COMPREHENSIVE DISTRICT AGRICULTURE PLAN

Burdwan

(XIIth Plan period)

Submitted to

The District Magistrate
Burdwan, West Bengal

Prepared By

Krishi Vigyan Kendra Burdwan
Central Research Institute for Jute and Allied Fibres
(Indian Council of Agricultural Research)
Bud Bud, Burdwan

Tel No. : 0343-2513651, Fax : 0343-2513651
e-mail: kvkburdwan@gmail.com
www.kvkcrijaf.org.in

COMPREHENSIVE DISTRICT AGRICULTURAL PLAN

Burdwan

(XIIth Plan period)

Submitted to

The District Magistrate

Burdwan, West Bengal

Prepared By

Krishi Vigyan Kendra Burdwan
Central Research Institute for Jute and Allied Fibres
(Indian Council of Agricultural Research)
Bud Bud, Burdwan

Tel No: 0343 – 2523651, Fax: 0343 2513651
e-mail: kvkburdwan@gmail.com
dipankarghoraikvk@gmail.com

Correct citation

Ghorai, D., Jana, C.K., Ziauddin, G., Sarkar, S., Singh, M.S., Saikia, P., Ghatak, S., and Chatterjee, J. (Eds.). 2014. ***Comprehensive district agriculture plan, Burdwan, under XIIth Plan.*** **A report submitted to the District Magistrate, Burdwan, pp.**

Editors

Dr. D. Ghorai
Dr. C. Jana
Mr. G. Ziauddin
Dr. S. Sarkar
Dr. M.S. Singh
Ms. P. Saikia
Dr. S. Ghatak
Shri J. Chatterjee

Technical Assistance

Sk G. Rasul
Mr. S. Dey

Submitted by

Krishi Vigyan Kendra Burdwan, C.R.I.J.A.F. (ICAR),
Bud Bud, Burdwan, West Bengal

Graphics done by

New Modern Art Press
Sadarghat, Burdwan

Foreword

India is now one of the leaders in gross production of many food and fibre materials like rice, wheat, cotton or animal products like milk, egg. India is a country that harbours 17% of global population in only 2.3% land mass supported by 4% of fresh water resources, with our soils being relentlessly mined of essential nutrients while increasing the loads of nonessential or toxic ones. There is no denying the fact that the net cultivable area in the country of around 140 Mha is remaining constant or even squeezing on account of the pressures from urbanization, industrialization, infrastructure development, and to house the ever-increasing populace etc. Around 5 billion tonnes of soil is washed away every year taking away with it nearly 6 million tonnes of nutrients due to ill soil and water management practices.

India has to grow 345 million tonnes of foodgrains by 2030 from the present level of 263 million tonnes in 2013-14, meaning increase at a rate of more than 5%, to feed projected 1.6 billion mouths. Concerns are being voiced all over the country that contribution of agriculture and allied sector to the overall GDP is decreasing much rapidly. In fact the same has fallen from 53.7% in 1950-51 to 16.2 % in 2011-12 at factor cost at constant prices (2004-05).

Concerned by the slow growth in the Agriculture and allied sectors, a special Additional Central Assistance Scheme in form of Rashtriya Krishi Vikash Yojna (RKVY) was launched. The National Development Council NDC resolved that agriculture development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture. The NDC has reaffirmed its commitment to achieve 4 percent annual growth in the agricultural sector during the XIIth Five Year Plan.

Thus there was felt need that in order to achieve the target of food production in the country, a comprehensive agricultural plan at district level must be formulated. The objective of district planning is to design an integrated and participatory action plan for the development of local area in general and agriculture and allied sectors in particular. The planning process should be initiated at grass root level i.e. at village / G.P. Level and obviously the planners at village level will have to collect the basic primary data.

I am happy to note that Krishi Vigyan Kendra at Bud Bud, Burdwan under this institute has been entrusted to formulate the Comprehensive District Agricultural Plan (CDAP) of district Burdwan, which is a vitally important district for agriculture in West Bengal. I hope the CDAP formulated by them in participatory mode through discussion with all line department officials of the district would be of help to achieve the target of sustainable food security in the XIIth Plan. I wish that this kind of synergy and cohesion between our KVK and the district line department will be continued in future as well for achieving the goal of agricultural development in the district.

