Crop resilience due to heavy rainfall in November 2021

Comparison of crop resilience in APCNF and chemical farms

WEST GODAVARI

West Godavari Case 1.General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Ch. Satish	V. Govindarao
2	Village	Ammapalem	Ammapalem
3	Mobile Number	9989139568	-
4	Soil type	Sandy Clay loamy	Sandy Clay loamy
5	Area of the plot (acre)	2.00	2.00
6	Name of the crop & Variety	Paddy – 1262	Paddy – 1262
7	Date of Transplantation	23/7/2021	23/7/2021

Damage in APCNF vs. Chemical Paddy

APCNF

CHEMICAL

Current situation in the field after heavy rain

S.No	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry etc.)	The field of the APCNF is wet	The field is inundated as a result of the recent rains
2	Crop lodging yes/no (if yes please provide in percentage)	There was no signs of crop lodging	More than 50% of the crop was found to be lodged
3	Pest and disease incidence	There were no signs of pests or diseases	Bacterial leaf blight and sheath blight were reported

APCNF

CHEMICAL

APCNF

CHEMICAL

OBSERVATIONS

PLANT BIOMETRICS

- APCNF Farmer Feedback video Link:
- https://drive.google.com/file/d/1EsZ5CHUAeVcaT5PL9VhP7WnNMVCCsm2o/view?usp=drivesdk

- CHEMICAL Farmer Feedback video Link:
- https://drive.google.com/file/d/1EsmQLJ8iawTL6VK-jzR8xOuUbWXclFbu/view?usp=drivesdk

Particulars	APCNF	CHEMICAL
Plant height (cm)	118	124
Root length (cm)	24	18

West Godavari Case 2. General information

S. No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	Mamidisetty Rambabu	Mamidisetty Venkatarao
2	Village	Aratlakatta	Aratlakatta
3	Mobile number	9492179821	8297667754
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acres)	1 acre	1 acre
6	Name of the crop & variety	Paddy - 1318	Paddy - 1318
7	Date of transplantation	7/7/2021	7/7/2021

Current situation in the field after Heavy rains

S.no.	Particular	APCNF	CHEMICAL
1	Current status of the field	APCNF field is under moist condition	Soil is heavily inundated with excessive rains
2	Crop lodging	No crop lodging was found in APCNF	More than 50% of the crop was found to be lodged
3	Pest and disease incidence	Bacterial leaf blight incidence was very low	Leaf folder and Bacterial leaf blight were both found in abundance.

Damage in APCNF versus Chemical paddy

APCNF

CHEMICAL

Observations

Particulars	APCNF	CHEMICAL
No. of tillers	15	10
Plant height (cm)	112	98
Root length (cm)	24	20

After 2 – 3 days of intense cyclonic rains, crop resilience demonstrated by APCNF approaches outperformed chemical methods in Paddy at maturity stage under Delta canal irrigation system.

1. Lodging status after heavy rains

APCNF	CHEMICAL
• Root growth was vigorous, resulting in no lodging of the crop - this may be attributed to the increased organic carbon content and enhanced soil structure enabled mainly by PMDS and all APCNF protocols, which were implemented.	• Due to a lack of root development and excessive vegetative growth, the crop was lodged in more than 50% of the area - this might be ascribed to insect and disease incidence as the crop matured.

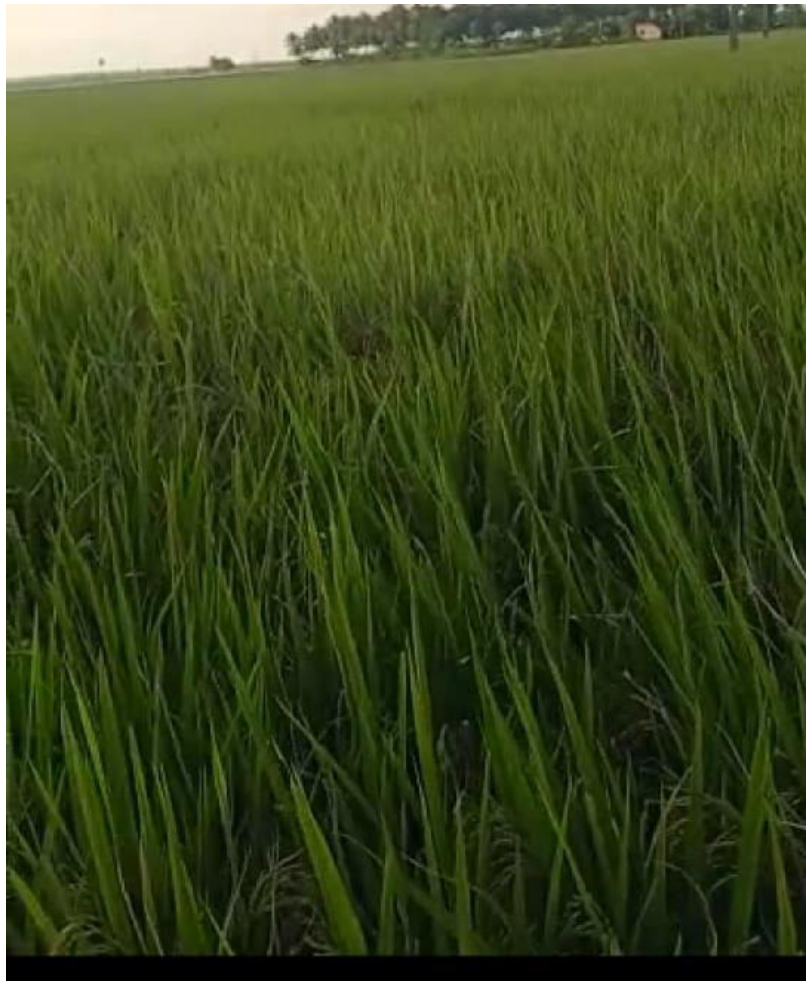
2. Incidence of pest and diseases

APCNF	CHEMICAL
• One reason for the minimal occurrence of pests and diseases is the balanced availability of all nutrients provided by the APCNF protocols and the absence of pesticide use during vegetative growth stage.	• Due to excessive chemical nitrogenous fertiliser use, the pest infestation is more mainly Brown planthoppers and the disease infestation is more mainly bacterial leaf blight and sheath blight, which makes crop to crop susceptible to disease infestation.

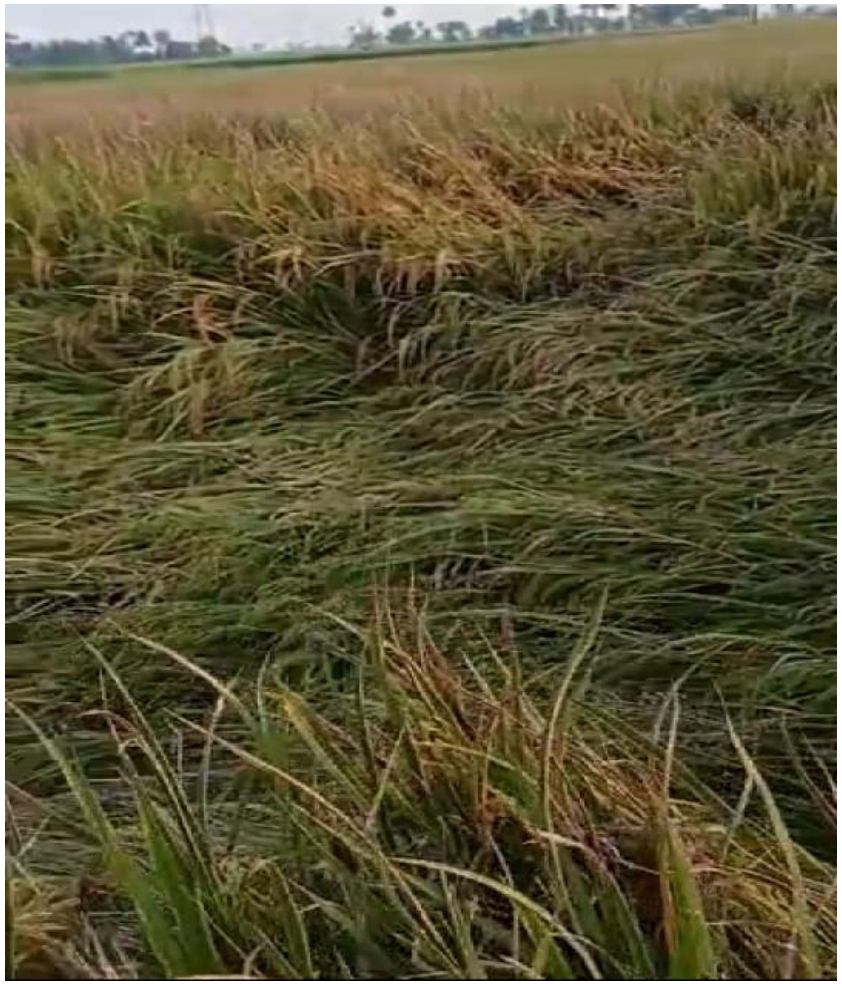
West Godavri Case 3. General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	K. Suryarao	P. Venkatarao
2	Village	Dharmavaram	Dharmavaram
3	Mobile number	7893165309	9000708522
4	Soil type	Black	Black
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & Variety	Paddy – PLA 1100	Paddy – PLA 1100
7	Date of transplantation	5/8/2021	5/8/2021

Damage in APCNF versus Chemical Paddy



APCNF



CHEMICAL

Current situation in the field after heavy rain

S.no.	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is under moist condition	Heavy rains have caused the soil to become waterlogged.
2	Crop Lodging yes/No (if yes please provide in percentage)	There was no signs of crop lodging	More than 50% of the crop was found to be lodged
3	Pest and disease observed	No pest and disease incidence was seen	Bacterial leaf blight was observed

Observations

Particulars	APCNF	CHEMICAL
Plant height (cm)	126	115
Root length (cm)	27	18

APCNF

CHEMICAL

PLANT BIOMETRICS

- Comparison of APCNF & CHEMICAL Root length
- APCNF Farmer Feedback video Link:
- https://drive.google.com/file/d/1DsFVn-ZHeO801zoKS56tQjRMQfbzaYsv/view?usp=drivesdk
- CHEMICAL Farmer Feedback video Link:
- https://drive.google.com/file/d/1DsBfANBcx1dFRQUALQVG6IAGpZtzNCZT/view?usp=drivesdk

West Godavari Case 4.General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	K. Sriram	K. Mojesh
2	Village	Singarajupalem	Singarajupalem
4	Soil type	Red sandy	Red Sandy
5	Area of the plot (acres)	2 acre	0.5 acre
6	Name of the crop & Variety	Paddy – BPT 5204	Paddy – BPT 5204
7	Date of transplantation	12/7/2021	12/7/2021

Current situation following heavy rain

S.No.	Particulars	APCNF	CHEMICAL
1	Current status of the field (deep submergence / standing water / slurry / moist / dry)	APCNF field is under moist condition	Waterlogged due to heavy rains
2	Crop lodging yes/no (if yes please indicate in percentage)	No signs of crop lodging was seen	More than 60% of the crop was found to be lodged
3	Pest and disease incidence	No signs of pest and disease incidence was observed	Heavy incidence of Sheath blight was observed

