## Agribusiness development cultivates not only crops, but also prosperity, sustainability, and the promise of nourishing a growing world



WEST BENGAL COMPREHENSIVE
AREA DEVELOPMENT CORPORATION
KRISHI VIGYAN KENDRA,
SONAMUKHI, BANKURA, WEST BENGAL

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# COURSES OFFERING BY WBCADC KVK-BANKURA FOR ENTREPRENEURSHIP DEVELOPMENT OF RURAL YOUTHS







WEST BENGAL COMPREHENSIVE AREA
DEVELOPMENT CORPORATION
Under the Ministry of P & RD, Govt. of West Bengal
KRISHI VIGYAN KENDRA,
SONAMUKHI, BANKURA, WEST BENGAL
PIN-722207



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### Acknowledgment

From the initial brainstorming sessions to the meticulous curriculum planning and content creation, it is evident that West Bengal Comprehensive Area Development Corporation is committed to delivering an exceptional learning experience to student. We KVK Bankura like to extend our heartfelt appreciation to Sri Sanjay Mukhopadhyay, WBCS(Exe.) Special Secretary, Panchayat and Rural development, Govt. of West Bengal and Administrative Secretary, West Bengal Comprehensive Area Development Corporation, Dr. Uday Bhanu Ganguly, ARD, Consultant, WBCADC, Dr. B. K. Mondal, Fishery Consultant, WBCADC, Mr. J. R. Sharma, Agriculture, Consultant, WBCADC, Mr. Debabrata Hui, RKVY Cell In-charge, WBCADC for their expertise, creativity and professionalism. Our collaborative efforts have resulted in a course that we believe will make a significant impact on learners, equipping them with valuable knowledge and skills in entrepreneurship development.

Use of seed, breed and planting materials of KVK-Bankura to improve your confidence level



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#### Germplasm of different crops seed, Mushroom seed, seedlings, planting materials and Breed of animals available in the KVK-Bankura

SL. No.	Name of the crops/animals	Varieties/Breeds
1.	Paddy (Foundation and certified seed)	AGB-1, MTU 1010,MTU-7029, MTU-1223,IET-4786, BidhanSuruchi, CR Dhan-800, CR Dhan-802, Ajit, Sukumar, Muktashree, Manisha, Gobindabhog etc.
2.	Mustard	B-9, B-54, Pant Sweta, CS-60, PM-25etc.
3.	Ground nut	Dharani, GPBD-5
4.	Sesame	Roma
5.	Black gram	PU-7
6.	Bengal Gram	Purba-2299
7.	Green Gram	Varsha, Virat, Shikha, Kanika
8.	Lentil	Shekhar-5, Pl-9.
9.	Pigeon Pea	PAU-881, IPA-203, UPAS-120
10.	Finger Millet	Indravathi
11.	Wheat	DBW-252, HD-2967.
12.	Mango	Himsagar, Langra, Amrapali, Mallika, Fazli, Dasheri etc.
13.	Guava	L-49, KG, Baruipur Selection etc.
14.	Citrus	Acidlime, Mosambi, Sarbati etc.
15.	Papaya	Vinayak, Pusa etc.
16.	Jackfruit,	Baromasi
17.	Litchi	Bombay
18.	Dragon fruit	Hylocereus
19.	Coconut	East Coast
20.	Moringa	ODC-3, PKM-1
21.	Winter annuals	Aster, California poppy, Cocks Comb, Calendula, Cosmos, Dianthus, Mary Gold, Red poppy, Zinnia, etc.
22.	Commercial flowers	Mary gold and Gladiolus, Tuberose.
23.	Ornamental plants	Croton, Ixora, Duranta, Euphorbia
24.	Piglets	T&D
25.	Cow	Cross Breed Jersey, Gir
26.	Poultry	Haringhata Black, RIR
27.	Goat	Black Bengal
28.	Fish	IMC and air breathing.
29.	Mushroom	Oyster
30.	Vegetables	Tomato, Chilli, Cauliflower, Cabbage, Brinjal, Guard, Broccoli, Red Cabbage, Carotina, Valentina, Capsicum, Water Melon, Cherry tomato, Asparagus, leak, Celery, Zuchini, Leafy vegetable etc.

