
Doubling Farmers Income through Integrated Farming System with Nutritional Garden at Sarongdeupur Village of Karimganj District

**Pulakabha Choudhury^{1*}, Purabi Tamuli Phukan², Rasinja
Englangpi³, Alakesh Deka⁴, Himangshu Mishra⁵, Ranjit Bordoloi⁶,
Dipen Ch. Nath⁷, Chinmoy Deori⁸, Joyshikh Sonowal⁴, Debojit
Dekari⁶, Monoranjan Neog⁹, G. Kadirvel¹⁰, R.K Saud¹¹**

¹Senior Scientist & Head, KVK KARIMGANJ, Assam Agricultural University (AAU), India.

²SMS(Horticulture), KVK KARIMGANJ, Assam Agricultural University (AAU) ³DEE, AAU, India.

³SMS (Soil Science), KVK KARIMGANJ, Assam Agricultural University (AAU), India.

⁴SMS (Animal Science), KVK KARIMGANJ, Assam Agricultural University (AAU), India.

⁵SMS (Plant Protection), KVK KARIMGANJ, Assam Agricultural University (AAU), India.

⁶SMS (Fishery Science), KVK KARIMGANJ, Assam Agricultural University (AAU), India.

⁷SMS (Soil Science), KVK NAGAON, Assam Agricultural University (AAU), India.

⁸SMS (Agronomy), KVK KARIMGANJ, Assam Agricultural University (AAU), India.

⁹Director of Extension Education, Assam Agricultural University (AAU), Jorhat, India.

¹⁰Director, ICAR-ATARI, Zone-VI, Kahikuchi, Guewahati, India.

¹¹Associate Director of Extension Education, Assam Agricultural University (AAU), Jorhat, India.

*Corresponding author's e-mail: pulakabha@gmail.com

Published on: July 31, 2024

ABSTRACT

Mrs. Rabia Begam, a 40 years old farm woman from Sarongdeopur village of Karimganj district has adopted Double Cropping System along with Integrated Farming System (IFS) by incorporating different components of crops and livestock. Earlier she was solely growing mono-crop like paddy by following traditional farming system and kept her land fallow till next season. After coming in touch with KVK, Karimganj and with the scientific intervention, she has started the practices of Double Cropping System i.e. "Paddy followed by Rajmah" with efficient utilization of resources and increases the income. For nutritional security and diet diversification, she established 200sqm Nutritional Gardens at her backyard to meet round the year vegetable requirements of her family. Later she integrated improved livestock and fishery component along with horticultural crops and provides additional income for her livelihood. Mrs. Rabia is now earning approximately Rs. 1,87,000.00 from an area of 1.5 ha by integrating different component (agriculture, horticulture, fish production, dairy farming, backyard poultry and duck farming) together which provide her stable income and improve living standard of her family. Mrs. Rabia determinations help her to adopt the innovative and sustainable farm practices within a short stretch of time and area which can be role model for the emerging Farming community. During the last three (2020-21 to 2022-23) years study it has shown that the income of Rabia Begum has increased around or more than double.

INTRODUCTION

Mrs. Rabia Begam, a 40 years old farm woman having preliminary education belongs to *Sarongdeupur (Borshila)* village of Karimganj District. She has 1.5 ha of farm land where she grows only paddy crops as monocrop by following a traditional farming system. They have to depend on local or nearby market for vegetables, which is about 1.5 km away from her home. In the year 2019-20, she came to know that KVK, Karimganj has conducted awareness programme under *Poshan Abhiyan* at KVK campus itself. She along with her fellow women villagers came to attend the awareness programme where she came to know about nutrition which is very essential for day-to-day life. She also understands that fruits and vegetables play a pivotal role in overall growth and development of human being and also creates diversity in their diet and reduce health issues like stunting, under nutrition, anemia etc. There she also came to know about importance of nutritional garden for her family to meet the day-to-day requirement of fruits and vegetables for round the year. In that year itself she established one nutritional garden of 200 sq. m in her backyard with the intervention of KVK, Karimganj. Apart from that she also takes guidance and scientific skills from KVK which mobilize her to go for double cropping in her field. In this connection she adopted kharif paddy followed by rajmah (rabi) and high value horticultural crops like hybrid capsicum, broccoli, hybrid as well as local brinjal, hybrid tomato etc. Though mostly cultivated under rain fed conditions but during the time of water scarcity she used to irrigate her field by utilizing pond water. Along with crops she also incorporated

backyard poultry farming (60 nos. of *BV-380* and *Vanaraja bird*), duck farming (30 nos. of *Vigova Super M&Khaki Campbell*), fish farming and livestock farming (1 no. of Milch Animal & 2 Calves).

IMPARTED TRAINING UNDER POSHAN ABHIYAN OF NUTRI-SENSITIVE AGRICULTURAL RESOURCES AND INNOVATION (NARI) PROJECT

Mrs. Rabia Begam before coming to contact with KVK Karimganj, she was practicing monocropping system in her field following traditional methods. In the year 2019-20, she attended one awareness programme on *Poshan Abhiyan* conducted by KVK, Karimganj where she was acquainted with the nutritional garden. Later on, she took training on the establishment and management of nutrition garden along with aganwadi workers and farm women from KVK. After completion of training, KVK Karimganj provided her a Nutritional Garden layout according to space available at the backward and seed kit containing various types of vegetables (hybrid cabbage, broccoli, cauliflower, radish, carrot, spinach), hybrid rabi maize variety Deklab DKC 9081 and 4 types of fruit seedlings under the programme funded by “**NARI Project**” by ATARI Guwahati. In that year 2019-20 she established a “*backyard nutrition garden*” (200 sqm area) to meet her daily household requirement and remaining excess vegetables she sold in the local market/nearby market.

