



CFI Research Grant Planning Workshop

16-18 June 2026
Jain Hills, Jalgaon

Prashant Kisan Nimbolkar

Date: 16-06-2026

1. Project Snapshot



- **Project title: NEST for NEHR:** Nurturing Ecological Sustainability and Tribal Livelihoods through Climate-Smart Fruit based Systems in NEHR of India
- **Institution:**
Lead organization: 1. College of Horticulture and Forestry, Pasighat, Arunachal Pradesh
Collaborating Centre: 1. College of Horticulture, Bermiok, Sikkim
2. College of Agriculture, Kyrdemkulai, Meghalaya,
Central Agricultural University, Imphal, Manipur
- Principal Investigator: Dr. Prashant Kisan Nimbolkar
- Project duration: 3 yrs
- Budget: 30.00 lakh (INR) ; 32,967.00 (USD)
- Project location(s): Arunachal Pradesh, Meghalaya and Sikkim (NEH, region)

2. Landscape, problem statement & target communities



Agroecological context:

State	District	Agro-Ecological Zones
Arunachal Pradesh	Anjaw, Upper Siang, Upper Subansiri	Humid hill Subtropical to temperate
Meghalaya	East Jaintia Hills	Humid subtropical mountains
Sikkim	Soreng District	Subtropical to temperate mountain

Key challenges being addressed

During lean agricultural periods, households depend mainly on **staple cereals** due to limited access to diverse foods. Heavy **rainfall, landslides, often disrupt markets**, reduces the availability of fruits in remote villages. Fruit consumption increases during **citrus harvest seasons** but declines sharply during the rest of the year.

Target beneficiaries:

Approximately **90-95% of the beneficiaries belong to indigenous** tribal communities.

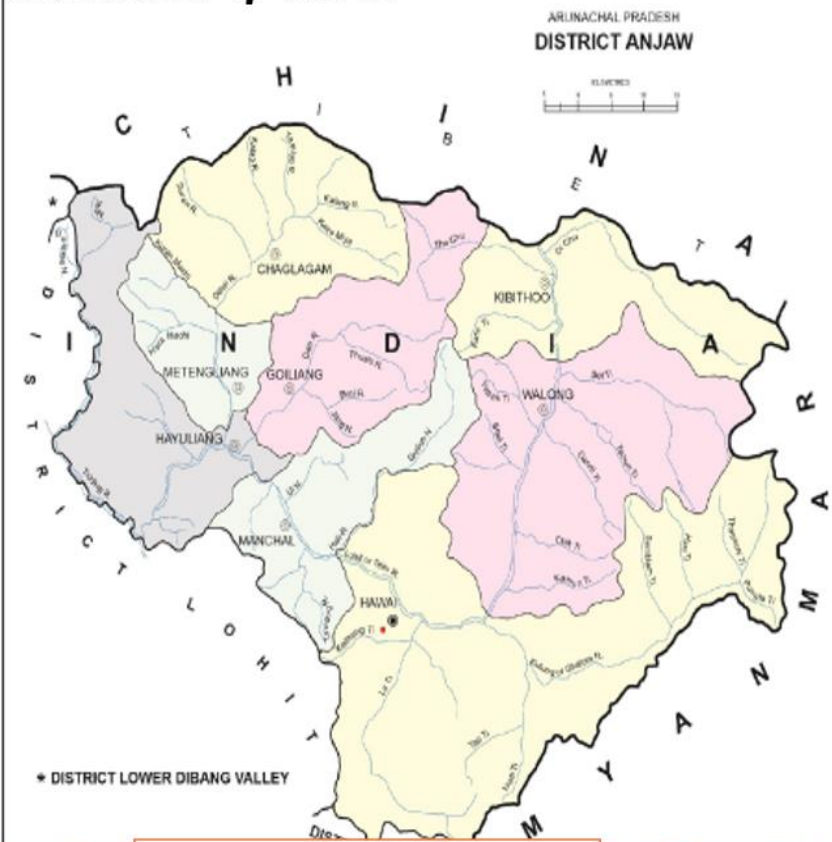
A minimum of **60% - SHG's women**, farmer groups, and community organizations.

Focus is remote villages with limited access to extension services, markets, and diversified food sources.