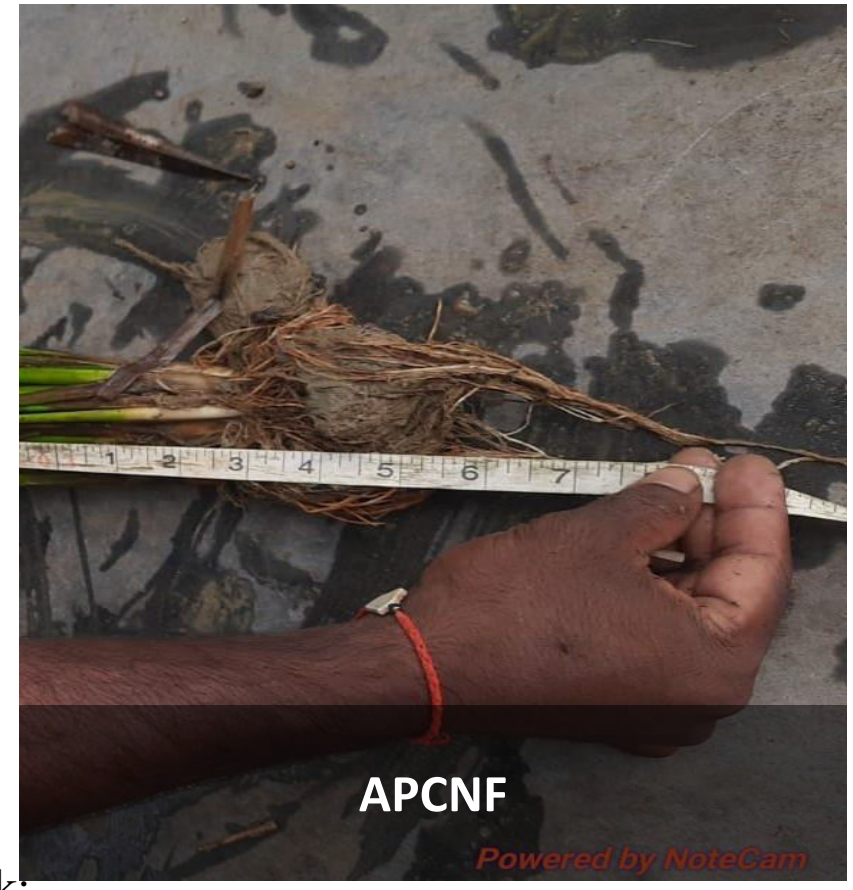
Damage in APCNF versus Chemical Paddy

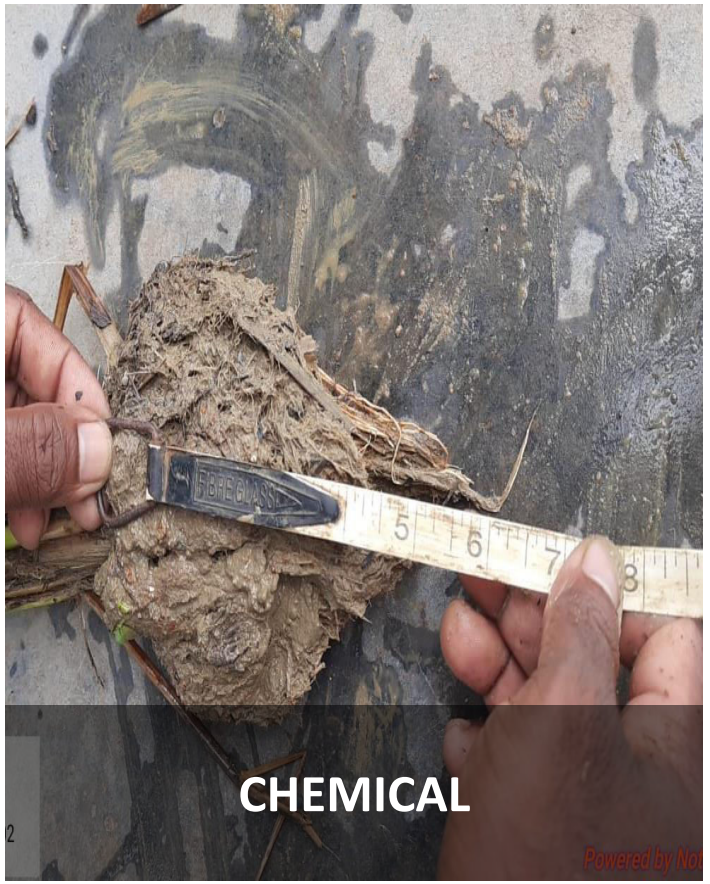
APCNF

CHEMICAL


2 Years ZBNF With PM DS
APCNF
Chemical Field
CHEMICAL

PLANT BIOMETRICS





APCNF Farmer Feedback video Link:
https://drive.google.com/file/d/1DpOO_jXybDR7W0N-hmz8aTdOS_J0YEQ5/view?usp=drivesdk

CHEMICAL Farmer Feedback video Link:
https://drive.google.com/file/d/1Dq_vAR-Ng0_LBXZj7oJ6pIRyXx6jyGEb/view?usp=drivesdk

West Godavari Case 5.General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	D. Srinu	S. Peddiraju
2	Village	Valmarru	Valmarru
3	Phone number	7893155062	9951062375
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & Variety	Paddy – MTU 1153	Paddy - MTU 1153
7	Date of transplantation	3/8/2021	3/8/2021

The current situation followed in the field after heavy downpours

S.No.	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is in a wet condition	Heavy rains have caused the soil to become waterlogged
2	Crop Lodging yes/no (if yes indicate percentage of lodging)	There was no evidence of crop lodging	Over 50% of the crop was lodged
3	Pest and diseases observed	There was no evidence of pest or disease	Sheath blight disease was prominent

Damage in APCNF versus Chemical paddy

APCNF

CHEMICAL

OBSERVATIONS

Particulars	APCNF	CHEMICAL
Plant height (cm)	122	133
Root length (cm)	30	16

Plant biometrics recorded after heavy rains

Over all observations regarding crop resilience manifested by PMDS + APCNF methods over the chemical methods in Paddy at Maturity stage under Delta canal irrigation system after 2 – 3 days of severe cyclonic rains

1. Lodging status after heavy rains

APCNF	CHEMICAL
• Root growth was vigorous, resulting in no lodging of the crop - this may be attributed to the increased organic carbon content and enhanced soil structure enabled mainly by PMDS and all APCNF protocols, which were implemented	• Due to a lack of root development and excessive vegetative growth, the crop was lodged in more than 50% of the area - this might be ascribed to insect and disease incidence as the crop matured

2. Incidence of Pest and Diseases

APCNF	CHEMICAL
• Pest and disease incidence is extremely low – This could be attributed to the stronger and optimal vegetative growth that occurs during the vegetative growth stage as a result of the balanced availability of all nutrients provided by the APCNF protocols, as well as the absence of pesticide use	• Pest infestation is primarily Brown plant hopper, and disease infestation is primarily bacterial leaf blight and sheath blight – This could be attributed to the use of very high chemical nitrogenous fertilisers, which causes luxurious vegetative growth (shoot growth), making crop to crop susceptible to pest and disease infestation.

APCNF Farmer Feedback video Link:
https://drive.google.com/file/d/1Gd_LaN0gr-iSjr9Shg6_M1Uu6ss-AkGF/view?usp=drivesdk

CHEMICAL Farmer Feedback video Link:
https://drive.google.com/file/d/1EXRupA5bwbKR2sxo-1YMUkLKv4lNJfFT/view?usp=drivesdk

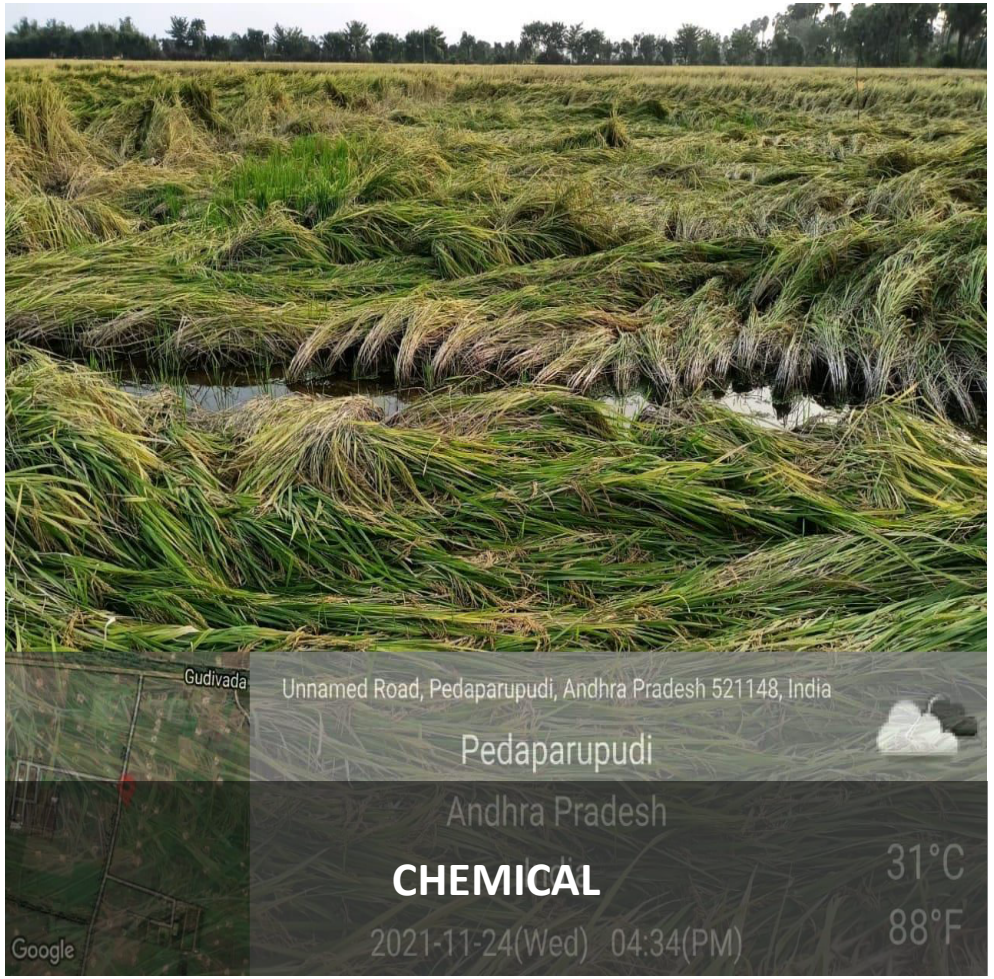
Crop resilience in Krishna district

Krishna Case 1.General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	M. Ranga rao	M. Radha krishna
2	Village	Pedaparupudi	Pedaparupudi
3	Unit	Pedaparupudi	Pedaparupudi
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & Variety	Paddy – MTU-2231	Paddy – MTU-2231
7	Date of transplantation	10/07/2021	12/7/2021

Current situation in the field following heavy rain

S. No	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is slightly in moist condition	Excessive rains have inundated the soil
2	Crop lodging yes/no (if yes indicate in percentage)	There was no evidence of crop lodging	Crop lodging was observed in more than 50 % of the field
3	Shoot length (cm)	132	135
4	Root length (cm)	23	18
5	Pest and disease incidence	There was no evidence of pests or diseases	Major pests such as BPH and Sheath blight disease were seen to a large extent



Damage in APCNF versus Chemical Paddy

Krishna Case 2 : General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	V. Mallaiah swami	V. Rambabu
2	Village	West digavalli	West digavalli
3	Unit	Annavaram	Annavaram
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & variety	Paddy – BPT-5204	Paddy – BPT-5204
7	Date of transplantation	2/08/2021	03/8/2021

Current status in the field followed after heavy rain

S. No	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Due to heavy infiltration, the APCNF field is moist.	Excessive rains have inundated the soil.
2	Crop lodging yes/no (if yes indicate in percentage)	There was no evidence of crop lodging	Crop lodging was observed in more than 30 % of the field
3	Shoot length (cm)	112	120
4	Root length (cm)	25	17
5	Pest and disease incidence	No pest and Disease incidence was observed	BPH Sheath blight disease was observed

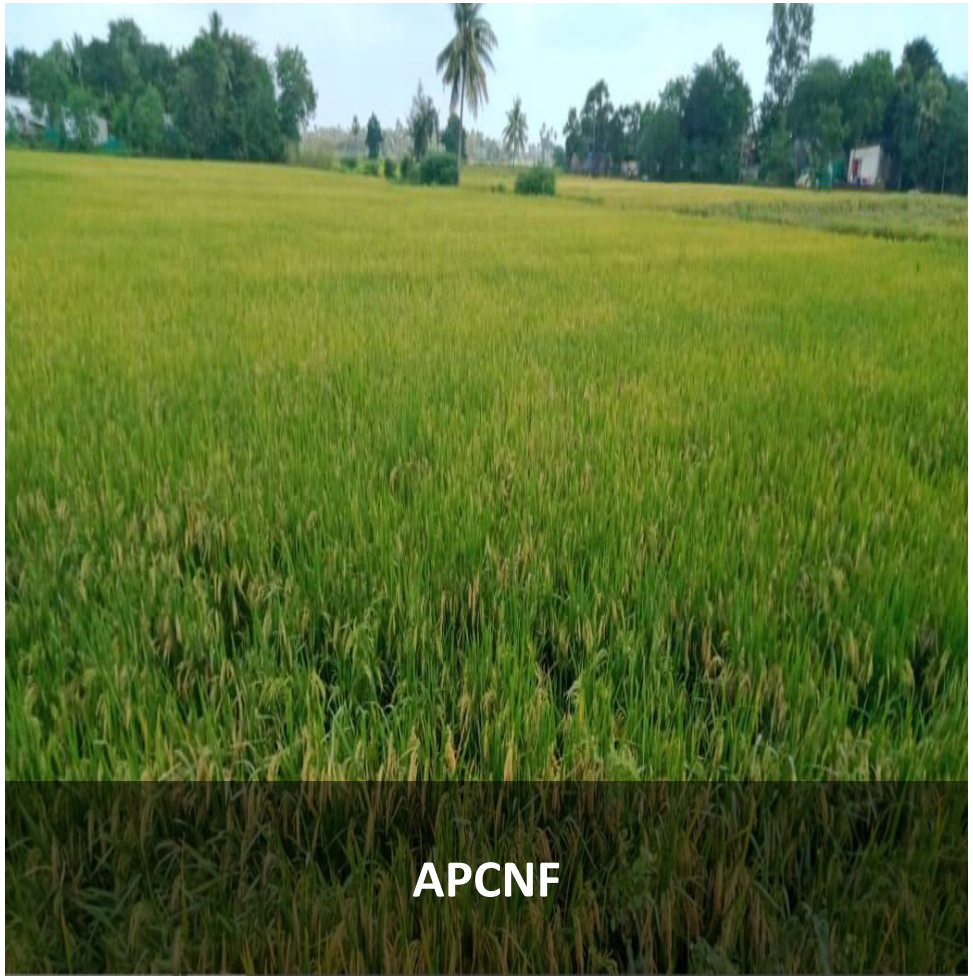
Damage in APCNF versus Chemical Paddy

Krishna Case 3 :General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	T. Kejiya	Kalapala sitha ramaiah
2	Village	Maddhipatla	Maddhipatla
3	Unit	Maddhipatla	Maddhipatla
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acre)	1.00	1.00
6	Name of the crop & variety	Paddy – BPT-5204	Paddy – BPT-5204
7	Date of transplantation	21/07/2021	25/7/2021

