CASHEW FARMER FIELD SCHOOL (FFS) REPORT

Pinakota Micro-Landscape

SUSTAINABLE AGRICULTURE & LIVELIHOODS ACROSS LANDSCAPES IN EASTERN & WESTERN GHATS (SABAL)

Introduction:

Promoting Cashew Eco-Intensification in Landscape areas is one of the core components in SABAL project where Cashew is growing. Under the Cashew Eco-Intensification part, we have selected 40 Demonstration plots from Pinakota Micro- Landscape, and we designed a few Cashews' POP Manual for the Eco-Intensification Model to apply.

Why Farmer Field Schools (FFS)??

Farmer Field Schools (FFS) are a participatory and interactive approach to agricultural extension and education. The main objectives of FFS are:

1. Improved agricultural productivity
2. Sustainable agricultural practices
3. Empowerment of farmers
4. Community development
5. Knowledge sharing and dissemination
6. Problem-solving and critical thinking
7. Market access and entrepreneurship
8. Climate change resilience
9. Soil conservation and health
10. Food security and nutrition:

Objective of the Cashew Eco-Intensification:

- 40 Demonstration Cashew Orchards Development
- Ensure 2 types of shade plants (20 Plants /Ac) to be planted in Cashew Lands.
- Ensure 100% Pest & Disease Management by following Organic & NF Methods
- Increase Yield (Parchment) 20% by the end of the period.
- Enhance the farmer Income & Plot Bio-Diversity- Fruit bearing Plants, Pineapple, Ginger & Turmeric as intercrops.
- Ensure the Land Degradation Neutrality (LDN)- Plantation, Stone Bunding & Basins

Activity (FFS) Description:

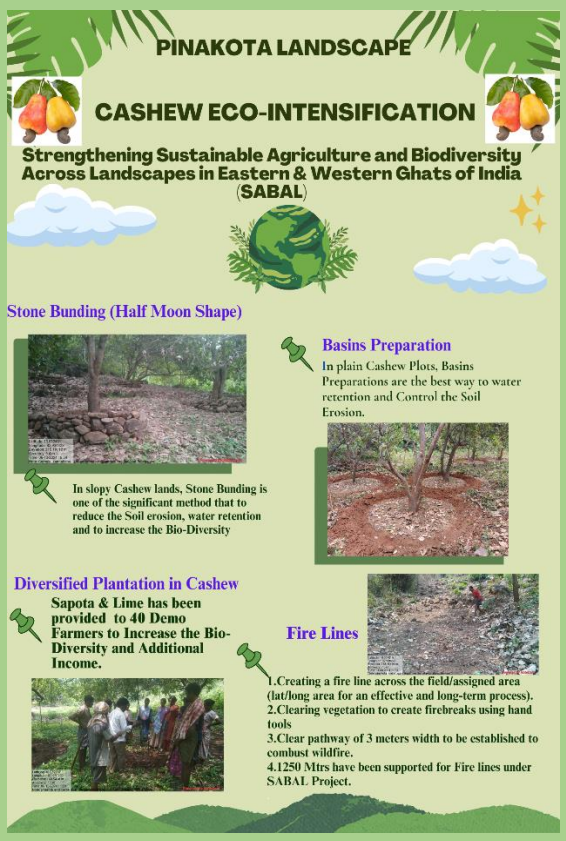
Part of Cashew Eco-Intensification Model, we have provided 2 different fruit bearing plants (Sapota & Lime) to each demo farmer and transplanted in the month of June 2024. In addition to that, given support for arranging the Stone Bunding, Fire lines arrangement, Basins and Agriculture Lime application to all 40 demo farmers. In continues that, we