P. G. Karmakar
27/9/14
DIRECTOR

27th September, 2014
Barrackpore

C O N T E N T S

List of Tables

List of figures

ABBREVIATIONS USED

ACAS : ADDITIONAL CENTRAL ASSISTANCE SCHEME
AES : AGRICULTURAL ECOLOGICAL SITUATION
APMC : AGRICULTURE PRODUCE MARKET COMMITTEE
ATMA : AGRICULTURE TECHNOLOGY MANAGEMENT AGENCY
BRGF : BACKWARD REGION GRANT FUND
BSF: BLOCK SEED FARM
C-DAP : COMPREHENSIVE DISTRICT AGRICULTURE PLAN
CIGs : COMMON INTEREST GROUPS
DIC : DISTRICT INDUSTRY CENTRE
FLD : FRONT LINE DEMONSTRATIONS
GP : GRAM PANCHAYET
Ha : HECTARE
ICAR : INDIAN COUNCIL OF AGRICULTURE RESEARCH
ICT : INFORMATION AND COMMUNICATION TECHNOLOGY

INM : INTEGRATED NUTRIENT MANAGMENT

IPM : INTEGRATED PEST MANAGMENT

JLGs : JOINT LIABILITY GROUPS

KVK : KRISHI VIGYAN KENDRA

MI : MINOR IRRIGATION

MT : METRIC TON

NABARD : NATIONAL BANK FOR AGRICULTURE & RURAL DEVELOPMENT

NDC : NATIONAL DEVELOPMENT COUNCIL

NFSM : NATIONAL FOOD SECURITY MISSION

NFDB : NATIONAL FISHERIES DEVELOPMENT BOARD

NGO : NON GOVERNMENT ORGANISATION

NHM : NATIONAL HORTICULTURE MISSION

MGNREGA : MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARNTEE ACT

NRM : NATIONAL RESOURCE MANAGMENT

PACS : PRIMARY AGRICULTURE COOPARATIVE SOCIETY PAPU

PPP : PUBLIC PRIVATE PARTNERSHIP

PRA : PARTICIPATORY RURAL APPRAISAL

PRIs : PANCHAYET RAJ INSTITUTIONS

RKVY : RASHTRIYA KRISHI BIKASH YOJANA

SAP : STATE AGRICULTURE PLAN

SAU : STATE AGRICULTURE UNIVERSITIES

SGSY : SWARNA JYANTI GRAM SWAROJGAR YOGANA

SHG : SELF HELP GROUP

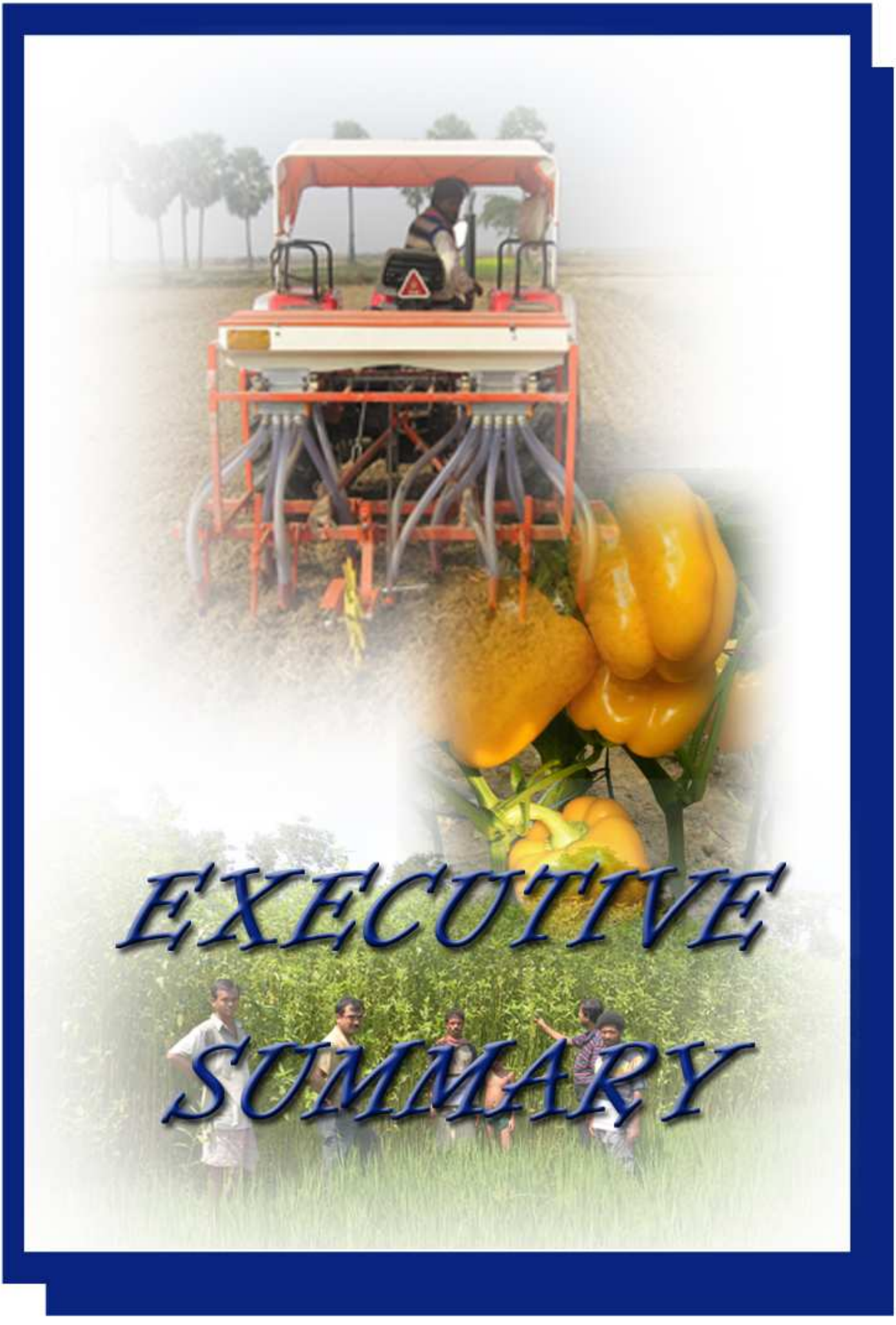
SREP : STRATEGIC RESEARCH AND EXTENSION PLAN