The current scenario in the field is as a result of extreme rain

S. No	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Due to heavy infiltration, the APCNF field is moist	Excessive rains have inundated the soil
2	Crop lodging yes/no (if yes, please indicate in percentage)	There was no evidence of crop lodging	Crop lodging was observed in more than 40 % of the field
3	Pest and diseases incidence	No evidence of pest and Disease incidence	Sheath blight disease was severe



Damage in APCNF versus Chemical Paddy

OBSERVATIONS


APCNF


Chemical

Particulars	APCNF	CHEMICAL
Plant height (cm)	104	110
Root length (cm)	36	26


APCNF


Chemical

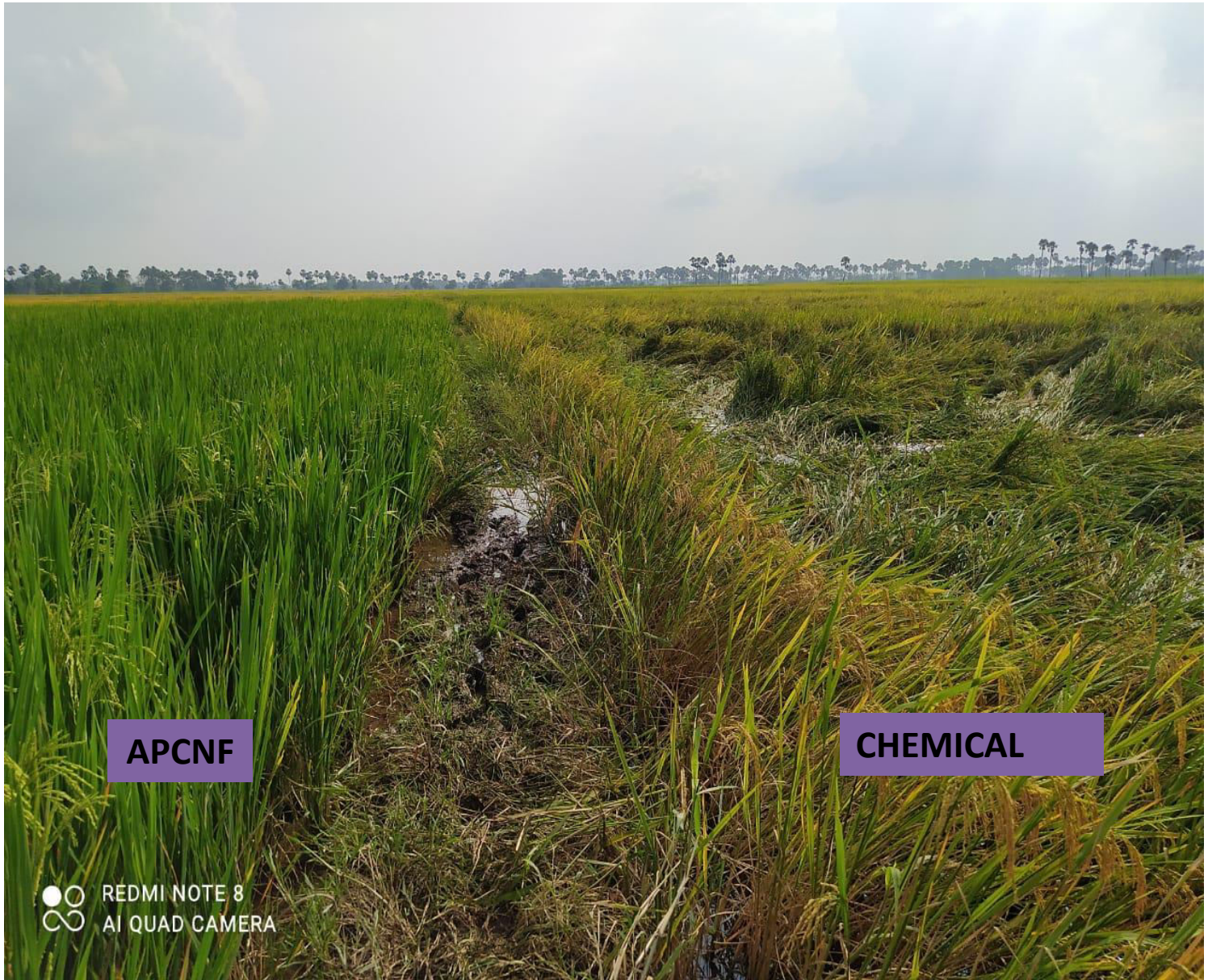
Krishna Case 4: General information

S.No	Particulars	APCNF	CHEMICAL
1	Name of the farmer	A. Krishna kumari	U. Anjanejulu
2	Village	Undrapudi	Undrapudi
4	Soil type	Black cotton	Black cotton
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & Variety	Paddy – MTU-1061	Paddy- MTU- 1061
7	Date of transplantation	11/07/2021	15/7/2021

The current situation on the field resulted from severe rain

S. No	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Due to heavy infiltration, the APCNF field is moist	Excessive rains have inundated the soil
2	Crop Lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	More than 30% of crop lodging was observed
3	Shoot length (cm)	110	132
4	Root length (cm)	31	26
5	Pest and disease incidence	There was no evidence of pest and disease attack	Severe sheath blight incidence was observed

Damage in APCNF versus Chemical Paddy



Guntur District

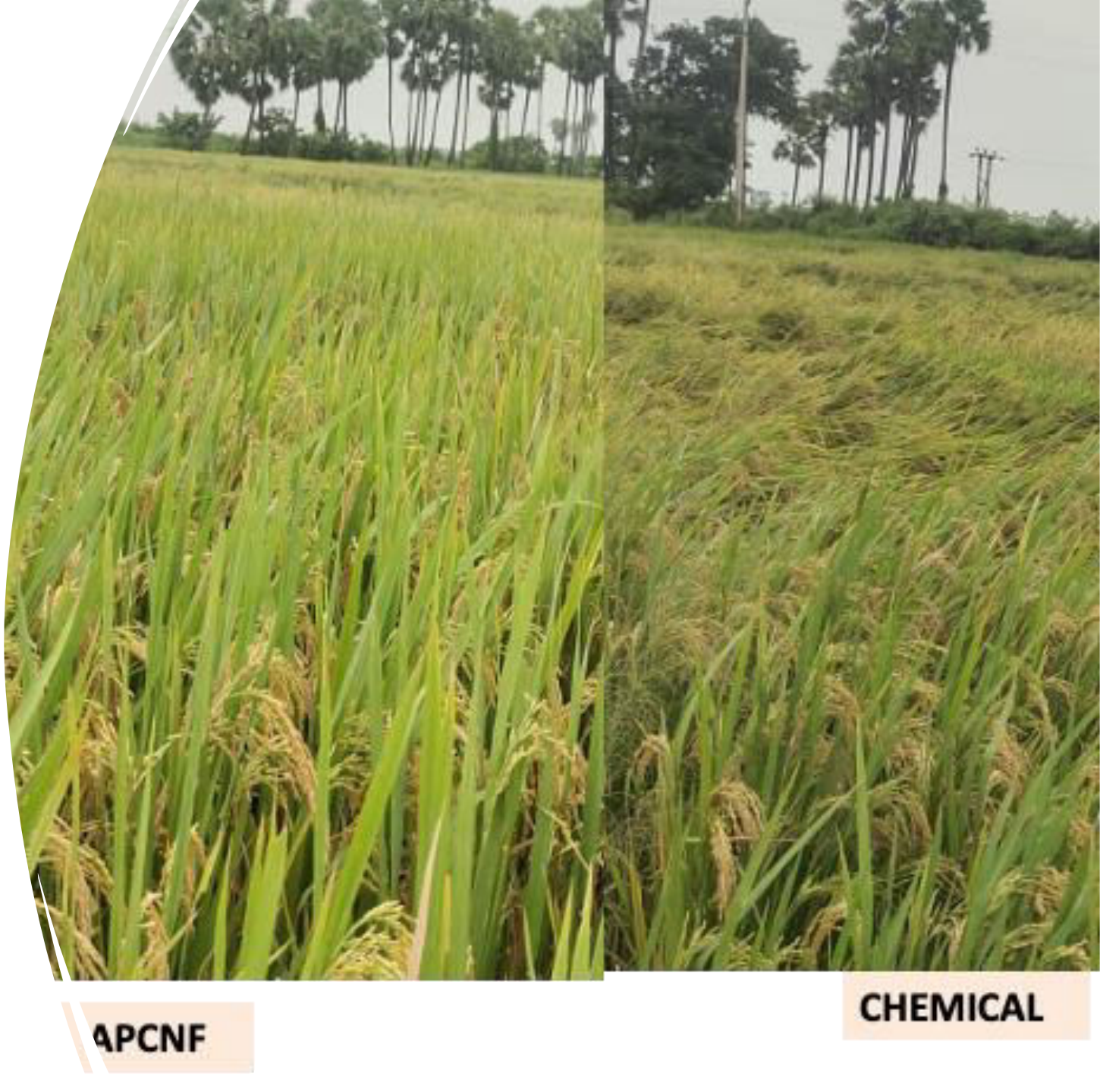
Guntur Case 1: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Bulla Laveen	Matlapudi Ramarao
2	Village	Donepudi	Donepudi
3	Phone number	95423 37352	8978465182
4	Soil type	Black	Black
5	Area of the plot (acres)	1.00	0.90
6	Name of the crop & variety	Paddy - BPT 5204	Paddy - BPT 5204
7	Age of crop (days after transplantation)	95 days	97 days

The current situation on the field resulted from severe rain

S.no.	Particulars	APCNF	Non-APCNF
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	The APCNF field is under moist condition due to fast infiltration	Due to excessive rains the fields were inundated
2	Crop lodging :yes/no (if yes please indicate in percentage)	There was no evidence of crop lodging	More than 80% of the crop was lodged
3	Shoot length (cm)	113	102
4	Root length (cm)	20	17
5	Pest and disease incidence	There were no evidence of pest and disease attack	BPH attack was seen

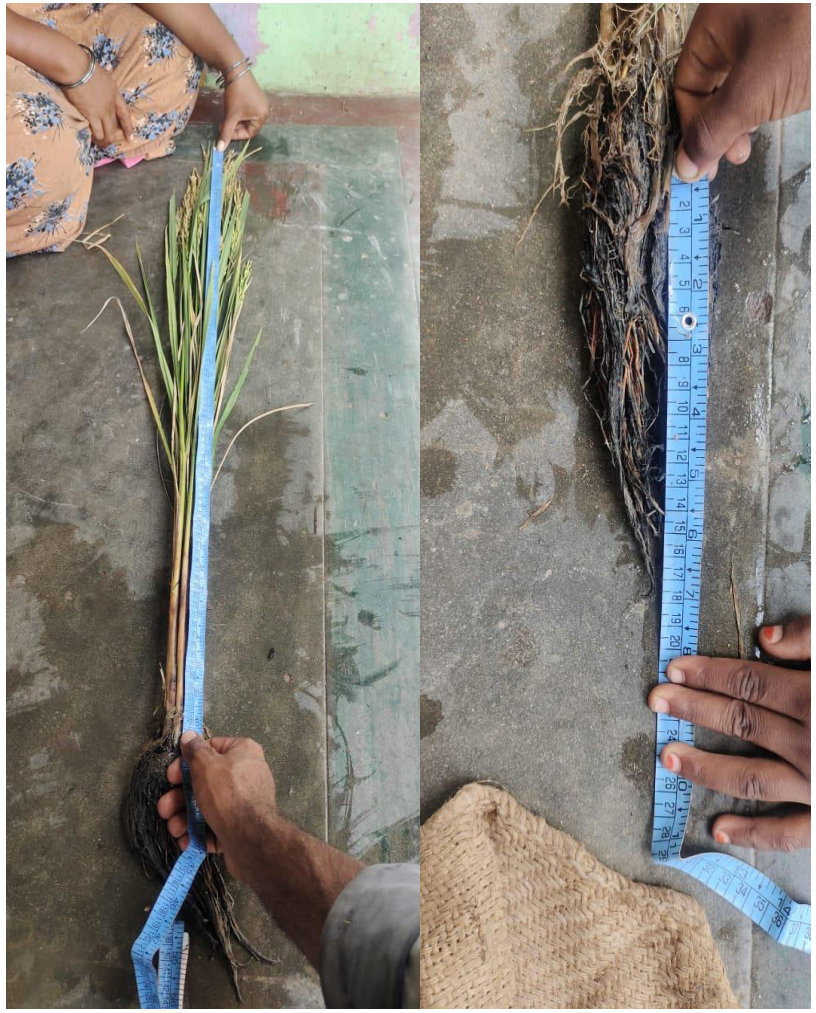
Damage in APCNF versus Chemical Paddy



OBSERVATIONS

Particulars	APCNF	CHEMICAL
Plant height (cm)	113	102
Root length (cm)	20	17

APCNF



Chemical

Overall, crop resilience shown by APCNF approaches outperformed chemical methods in Paddy at maturity stage after 10 days of consecutive rainfall (Cyclones)

1. Lodging Status after Heavy rains

APCNF	CHEMICAL
• There was no crop lodging, which might be attributable to the robust root development with increased root length and comparably short shoot length. This is mostly owing to increased organic carbon content and enhanced soil structure, which have been assisted primarily by the PMDS and the APCNF procedures	• Crop was lodged in 80 percent of the area - this may be linked to extremely low root mass development and excessive vegetative growth with increased shoot length and insect and disease incidence by maturity time.