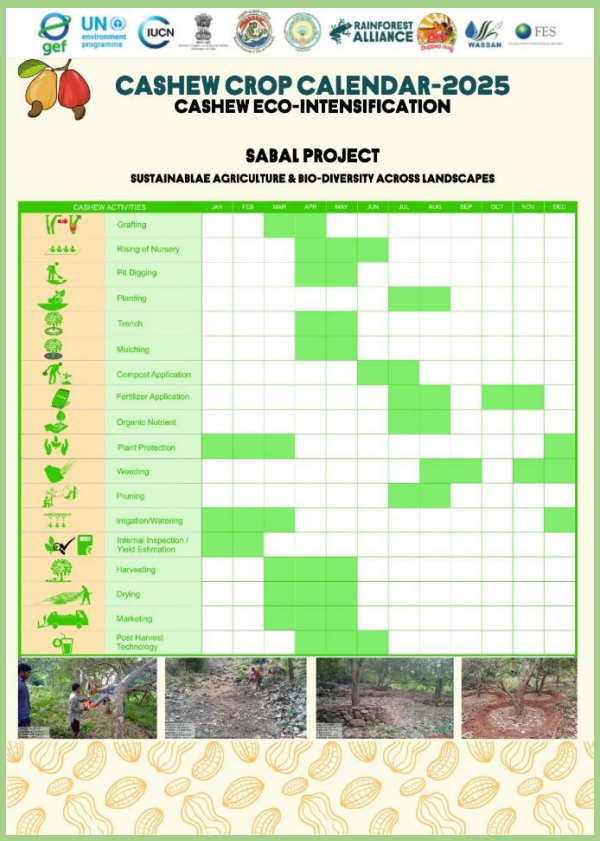
planned to organize FFS (Farmer Field School) to the 40 Demo Farmers as per the Designed Manual of Cashew Eco-Intensification.

Andhrapradesh Cashew Varieties: **BPP-4, BPP-5, BPP-6, BPP-8,**

*** The FFS has been conducted from July to December (Monthly Trainings) 2024.**
Total 6 Filed level trainings were conducted among the Landscape, and also been monitored the execution by the farmers which they learned in the FFS.

S.No	Micro-Landscape Name	Date of the training	Venue	No of the participants	Resource Person
1	Pinakota	31-07-2024	Ballagaruvu	40	Mr.Manikyam, Wassan
2	Pinakota	06-08-2024	Pinakota	37	Mr.Manikyam, Wassan
3	Pinakota	18-09-2024	Vajangi	35	Mr.Manikyam, Wassan
4	Pinakota	29-10-2024	Ballagaruvu	37	Mr.Manikyam, Wassan
5	Pinakota	13-11-2024	Chinthapaka	38	Mr.Manikyam, Wassan
6	Pinakota	05-12-2024	Mallampeta	34	Mr.Manikyam, Wassan





Month Wise Covered Topics in the Cashew FFS

July 2024

Activities Discussed in the Training: Pre-Monsoon and Monsoon Care:

- Plantation (New Plants/Gap Filling, Other Fruit bearing plants), Compost Application, Pruning are the Major activities in July

Orchard Management

1. Pruning: Prune cashew trees to maintain shape, promote air circulation, and encourage fruiting.
2. Weeding: Control weeds through regular weeding or mulching to prevent competition for nutrients and water.
3. Soil Mulching: Apply organic mulch around the tree basin to retain moisture, suppress weeds, and regulate soil temperature.

Cover cropping: Leguminous cover enriches soil with the plant nutrients and adds organic matter, prevent soil erosion and conserves moisture. The seeds of these cover crops may be sown in the beginning of rainy season

Pest and Disease Management

1. Pest Monitoring: Regularly monitor for pests like tea mosquito bugs, stem borers, and root borers.
2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply fungicides as needed.
3. Integrated Pest Management (IPM): Adopt IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Nutrient Management

1. Organic Manure: Apply 5-10 kg of organic manure (like compost or vermicompost) per tree.

Irrigation Management

1. Soil Moisture Monitoring: Monitor soil moisture levels to determine irrigation needs.
2. Irrigation Scheduling: Irrigate cashew trees at an interval of 10-15 days during the monsoon season.