#### Courses Offering by WBCADC KVK-Bankura for Entrepreneurship Development of Rural Youths

#### **FOREWORD**



It is with great pleasure that I introduce this remarkable course book on "Entrepreneurship Development," authored by the esteemed team at Krishi Vigyan Kendra Bankura. In an era marked by rapid changes in technology, market dynamics, and global challenges, the role of entrepreneurship in agriculture has never been more crucial. This comprehensive guide serves as a beacon of knowledge, illuminating the path for aspiring agripreneurs and innovators.

Krishi Vigyan Kendra Bankura has consistently demonstrated a commitment to agricultural advancement, rural empowerment, and sustainable development. This course book exemplifies their dedication to equipping individuals with the skills, insights, and mindset necessary

to thrive in the modern agricultural landscape.

Agricultural entrepreneurship is a transformative force that transcends traditional farming practices. It involves seizing opportunities, managing risks, and leveraging innovative approaches to create value along the agricultural value chain. This course book not only imparts practical knowledge but also nurtures the entrepreneurial spirit that is essential for success in today's interconnected and dynamic world.

As we strive to feed a growing global population while safeguarding our natural resources, entrepreneurs in agriculture are poised to drive meaningful change. They have the potential to introduce novel technologies, improve supply chains, enhance sustainability practices, and elevate rural economies. This course book provides a solid foundation for individuals to embark on this impactful journey.

From ideation to execution, from risk management to scaling up, the content presented here covers a wide spectrum of relevant topics that will guide readers in their pursuit of success.

I commend Krishi Vigyan Kendra Bankura for their vision in compiling this course book. It is an investment in the future of agriculture—one that is ripe with innovation, empowerment, and positive impact.

I extend my heartfelt congratulations to the team at Krishi Vigyan Kendra Bankura for their unwavering commitment to fostering entrepreneurship in agriculture. May this course book inspire countless individuals to take the leap, embrace innovation, and contribute to the transformation of our agricultural systems.

With best regards, 3<sup>rd</sup> August, 2023

Shri Sanjay Mukhopadhyay WBCS(Exe.) Special Secretary, Panchayat and Rural development, Govt. of West Bengal and **Administrative Secretary,** 

**West Bengal Comprehensive Area Development Corporation** 

#### **Preface**



Welcome to the world of entrepreneurship and innovation in agriculture! This course book on "Entrepreneurship Development" has been meticulously crafted by Krishi Vigyan Kendra Bankura to provide you with valuable insights, knowledge, and practical guidance on the journey of entrepreneurship within the agricultural domain. In today's rapidly changing agricultural landscape, entrepreneurship plays a pivotal role in driving sustainable growth, fostering innovation, and addressing various

challenges faced by farmers, agripreneurs, and rural communities. This course book

aims to equip aspiring entrepreneurs, existing agribusiness owners, and agricultural enthusiasts with the essential tools and concepts required to navigate the dynamic world of agricultural entrepreneurship.

Drawing from years of experience, research, and collaborations in the agricultural sector, this course book offers a comprehensive exploration of key topics related to entrepreneurship development. From understanding market trends and identifying niche opportunities to creating robust business plans, securing funding, and managing the intricacies of a successful agribusiness, each chapter is designed to empower you with practical knowledge and actionable insights.

Krishi Vigyan Kendra Bankura believes that nurturing a culture of entrepreneurship in agriculture is essential for achieving food security, rural prosperity, and global sustainability goals.

As you embark on this journey of entrepreneurship in agriculture, we encourage you to approach the content with an open mind and a willingness to embrace new ideas. We invite you to engage actively with the material, seek opportunities to apply your learning, and become a catalyst for positive change in the agricultural sector.