SRR : SEED REPLACEMENT RATIO

SWOT : STRENGHTH, WEAKNESS, OPPERTUNITIES AND THREATS

TSG : TECHNICAL SUPPORT GROUP

TSI : TECHNICAL SUPPORT INSTITUTION



EXECUTIVE SUMMARY

1. EXECUTIVE SUMMARY

"With a population of just over 1.2 billion, India is the world's largest democracy. ……..Going forward, it will be essential for India to build a productive, competitive, and diversified agricultural sector and facilitate rural, non-farm entrepreneurship and employment. Encouraging policies that promote competition in agricultural marketing will ensure that farmers receive better prices."

—World Bank: "India Country Overview 2011"

India is a country that abounds in promises as well as problems. India is the world's largest producer of many fresh fruits and vegetables, milk, major spices, selective fresh meats, selective fibrous crops such as jute, several staples such as millets and castor oil seed. India is the second largest producer of wheat and rice, the world's major food staples. India is also the world's second or third largest producer of several dry fruits, agriculture-based textile raw materials, roots and tuber crops, pulses, farmed fish, eggs, coconut, sugarcane and numerous vegetables. India ranked within the world's five largest producers of over 80% of agricultural produce items, including many cash crops such as coffee and cotton, in 2010. India is also one of the world's five largest producers of livestock and poultry meat, with one of the fastest growth rates, as of 2011. To add on to these the country has some of the world's most fertile tracts where there is enough promise to be the leaders in production of most of agricultural produces. But then, ours' is a country that harbours about 17.1 % of the world population thriving on 2.6 % of land and about 4 % of world's share of water resources; a country where per capita land availability is declining steadily; a country where land is getting degraded faster by day and a country that has to grow 345 million tonnes of foodgrains by 2030 from the present level of 263 million tonnes in 2013-14, meaning an increase at a rate of more than 5%, to feed projected 1.6 billion mouths.

Therefore it is imperative that a comprehensive plan be developed for agriculture to cope up with the future needs. Such plan can only be comprehensive when and if it caters to the need of each of the country's micro agro climatic zones. The need for integrated local area plans, based on specific endowments and needs of each area, was stressed from the beginning of planned development. It has therefore been decided by the Govt. of India that the 'District Plan Process' should be an integral part of the process of preparation of State's Five Year Plans.

The Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India in accordance with the said decision and in consultation with the Planning Commission, has prepared the guidelines for the Rastriya Krishi Vikas Yojana (RKVY). For the planning process of RKVY, each district is required to formulate a Comprehensive District Agriculture Plan (C-DAP) by including the resources from other existing schemes, District, State, or Central schemes such as BRGF, SGSY, NREGS and Bharat Nirman, etc. The District Agriculture Plans would present the financial requirement and the sources of financing the agriculture development plans in a comprehensive way. The C-DAP includes animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes and schemes for water harvesting and conservation, etc.

keeping in view the natural resources and technological possibilities in each district. The broad objectives of C-DAP are:

a) To prepare a C-DAP through participatory process involving various organizations and stakeholders.
b) To enable optimum utilization of scarce natural, physical and financial resources.
c) To assess and plan for the infrastructure required to support the agriculture development.
d) To establish linkages with the required institutional support services, like credit, technology transfer, ICT, research, etc.
e) To evolve an action plan for achieving sustainable agricultural growth with food security and cropping system that will improve farmers' income.

