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Good Agriculture & Allied Practices (GAAP) Village Program

Project: Implementation of Good Agriculture Practice in Six agro-climatic zones of West Bengal.

Implementing Agency- Vivekanand Institute of bio Technology (VIB), Nimpith

Project cost INR 7,29,00,720/-

Project period- Started October 14, 2015 (for 27 months)

About GAP: Good Agricultural Practices (GAP) is the world's most important quality certification for food safety and has several components of Sustainable Development Goals (SDG) of United Nations. The uses and handling of agrochemicals and pesticides were identified major concern of managing agricultural production system, protecting crops and yield growth. In order to guarantee the food safety of field crops a wide range of measures are needed to monitor all production steps, quality control systems from production to processing, packaging and distribution, for example, washing steps and to reduce microbial contamination of leafy vegetables. Improvement of producers' knowledge and skills about implementation of GAP can significantly improve the food safety of the final output for consumers. It can be argued that effective implementation of GAP can improve quality and safety of the final product in addition to sustainability of Agricultural system including soil, water, pollinator & other beneficial insects etc.

Objective:

1. Development of sustainable agro-system through application of soil analysis based & balanced dose of fertilizer and replacement of 25% chemical fertilizer by bio-fertilizer.
2. Production of safe & chemical free agro products through Integrated Pest Management, avoiding WHO Class1A, 1B & Clas2 pesticides and taking safety measures during purchase, transport, storage, handling and disposal of chemical pesticides.
3. Ensuring health and hygiene of workers, consumers and environment.
4. Development of rural entrepreneurs as Agro Service Center

Project activities –

1. Selection of villages from polygon area or Batch-I & II subproject area after consulting with respective DPMU.
2. Formation of farmers cluster and network of village level Para Workers. Capacity building program
3. Capacity building program
 - a. Preparation of competency-based training manual
 - b. Training of Para Workers and the Farmers and Crop clinic
 - c. Exposure visit of farmers.
4. Village level activities and extension
 - a. Development of IEC materials

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- b. Village meeting with focus group
 - c. Survey for development of farmers' database and finding of intervention points
 - d. Communication campaigning and working with the farmers for the promotion of Gap practices as mentioned in 6 criteria
5. Entrepreneurship development
- a. Selection of potential entrepreneurs from the Para Workers
 - b. Training and incubation- providing technical support fro VIOB

6. Project Area – Agro climatic region wise

S No	Zone	District covered	Name of villages covered	WUAs
1	Northern Hilly	Darjeeling	Murmah, Mirik Khashmahal, Nepania, Rangamohun, Barachenga	22
2	Teesta Terai	Jalpaiguri	Purba Batabari, Dhupjhora, Purba Salbari, mangalbari, Chalsa Mahabari	32
		Coochbehar	Kodalksheti, Runibari, Patakamari, Tekonia, Pachagarh	11
3	Vindhyan Alluvial	Malda	Agampur, Adhna, Bahadurpur, Dogachhi, Batijhora	21
4	Gangatic Alluvial	Murshidabad	Bijaypur, Mirzapur, Simla, Katnai. Dakhinapara	14
5	Undulating Red & Laterite	Bankura	Susunia Jamthol, Jiadoba. Bishkadar, Jhunjka, Agaya	5
		Paschim Medinapur	Balijhuri, Shanr Dhara, Jamui, Bhadui, Dubra	6
6	Coastalsaline	South 24 Parganas	Bantra, Rajapur, Kamaria, Mahismari, Mayahauri	2
Total	Zone-6	Districts-8	Villages-40	113

Field Achievement: In Brief

- Development of 8 farmers Clusters and network of 40 Para Workers. Development of database of 7463 farmers.
- **Introduced new crops:** Baby Corn, Capsicum, Broccoli, Elephant Foot Yam, Maize, Sunflower, Paddy (PS-05, Lal badshabhog), Black Pepper, and Dragon Fruit.
- Transferred new technologies: SRI, Polyunnel Nursery. Low cost Trichoderma production, Fruit fly trap.
- Established *Azolla* units at farmers' field: 190