I extend my gratitude to Shri Sanjay Mukhopadhyay, WBCS(Exe.) Special Secretary, Panchayat and Rural development, Govt. of West Bengal and Administrative Secretary, West Bengal Comprehensive Area Development Corporation, for the prudence and discernment for initiating and guiding us on development of this course which is essential for empowerment and achieving self-sufficiency in agriculture and allied sector. I sincerely acknowledge the help taken from my colleague to prepare these courses. Let this course book be your guide, mentor, and source of inspiration as you explore the exciting realm of agricultural entrepreneurship. Remember, the future of farming lies not only in the soil but also in the seeds of innovation and entrepreneurship that you sow today.

Happy learning and best wishes for your entrepreneurial endeavors!

Sonamukhi 1<sup>st</sup>August, 2023 Dr. Moumita Dey Gupta Programme Coordinator WBCADC KVK, Sonamukhi, Bankura

## Name of the course: CATFISH (Desi Magur and Singhi) BREEDING & REARING TECHNOLOGY (15 days)

Course content	Duration	Time
Introduction: Aims and objectives. Problems and prospects of this course. Broodstock Management. Planning, site selection, layout, design of the brood fish, spawn, fry, fingerlings tank and their different feeding strategies. Implements and equipments for catfish breeding. Source of brood fish. Linkage with other institutions. Credit support.	, in the second	March-May
Induced Breeding procedure, Nursery Phase and Rearing phase management (water management, larval feed management and larval health management).		June-August
Scientific Grow-out culture technique of desi-magur and singhi (pre-stocking management, culture management and health management). Marketing potential and economical importance of this breeding and culture practice. Cost of production of seed and table sized fish. Visit to successful catfish breeders of this district.	, in the second	August -December

#### Faculty members:

- Course Co-ordinator: Sri Abhrajyoti Mandal, Training Asstt., KVK Bankura
- Dr. Moumita Dey Gupta, Programme Coordinator, KVK Bankura
- Dr. Surya Kanta Sau, Assistant Professor, Dept. of Aquaculture, F.F.Sc., WBUAFS
- Sri Biswanath Banerjee, V.O., KVK, Bankura

Course fees: 5000.00 (Rupees five thousand) only/participant.







#### Name of the courses: PIG FARMING (one week)

Course content	Duration	Time
Introduction: What is Pig farming? Problem and prospect of Pig farming. Important Pig farms established in India and West Bengal. Source of availability of different breeds of animals. Site selection, layout, and construction of Pig farming. Equipments for Pig farming. Role of other line departments for improvement and expansion of Pig farm. Sources of technical and credit support for Pig farming. Pig farming records. Role of Pig farming for self employment in this district. Success story of KVK through entrepreneurship development with Pig farming.	1 days	Throughout the year
Types of Pig used in Pig farming and their suitable breeds for this region. Different body parts of Pig. Care and management of piglets, Adult pigs, pregnant pigs etc. Cost of production of meat and piglets.	2 days	
Feeding and feed formulation procedure. Sources of availability different kinds of feed. Low cost feed production with use of locally available ingredients. Mineral nutrition available in the markets and its use.	2 days	
First aid treatment against common problems of Pig (Tympani Diarrhea, fever, Anorexia, wounds, fracture etc). Management of Ecto and Endo parasitic diseases of Pig (Ticks, mites, Lice, Mange liver flukes, strangles, Tapeworms etc). Different viral and bacterial diseases of Pig and their prevention & control. Various diseases of Pig & their prevention. Visit to successful Pig farm co-operative society.	2 days	

#### Faculty members :

Course Co-ordinator: Dr. Prahlad Mondal (JTO, ARD), KVK, Bankura

- Dr. Ganesh Maji, V.O., Block Animal Health Centre, Sonamukhi
- Dr. Parshanath Mondal, DLDO, Sonamukhi
- Dr. Atin Dey, V.O., State Animal Health Centre, Sonamukhi

Course fees: 3,000.00 (Rupees t three thousand) only/participant.