Other Practices

1. Support System: Provide support to trees using stakes or trellises to prevent damage from strong winds.
2. Record Keeping: Maintain records of orchard management practices, pest and disease incidence, and yield data for future reference.

By following these practices, cashew farmers can ensure healthy tree growth, optimal fruit production, and better yields.

AT BALLAGARUVU VILLAGE on 31-07-2025.

August 2024

Activities Discussed in the Training:

- Plantation (New Plants/Gap Filling, Other Fruit bearing plants), Compost Application, Pruning are the Major activities in August.

Orchard Management

1. Soil Aeration: Aerate the soil around the tree basin to improve soil oxygenation and reduce soil compaction.
2. Weed Control: Continue weeding and mulching to prevent weed growth and retain soil moisture.
3. Tree Training: Train cashew trees to maintain a central leader and promote a well-spaced canopy.

Pest and Disease Management

1. Pest Monitoring: Continue monitoring for pests like tea mosquito bugs, stem borers, and root borers.
2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply fungicides as needed.
3. Integrated Pest Management (IPM): Continue adopting IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Irrigation Management

1. Soil Moisture Monitoring: Continue monitoring soil moisture levels to determine irrigation needs.
2. Irrigation Scheduling: Irrigate cashew trees at an interval of 10-15 days during the monsoon season.

Other Practices

1. Fruit Thinning: Thin fruit to promote proper growth and development.
2. Record Keeping: Continue maintaining records of orchard management practices, pest and disease incidence, and yield data for future reference.

AT PINAKOTA VILLAGE on 06-08-2025

September 2024

Activities Discussed in the Training:

- Weeding Practices, Organic Manure Application, Stem & Root Borer control are the Major activities in September

Irrigation Management

1. Soil Moisture Monitoring: Continue monitoring soil moisture levels to determine irrigation needs.

2. Irrigation Scheduling: Irrigate cashew trees at an interval of 10-15 days during the monsoon season.

Orchard Management

1. Soil Mulching: Continue mulching around the tree basin to retain soil moisture and suppress weeds.

2. Tree Pruning: Prune cashew trees to maintain shape, promote air circulation, and encourage fruiting.

3. Weed Control: Continue weeding and mulching to prevent weed growth and retain soil moisture. Weeding with a light digging should preferably be done before the end of rainy reason. Hoeing, cutting the weeds off underground is more effective than slashing

Pest and Disease Management

1. Pest Monitoring: Continue monitoring for pests like tea mosquito bugs, stem borers, and root borers.

2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply fungicides as needed.

3. Integrated Pest Management (IPM): Continue adopting IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Nutrient Management

1. Application of manures is very limited in the case of Cashew. In order to get better yield, it is essential to maintain adequate N:P:K ratio in the soil. Application of 10-15 kg of farmyard manure per plant is recommended to ensure adequate organic matter in the soil.

2. Apply Drava Jeevamrutham & Ghana Jeevamrutham 1000Kgs/Acre

Special Practices for September

1. Fruit Development: Monitor fruit development and take necessary measures to promote proper growth and development.

2. Pre-Harvest Preparation: Prepare for the upcoming harvest season by cleaning and maintaining harvesting equipment.

3. Soil Testing: Conduct soil testing to determine nutrient deficiencies and plan for fertilizer applications.

October 2024

Activities Discussed in the Training:

- Need to provide the rest to the Plants, Should not do the Pruning, Organic Manure Application, Stem & Root Borer control are the Major activities in October

Pest and Disease Management

1. Pest Monitoring: Continue monitoring for pests like tea mosquito bugs, stem borers, and root borers.
2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply Organic fungicides (Neemastra, Brahmastra & Agnastra) as needed.
3. Integrated Pest Management (IPM): Continue adopting IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Orchard Management

1. Tree Pruning: Prune cashew trees to maintain shape, promote air circulation, and encourage fruiting.
2. Weed Control: Continue weeding and mulching to prevent weed growth and retain soil moisture.
3. Soil Mulching: Continue mulching around the tree basin to retain soil moisture and suppress weeds.