In this executive summary the contents of the C-DAP are brought out in brief under the following sub heads,

1.1. A brief introduction to the District, its location, features, etc.
1.2. Main points of SWOT of the District
1.3. Areas/ Sectors which need to be addressed in the district
1.4. Various on- going programmes in the district- a brief contextual gist
1.5. The District Plan at a Glance
1.6. Public Private Partnerships that can be envisaged in the proposed Plan
1.7. Expected outcomes as a result of implementation of the Plan

1.1. A brief introduction to the District, its location, features, etc.

The history of Burdwan is known from about 5000 BC and belonging to the Mesolithic or Late Stone Age. The name Burdwan is an anglicized form of the Sanskrit word *Vardhamana*. The first epigraphic reference to the name occurs in a 6th century AD. Copper -plate found in the village of *Mallasarul* in Galsi Police Station. There are two views about the origin of the name Barddhamana. One, it might have been named after the *24th. Jaina Tirthankar* or *barddhamanaswami*. According to the *Kalpasutra* of the Jains, Mahavira spent some time in *Astikgrama* which was formerly known as Barddhamana. According to the other view, Barddhamana means prosperous growth centre. In the progress of Aryanisation from the upper Ganges valley, the frontier colony was called Barddhamana as a landmark of growth and prosperity.

The district of Bardhhaman is located between 22^{0}56' to 23^{0}53' North latitude and 86^{0}48' to 88^{0}25' East longitudes surrounded on the north by Dumka (of Jharkhand), Birbhum and Murshidabad; on the east by Nadia; on the south by Hooghly, Bankura and Purulia and on the west by Dhanbad (of Jharkhand) districts. The maximum length from east to west is 208 Km while the maximum breadth from north to south is 112 KM. The district of West Bengal leads the table in the country so far as rice production is concerned and among its' districts Barddhaman is on top which is why the district is known as the 'Rice bowl of India'. The district has 6 administrative and 4 agricultural sub-divisions. There are 33 nos. of agricultural blocks, 31 panchayat samities 277 gram panchayats, 2831 moujas, 2728 villages and 2750 co-operative societies.

Total population of the district is 7717563 as per Census 2011 and density of population is 1098 per Sq km. Total rural population is 4639264 and urban population is 3078299. Total male population is 3966889 and female population is 3750674. Sex ratio of the district is 945.

Percentage of rural population to total population is 60%. The district is an agrarian district and agricultural labourers and cultivators make 44.6 percent of the total population.

The district experiences a climate which is transitional between CWg and AW types, where 'C' stands for 'warm temperate rainy climates with mild winter', 'W' for 'dry winter not compensated for by total rain in the rest of the year', 'g ' for 'eastern Ganges type of temperature trend' and 'AW ' for 'tropical savanna climates'. Average temperature in hot season is 30°C while at the cold season is 20°C. Average rainfall is 1496 mm. The cold season starts from about the middle of November and continues till the end of February. March to May is dry summer intervened by tropical cyclones and storms. June to September is wet summer while October and November is autumn.

The river system in Burdwan includes the Bhagirathi-Hooghly in the east, the Ajoy and its tributaries in the north and the Dwarakeswar, the Damodar and its branches in the south-west. Besides, there are innumerable Khals and old river beds all over the area. The notable rivers and khals are Damodar, Bhagirathi, Barakar, Ajay, Dwarakeswar, Nonia, Singaram, Tamla, Kukua, Kunur, Tumuni, Khari, Banka, Chanda-kanki nala, Behula, Gangur, Brahmani, Khandesvari, Karulia nala, Dwaraka or Babla, Koiya nala, Kandarkahal, Kanadamodar, Kananadi, Ghea, Kakinadi etc.

The district both being an agrarian as well as industrial one, fairly large area in the district (25.2%) is under non-agricultural use. As compare to nearly 14% of total geographical area (TGA) under forest in the state, the district has only 4.14% area under forest. Though as compare to the districts of Bankura, Birbhum, Hooghly, Nadia, Murshidabad, Malda, North Dinajpur, South Dinajpur and North 24 PGs, the district has much more area under forest; but in so far as total tree cover is concerned the district of Burdwan ranks at the very bottom with a meager 30% of TGA under tree cover. In view of the fact that, ideally at least 33% of TGA should be under tree cover and the country at present has 27% area under tree cover, rapt attention is to be given so that the district becomes greener. The forest areas of the district are chiefly situated in the lateritic and red soil, high lands in the Aushgram PS of Sadar subdivision and in the Asansol subdivision. In Ausgram P.S. the forest areas are interspersed with paddy fields. The Durgapur forests are continued in the Birbhum district beyond the Ajay while the forest area in the Asansol subdivision forms a part of the forest area of Dumka district of Jharkhand.