#### Name of the course: SEED PRODUCTION MANAGEMENT (One month)

(one month)			
Course content	Duration	Time	
Introduction. Objectives and aims of this course. Problem and prospect of this technology in rural areas. Seed classification. Characteristics of good quality seed. Seed producing zones in W.B. situation. Name of the institutes working in this field in State and National levels. Infrastructure required for seed production business, Quarantine rules and regulation for germplasm collection of different crops from abroad.	7 days	March-Apr	
Procedure for collection of germplasm from different sources. Seed germination and viability test. Factors affecting on seed germination. Calculation and determination of percentage of seed germination. Characteristics of abnormal seedlings. Seed dormancy. Factor affecting for seed dormancy. Breaking of seed dormancy. Real value of seed, seed quality index, seed vigour index. Procedure for seed health management, Seed Multiplication Ratio. Seed treatments against diseases and pests. Village seed production programme and Seed Village programme.	7 days	May-June	
Seed production techniques of foundation and certified seed. Seed bed preparation. Transplanting of seedlings. SRI- Techniques for seed production. Application of manures & fertilizers. Application growth regulators. Treatments details on diseases and pests management. Use of herbicides in different crops. Roguing operation. Harvest of seed and seed collection and storage procedure.	7 days	July-Octo.	
Post harvest handling of seed- Implements and equipments required for seed processing units. Lay out of seed godown, Methods of drying of seed, processing, grading, packaging, storage, sampling, seed test and marketing. Cost of production of different seeds. Interaction with successful entrepreneurs. Visit to KVK seed processing unit.	7 days	Nov-Mar.	

#### Faculty members :

Course Co-ordinator: Dr. Moumita Dey Gupta, Programme Coordinator, KVK Bankura

- Dr. Susanta Naskar, ADA, Seed Cert. Office, Bankura
- Hiya Chatterjee, JTO, KVK, Bankura
- Ms. DipaManik, ADA, Sonamukhi Block
- Dr. Mousumi Malo, ADA, Bishnupur
- Anup Hazra, AFA, KVK, Bankura

Course fees: 9000.00 (Rupees nine thousand) only/participant.







## Name of the course: VERMICOMPOST PRODUCTION (7 days)

Course content	Duration	Time
Introduction: Aims and objectives. Basic principles of this course. Problem & Prospect of this course. Site selection, planning, layout and infrastructure for Vermi compost unit. Implement and equipments used in Vermi compost production. Physical & financial resources for Vermi compost unit establishment. Records for Vermi compost production unit	2 days	Throughout the year
Production technology: Ingredients required for vermicompost production, Process of filling of pits, Watering in the pits, Care and maintenance of Earth Worm. Processing of vermicompost. Production techniques of earth worm.	3 days	
Grading, Packaging and Marketing of vermin compost, Cost of production of vermin compost. Application of vermicompost in different crops. Enriched of vermicompost with inoculation of Microorganism.	2 days	

#### Faculty members :

Course Co-ordinator: Dr. Prahlad Mondal (JTO, ARD), KVK Sonamukhi, Bankura

- Mr. Laxman Hembram, ADA, INDAS
- Ms. Jaya Barman, ADH, Taldangra
- Mr. Dinesh Sing, ADA, Bankura

Course fees: 3000.00 (Rupees three thousand) only/participant.