Nutrient Management

1. Apply Drava Jeevamrutham 1000Lts/Acre & Ghana Jeevamrutham 1000Kgs/Acre
2. Application of manures is very limited in the case of Cashew. In order to get better yield, it is essential to maintain adequate N:P:K ratio in the soil. Application of 10-15 kg of farmyard manure per plant is recommended to ensure adequate organic matter in the soil.

Irrigation Management

1. Soil Moisture Monitoring: Continue monitoring soil moisture levels to determine irrigation needs.
2. Irrigation Scheduling: Irrigate cashew trees at an interval of 10-15 days during the monsoon season.

Other Practices

1. Record Keeping: Continue maintaining records of orchard management practices, pest and disease incidence, and yield data for future reference.
2. Equipment Maintenance: Clean and maintain harvesting equipment to ensure optimal performance.

AT BALLAGARUVU VILLAGE on 29-10-2024

November 2024

Activities Discussed in the Training:

- Need to provide the rest to the Plants, Should not do the Pruning, Organic Manure Application, Stem & Root Borer control are the Major activities in November.

Orchard Management

1. Tree Pruning: Prune cashew trees to maintain shape, promote air circulation, and encourage fruiting.
2. Weed Control: Continue weeding and mulching to prevent weed growth and retain soil moisture.
3. Soil Mulching: Continue mulching around the tree basin to retain soil moisture and suppress weeds.

Pest and Disease Management

1. Pest Monitoring: Continue monitoring for pests like tea mosquito bugs, stem borers, and root borers.
2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply fungicides as needed.
3. Integrated Pest Management (IPM): Continue adopting IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Irrigation Management

1. Soil Moisture Monitoring: Continue monitoring soil moisture levels to determine irrigation needs.
2. Irrigation Scheduling: Irrigate cashew trees at an interval of 10-15 days during the post-monsoon season.

Other Practices

1. Record Keeping: Continue maintaining records of orchard management practices, pest and disease incidence, and yield data for future reference.
2. Equipment Maintenance: Clean and maintain harvesting equipment to ensure optimal performance.

AT CHINTHAPAKA VILLAGE ON 13-11-2024

December 2024

Activities Discussed in the Training:

- Tea-Mosquito Bug Controlling methods, Leaf-Rust control, Neemastra Application are the Major activities in October

Orchard Management

1. Tree Pruning: Prune cashew trees to maintain shape, promote air circulation, and encourage fruiting.
2. Weed Control: Continue weeding and mulching to prevent weed growth and retain soil moisture.
3. Soil Mulching: Continue mulching around the tree basin to retain soil moisture and suppress weeds.

Pest and Disease Management

1. Pest Monitoring: Continue monitoring for pests like tea mosquito bugs, stem borers, and root borers.
2. Disease Management: Inspect trees for diseases like powdery mildew, leaf spot, and root rot. Apply fungicides as needed.
3. Integrated Pest Management (IPM): Continue adopting IPM practices like introducing beneficial insects, practicing good sanitation, and using resistant varieties.

Nutrient Management

1. Fertilizer Application: Apply a balanced fertilizer (10:10:10 NPK) at the rate of 100-150 g per tree.
2. Micronutrient Application: Apply micronutrients like zinc, boron, and copper to prevent deficiencies.

Irrigation Management

1. Soil Moisture Monitoring: Continue monitoring soil moisture levels to determine irrigation needs.
2. Irrigation Scheduling: Irrigate cashew trees at an interval of 15-20 days during the winter season.

Other Practices

1. Record Keeping: Continue maintaining records of orchard management practices, pest and disease incidence, and yield data for future reference.
2. Equipment Maintenance: Clean and maintain harvesting equipment to ensure optimal performance.
3. Soil Testing: Conduct soil testing to determine nutrient deficiencies and plan for fertilizer applications in the next season.