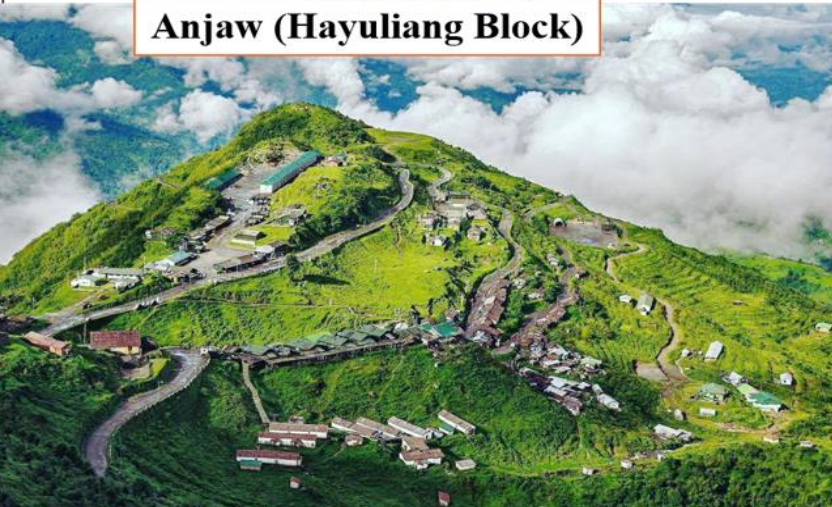
Project landscape:

Hilly terrain (**> 25-60 %** slope)

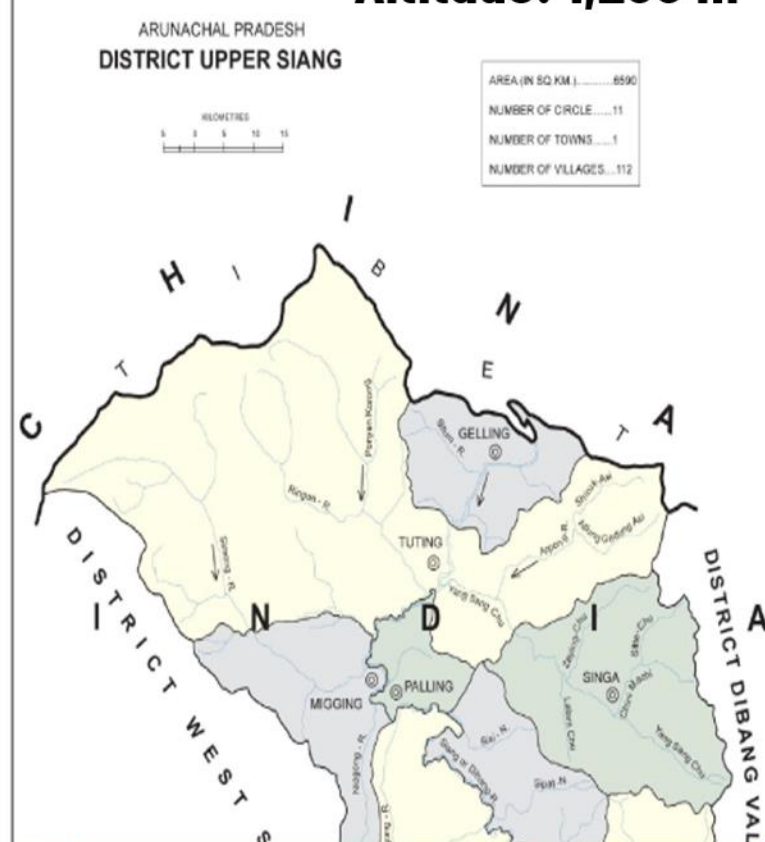
Altitude: 1,296 m



Anjaw (Hayuliang Block)



