyim, Wokha


(Left) Chudi, Wokha (Right) Lukikhe, Zunheboto

(Left) Dungkhao, Longleng (Right) Lapa, Mon

V.PERMACULTURE

The department promotes agro-ecological farming based on the three Ethics and twelve principles of Permaculture.

Permaculture is a conscious design & maintenance of productive eco-systems which have diversity, stability & resilience of natural ecosystems.

It is based on the philosophy of:

- "Working with, rather than against nature"
- "Focusing on solutions& not on problems"
- "Looking at plants & animals in all their functions, rather than treating any area as a single-product system." In other words, promoting polyculture and not monoculture"

Promoting ecological literacy

3 core ethics form the foundation of permaculture

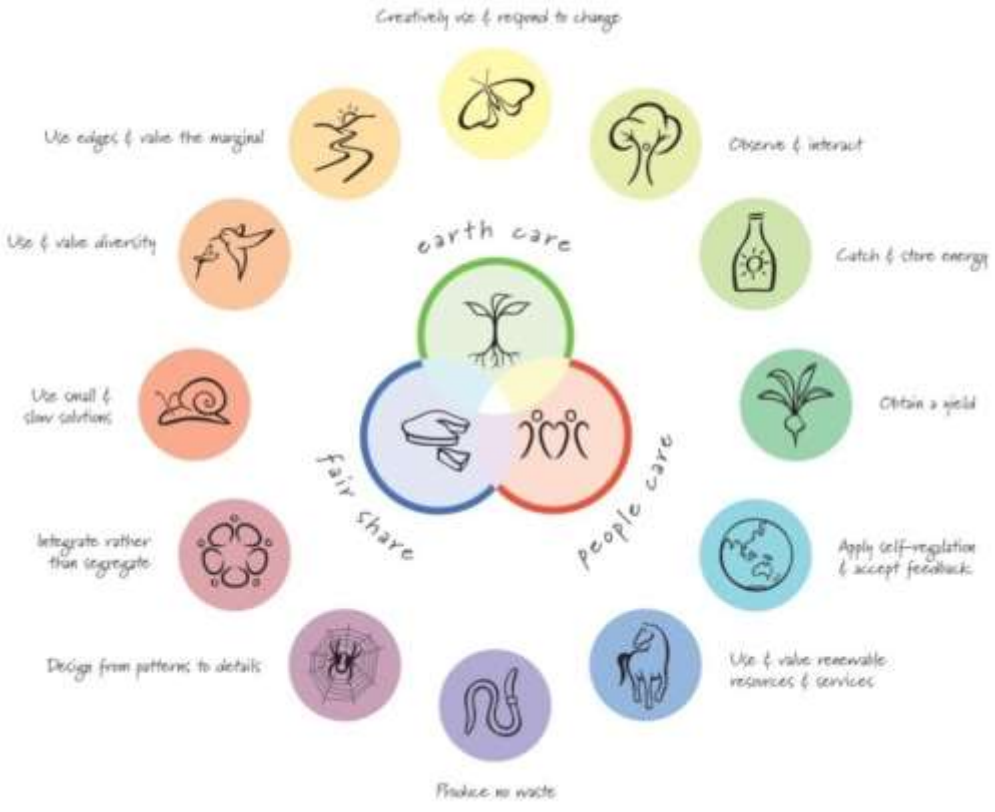
Earth Care: We must look after the earth and all the living systems because we depend on them for our survival

Fair Share: Mother earth has its limits. So, our appetite cannot be infinite either. We need to leave space for other species, enough food and other resources for the other people, animals, birds, insects etc. and a clean and well stocked planet for future generations. In other words-taking only our fair share.

People Care: Dealing with human emotions such as fear/greed is more complex thus we must work on self & others alongside earth care.

The department incorporates the ethics and principles of permaculture in all the programs/schemes thus ensuring diversified farming involving ecological/biological farming, livestock, farm and non-farm activities to double the income of the famers from the same unit of land.

Twelve Principles of Permaculture



Our traditional system of farming i.e. shifting cultivation is temporary in nature and puts more

pressure on the already limited land available. Whereas Permaculture focuses on permanent, settled & regenerative system of farming which tends to create living environment that are harmonious, functional and productive, while greatly reducing the work and energy required to maintain them.

The department has trained human resources put in place who in turn have already disseminated on the intrinsic and extrinsic benefits of permaculture knowledge to the communities in the watershed projects.

409 micro-watershed villages have already initiated the permaculture kitchen garden designs.

Various trainings on permaculture & model garden designs across the districts






(Left) Dimapur district (Right) Mokokchung district


(Left) Peren district (Right) Wokha district


(Left) Peren district (Right) Dimapur district


(Left) Longleng district (Right) Kohima district


(Left) Phek district (Right) Tuensang district


(Left) Kohima district (Right) Mon district

VI.RESOURCE CENTRE, RUZAPHEMA

The Departmental Resource Centre established in the year 2004 at Ruzaphema spans over an area of 74 hectares. It is located about 20 kms away from Dimapur town and about 2 kms from KukiDolong, at National Highway 29.

The primary purpose of the Centre is to build institutional capacity and cater to the needs of the farming community and extension personnel of the region in upgrading their skills and knowledge on the modern methods of farming based on local conditions and needs.







Permaculture model garden designs at the Resource Centre