Guntur Case 2: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	P Rajeswari	Nathala Bhaskar Rao
2	Village	Konetipuram	Konetipuram
3	Phone number	8790540960	9652991760
4	Soil type	Black	Black
5	Area of the plot (acres)	0.80	1.50
6	Name of the crop & variety	Paddy - BPT 5204	Paddy - BPT 5204
7	Age of crop (days after transplantation)	110 days	110 days

The current situation on the field resulted from severe rain

S.no.	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	The APCNF field is under moist condition due to fast infiltration	Due to excessive rains, the fields were inundated
2	Crop lodging:yes/no (if yes please indicate in percentage)	There was no evidence of crop lodging	More than 95% of the crop was lodged
3	Shoot length (cm)	113	102
4	Root length (cm)	20	17
5	Pest and disease incidence	There was no evidence of pest and disease attack	BPH attack was seen

Comparison of damage in APCNF and Chemical Paddy

APCNF

CHEMICAL

OBSERVATIONS

Particulars	APCNF	CHEMICAL
Plant height (cm)	119	114
Root length (cm)	28	22

APCNF

CHEMICAL

Overall, crop resilience shown by APCNF approaches outperformed chemical methods in Paddy at maturity stage after 10 days of consecutive rainfall (Cyclones)

1. Lodging status after heavy rains

APCNF	CHEMICAL
• There was no crop lodging, which might be attributable to the robust root development with increased root length and comparably short shoot length. This is mostly owing to increased organic carbon content and enhanced soil structure, which have been assisted primarily by the PMDS and the APCNF procedures	• Crop was lodged in 95 percent of the area - this may be linked to extremely low root mass development and excessive vegetative growth with increased shoot length and insect and disease incidence by maturity time

Guntur Case 3: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Nadhendla Dhanunjaya Rao	Chigurupati Sambasiva Rao
2	Village	Vatticherukuru	Vatticherukuru
3	Phone number	94943 90655	8500441893
4	Soil type	Black Cotton	Black Cotton
5	Area of the plot (acres)	1.00	1.40
6	Name of the crop & variety	Paddy - BPT 5204	Paddy - BPT 5204
7	Age of crop (days after transplantation)	115 days	113 days

The current situation on the field resulted from severe rain

S.no.	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Because of the rapid infiltration, the water in the APCNF field is saturated	Due to excessive rains, the fields were inundated
2	Crop lodging: yes/no (if yes please indicate in percentage)	There was no evidence of crop lodging	More than 70% of crop was lodged
3	Pest and disease incidence	No pest and disease incidence was seen	There is incidence of BPH

Damage in APCNF versus Chemical Paddy

APCNF

CHEMICAL

Observations

Particulars	APCNF	CHEMICAL
Plant height (cm)	115	108
Root length (cm)	15.2	11.4

Overall, crop resilience shown by APCNF approaches outperformed chemical methods in Paddy at Maturity stage after 10 days of consecutive rainfall (Cyclones)

1. Lodging status after heavy rains

APCNF	CHEMICAL
• There was no crop lodging, which might be attributable to the robust root development with increased root length and comparably short shoot length. This is mostly owing to increased organic carbon content and enhanced soil structure, which have been assisted primarily by the PMDS and the APCNF procedures	• Crop was lodged in 70 percent of the area - this may be linked to extremely low root mass development and excessive vegetative growth with increased shoot length and insect and disease incidence by maturity time

Guntur case 4 :General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	P Suribabu	P Siva Janaki Rao
2	Village	Konetipuram	Konetipuram
3	Phone number	9347622071	9440490634
4	Soil type	Black	Black
5	Area of the plot (acres)	1.00	2.00
6	Name of the crop & variety	Paddy - BPT 5204	Paddy - BPT 5204
7	Age of crop (days after sowing)	135 days	136 days

The current situation on the field resulted from severe rain

S.no.	Particulars	APCNF	Non-APCNF
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is under moist condition	Soil is heavily saturated with excessive rains
2	Crop lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	More than 70% of crop lodging was observed
3	Pest and disease incidence	No pest and disease incidence was observed	No pest and disease incidence was observed

Comparison of PMDS APCNF and Chemical Paddy

APCNF	CHEMICAL

OBSERVATIONS TAKEN AFTER HEAVY RAIN

Particulars	APCNF	CHEMICAL
Plant height (cm)	114.3	109.2
Root length (cm)	25	20

APCNF

CHEMICAL

Overall, crop resilience shown by APCNF approaches outperformed chemical methods in Paddy at Maturity stage after 10 days of consecutive precipitation (Cyclones)

1. Lodging status after heavy rains

APCNF	CHEMICAL
• The crop was lodged in 10% of the area, which might be linked to the vigorous root development with increased root length and comparably short shoot length. This is mostly owing to increased organic carbon content and enhanced soil structure, which have been assisted primarily by the PMDS and the APCNF procedures	• Due to a lack of root mass development and excessive vegetative growth, the crop was lodged 95 percent of the area. This may be ascribed to an increased occurrence of pests and diseases by the maturity period of the crop

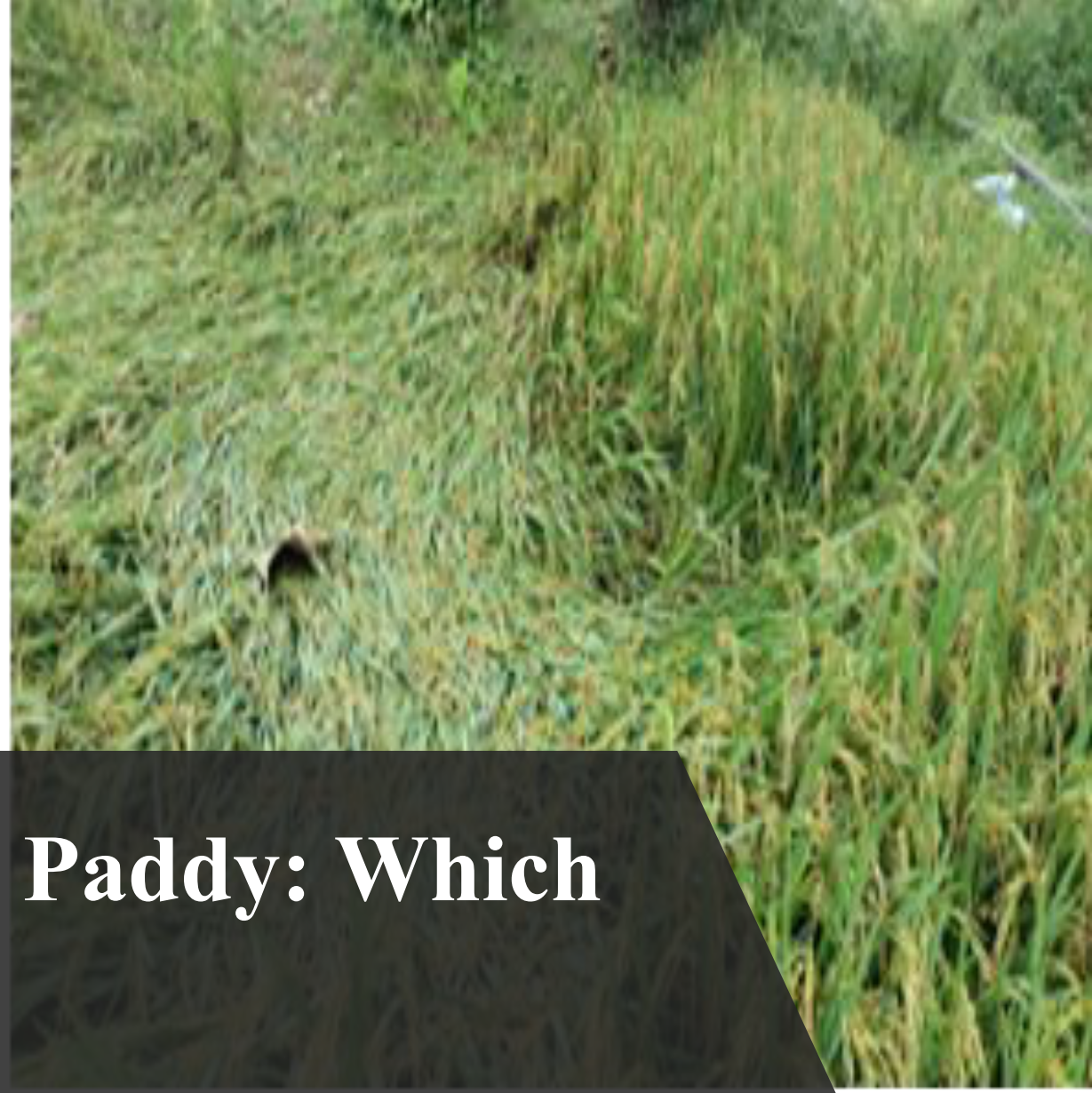
Crop resilience cases in East Godavari

East Godavari Case 1:General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Sayyapureddy Prasad	Kannarao
2	Village	G.Ragampeta	G.Rangampeta
3	Phone Number	9121147281	9030157955
4	Soil type	Black Soil	Black Soil
5	Area of the plot (acres)	1.5	1.5
6	Name of the crop & variety	Golden rice [Desi variety]	Golden rice [Desi variety]
7	Date of transplantation	21/8/2021	20/8/2021

Current condition of the field following heavy rains

S.no.	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	The APCNF field is moist, and water is infiltrated to a greater extent	Soil is inundated due to heavy rains
2	Crop lodging yes/no (if yes please indicate in percentage)	Only 10% of crop lodging was noticed	65% of the crop was found to be lodged in the ground
3	Shoot length (cm)	134	128
4	Root length (cm)	22	10
5	Pest and disease incidence	No signs of pest and disease attack	The prevalence of Bacterial leaf blight were noticed



APCNF versus Chemical Paddy: Which is more resilient?

