

What Ramachandra Nahaka did to change the traditional agricultural practices of his village farmers can be an imitable instance for development professionals and policy makers advocating diversified cropping systems as a means to achieve enhanced farm productivity and livelihoods development. 48 years old Ramachandra is a high school teacher residing at Achhula Phasipada, a remote village in Khallikote block of Ganjam district in Odisha. Being a dedicated teacher he commands high respect and regards from his fellow villagers. Under his persistent counselling, farmers of Phasipada have made remarkable strides in increasing farm productivity. From being a single crop, i.e. paddy producers, the farmers have diversified their agricultural operations by producing crops like green gram, sesame, groundnut, cashew and vegetables, which has improved their family nutrition and income. Reflecting on how the changes took shape, he reveals the following ordeal.



A. Phasipada, situated at lat. 19°34'14" north & long. 84°57'10" east, is home to 272 households. With a total population of 2000 (1200 male & 800 female), the inhabitants are mostly small, marginal and landless farmers belonging to the OBC category. Agriculture being the mainstay of their livelihood, they used to cultivate paddy as the principal crop in an ayacut of 63 Ha. The main source of irrigation is a natural reservoir named, Adiabandha spread over 1.70 Ha in the East & South Coastal plain Agro-climatic zone.

Though the average annual rainfall in the village is 1346.20 mm, due to irregular and scanty rainfall the farmers often had to manage with inadequate water for irrigating their lands about a decade ago. In consequence, the productivity of their lands kept on diminishing. It was difficult for them to look after their families with meagre income from agriculture. Many of them migrated to distant places, often outside the state, in pursuit of low-paid arduous occupations. Every year, about 500 farmers migrated to faraway places like Gujarat, Andhra Pradesh and engaged themselves as labourers in construction works. They used to stay away from their families for 6 months at a stretch, unable to pay any attention to their families, kith and kin back home. Their children's education and health of families lagged behind. Before onset of monsoon, they used to return to home with meagre earnings from labour works in migration. Then, they resumed cultivation of paddy in their fields. However, given rainfed conditions and insufficient irrigation of their lands, they seldom could harvest any yield that was sufficient to meet their livelihood needs. Eventually, they fell into a never-ending trap of poverty.



A ray of hope beamed on the Phasipada people in 2007 when the MI department started constructing a minor irrigation project on the Adiabandha reservoir of the village. Under initiatives of a Ganjam based NGO called United Artists, farmers of the village were mobilised to form a Water Users Association named



Radhakrishna PP members deliberating on O&M of Adiabandha MIP

as Radhakrishna Pani Panchayat in the year 2007. Ramachandra is the President of this PP at present. In early 2009, the MI project works were accentuated further by the World Bank funded Odisha Community Tank Management Project implemented by the Water Resources department of Govt. of Odisha. The Project formulated and implemented a tank improvement and management plan (TIMP). By now, the MI project construction works are almost complete and the PP formation is full-

fledged with a total membership of 166 farmers of A. Phasipada.

In 2010, Ramachandra noticed that though water was available to farmers on a regular basis, they did not do any cultivation other than paddy during Kharif season. Their lands remained almost unused during Rabi season. Looking at availability of surplus water in the tank, he called on the farmers to venture into cultivation of ground nuts in their lands during Rabi season. But the farmers declined, apprehending that their crops would be destroyed by monkeys and that way, they would incur heavy loss. Ramachandra advised them to keep guard of their lands and avoid damages to crops. But the farmers did not bother to take the risk.



Adiabandha MIP surplus water utilised for increasing farm productivity

It took about four to five times of meeting and discussing with the farmers. Finally, the farmers agreed when Ramachandra volunteered to pay a wage of Rs. 2000 per month to each of the four farmers who would guard their fields for four months. The farmers started to cultivate ground nuts in 40 acres of land including



Ramachandra with farmers of Phasipada at ground nut fields

5 acres of Ramachandra himself. He coordinated in getting supply of 120 bags of ground nut seeds from Odisha Agro-Industries Corporation. The block and district level agriculture departmental experts extended relevant training and hand holding supports to farmers under coordination by field functionaries of the District Project Unit of OCTMP. Besides, fertilizers were also provided by the DPU for 10 acres of ground nut fields. Per acre, the farmers could produce a yield of 14 bags or 600 kg of ground nuts. The total yield was 24 MT. An oil mill based at the nearby village Purusottampur, facilitated in getting marketing support from a firm in Cuttack

which purchased the ground nut produce of Phasipada at the rate of Rs. 40 a kg. A profit of Rs. 1 lakh could be earned by the farmers of Phasipada from sale of ground nuts. They returned the entire amount to Ramachandra which he had spent towards guarding their lands. Looking at the initial success, the farmers have expanded cultivation of ground nut in all the 200 acres of lands in the village. Further, the success of Phasipada in ground nut production has also attracted farmers of the nearby 5 villages like Deulapalli, Karanjara, Singipur, Talaranipalli and Bilipada to replicate ground nuts cultivation in their villages.