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- Soil sample tested: 3518
- Number of farmers used bio inputs: 4251
- Vermicompost units established: 80
- Increase in farmers' benefit: 8-44% (variation due to variation of technology adoption and field characteristics distributed among the varied agro-climatic zones)
- Marketing strategy undertaken: GAP Standard developed for inputs and outputs.
- Convergence- West Bengal State medicinal Plant Board- (medicinal plant cultivation & marketing), Block Agricultural Department (ATMA Program), BCKV (Training and extension)
- Natural Resource development – Neem plantation
- KIOSK for Pest and Disease management information and learning for the benefit of farmers

Outputs - Achievement as per the GAP Criteria:

		Total Number of farmers				7463
		Total Land under GAP practice in Ha				3197
S No	Criteria	Number of farmers				
		Target in %	Target	Achieved	% achieved	
1	No. of farmers applying Recommended dose of fertilizers according to soil analysis report.	80%	5970	5590	94	
2	No. Of farmers applying balanced dose of mixed fertilizer.	65%	4851	4840	100	
3	No. of farmers adopting 25% replacement of chemical fertilizer by bio-inputs	50%	3732	4251	114	
4	No. of farmers avoiding the use of WHO Class 1A, 1B & Class 2 pesticides.	100%	7463	5872	79	
5	No. of farmers practicing IPM	60%	4478	4521	101	
6	No. of villagers aware about safe transport, storage, handling. application and disposal of synthetic pesticides	100%	7463	5792	78	
7	Land area under this practice (Ha)	60%	2518	1878	75	

Emerging Impacts - Impact of GAP in 6 Agroclimatic Zones of West Bengal

The soil health card-based fertilizer application along with replacement of 25% chemical fertilizer by bio-inputs is established in GAP villages. The farmers avoid application of WHO Class 1A, 1B & 2 pesticides while follow IPM.

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The project activities have been contributing to reduce harmful inputs use in agriculture field, facilitating production of bio-inputs, improving knowledge and practice for chemical free health and hygiene, reducing cost of production and producing healthy food products and generating expected revenue from the market. Overall awareness of farmers have improved about to reduce contamination and maintain environmental sustainability.

The GAP is applied in demonstration programs of WBADMIP in fields of WUA members. In four districts DCs are organised by VIB in 127 farmers field covering 90 *Bighas* of land for different crops like paddy, Maize, black gram.

Lessons learned by the farmers are contributing to farmer to farmer technology and knowledge diffusion and up scaling of the project activities.

Farmers are applying their GAP knowledge to diversified crop field to produce healthy food products and to reduce cost of production and to achieve sustainable agricultural development goal.

Remarkable achievements:

1. Organized State level Workshop on GAP
2. Organized GAP Utsav- Mass gathering with quiz competition for promotion of GAP
3. Organized Workshop on GAP certification and marketing of GAP product.
4. Organized Hands-on training on village level production of Biopesticide, *Trichoderma viridi*, and business development.
5. Introduced medicinal plant cultivation and trading- started cultivation of *Brambhi* (*Bacopa monnieri*) at GAP villages of South 24 Parganas District under West Bengal State medicinal Plant Board.
6. Convergence with Government line Departments for ensuring access to the farmer's facilities.
7. Published GAP Newsletter (Quarterly)

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Photos



A farmers' training at Uttar Dhupjhora village of Jalpaiguri District



The farmers of GAP villages of Coochbehar District receive crop specific training manual



Hands on training on village level production of biopesticide *Trichoderma viridi*



Students rally at Agampur village of Malda District on neem plantation



Farmers level vermicompost production unit



Farmers' level Azolla production unit



Hands on training on village level production of biopesticide *Trichoderma viridi*