APCNF

Chemical

OBSERVATIONS

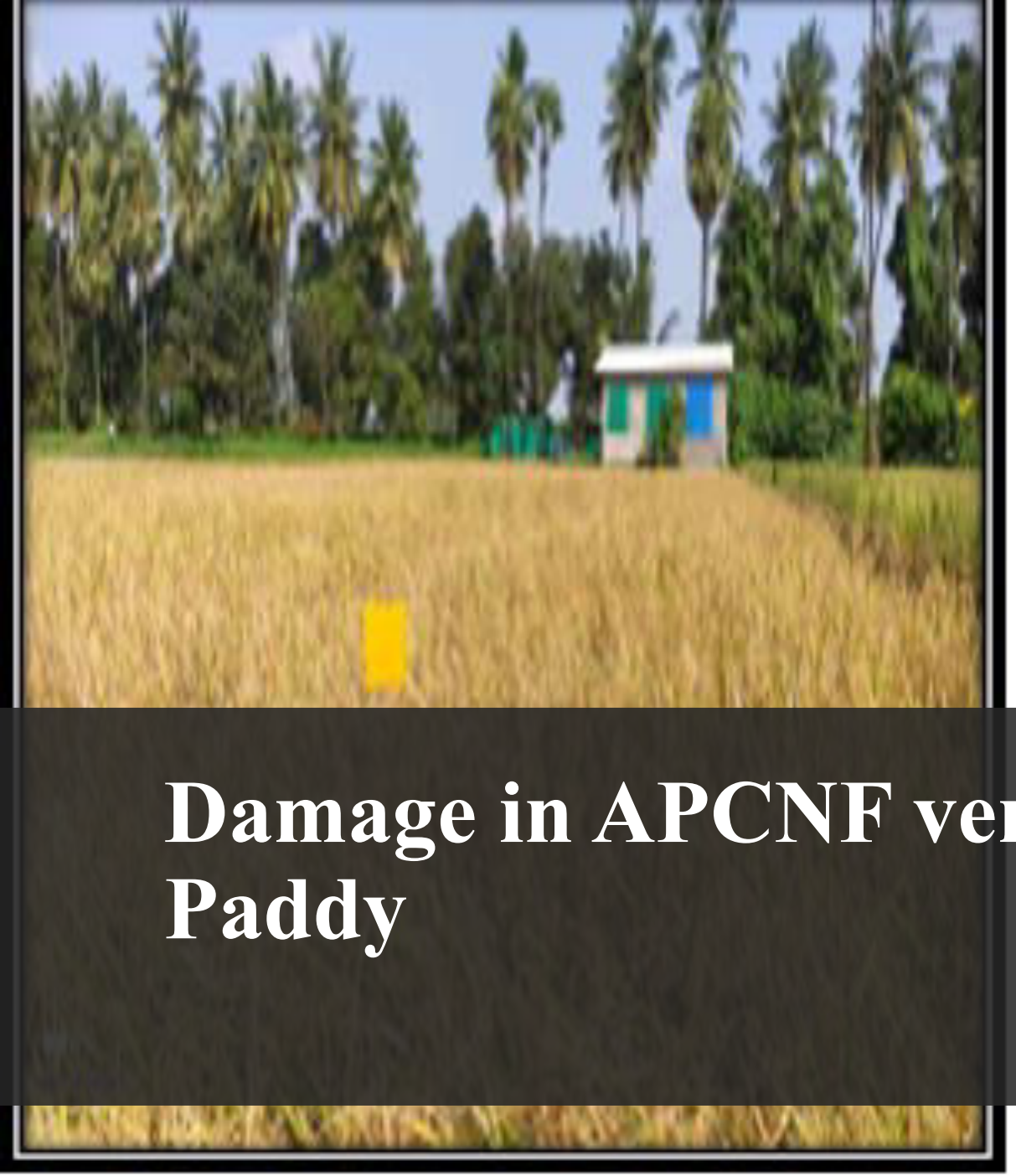
PARTICULARS	APCNF	CHEMICAL
Plant height (cm)	134	128
Root length (cm)	22	10

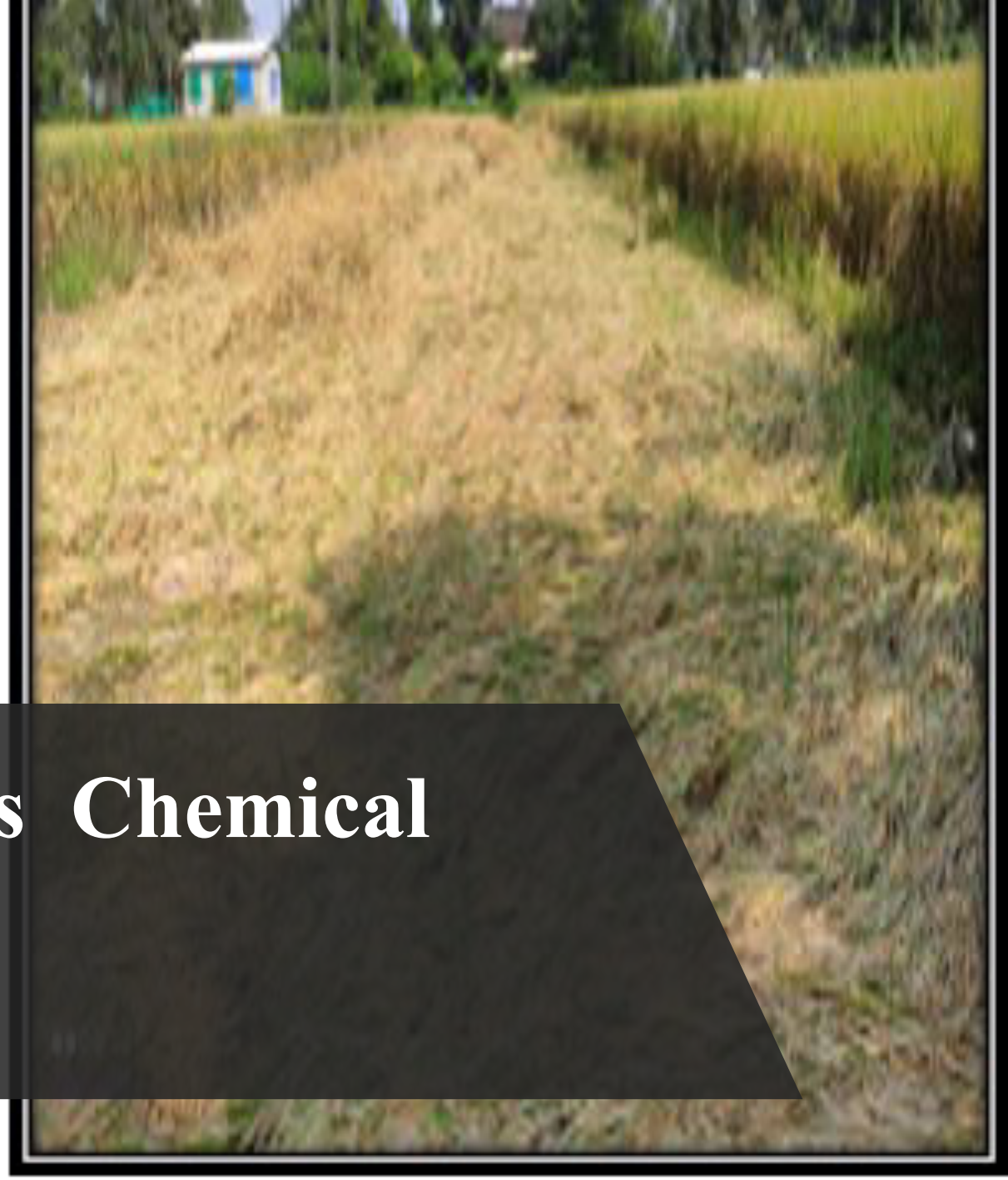
East Godavari case 2: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	N.dorababu	M.Raju
2	Village	M.R.Palem	M.R.Palem
4	Soil type	Black	Black
5	Area of the plot (acres)	1.0	1.0
6	Name of the crop & variety	Paddy – PL 1271	Paddy – PL 1271
7	Date of transplantation	30/06/2021	30/06/2021

Current condition of the field following heavy rains

S.no	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	The APCNF field is moist, and water is infiltrated to a greater extent	The soil has been badly flooded as a result of the heavy rainfall
2	Crop lodging yes/no (if yes please indicate in percentage)	There are no signs of crop lodging	More than 60% crop lodging was observed
3	Pest and disease incidence	No pest and disease incidence was seen.	Sheath blight was observed





Damage in APCNF versus Chemical Paddy

OBSERVATIONS

APCNF Farmer Feedback video Link:
https://drive.google.com/file/d/1y5fgUTVFH0-zBwmD0dFLFU_gTwt7H8oH/view?usp=drivesdk

Particulars	APCNF	Chemical
Tillers	23	20
Panicle length (cm)	26	21
Plant height (cm)	122	120
Root length (cm)	13	12

APCNF Chemical

East Godavari Case 3 : General information

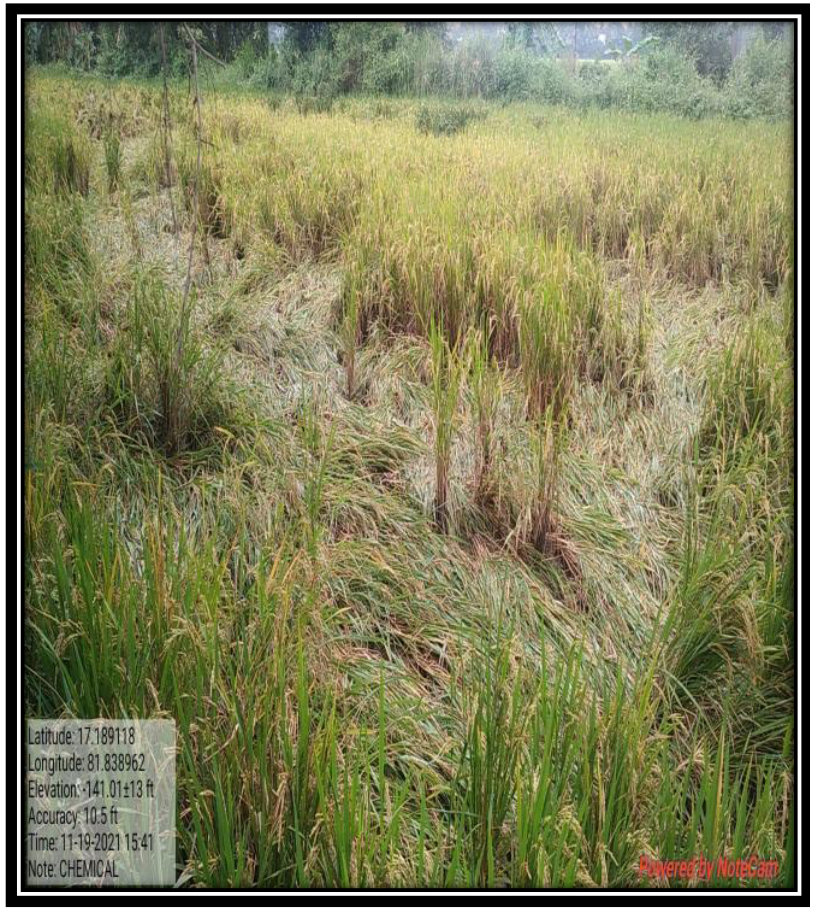
S.no.	Particulars	APCNF	Chemical
1	Name of the farmer	A. Nagendra	A. Kiran
2	District	East Godavari	East Godavari
3	Cluster	G.Kothapalli	G.Kothapalli
5	Village	Gummaladoddi	Gummaladoddi
6	Area of the plot (acres)	1.00	1.00
7	Name of the crop with variety / hybrid	Paddy-PLA1100	Paddy-PLA1100

Current condition of the field following heavy rains

S.no.	Particulars	APCNF	CHEMICAL
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is moist, and water was drained out to a larger extent due to infiltration	Soil is inundated due to heavy rain
2	Crop lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	More than 60% of crop lodging was observed
3	Pest and disease incidence	No signs of pest and disease incidence	Bacterial leaf blight was observed

Damage in APCNF versus Chemical Paddy

APCNF



CHEMICAL

OBSERVATIONS

Particulars	APCNF	CHEMICAL
Plant height (cm)	125	110
Root length (cm)	18	10

Plant Biometrics after Heavy rains

APCNF

CHEMICAL

Incidence of Pest and Diseases

APCNF	CHEMICAL
• Pest and disease incidence is extremely low this might be ascribed to stronger and optimal vegetativ e development during the vegetative growth stage owin g to the balanced availability of all nutrients as a result of the PMDS and all APCNF procedures, as well as the absence of pesticides	• Brown plant hopper and bacterial leaf blight are the most common pest and disease infestations, observed. This might be due to the widespread use of nitrogenous fertilisers, which promote lush vegetative development (branch growth) and hence make crops more vulnerable to infestation

APCNF farmer feedback video link :

https://drive.google.com/file/d/1xlyLxsze_nfXG7xQQ_O9F61uTfjZVooi/view?usp=drivesdk

Chemical farmer feedback video link :

https://drive.google.com/file/d/1xqn04ojRiAcM978YEY1ry3pr1JoBose3/view?usp=drivesdk

East Godavari Case 4: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Kalavalapalli Somaraju	Saladi Sathyanarayana
2	Village	Molleru	Molleru
3	Phone number	9493642717	9492649166
4	Soil type	Sandy loam soil	Sandy loam soil
5	Area of the plot (acres)	1.0	1.0
6	Name of the crop & variety	BPT- 5204	BPT- 5204
7	Date of transplantation	21/7/2021	22/7/2021

Current condition of the field following heavy rains

S.No	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	The water is completely drained out and the soil is moist	The field is inundated
2	Crop lodging yes/no (if yes please indicate in percentage)	Crop lodging was detected in 10% of the field	Crop lodging was seen in 55% of the field
3	Shoot length (cm)	114	106
4	Root length (cm)	28	18
5	Pest and disease incidence	No pest and Disease incidence was observed.	Brown Plant Hopper(BPH) incidence was observed

APCNF

Chemical

Damage in APCNF versus Chemical Paddy

Lodging status after heavy rains

APCNF	Chemical
• The crop was lodged in 10% of the area - this might be attributable to the robust root development with increased root length. This is mostly owing to increased organic carbon content and enhanced soil structure, both of which have been aided by the PMDS and the APCNF procedures	The crop was lodged in 55% of the area, which mig ht be attributable to the extremely poor root mass g rowth. Due to the presence of Brown plant hoppers, the produce dried out and became yellow