Burdwan district with its varied tectonic elements and riverine features, is a transitional zone between the Jharkhand plateau which constitutes a portion of peninsular shield in the west and Ganga-Brahamaputra alluvial plain in the north and east. In general the Jharkhand plateau consists of the metasedimentary rocks of precambrian age, Gondwana sedimentary rocks, Rajmahal basalts and upper tertiary sediments. Laterite has developed on these older rocks as well as on early Quaternary sediments. Towards south, the alluvial plain merges with Damodar-kasain-Subarnarekha deltaic plains. The western half of the district resembles a promontory jutting out from the hill ranges of Chotonagpur plateau and consists of barren, rocky and rolling country with a laterite soil rising into rocky hillocks, the highest being 227 m. These diversify the otherwise monotonous landscape and lend a special charm to the skyline around Asansol subdivision. Ajoy-barakar divide is a convex plateau, the average altitude being 150 m. The gradient is westerly to the west and to the east it is northerly towards Ajay and southerly towards Damodar below the latitude. The Ajoy- Damodar inter-stream tract is made up of several stows consisting of vales and low convex spurs which run in almost all directions except north-east and thus lends a very complicated character to local relief.

Different types of soil are encountered in different topographical, biological and hydrological as well as geological condition within the Burdwan district. In the west coarse gritty soil blended with rock fragments is formed from the weathering of pegmatite, quartz veins and conglomeratic sandstones, where as sandy soil characteristic of granite rocks and sandstones. This soil is of reddish colour, medium to coarse in texture, acidic in reaction, low in nitrogen, calcium, phosphate and other plant nutrients. Water holding capacity of this soil increases with depth as well as with the increase of clay portions. Towards the east, alluvial soil attains an enormous thickness in the low level plains. This alluvial soil is formed of alluvium brought down by the Ajay, Damodar, Bhagirathi and numerous other rivers. These soils are sandy, well drained and slightly acidic in nature.

Burdwan is one of the premier districts in India in terms of value of mineral. The Raniganj coalfield was the birth place of the Indian coal industry. Besides coal ,important minerals found in the district are iron ores, calcium carbonate, abrasives, silica bricks and moulding sands, glass sands, building materials, manganese, bauxite, laterite etc.

Main crops of the district are autumn rice, winter rice, summer paddy, jute, potato, mustard and sesame, sugarcane and vegetables. Out of the said paddy covers about 87 percent in Kharif and winter paddy 66 percent and potato 13 percent in Rabi season. The animal resources of Burdwan is very rich and with a large variety. It rears cattle, buffalos, sheep, goats, pigs, fowls and ducks. Animal husbandry has good prospects specially in the western lateritic part of the district.

Net cropped area in the district is 66.2% of TGA with a cropping intensity of 173%. Area under Kharif, rabi and summer crops are 63%, 24% and 26% of TGA. Around 52% of TGA is under irrigation, of which 33% is canal irrigated and 19% is irrigated through ponds and other type of irrigations. There are many tanks, wells, canals, swamps and bils found all over the district. Within the Damodar Valley region, there are around 17000 tanks. The Durgapur barrage and Mithon dam have formed two large reservoirs at the south-western and western periphery of the district.

The district has a fairly good cropping intensity of 173% which can be improved upon further with suitable intervention and extending latest agricultural technologies. The cropping pattern is as follows,

Table I.1. Cropping systems in the district

(1)	**ALLUVIAL REGION**	**RAINFED AREA (SUMMER – KHARIF – RABI)**
	(a) Upland	Fallow – Paddy/Vegetable – Mustard/Lentil/Wheat
	(b) Medium Land	Fallow – Paddy – Pulse/Oilseed /Wheat
	(c) Low Land	Fallow/Jute – Paddy – Pulse/Oilseed/Wheat
		IRRIGATED AREA
	(a) Upland	Vegetable/Paddy/Jute – Paddy/Maize – Pulse/Oilseed/ Vegetable/Wheat/Potato/Onion
	(b) Medium Land	Paddy/Sesamum/Jute – Paddy – Pulse/Oilseed/Vegetable/Wheat/Potato/Onion
	(c) Low Land	Paddy/Jute – Paddy – Pulse/Oilseed/Vegetable/Wheat/Potato/Onion