Being an enthusiastic farm woman, Rabia is always taking interest in agricultural awareness programme organized by KVK. She is a regular trainee and visitor of all kinds of training and awareness. She has taken advance trainings on scientific cultivation of paddy crops, pulse crops, vegetable cultivation, horticultural crops, vermicomposting, fish and livestock farming from KVK, Karimganj. Her strong determination, dedication and constant personal interaction with KVK scientists have led her to the front step of being a progressive and innovative farmwoman.

INTERVENTIONS OF INNOVATIVE TECHNOLOGIES / SCIENTIFIC PRACTICES

- Improved scientific cultivation practices like line sowing, appropriate seed rate, proper fertilizer application with appropriate dose, proper spacing and high yielding varieties for field crops- rice (Ranjit, Bahadur, Ranjit Sub-1), Rajmah (Arun) and high value horticultural crops like hybrid capsicum, broccoli, brinjal, etc.
- Rearing of improved poultry bird (*Vanaraja & BV-380*), *Khaki Campbell & Vigorva Super M Duck* in backward system, cattle (breed *Jersey*) by adopting scientific poultry and dairy farming practices which gives her an additional income.
- Efficient utilization of waste, residue left from crops and livestock for production of compost/vermicompost by following scientific methods and used as fish feed for fish production. Vermicompost produced by her are mainly used for owned crop production and remaining excess quantity sold in nearby areas.
- Establishment of a nutritional garden under NARI project, mainly used for family consumption and remaining excess vegetables sold in the market. She also adopted cultivation of hybrid rabi maize variety *DEKLAB DKC 9081* which is highly nutritious.

- With the Knowledge and guidance gained from the KVK scientists, Rabia integrated different components of her farm- agriculture, livestock and fish farming for improving income and livelihood support.

ACHIEVEMENTS OF RABIA BEGUM

Mrs. Rabia Begam is a hard-working woman farmer and able to grasp the technologies faster and adopt it. She is actively involved in day-to-day farming activity along with her own family members. Her strong determination helps her to adopt the innovative and sustainable farm practices within short stretch of time which results into enhanced income as well as living

Photographs of Intervention



Rajmah cultivation



Nutrition garden and rabi maize demonstration plot



Rearing of backyard poultry(Loose system) farming



Cultivation of high yielding paddy



Cabbage cultivation



Harvesting of Fish



Integrated duck cum fish culture

Table 1. Activity Wise Income, Cost-Benefit Ratio, Gross and Net Income

Activity	Gross income (Rs.)			Net income (Rs.)			Benefit Cost Ratio		
	2020-21	2021-22	2022-23	2020-21	2021-22	2022-23	2020-21	2021-22	2022-23
Field crops	25000	36700	50100	13200	25800	39500	1.12	2.37	3.72
Horticultural crops	27100	39300	57600	14900	27300	44400	1.22	2.27	3.36
Fishery	41000	52000	64500	30700	41100	54000	2.98	3.77	5.14
Backyard Poultry and Duckery	25550	32050	33900	16600	23200	28000	1.85	2.62	4.74
Dairy	15000	20500	25200	7900	12100	18700	1.11	1.44	2.87
Others (Vermicompost)	2600	3500	4700	1380	2500	3200	1.13	2.50	2.13
Total	136250	184050	236000	84680	132000	187800	-	-	-

standard of her family. She earns a net profit of Rs. 39,500/- from field crops, Rs. 44,400/- from horticultural crops, Rs. 54,000/- from fishery unit, Rs. 28,000/- from backyard poultry and duck farming. Overall, she earns net annual income of Rs. 1.87 lakhs during the year 2022-23 from all the components together.

IEWS AND FEEDBACKS OF THE FARMER

By seeing the success of her, villagers from her own village and other villages are being motivated to innovative, sustainable farm practices technologies and nutrition garden concept. She created awareness and motivated near about 50 women in her village to start their own Nutrition Gardens with aim to ensure food and nutritional security to the family. Farmers are

motivated while visiting her farm and inspired to adopt her way for success. Her model of integrated farming system by incorporating all components (agriculture, horticulture, fish production, dairy farming, backyard poultry and duck farming) together provide her stable income to run the family in a better way. She owes her success to regular technical support from KVK, Karimganj.

RECOGNITION

KVK, Karimganj recognized Mrs. Rabia Begum for doing excellent work in integrated farming system, backyard poultry farming and NARI programme.



Appreciation Certificate Mrs. Rabia Begum

CONCLUSION

Initially Rabia Begum was practicing traditional methods of agricultural practices. Agriculture was mainly mono crop based. She was not using any advanced technology and improved breed in her cultivation practices due to which her income was not much impressive. But after the intervention of advance technology and improved livestock breed in her agricultural practices, income has enhanced remarkably. During the last three (2020-21 to 2022-23) years study it has shown that the income of Rabia Begum has increased around or more than double. In case of field crop her benefit, cost ratio has enhanced from 1.12 to 3.72. In case of Horticultural crops B:C ratio has enhanced from 1.22 to 3.36. In Backyard poultry and duckery it has shown that the B:C ratio enhancement was from 1.85 to 4.74. In fishery, cost benefit ratio enhancement was from 2.98 to 5.14. Dairy and other interventions have also enhanced by double in B: C ratio.