Kadapa District

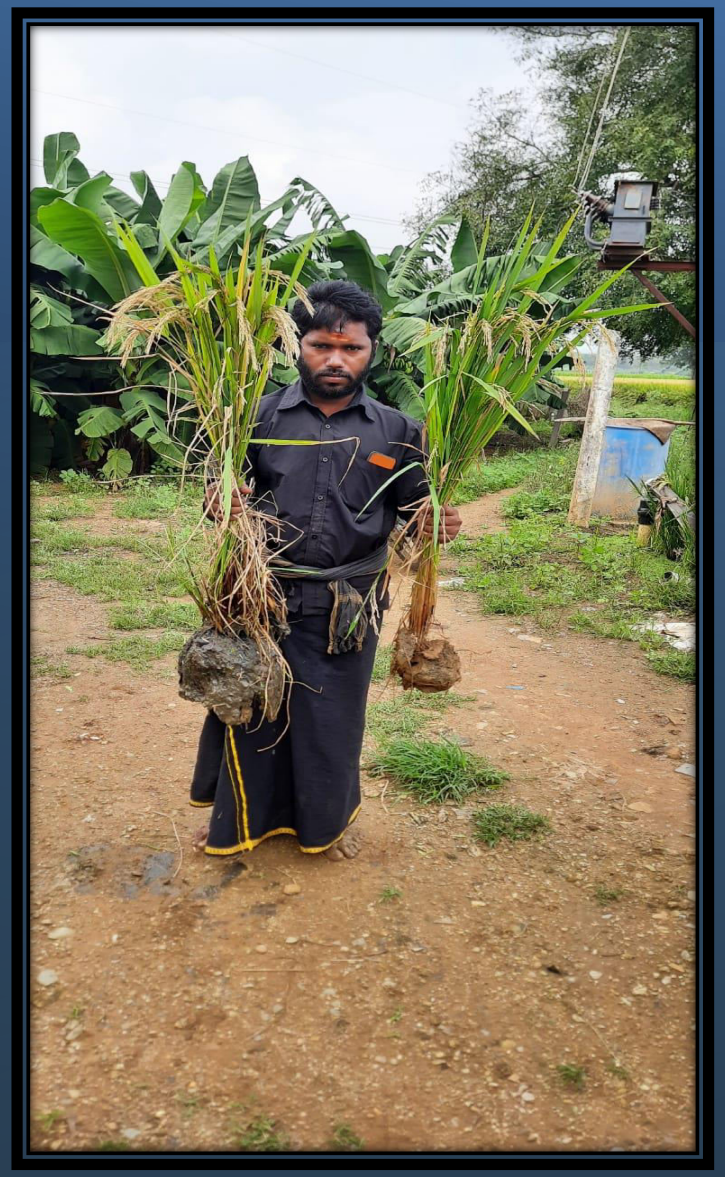
Kadapa case 1: General information

S.No	Particulars	APCNF	Chemical
1	Name of the armer	P.Gurrapha	B.Krishna
2	Village	Mudireddy palli	Mudireddy palli
3	Mandal	Mydukur	Mydukur
4	Mobile Number	9989784465	9948387575
5	Soil type	Red soil	Red soil
6	Area of the plot (acres)	1	2
7	Name of the crop & Variety	Paddy-BPT 5204	Paddy-BPT 5204
8	Date of transplantation	18-Aug-2021	19-Aug-2021

Current condition of the field following heavy rains

S.no.	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Field is still having water but draining fast	Field is inundated
2	Crop lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	More than 60% crop lodging was observed
3	Pest and Disease incidence	No pest and disease was observed	Black spots appeared on grains

Damage in APCNF versus Chemical Paddy Field



APCNF

Chemical

OBSERVATIONS

APCNF
Plant height -130 cm

Chemical
Plant height -115 cm

APCNF
Root length -13 cm

Chemical
Root length -7 cm

PLANT BIOMETRICS

Particulars	APCNF	Chemical
No. of tillers	34	14
Plant height (cm)	130	115
Root length (cm)	13	7

Current situation of the field

Particulars	APCNF	Chemical
Biological Stage of the crop	Harvesting Stage	Harvesting Stage
Wind Damage	No	Yes
Deep Submergence	No	No
Standing Water	Yes	Yes
Damage to panicles	No	Yes (10%)
Uprooting	No	No

Farmer feedback video links

APCNF Farmer
https://drive.google.com/file/d/1umEcylxYZaVRZ0DhWcPzxfImu09d4NAN/view?usp=sharing

Chemical Farmer
https://drive.google.com/file/d/1zx1LaMdGLP4r0SjvnHOQPxrGp6Mv3N6a/view?usp=sharing

Kadapa Case 2: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	G.Penchalaiah	G.Dasaradharamaiah
2	Village	Musalireddygari Palli	Musalireddygari Palli
3	Mandal	Mydukur	Mydukur
4	Mobile number	95057797079	9866404434
5	Soil type	Red soil	Red soil
6	Area of the plot (acre)	1.5	1
7	Name of the crop & variety	Tomato-VNR 448	Tomato-VNR 448
8	Date of sowing	26-Aug-2021	26-Aug-2021

Current condition of the field following heavy rains

S.no.	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	Low soil moisture in APCNF field	There is still a significant amount of water in the chemical crop field.
2	Crop lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	75% of crop lodging was observed
3	Pest and disease incidence	No pest and diseases were noticed	Diseases like Leaf curl, Early blight was seen

Damage in APCNF versus Chemical field

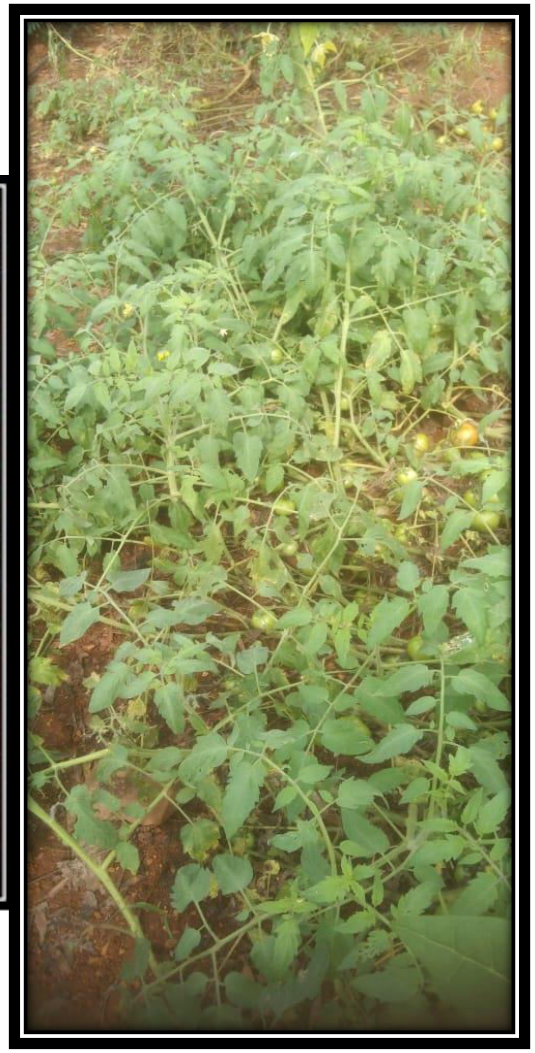
APCNF

Chemical

OBSERVATIONS

APCNF
Plant height -160 cm

Chemical
Plant height – 120 cm



APCNF

Chemical

PLANT BIOMETRICS

Particulars	APCNF	Chemical
Plant height (cm)	160	120
Number of branches	32	10
Number of fruits	58	23
Number of flower	44	25

Farmer feedback video links

APCNF Farmer
https://drive.google.com/file/d/1_Cb8gM-se8h64YgoZVigTn7Jdvk3n_fU/view?usp=sharing

Chemical Farmer
https://drive.google.com/file/d/1r-wtx2Td_5N8DMJ0gLNuZfx1B2oA-Gl2/view?usp=sharing

Kadapa Case 3: General information Chillies

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	K.Nagashekar Reddy	B.Ramulamma
2	Village	Chinnakommerla	Chinnakommerla
3	Mandal	Mylavaram	Mylavaram
4	Mobile number	8978208293	9014224659
5	Soil type	Black soil	Black soil
6	Area of the plot (acres)	1.5	1.2
7	Name of the crop & variety	Red Chilli -Teja	Red Chilli -Teja
8	Date of sowing	20-Aug-2021	22-Aug-2021

Current condition of the field following heavy rains

S.no.	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is moist and no water stagnation	Chemical field is water logged
2	Fruit and crop damage yes/no (if yes please indicate in percentage)	No fruit damage was seen	Fruit damage to an extent of 40% is noticed
3	Pest and Disease Observed	No pest and disease was observed	Leaf Curl Virus, Spodoptera was observed

Damage in APCNF versus Chemical field

APCNF
Number of Branches-**22**

Chemical
Number of Branches-**15**

OBSERVATIONS

APCNF

Chemical


Red


Red

PLANT BIOMETRICS

Particulars	APCNF	Chemical
Plant height (cm)	150	61
Number of branches	22	15
Number of fruits	89	37
Number of flower	32	4
Root length(cm)	15	14

Current situation of the field

Particulars	APCNF	Chemical
Biological stage of the crop	Harvesting stage	Harvesting stage
Wind damage	No	No
Deep submergence	No	No
Standing water	No	yes
Uprooting	No	No

Farmer’s feedback video links

APCNF Farmer
https://drive.google.com/file/d/1TYVuvoTp47_glZFhb3mSj66UEbF7l12-/view?usp=sharing

Chemical Farmer
https://drive.google.com/file/d/1qv_TBGfMS_oGqWNboIT7le-ci8Sa60Dz/view?usp=sharing

Kadapa Case 4: General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	M.Ramakrishnaiah	P.Lakshmi Reddy
2	Village	Pallavolu	Pallavolu
3	Mandal	Chapadu	Chapadu
4	Mobile Number	9912069960	9948710590
5	Soil type	Black soil	Black soil
6	Area of the plot (acre)	5	10
7	Name of the crop & Variety	Paddy-NDLR 8	Paddy-NDLR 8
8	Date of Transplantation	30/08/2021	30/08/2021

Current condition of the field following heavy rains

S.no	Particulars	APCNF	Chemical
1	Current status of field (deep submergence / standing water / slurry / moist / dry)	APCNF field is under moist condition	Standing water
2	Crop lodging yes/no (if yes please indicate in percentage)	No crop lodging was observed	More than 80% crop lodging was observed
3	Pest and disease incidence	No pest and disease was observed	Sheath blight was observed

Damage in APCNF versus Chemical Paddy

APCNF

Chemical

APCNF

Chemical (Germination of seeds)

OBSERVATIONS

APCNF

Plant height -121 cm

Chemical

Plant height -120 cm

PLANT BIOMETRICS

Particulars	APCNF	Chemical
No. of tillers	32	21
Plant height (cm)	121	120
Root length (cm)	9	5

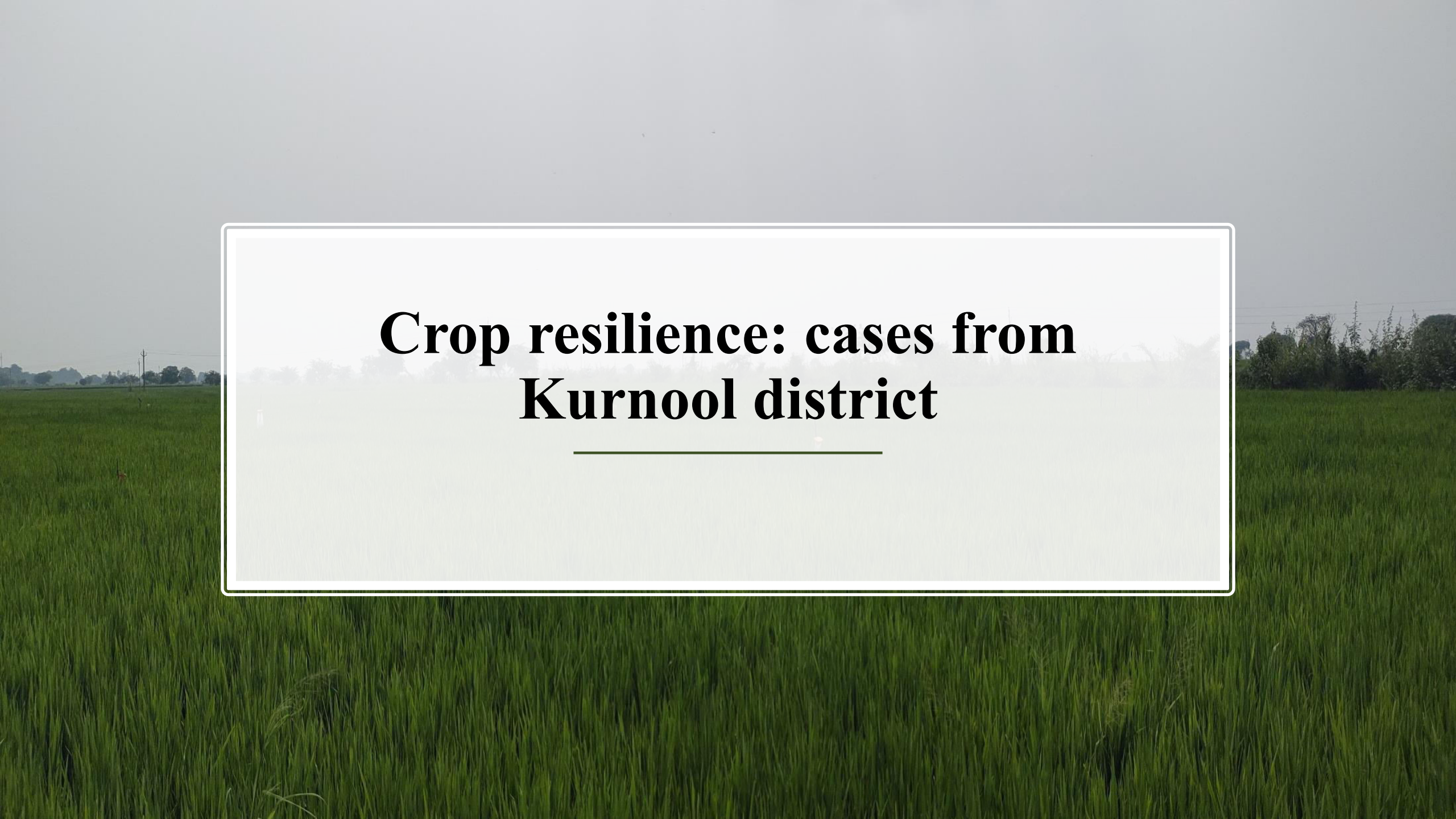
Current Situation of the field

Particulars	APCNF	Chemical
Biological Stage of the crop	Harvesting Stage	Harvesting Stage
Wind damage	No	Yes
Deep submergence	No	Yes
Standing water	No	Yes
Damage to panicles	No	Yes (75%)
Uprooting	No	No