AT MALLAMPETA ON 05-12-2024

Pest & Diseases in Cashew

Pests

It is observed that there are about 30 species of insects infesting cashew. Out of these tea mosquito, flower thrips, stem and root borer and fruit and nut borer are the major pests, which are reported to cause around 30% loss in yield.

Tea Mosquito

The nymphs and the adults of tea mosquito (Helopeltis spp.) suck sap on the tender leaves, shoots and inflorescence and even young nuts and apples. The saliva of the insect is very toxic, which causes blistering at the site of infestation. Severe attack on the young shoots cause dieback. Attacked inflorescence usually can be recognised from a distance by their scorched appearance. Tea mosquito population builds up during the beginning of the rainy season, when the cashew tree is full of new flush.

Thrips

Both nymphs and adults suck and scrape at the underside of the leaves, mainly along main veins, causing yellowish patches, latter turning grey, giving the leaves a silvery appearance. The thrips are more active during the dry season.

Stem and Root Borers

The young white grubs bore into the fresh tissues of the bark of the trunk and roots and feed on the subsequent subepidermal tissues and make tunnels in irregular directions. Due to severe damage to the vascular tissue the sap flow is arrested and the stem is weakened. The characteristic symptoms of damage include the presence of small holes in the collar region, gummosis, yellowing and shedding of the leaves and drying of the twigs. Once the plant is infested complete control of this pest is very difficult, Agriculture Lime Application is the remedy for controlling it, once in April-May and the second application during November.

Basins has to be prepared around the tree and Neem oil sprayings (50ml/Ltr) can be done as a controlling method.

At Pinakota Micro-Landscape

Fruit and Nut Borers

The young caterpillar bores through the apple and nut causing deformity and /or loss of kernel weight.

Diseases:

Fortunately cashew crop does not have any serious disease problem except the powdery mildew caused by a fungus, which affects the young twigs and inflorescence and makes it wither. This disease generally appears when the weather becomes cloudy. Control can be obtained by dusting the ash.