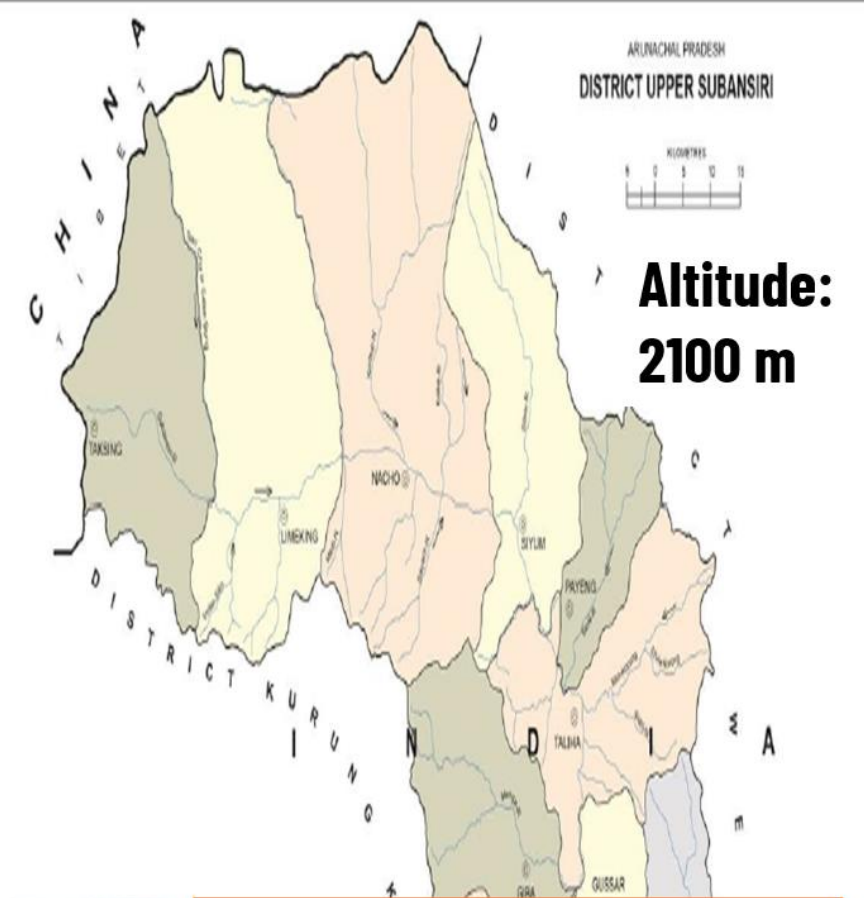
Altitude: 1,200 m



Upper Siang (Tuting Block)

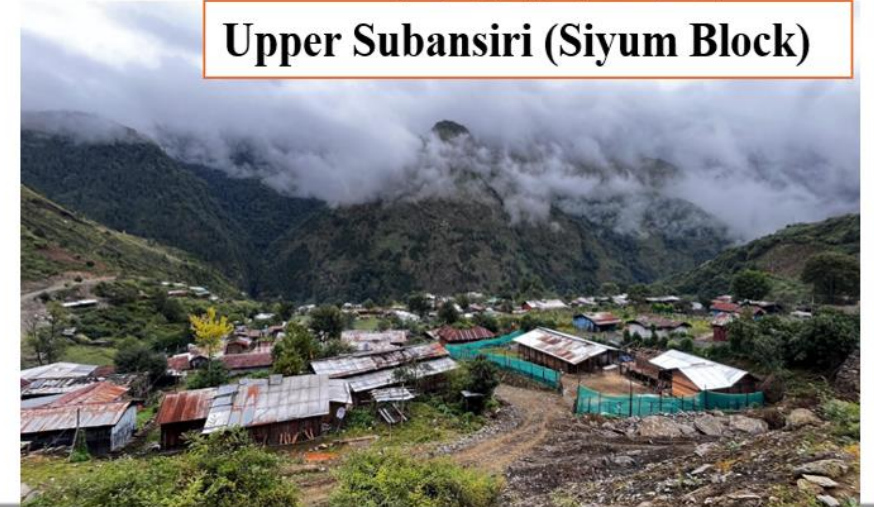


ARUNACHAL PRADESH
DISTRICT UPPER SUBANSIRI



**Altitude:
2100 m**

Upper Subansiri (Siyum Block)



Altitude
2,600 meters



Location in Sikkim

Soreng (Soreng Block)