Farmer feedback video links

APCNF Farmer
https://drive.google.com/file/d/1D24Tc3wAqyhWE36t8dyaWjcKVt4dIMwO/view?usp=sharing

Chemical Farmer
https://drive.google.com/file/d/1S9XC-FZmIRv6_AzgpQ5M5h4RP-5L08WM/view?usp=sharing



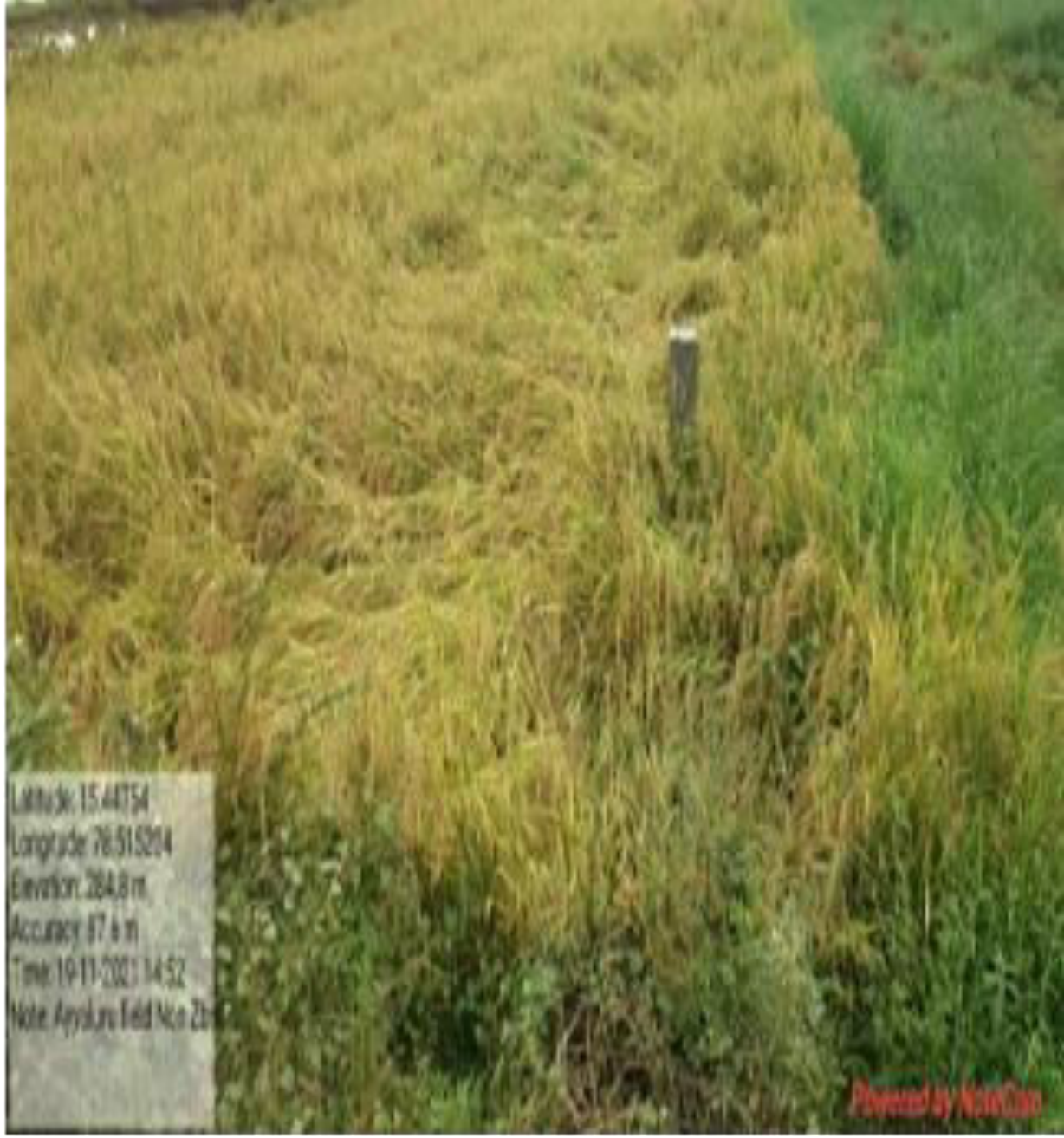
Crop resilience: cases from Kurnool district

Kurnool Case 1: General Information

S No	Particular	APCNF	CHEMICAL
1	Name of the farmer	A Veera Prasad	J Subbaiah
2	Village	Ayyaluru	Ayyaluru
3	Mobile number	9542701780	9347583868
4	Soil type	Black Soil	Black Soil
5	Area of the plot (acres)	1 Acre	1 Acre
6	Name of the crop & variety	Paddy NDLR 7	Paddy NDLR 7
7	Date of transplantation	24/08/2021	24/08/2021

Current condition of the field following heavy rains

S No	Particulars	APCNF	CHEMICAL
1	Current status of field	The field is wet due to the rapid infiltration and improved drainage.	High level of moisture in the soil as a result of excessive rain
2	Crop lodging	No signs of crop lodging in APCNF	There is more than 40% crop lodging was observed
3	Shoot length (cm)	113	102
4	Root length (cm)	24	21
5	Pest and disease incidence	No pest and disease was observed	Bacterial leaf blight was observed



APCNF

CHEMICAL

Observations taken after heavy rain

S No	Particulars	APCNF	CHEMICAL
1	No. of tillers	24	16
2	Plant height (cm)	99	82
3	Root length (cm)	24	21

Lodging Status after heavy rains

APCNF	CHEMICAL
• There was no crop lodging seen — This might be linked to the strong root development with longer root length and shorter shoot length. This is mostly owing to increased organic carbon content and enhanced soil structure, which are promoted by all APCNF protocols	• Crop was lodged in more than 40% of the area- this might be attributable to extremely low root mass development and excessive vegetative gr owth with increased shoot length and insect an d disease incidence by maturity time.

Incidence of pest and diseases

APCNF	CHEMICAL
• Pest and disease incidence is extremely low - this might be ascribed to stronger and optimal vegetative development during the vegetative growth stage owing to the balanced availability of all nutrients as a result of the PMDS and all APCNF procedures, as well as the absence of pesticides	• The Bacterial leaf blight is very severe

Kurnool Case 2. General Information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	B. Chilipi krishnudu	B Sreenivasulu
2	Village	Eernapadu	Eernapadu
3	Mobile Number	9160144477	7036633239
4	Soil type	Black Soil	Black Soil
5	Area of the plot (acre)	1 Acre	1 Acre
6	Name of the crop & variety	Paddy NDLR 7	Paddy NDLR 7
7	Date of transplantation	12/08/2021	12/08/2021

Current condition of the field following heavy rains

S No	Particulars	APCNF	Chemical
1	Current status of field	The field is wet due to the rapid infiltration and improved drainage	High level of moisture in the soil as a result of excessive rain
2	Crop lodging	No crop lodging	More than 30% of crop is lodged
3	Pest and disease incidence	There were no pests or diseases observed	Bacterial leaf blight, Blast was observed

Observations

S No	Particular	APCNF	Chemical
1	No. of tillers	22	17
2	Plant height (cm)	111	104
3	Root length (cm)	23	21

Damage in APCNF versus Chemical Paddy

APCNF

Chemical

APCNF and Chemical Paddy comparison following heavy rains in Ernapadu Village, Bandi Atmakur Mandal, Kurnool Dt

APCNF

Chemical

Lodging status after heavy rains

APCNF	Chemical
• There is no crop lodging as a result of better root development. Soil structure, organic carbon in the soil	• Crop is lodged more than 60% owing to excessive fertilizer use, which results in opulent vegetative growth, poor soil structure, and root growth. As a result, the crop is unable to survive severe rains and wind blows during the cyclone.

Incidence of Pest and Diseases

APCNF	Chemical
Pest and disease incidence is very low due to usage of decoctions and jeevamrutam at regular intervals	There was evidence of bacterial leaf blight. The leaves are dried back from the tip and curl inward, leaving the midrib intact.

Crop resilience cases from Chittoor

APCNF versus Chemical farms

CHITTOOR

Chittoor Case 1.General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	C.Vijaya kumari	K.Syamalamma
2	Village	Chapilapalli	Chapilapalli
3	Phone number	9121147602	9014615682
4	Soil type	Black	Black
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & variety	Narmada	Narmada
7	Age of the crop (days after transplantation)	117 days	121 days

Current status of the field

S No	Particulars	APCNF	CHEMICAL
1	Current status of field	Field has standing water for 2 days	Field has standing water for more than 6 days
2	Crop Lodging	No Crop lodging was noticed	More than 50% of the crop lodged
3	Shoot length (cm)	121	118
4	Root length (cm)	19	13
5	Pest and disease incidence	Low incidence of Bacterial leaf blight was seen	Severe incidence of Bacterial leaf blight was observed

APCNF

CHEMICAL

PLANT BIOMETRICS

Particulars	APCNF	Chemical
Plant height (cm)	121	118
Root length (cm)	19	13

APCNF CHEMICAL

Particulars	APCNF	Chemical
Biological stage of the crop	Harvesting Stage	Harvesting Stage
Wind damage	No	Yes
Deep submergence	No	Yes
Standing water	For 2 day	For nearly 6 days
Damage to panicles	Damage up to 20%	Damage up to 80%
Uprooting	No	No, but started germination.