CASHEW INTENSIFICATION PLOTS DETAILS- PINAKOTA LANDSCAPE

S.No	Village Name	Farmer name	Spouse Name	Latitude	Longitude	Size of the Plot	Age of Plantation	No Of Cashew Plants
1	Velagalapadu	Potengi . Pandayya	W/o Jamulamma	18.044434	82.94498	1	3 Years	40
2	Arumengaruvu	Pandi. Raju	W/o Devudamma	18.045712	82.953924	1	15 years	30
3	Chinthapaka	Chintha.Jamulamma	W/o Chittibabu	18.046135	82.954702	1	20 years	55
4	Chinthapaka	Chintha. Kanamma	W/o Gagulu	18.042738	82.942343	1	09 years	45
5	Chinthapaka	Chintha. Demudu Babu	W/o Jamulamma	18.059748	82.948492	1	16 years	45
6	Chinthapaka	Kandula. Nagaraju	W/o Pothamma	18.055143	82.955708	1	20 years	46
7	Chinthapaka	Vanthala .kanalamma	W/o Ramanna	18.061076	82.952299	1	15 years	60
8	Malampeta	Gumadi. Esawramma	W/o Pentarao	18.059837	82.941872	1	22 years	51
9	Velagalapadu	Pandhi. Pedha pentayya	S/o Bhemanna dora	18.045553	82.942564	1	4 years	55
10	Velagalapadu	potengi.Gangaraju	S/o Pandayya	18.145699	82.943546	1	7 years	62
11	Chinthapaka	Gemeli . potamma	W/o Jamulu	18.060214	82.950869	1	08 years	51
12	Chinthapaka	Vanthala .Laxmi	W/o Kondababu	18.059568	82.954359	1	10 years	65
13	Chinthapaka	Madugula. Janni	S/o Narayana	18.045553	82.942564	1	18 years	50
14	Chinthapaka	Kandula. Mallesh	S/o Chinayya	18.053232	82.956928	1	15 years	59
15	Chinthapaka	Kandula. kaneyadora	S/o Bhemanna	18.053648	82.95615	1	22 years	54
16	Chinthapaka	Thamala .malamma	W/o Bhemanna	18.05714	82.953912	1	7 years	75
17	Chinthapaka	Chintha .gangathalli	w/o Bhemanna	18.057285	82.938266	1	7 years	75
18	Chinthapaka	Chintha .kondababu	S/o Jamulu	18.067212	82.934289	1	7 years	80
19	Chinthapaka	Vanthala. Laxmi	W/o Nilakatham	18.060419	82.951377	1	8 years	59
20	Borrapalem	Dippala. Yarakanna	W/o Potamma	18.084633	82.963637	1	9 years	40
21	Borrapalem	Gemela. Padiythalli	W/o Jamulamma	18.087924	82.968536	1	9 years	50
22	Borrapalem	Ulam . Bhemanna	S/o Gangalu	18.088257	82.967917	1	2 years	40
23	Malampeta	Gumadi .Dharamaraju	S/o maradayya	18.064032	82.942911	1	7 years	65
24	Malampeta	Yenikala .Achamma	W/o dhuragallu	18.064693	82.943133	1	7 years	72
25	Malampeta	Yenikala. Gangadhar	S/o pentayya	18.066663	82.944174	1	10 years	69
26	Malampeta	Somela .Gangulu	S/o karanna	18.066956	82.944066	1	6 years	74
27	Malampeta	Yenikala .Eswarao	S/o kannayadorra	18.069274	82.943989	1	6 years	72
28	Malampeta	Janni . Jogarao	S/o Gangalu	18.068241	82.943406	1	4 years	80
29	Malampeta	Yenikala .Ravi	S/o Gangadhar	18.066217	82.944074	1	4 years	69
30	Malampeta	Yenikala .Chinarao	S/o Penatayya	18.063201	82.942857	1	7 years	74
31	Balagaruvu	Chintha .singanna	S/o Bhemanna	18.053032	82.942472	1	8 years	65
32	Balagaruvu	Chintha .Raju	S/o Devudu	18.062521	82.930734	1	8 years	54
33	Balagaruvu	Gemeli .Bhemaraju	S/o kalanna	18.063624	82.891851	1	9 years	60
34	Balagaruvu	Chintha .kondababu	S/o Jamulu	18.062672	82.934289	1	8 years	64

35	Balagaruvu	Gemeli .Nilamma	W/o Kanayya	18.057302	82.938247	1	8 years	74
36	Balagaruvu	Gemeli.Sithamma	W/o chinaelukullu	18.057285	82.938266	1	8 years	69
37	Balagaruvu	Chintha. Ganagathalli	W/o Bhemanna	18.057023	82.954845	1	7 years	76
38	Vajangi	Thamala. Kondababu	W/o Mugamma	18.057029	82.938239	1	10 years	50
39	Vajangi	Chintha.Bhemanna	S/o Bhalanna	18.060107	82.928596	1	4 Years	60
40	Vajangi	Thamala .kondamma	W/o Yedanna	18.065422	82.925811	1	9 years	58

Convergence:
By taking the support of Horticulture Department, KVKs, RySS team as convergence, Implemented the FFS in Cashew Eco-Intensification Model.

Conclusion:
By achieving the core objectives, FFS can contribute to improved livelihoods, increased food security, and sustainable agricultural development.
FFS will be useful while aiming into increasing the productivity as well as Income of the farmer. SABAL is organizing the Farmer Field School to track the farm status as well farmer opinions in executing the Package of Practices as per the Cashew Manual. We are hoping that the Production and Farmer income will be increased and Plot Diversity also been emphasized.

Thank You