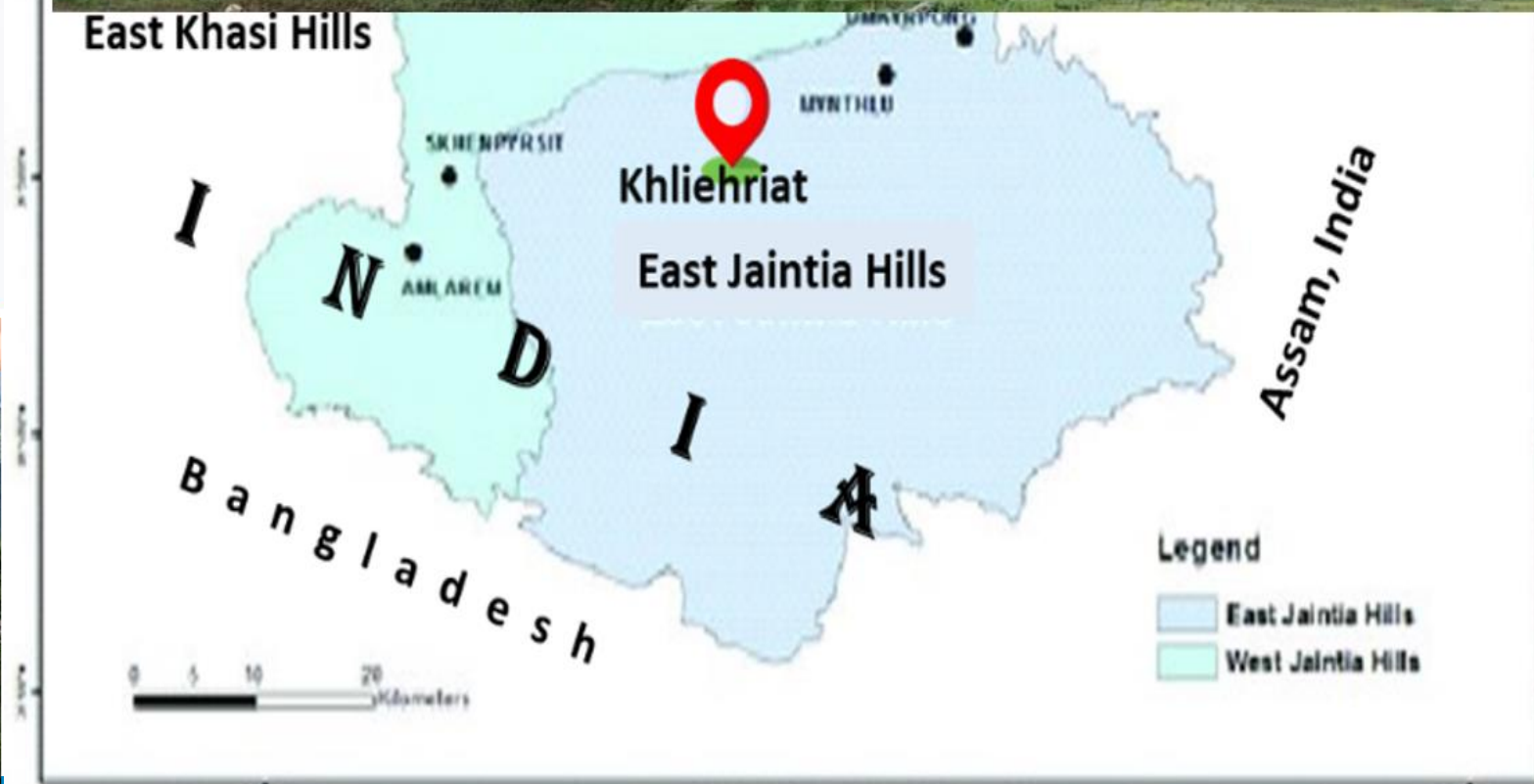


East Jaintia Hills (Khliehriat Block)

Altitude
1,200 meters



East Khasi Hills



Khliehriat

East Jaintia Hills

Legend

- East Jaintia Hills
- West Jaintia Hills

3. Year-1 Implementation plan



Component	Activities	Target (Year 1)	Expected Output
Site Establishment	Baseline survey, site identification, GIS mapping, selection of degraded lands, farm bunds, school campuses and community lands	5 districts, 5 village clusters	Sites finalized for Diversified Fruit Villages
Diversified Fruit Village-Initiation	Selection of villages through community consultation	5 model villages (1 per district)	Diversified Fruit Village model initiated
Nursery Development Activities	Establish community nurseries and QPM production hands on training	5 community nurseries	Planting material production of locally available fruit species
Demonstration Sites	Establish fruit-based demonstration sites on homesteads, schools, roadside areas, farm bunds and community lands etc.	5 (Initiation)	Demonstration of good agricultural practices
Capacity Building Programmes (Women & Youths empowerment)	QPM, Farmer-scientist interactions, nutrition awareness, nursery management and orchard management and value addition of locally available fruit species	8-10 programmes	Enhanced technical knowledge among beneficiaries
Target Community Engagement	Mobilization of tribal farmers, women SHGs, youth groups and village councils	250–300 households	Community participation and ownership