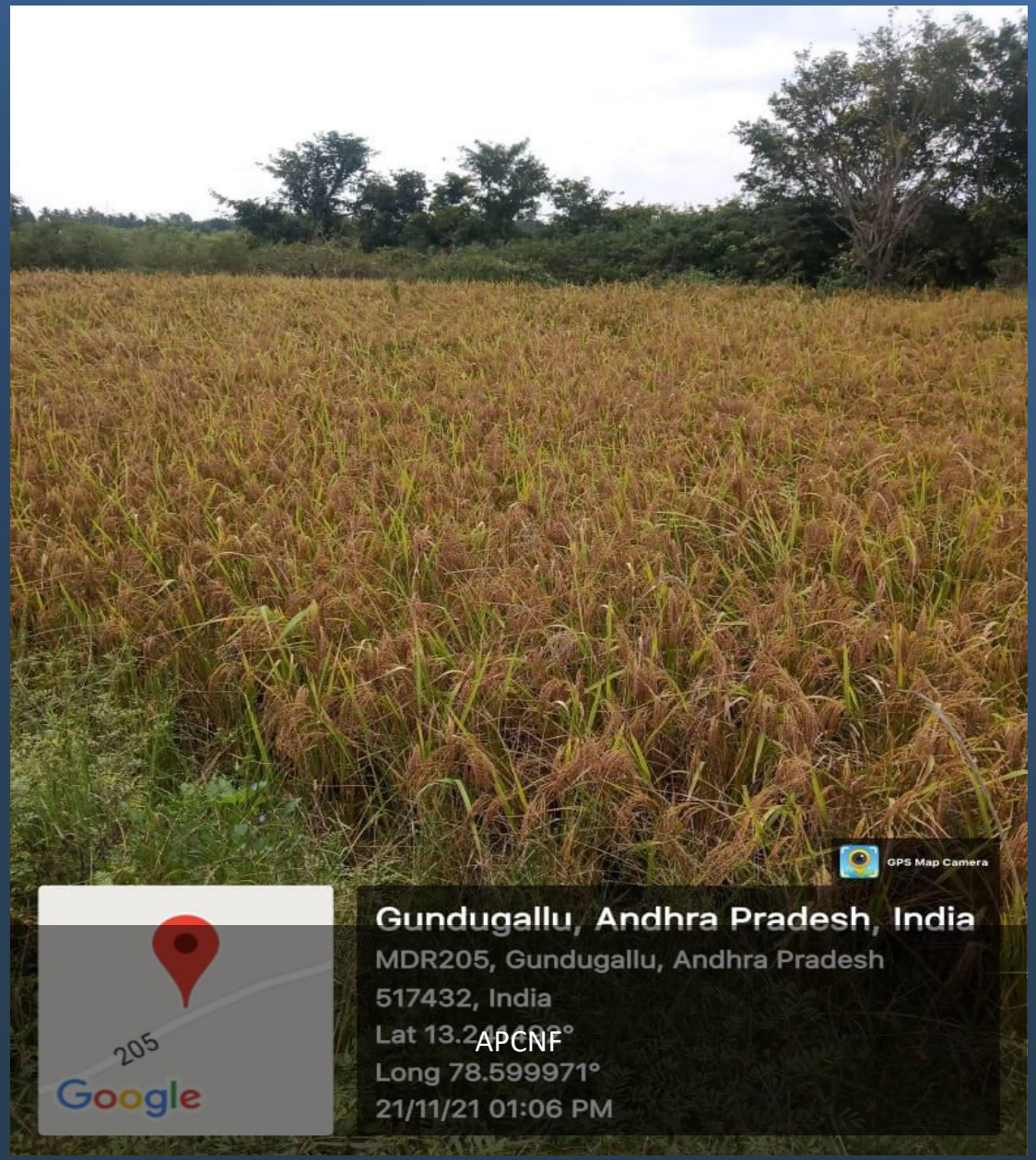
Current situation of the field

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Anjappa	B.Venkataramana
2	Village	Bommanapalli	Bommanapalli
3	Phone number	9652484904	8008341314
4	Soil type	Black	Black
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & variety	Rathnachodi	Rathnachodi
7	Age of crop (days after transplantation)	115 days	113 days

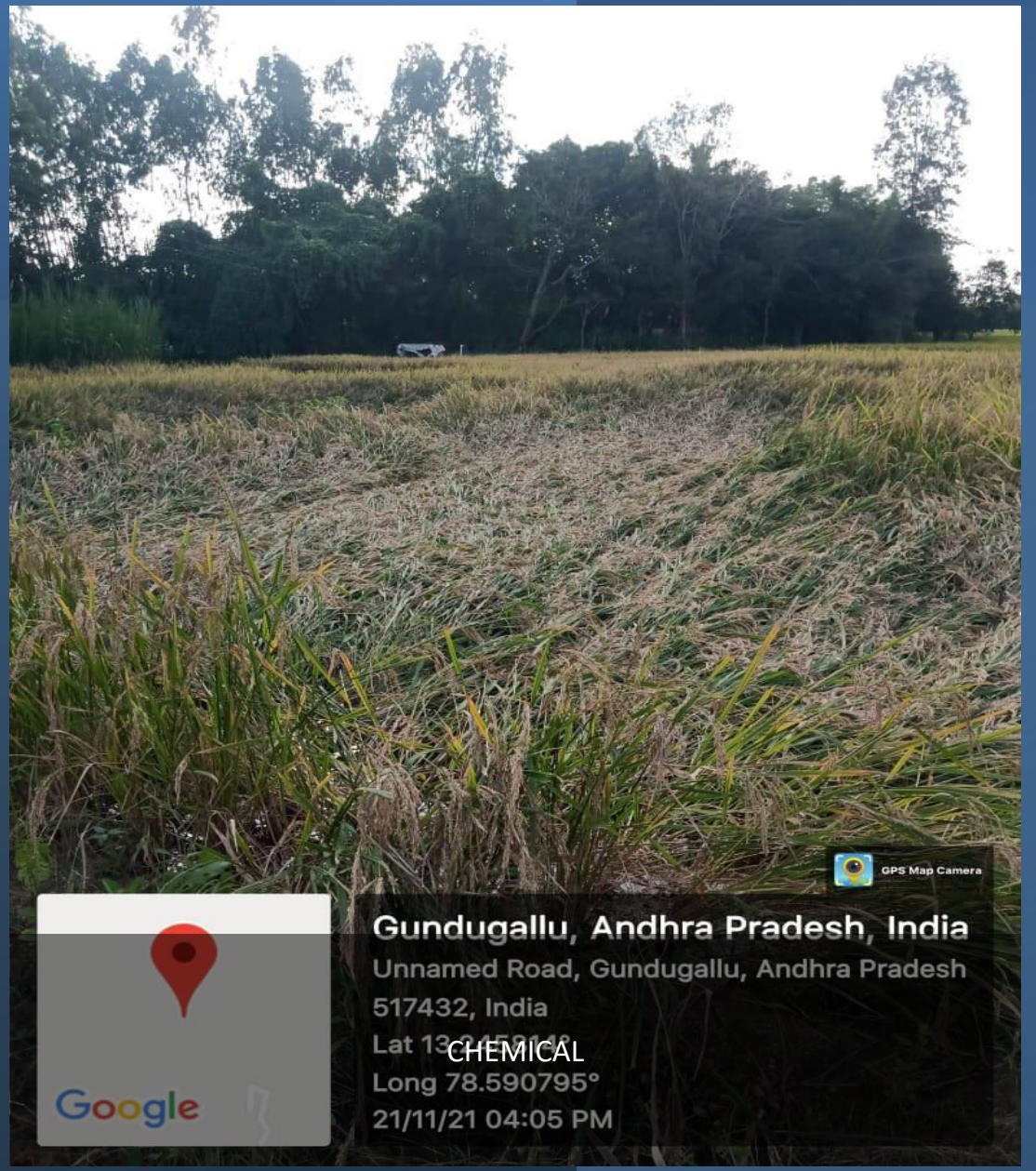
Chittoor Case-2.General information

Current status of the field

S No	Particulars	APCNF	CHEMICAL
1	Current status of field	Field is under moist condition	Field has standing water
2	Crop lodging	No Crop Lodging was observed	More than 30% crop lodging was observed
3	Shoot length (cm)	110	102
4	Root length (cm)	24	21
5	Pest and disease incidence	No pest and disease incidence	Bacterial leaf blight was observed



APCNF



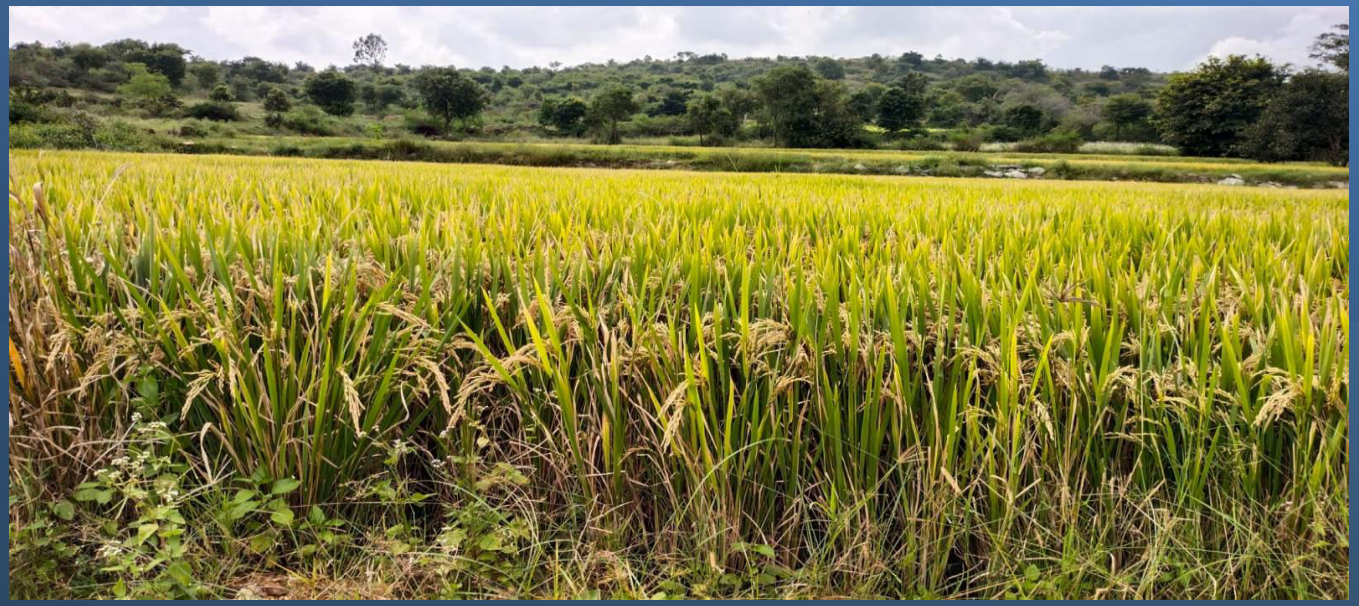
CHEMICAL

Particulars	APCNF	Chemical
Biological stage of the crop	Harvesting stage	Harvesting stage
Wind damage	No	Yes
Deep Submergence	No	Yes
Standing water	For 1 day	For nearly 2 days
Damage to panicles	Damage up to 30%	Damage up to 60%
Uprooting	No	No

Current situation of the field

Chittoor Case 3.General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Redappa	Redappa
2	Village	Ankisettipalli	Ankisettipalli
3	Phone number	6303288045	6303288045
4	Soil type	Red	Red
5	Area of the plot (acres)	1.00	1.00
6	Name of the crop & variety	Narmada	Narmada
7	Age of crop (days after transplantation)	120 days	115 days



APCNF

Chemical

Current situation of the field

Particulars	APCNF	Chemical
Biological stage of the crop	Harvesting Stage	Harvesting Stage
Wind damage	No	Yes
Deep submergence	No	Yes
Standing water	For 1 day	For nearly 3 days
Damage to panicles	No	No
Uprooting	No	No

Chittoor case 4.General information

S.No	Particulars	APCNF	Chemical
1	Name of the farmer	Bayamma	Jayamma
2	Village	Gokarlapalli	Gokarlapalli
3	Phone number	9177036722	7893867644
4	Soil type	Red	Red
5	Area of the plot (acre)	1.00	1.00
6	Name of the crop & variety	Ammani	Narmada
7	Age of the crop (days after transplantation)	120 days	115 days

APCNF

CHEMICAL

Current situation of the field

Particulars	APCNF	Chemical
Biological stage of the crop	Harvesting stage	Harvesting stage
Wind damage	No	Yes
Deep submergence	No	Yes
Standing water	No	Yes
Damage to panicles	No	Yes (50%)
Uprooting	No	No

Crop resilience case from Nellore

APCNF versus Chemical farms

Nellore case-1. General Information

S No	Particulars	APCNF	Chemical
1	Name of Farmer	A Ramanaiah	Sundarmireddy
2	Village	Ponupadu	Ponupadu
3	Mobile Number	8096679418	9490230648
4	Soil type	Black Soil	Black Soil
5	Area of the plot (acres)	1 Acre	1 Acre
6	Name of the crop & variety	BPT-5204	BPT-5204
7	Date of transplantation	01-11-2021	06-11-2021

Current Status after Heavy Rains

S No	Particular	APCNF	Chemical
1	Current status of field	Field is under moist condition	Soil is heavily saturated and crop is submerged
2	Number of hills per m (before rains)	28	28
3	Number of hills per sq. m (after rains)	28	16
4	Shoot length	70 cm	53 cm
5	Root length	18	14
6	Age of crop	25 DAT	20 DAT

Comparison of APCNF vs Chemical Paddy fields after Heavy Rains

- **APCNF Plot**

- **Chemical Plot**

Comparison of APCNF vs Chemical Paddy fields after Heavy Rains

APCNF

Chemical

Comparison of APCNF vs Chemical Paddy fields after Heavy Rains

APCNF

Chemical

Observations taken after Heavy rain

APCNF Chemical

S No	Particulars	APCNF	Chemical
1	No. of tillers	30	5
2	Plant height (cm)	70	53
3	Root length (cm)	18	14

Reasons for crop resilience

APCNF	Chemical
• Due to PMDS, soil became porous in APCNF field because of increased organic matter content, water holding capacity improved infiltration capacity and runoff was also restricted, hence there is no stagnation and inundation. This resulted in no crop damage in APCNF field	• In chemical field the soil became hard because of low organic matter content, less water holding capacity resulted in poor infiltration capacity and excessive runoff, hence it causes submergence of crop. This resulted 57% loss in plant density and now the farmer wants to go for gap filling again

Farmer feedback video links

APCNF farmer feedback

- https://drive.google.com/file/d/1CCVqV0nwwfeHVG0-WoGaoEvP6_M-L_Qu/view?usp=sharing

Chemical farmer feedback

- https://drive.google.com/file/d/1vRu0P_KoEdnt-nv1QxcCW35MvdimIbt9/view?usp=sharing


THANK
YOU