#### Name of the courses: DAIRY FARMING (one month)

Course content	Duration	Time
Introduction: What is dairy farming? Problem and prospect of dairy farming. Important dairy farms established in India and West Bengal. Source of availability of different breeds of animals. Site selection, layout, and construction of dairy farming. Equipment for dairy farming. Role of other line departments for improvement and expansion of dairy farm. Sources of technical and credit support for dairy farming Dairy records. Role of dairy farming for self employment in this district. Success story of KVK through entrepreneurship development with dairy farming.	·	Jan-Feb
Types of animals used in dairy farming and their suitable breeds for this region. Different body parts of cattle and buffalo. Application procedure of A.I techniques. Care and management of heifers, lacting animals, pregnant animals etc. Management of cows after calving and care of new born calf. Process of milking Animal produce marketing, processing and preservation through value added product. Cost of production of milk and milk products.	-	March-April
Fodder production techniques. Feeding and feed formulation procedure. Sources of availability different kinds of feed. Low cost feed production with use of locally available ingredients. Mineral nutrition available in the markets and its use.	-	May-Sept
First aid treatment against common problems of animals (Tympani Diarrhea, fever, Anorexia, wounds, fracture etc). Management of Ecto and Endo parasitic diseases of cattle (Ticks, mites, Lice, Mange liver flukes, strangles, Tapeworms etc). Different viral and bacterial diseases of cattle and their prevention & control. Various diseases of cattle's & their prevention. Visit to successful dairy farm cooperative society and live stock markets.	·	Oct-Dec

#### Faculty members :

Course Co-ordinator: Dr. Prahlad Mondal (JTO, ARD), KVK, Bankura

- Dr. Ganesh Maji, V.O., Block Animal Health Centre, Sonamukhi
- Dr. Parshanath Mondal, DLDO, Sonamukhi
- Dr. Atin Dey, V.O., State Animal Health Centre, Sonamukhi

#### Course fees: 9000.00 (Rupees nine thousand) only/participant.







## Name of the courses: POULTRY FARMING (One month)

Course content	Duration	Time
Introduction: What is poultry farming? Problem and prospect of poultry farming in Bankura district Important poultry farms established in India and West Bengal. Source of availability of different breeds of birds. Site selection, layout, and construction of poultry house, Equipments for poultry farming. Role of line departments for improvement of poultry farming in this district. Sources of technical and credit support for poultry farming. Literature available for poultry farming. Maintenance of poultry farm records: Role of poultry farming for self employment. Success story of KVK through entrepreneurship development with poultry farming. Role of poultry in human nutrition.	7 days	Jan-Feb
Identification of different poultry species and their breeds. Study of body parts of poultry. Study of important characteristics of broiler and layer chicken. Study of various system of rearing poultry. Preparation of deep litter house of broiler and layer Day to day management of broiler and layer. Study on Backyard poultry system. Hatching of different eggs, marketing of eggs chicks and meat. General idea about Quail and Emu faring. Cost of production meat and eggs.	7 days	March-April
Common poultry feed ingredients and preparation of ration. Readymade poultry feeds available in the market. Feed and water management for commercial poultry, study on locally available poultry feed ingredients, preparation of ration for deshibirds	7 days	May-Sept
Identification and nature of poultry diseases, common measures for prevention and control of poultry diseases including vaccination and routine medication. Visit for successful poultry farm in this district.	7 days	Oct-Dec

#### Faculty members :

Course Co-ordinator: Dr. Prahlad Mondal (JTO, ARD), KVK, Bankura

- Dr. Ganesh Maji, V.O., Block Animal Health Centre, Sonamukhi
- Dr. Parshanath Mondal, DLDO, Sonamukhi
- Dr. Atin Dey, V.O., State Animal Health Centre, Sonamukhi

Course fees: 12,000.00 (Rupees twelve thousand) only/participant.