(2)	**LATERITIC REGION**	**RAINFED AREA**
	(a) Upland	Fallow – Paddy/Groundnut/Maize – Pulse/Mustard/ Kalai/Vegetable
	(b) Medium Land	Fallow – Paddy – Mustard/Pulse/Paira Crops
	(c) Low Land	Fallow – Paddy – Mustard/Lentil/Gram/Paira Crops
		IRRIGATED AREA
	(a) Upland	Moong – Paddy/Maize/Vegetable – Mustard/Wheat/Maize/Pulse
	(b) Medium Land	Moong/Vegetable/Maize – Paddy – Mustard/Wheat/Maize/Pulse/Potato
	(c) Low Land	Moong/Vegetable – Paddy – Paddy/Vegetable/Pulse/Oilseed/Wheat

1.2. Main points of SWOT analysis of the district

Agriculture

Strength

- Burdwan is second in agriculture productivity in the state and is called Rice Bowl of India.
- Good irrigation facility through DVC, Mayurakshi and minor irrigation schemes except in western part
- Good jute production in Kalna and Katwa sub-divisions
- Very good alluvium soil in the eastern and central part of the district
- Presence of good numbers of rice mills for paddy processing, cold storages and warehouses for adequate storage
- NGOs and Farmers Club sponsored by NABARD are active

Weakness

- Low crop diversification and lack of suitable crop rotation
- Deterioration of soil health
- Land holding is small and fragmented. Most of the farmers are small and medium
- Poor irrigation facility in western part of the district
- Receding groundwater level due to heavy boring for irrigation
- Shortage of agricultural labour during peak period of transplantation

- Poor farm mechanization
- Only one KVK in the district which is a fairly large one to cover by a single KVK

Opportunity

- Scope for crop diversification and crop rotation
- Stress needed for jute seed production by tip-cutting technology
- Scope for extension of High Yielding Variety and Hybrid variety of paddy
- Scope for strengthening of agricultural extension system
- Scope for investment in marketing and processing infrastructure of agricultural products
- Use of ICT for better network and dissemination of knowledge
- Approachable distance from Kolkata makes it suitable for good marketing
- Farmers are enthusiastic about Seed Village/Bio Village programme

Threat

- Soil is turning acidic with deficiencies of some major and minor nutrients
- Gradual decrease of agricultural land due to acquisition by industries like iron, cement, brick-kiln, manufacturing industries, etc
- Frequent floods of Mayurakshi, Damodar, Banka, etc.
- Dependency on chemical fertilizer due to non-availability of sufficient organic matter

Horticulture

Strength

- Vast lateritic tracts suitable for orchards
- Profuse vegetable production throughout the year
- Rapid area expansion under Guava and Mango
- Good infrastructure of cold storages for storing vegetables
- There are 3 government nurseries at Katwa, Kalna and Ausgram-I and one District Seed Farm for fruit development
- Increasing numbers of entrepreneurs

Weakness

- Poor protected cultivation infrastructure
- Poor availability of good quality planting materials and seeds
- Acute shortage of staff and officer in the district, practically speaking, no staff and only One Officer for such a large district
- Low availability of organic manures
- Inadequate market facilities
- Ill developed micro irrigation

Opportunity

- The western lateritic zone of the district which suffers from poor agricultural productivity due to low irrigation is suitable for cultivation of flower and fruits
- Area expansion and establishment of orchard in 'Paschimanchal' Burdwan integrated with drip irrigation and polylined ponds
- Cultivation of vegetables (early and off-time) using net-house and polyhouse technology

- Establishment of floriculture and vegetable market complex based on which cultivation of flowers (open field like marigold, tuberose; protected like gerbera, rose) can be done
- Well connected to Kolkata through rail and road linkages
- National Horticultural Board extend subsidy assistance for promotion of Hi-Tech/Commercial Horticulture including nursery

Threat

- Irregular availability of quality seeds and planting materials during sowing time
- Outbreak of pest and diseases
- Inappropriate technology adoption by the farmers and entrepreneurs
- Inadequate government support
- Inadequate consultancy services
- Absence of lower level extension machinery

Animal Husbandry

Strength

- Huge Agricultural activities in the district yields huge amount of Agri. by-products which provides potential source of animal nutrition.
- Large number of people from minority community, SC/ST and backward classes besides others earns their livelihood through animal husbandry activities solely.
- Widespread infrastructure of ARD Department upto G.P. Level and availability of doorstep services from *Pranibandhus*.
- Availability of chicks and Khaki Campbell ducklings from Govt. poultry farms situated in the district namely State poultry farm- Durgapur, State poultry farm-Golapbag and District Composite Farm- Burdwan Kalna Gate.
- Easy availability of animal feed from Govt. and non-Govt. feed plants including EPIC Feed Plant at Durgapur and fodder from natural grassland and forest fringe areas.
- Presence of so many organized broiler and layer poultry farms as well as organized input and marketing chains.
- The district has huge population to consume all animal products, many markets for animals and its products, functional milk co-operatives under Burdwan Milk Union and AMUL.
- Presence of functional unit of Mother Dairy, Kolkata,