Today, the Adiabandha MI project is making a remarkable headway in crop productivity and farm yields. In an interaction with Sri Ramachandra Nahaka, President along with the farmer-members of the Radhakrishna PP, the following instances of successful operations of this MIP are revealed:

- **Increase in total Ayacut:**The total ayacut area has increased from 63 Ha to 80 Ha where more number of Phasipada farmers have taken up cultivation of different crops.
- **Crop Diversification:** The farmers of Phasipada have up scaled farming practices from single crop paddy cultivation to diversified crops like green gram, sesame, groundnut, cashew and vegetables.

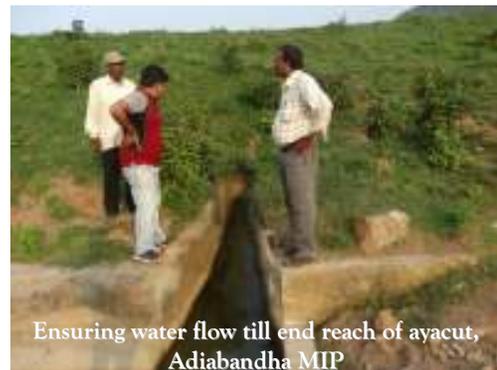


Lush growth of ground nuts made possible through diversified farming

- **Increase in Crop Productivity:** In an assessment of 2013-14, yields of different crops (except paddy, which diminished due to impact of cyclone Phailin), growth percentage in crop yields are found as follows: * groundnut :- 9.63 qt. per acre from 120 acres (18.6%), * green gram:- 2.45 qt. per acre from 10 acres (15%), * sesamum 2.73 qt. per acre from 10 acres (20.26%) and * vegetables (brinjal):- 315 qt. per acre from 6 acres (16.67 %) respectively. The PP has prepared a crop

plan for the ensuing year taking up line-showing of paddy, sesame, ground nut, green gram and vegetables cultivation in 150 acres.

- **Reduction in Distress Migration:** The number of farmers, who used to migrate outward to eke out a living, has come down from 500 to 200.
- **Alternative Livelihoods Options:** With rich dividends from farm yields and motivated by the functionaries of OCTMP DPU Ganjam, the PP farmers of Phasipada have adopted alternative livelihoods options like mushroom farming and pisciculture. In 2013-14, with training on pisciculture at CIFA, a group of 10 PP farmers have harvested 2300 kg of fish. After distributing 500 kg among the village households and selling the rest at Rs. 100 a kg they fetched Rs. 1,80,000/- which was deposited in the PP funds to be utilised for village development works.
- **Successful PP Operation:** The Radhakrishna PP is functioning with diligent adherence to PP norms. A notice about convening meeting is spread through a *Barika* (village barber) to the respective households of the village. On 27th of every month, the Executive Committee meeting of the PP is being conducted with participation of all the PP farmers at the floor of the Radha Krishna temple situated at the center of the village. Day-to-day PP affairs are discussed and documented in registers by the CRP under supervision of the PP president. Particulars like membership fees, assets, stocks, repairs and maintenance, cash books (TIMP and O&M), resolutions, grievance, notice book, beneficiaries, bills and demonstrations are noted down in prescribed records.



Ensuring water flow till end reach of ayacut, Adiabandha MIP

For ensuring equitable distribution of water to the farm fields, the Radhakrishna PP is composed of systematically developed village committees making appropriate survey and assessment of field conditions and crop plans of individual farmers. The Water Distribution Committee of the PP is resolving all disputes arising from tank water use and thus equitable water distribution is maintained. It takes sincere efforts in operating and maintaining the tank system to ensure that water from the Adiabandha MIP flows down and reaches the end level field of the ayacut. Two action plans -Kharif and Ravi cropping plans are prepared in the meeting. At present there is balance of Rs. 1.57 lakhs in the PP account, maintained for meeting all the expenses of operation and maintenance of the tank system.

Successful PP farmers of Adiabandha MIP:

	Farmer's name:	JOGENDRA NAHAKA
	Crop:	<ul style="list-style-type: none"> • Ground nut cultivation in 6 acres Investment: Rs. 30,000/- Yield: 3200 kg; Profit: Rs. 66,000/- • Mushroom grown in 500 sq. Ft. Investment: Rs. 2000/-; Profit: Rs. 3000/-
	Impact:	Son educated up to plus 3 level, renovated house, purchased power tiller and agricultural inputs like one pump set and a bullock
	Farmer's name:	TUNA MAHARANA
	Crop:	Ground nut cultivation in 2 acres, Investment: Rs. 10,000/- Yield: 1000 kg Profit: Rs. 20,000
	Impact:	Purchased 12 cents of land, repaired house, done line showing of Swarna Mashoori variety paddy in 20 acres and expecting to have 6 times more yield
	Farmer's name:	SOMANATH PALA
	Crop:	Ground nut cultivation in 4 acres, Investment: Rs. 20,000/- Yield: 2000 kg Profit: Rs. 40,000
	Impact:	Constructed a house, purchased farm implements

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