## Name of the course: NURSERY MANAGEMENT (One month)

Course content	Duration	Time
Introduction: Aims and objectives. Basic principles of this course. Problem & Prospect of this course. Classification of nursery. Important nurseries in India. Site selection, planning. Layout and infrastructure for nursery management. Implement and equipments used in nursery management. Physical & financial resources for nursery development. Impact of precision farming in nursery management. Application of plastic in nursery management. Nursery records.	·	Jan-March
What is seed? Classification of seed. Seed collection, seed storage, seed viability and germination test. Characteristics of good seed. Seed treatments against dormancy breaking, pest and diseases. Seed bed preparation. Agro-techniques for forest saplings production.	v	March-July
Vegetative propagation of horticultural crops- like fruits, flower, vegetables and medicinal & aromatic plants. Potting & repotting of nursery plant. Pruning, training, manuring and PPC application in mother plant. Packing, transport and marketing of Nursery plants.		June-Sept
Identification of different annuals. Seedling production techniques of vegetables and flower crops. Budding of flower and fruits crops. Potted plants production techniques of flowering and ornamental plants. Cost of production of nursery Plants. Visit to successful Nursery farm in this district.	7 days	Sept-Dec

#### Faculty members :

Course Co-ordinator: Dr. Moumita Dey Gupta, Programme Coordinator, KVK Bankura

- Mr. KallolAdhikary, ADH, Bishnupur
- Ms. Jaya Barman, ADH, Taldangra
- Dr. Sanjay Bairagi, Assistant Professor, BCKV, Bankura
- Year Mohammad, AFA, KVK, Bankura

Course fees: 9000.00 (Rupees nine thousand) only/participant.









## Name of the course: MUSHROOM PRODUCTION TECHNOLOGY (15 days)

Course content	Duration	Time
Introduction: Aims and objectives of this course. Problems and prospects of this course. Planning, site selection, layout and design of the mushroom house. Implements and equipments for mushroom cultivation. Source of seed. Linkage with other institutions. Mushroom cultivation records. Credit support.	-	March-May
Agro-techniques for different mushroom cultivation by racking and cylinder system. Demonstration of Oyster and paddy straw mushroom cultivation. Value added production from mushroom.	7 days	June-Feb
Mushroom spawns production technology. Marketing, packaging, and storage of mushroom. Cost of production of mushroom. Visit to successful mushroom entrepreneurs in this district.	5 days	June-Deb

#### Faculty members:

Course Co-ordinator: Dr. Moumita Dey Gupta, Programme Coordinator, KVK Bankura

- Smt. A. Barat, Ex SMS(Home Sc), KVK, Bankura
- Sri Subhas Majumdar, Mushroom Lab Asstt., KVK Bankura
- Sri DinabandhuKarmakar, Master trainer, Samayita Math, G. Ghati, Bankura
- Bivisan Mahato, AFA, KVK, Bankura

Course fees: 4500.00 (Rupees nine thousand) only/participant.









## Name of the course: FRUITS AND VEGETABLES PRESERVATION (15 days)

Course content	Duration	Time
Introduction: Aims and Objectives. Problem and Prospects of fruits and vegetables preservation. Basic Principles of fruits and vegetables preservation. Planning and Lay out for establishment of fruits and vegetables preservation unit. Essential equipments required for this units and its applications. Role of different institutes working in this venture at District, State and National level. Name of the organizations are involved to help towards Credit and infrastructural support for entrepreneurship development for rural youths. Records keeping for this unit.		April-May
Preparation of fruit beverage of lemon syrup, pine apple squash, Mango squash etc. Preparation of Murrabbas and candies of papaya, ginger, ash gourd etc. Preparation of Jam and Jelly of Mango and guava.	-	May-Nov
Preparation of Pickles of lime, tomato, mixed vegetables etc. Preparation of Sauce and ketchup of tomato. Preparation of potato cheeps. Bori-making. Drying of cabbage and mushroom. Storing, Preservation and Marketing of different value added product. Visit to successful running unit on fruits and vegetables preservation established in this district.	•	Dec-March

#### **Faculty members :**

Course Co-ordinator: Dr. Moumita Dey Gupta, Programme Coordinator, KVK Bankura

- Smt. A. Barat, Ex SMS(Home Sc), KVK, Bankura
- Dr. Ivy Chakroborty, Professor, BCKV, Nadia
- Maharaj Mahato, AFA, Bankura

Course fees: 4500.00 (Rupees nine thousand) only/participant.