Weakness

- Intense Agricultural practices leave very small space for fodder cultivation resulting higher feeding cost.
- Rapid urbanization diminishing scope of animal rearing in some area.
- Lack of large organized cattle / goat/ pig farms.
- Breeds maintained by small animal farmers are indigenous and their productivity is very low,
- Breed upgradation / cross breeding, scientific animal husbandry, animal insurance etc. has not yet been so developed,

- Infrastructures of ARD Dept. at different level remaining unmanned as vacancies are not filled regularly.
- High cost of feed ingredients like corns, oil cakes, fish meals etc. as those are procured from other states.
- Lack of infrastructure to control the entry of animal for surrounding states.

Opportunity

- Involvement of SHGs in poultry development schemes is getting momentum. There is enormous scope of making non-functioning / poorly functioning private Milk Co-ops active.
- With increasing number of Rice Bran Oil Industries being set up in the district, De-oiled Rice Bran , a major source of animal nutrition is getting available at a lower price,
- Large number of SC/ST and backward classes population leaves huge opportunity of pig farming,
- In addition to present infrastructure of ARD Deptt. Including *PRANIBANDHU, PRANIMITRA* (self employed *Kshudra Prani Palan Sahayika*) will be introduced in each G.P. to extend doorstep vaccination facility for small animals,
- Highly fertile land of this area can be used for commercial cultivation of multi-various high quality fodder crops ,
- Organized marketing channels for milk and other animal products are developing in the district
- Modified *"Bishes Go Sampad Bikash Abhijan"* is helping cattle farmers for potential development of high yielding cattle breeds.
- Introduction of Low Input Breed of poultry bird in rural areas boosting the egg as well as meat production.

Threat

- Young people of this area are losing interest in agriculture and animal farming as well.
- Risk of Bird Flu, Swine Fever and Encephalitis are major threats for poultry and pig farming.
- Recently developed tremendous demand of cow meat in Middle East after out break of Mad Cow Disease in beef exporting country like U.K. is a major cause of potentially productive cattle being slaughtered.
- Increasing objections from residents around animal farms in fear of pollution prohibiting willing farmers from erecting new farms and even old farmers are also losing interest.
- Trend of major portion of butchers cum meat sellers not to abide by the Rules and Regulations regarding slaughter imposing the risk of meat borne diseases.
- Imposing ban on **cage system of layer faring** may perturb the private organizations to enter into this industry.

Fishery

Strength

- Sufficient waterbody
- Availability of local fish feed ingredients like Rice Bran
- Subsidy oriented schemes like NFDB,FFDA, RKVY etc

- Availability of quality fish seed from local hatcheries/ fish seed producers

Weakness

- Shortage of staff
- Traditional method of culture
- Insufficient knowledge of the farmer in scientific *pisciculture*
- Utilization of Open cast colliery pits
- Strengthening of Co-Operative Societies
- High silt and regular natural calamities restrict the fish capture from the rivers
- Non availability of good quality fish seed specially for air breathing fishes
- Absence of fish processing and preserving facilities

Opportunity

- Opportunity of training and motivation of fish farmers on scientific *pisciculture*
- Scope of fishery in abandoned open cast mines in western zone of the district
- There is an opportunity of supply of fish seed to private hatcheries
- Ample scope of inland fishery in domestic tanks, reservoirs, canals, railway ditches, etc.
- Scope for promoting *polyculture* and freshwater prawn culture
- Sufficient scope for ornamental fish culture

Threat

- Poaching & Poisoning
- Outbreak of diseases
- Lack of insurance in Aquaculture
- Natural calamity is a major threat to capture fishery
- High siltation in the rivers restricts fish production

Sericulture

Strength

- Favourable agro-climatic condition

Weakness

- Inadequate infrastructure
- Lack of mobility support
- Lack of agricultural marketing infrastructure

Opportunity

- Potential of livelihood security to a large no. of people

Threat

- Shortage of skilled and motivated manpower

Krishi Vigyan Kendra Burdwan

Strength

- KVK has multi disciplinary experts such as Agriculture, Animal Husbandry and Veterinary Science, Horticulture, Fisheries, Agril. Extension and Home Science.
- Development, validation and dissemination of location specific technology.
- Capacity building of practicing farmers, farm women, rural youth, adolescent girls and extension functionaries.
- Entrepreneurship development through skill based training.
- Certified seed production of paddy on KVK's instructional farm.
- Production of seedlings various horticultural crop such as cabbage, cauliflower, brinjal tomato and chilli.
- Organizes trainings, vocational trainings and skill based trainings in agriculture and allied sectors.
- Works for better and empowerment of farm women.
- Identification and promotion of farmers' technology.
- Mass vaccination of animals to eradicated endemic diseases.
- Fully furnished water and soil testing laboratory
- Demonstration units on KVK instructions form.