Timelines for activities

Project Activities	Sub-activities	2026											
		1	2	3	4	5	6	7	8	10	11	12	
Phase I: Baseline & Planning	Baseline survey, and site selection												
Phase I	Germplasm collection, promotion & nutritional profiling												
Phase II: Diversified Fruit Village	Community mobilization & awareness												
Phase II	Nursery establishment initiation												
Phase II	Diversified fruit plantation (bunds, schools, homesteads etc.)												
Phase III: GAP Demonstration	Orchard management training & GAP demos												
Phase III	IPM, INM, soil & water conservation demonstrations												
Phase IV: Entrepreneurship	Training on value addition & processing												
Project M&E	Evaluation and documentation												

4. Fruit Species and production models



Diversified Fruit Village Model

Fruit Species and Production Models

1. HOMESTEAD ORCHARDS

Backyard cultivation for household nutrition and supplementary income



Pineapple



Dragon Fruit



Custard Apple (Annona)



Strawberry



Avocado

2. Community Orchards:

GI tagged citrus species, Banana, Pineapple



GI Citrus (Arunachal Orange, Khasi Mandarin, Sikkim Mandarin)



Banana



Pineapple

3. FARM BUNDS

Soil conservation, erosion control and additional fruit produce



Amla



Jamun



Ber (Indian Jujube)



Kaphal

4. NUTRITION GARDENS (KITCHEN GARDENS)

Improve dietary diversity and nutrition security



Banana



Passion Fruit



Strawberry



Papaya

5. SCHOOL GARDENS

Nutrition education and promoting healthy eating habits among children



Amla



Jamun



Citrus



Kaphal

KEY FRUIT SPECIES PROMOTED
(15 Fruit Species)

Arunachal Orange • Khasi Mandarin • Sikkim Mandarin • Amla • Jamun • Silver Berry
• Kaphal • Passion Fruit • Jackfruit • Dragon Fruit • Ber (Indian Jujube)
• Avocado • Banana • Pineapple • Custard Apple (Annona) • Strawberry



5 DISTRICTS
(AP, Meghalaya, Sikkim)



5 DIVERSIFIED FRUIT
VILLAGES



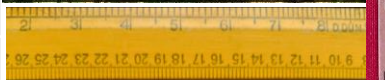
50–100
HOUSEHOLDS



1,000–2,000
FRUIT PLANTS

4. Fruit Species and production models

No.	Fruit Species	Seasonal calendar (Availability)
1.	<i>Emblica officinalis</i>	Nov - Feb
2.	<i>Syzygium cumini</i>	Jun - Aug
3.	<i>Elaeagnus latifolia</i>	Mar - May
4.	<i>Citrus spp.</i> (GI tagged)	Nov - Jan
5.	<i>Artocarpus spp.</i>	May - Jul
6.	<i>Selenicereus undatus</i>	Jun - Oct
7.	<i>Ziziphus spp.</i>	Dec - Mar
8.	<i>Persea americana</i>	Aug - Nov
9.	<i>Musa paradisiaca</i>	Year-round (peak Aug - Oct)
10.	<i>Ananas comosus</i>	May - Aug
11.	<i>Annona spp.</i>	Aug - Oct
12.	<i>Passiflora spp.</i>	July-October; : December-February
13.	<i>Myrica esculenta</i>	April-June
14.	<i>Fragaria x ananassa</i>	December-March



CHF/PF



Syzygium cumini (L.) Skeels

5. Year-1 Targets and deliverables :



Key Performance Indicator	Target (Absolute number)
Villages covered	5
Households reached	250-300
Women beneficiaries	60-70 women per state
Youth beneficiaries	30-50
Trees planted	1,000–2,000
Fruit species promoted	10–15 fruit species
Trainings planned	8-10 training/awareness programmes
Nurseries established	2-3 nurseries (Initiation)

6. Collaboration Opportunities (Offer and Ask)



What we can offer	Support we need
• Diversified Fruit Village for tribal and border communities of three NEH states	• Advanced nutritional profiling and bioactive compound analysis of indigenous fruits for nutritional security and recommendation for wider adaptability to the specific areas
• Fruit-based landscape restoration approaches for degraded hilly terrains	• Standardized baseline survey and dietary diversity assessment tools
• Adaptation of GAP for climate-smart fruit cultivation in Eastern Himalayan hill ecosystems (GI tagged citrus species)	• MEL framework development and impact assessment methodologies
• Promotion of local Indigenous and underutilized fruit germplasm (nutritional security point of view)	• Access to elite germplasm and quality planting materials of promising fruit species
• Community nursery establishment and Quality Planting Material (QPM) to self dependent	• Market linkage and enterprise development strategies for fruit products
• Capacity building modules on nursery management, orchard management and fruit value addition	• Documentation, communication and knowledge management support
• Experience in working with tribal communities, women SHGs and youth groups	• Cross-learning visits and exchange of successful fruit-based livelihood models
• Demonstration sites across Arunachal Pradesh, Meghalaya and Sikkim for collaborative research and validation	• Collaboration on policy advocacy and scaling strategies

7. Baseline, MEL and Next Steps::

- Household survey (400–500 households): large scale, homestead, kitchen gardens etc.
- GIS mapping and collection of underutilized fruit species
- Fruit diversity assessment
- Documentation of indigenous knowledge
- 5 villages covered
- 2-3 nurseries initiation
- 1,000–2,000 trees planted
- 10-15 fruit species promoted
- 8-10 training programmes
- Demonstration site development
- Capacity building of women & youth
- Diversified Fruit Village implementation
- Regular monitoring and progress review



8. Budget summary

Category		YEAR 1	YEAR 2	YEAR 3	TOTAL
Personnel (Project Assistant @ Rs. 25,000/month; consolidated)		3,00,000	3,00,000	3,00,000	9,00,000
Planting material and field trials (Consumables)	CHF, Pasighat, Arunachal Pradesh	2,00,000	1,50,000	50,000	4,00,000
	COH, Bermiok, Sikkim	1,00,000	50, 000	50,000	2,00,000
	COA, Kyrdemkulai, Meghalya	1,00,000	50, 000	50,000	2,00,000
Infrastructure (if justified)		NIL	NIL	NIL	NIL
Capacity building and awareness workshops (General)	CHF, Pasighat, Arunachal Pradesh	50,000	75,000	75,000	2,00,000
	COH, Bermiok, Sikkim	25,000	25,000	25,000	75,000
	COA, Kyrdemkulai, Meghalya	25,000	25,000	25,000	75,000
Travel (only project related)	CHF, Pasighat, Arunachal Pradesh	1,40,000	1,30,000	75,000	3,45,000
	COH, Bermiok, Sikkim	50,000	50,000	50,000	1,50,000
	COA, Kyrdemkulai, Meghalya	50,000	50,000	50,000	1,50,000
Monitoring, documentation and publication	CHF, Pasighat, Arunachal Pradesh	NIL	NIL	35,000	35,000
	COH, Bermiok, Sikkim	NIL	NIL	30,000	30,000
	COA, Kyrdemkulai, Meghalya	NIL	NIL	30,000	30,000
Field days	CHF, Pasighat, Arunachal Pradesh	NIL	NIL	20,000	20,000
	COH, Bermiok, Sikkim	NIL	NIL	20,000	20,000
	COA, Kyrdemkulai, Meghalya	NIL	NIL	20,000	20,000
Administration (5%)					1,50,000
Total (INR)					30,00,000
Total (USD)					32,967.00

Risk

- **Heavy monsoons** can exacerbate erosion, degrade soil, and damage young orchards.
- **Border-area villages** have weak road connectivity or **no motorable roads**, making transport of seedlings, inputs and other transportation difficult.
- Water management challenges
- Cost and logistics for transportation to remote areas
- Shifting cultivation (“jhum”) practices

Mitigation strategy

- Selection of **native or well adopted** nutrient-rich fruit species to reduce ecological disruption.
- **Involve tribal communities** for species selection, choose orchard layouts, and integration with their traditional systems
- **Encourage** small-scale processing units in local villages to reduce need for transporting raw fruit long distances
- **Hands on training**, awareness programs, workshops, field demonstrations will be conducted to improve cultivation practices and awareness about nutritionally rich fruit species



Incessant rains lead to flash floods, landslides; death toll rises to 12





Thanks