Weakness

- Fund is limited to undertake large scale development programme.
- Cannot cater to undertake large development programme.
- Due to limited staff KVK's working is restricted to certain pockets of the district.

Opportunities

- KVK can contribute to R&D as well as capacity building of the farmers in development of new technology. More over they can impart training on orchard, nursery management.
- Management and rejuvenation of old orchards.
- Capacity developments.
- Seed production.
- Entrepreneurship development.
- More multi disciplinary work can be undertaken by KVK.
- Outreach can be increased with strong linkage with line department.
- A well equipped tissue culture laboratory and home science lab will be benefit.

Threat

- KVK's location is not suitable
- Inadequacy of staff for covering the entire district

1.3: Areas/ Sectors which need to be addressed in the district

There are various issues related to agriculture and allied sectors which need to be addressed properly towards holistic development of agriculture in the district as noted below, sector-wise,

- Soil health maintenance
- Increasing total factor productivity of crops
- Intensification of cropping system
- Increasing water use efficiency of crops
- Climate resilient technologies
- Rainwater harvesting
- Soil reclamation/amelioration
- Irrigation potential (minor and micro)
- Seed replacement for major crops
- Capacity building of stakeholders for improved production techniques
- Knowledge dissemination through ICT and mass media
- Community farming through groups
- Post harvest management and value addition
- Protected cultivation infrastructure
- Site specific nutrient management
- Agro-forestry models
- Integrated farming models
- Silvipastoral models
- Organic farming and profitable marketing of organic produce
- Farm mechanisation
- Popularisation of small implements for drudgery reduction
- Upscaling of organic compost production
- Breed up gradation and regular AI
- Animal feed and disease management
- Ensured availability and market for fodder
- Entrepreneurship development in goat, pig, broiler farming
- Fisheries in open water bodies and canals
- Aquaculture based integrated farming models
- Hatchery development
- Marketing chain
- Cold chain
- Sewage fed fisheries

1.4. Various on-going schemes in the district – A brief contextual gist

Various programmes are currently under way in the district sponsored by either state or central government for development of agriculture and allied sectors, such as,

- Bringing green revolution to eastern India
- Integrated Scheme for Oilseeds, Pulses and Maize
- FIAC
- Crop Diversification Programmme under Rainfed and Dryland

- National food security mission
- FSSM
- OTA- Small implements
- OTA-EAP
- Agricultural Technology Management Agency
- Accelerated development in minor irrigation
- Soil Health Management
- Farm Mechanisation
- CRF
- Relief Fund
- Jute Mini Mission-II
- OTA-Electrical connection
- Rashtriya Krishi Vikash Yojna
- SEED VILLAGE
- Special Jute Development Programme
- Animal Health Camp
- Bishes Go Sampad Bikash Avijan
- Improvement of Livelihood through Pig Farming
- Improvement of Livelihood through Goat Farming
- Intensive sheep/ goat production
- Distribution of Chick/Duckling among Women SHG
- Centrally Sponsored Rural Backyard Poultry Development
- Mobile Veterinary Clinic (MVC)
- Strengthening of bio-security practices in Govt. Poultry Farms
- Assistance to State for Control of Animal Diseases (ASCAD)
- Fish culture in backyard pond
- Distribution of Hygenic insulated box
- Beel fisheries
- Distribution of fingerling in large water bodies
- Distribution of net and handies
- Polyculture in MGNREGA pond
- Farmers' Old Age Pension Scheme

1.5. District plan at a glance

The Comprehensive District Agricultural Plan of Burdwan is devised with the following growth drivers for augmenting production growth and need based infrastructural support to achieve the target of at least 5% growth in agriculture and allied activities,

Growth drivers

The growth accelerators for agriculture and allied sectors have been decided after situation and trend analysis, and need assessment. Such growth drivers are presented below.

- Soil quality maintenance. Amelioration of problem soil
- Sustainable and judicious management of water resources.
- Popularizing resource conserving technologies.
- Increasing cropping intensity and intercropping.
- Promotion of integrated farming modules

- Development of suitable technologies such as varietal improvement, input management supported by a strong institutional arrangements for the supply of inputs like seed, fertilizers, plant protection chemicals, credit, etc, price support system favourable to farmers and market infrastructure for major crops like paddy, potato, maize, sugarcane, banana, vegetables, and fodder crops.
- Development of minor and micro irrigation
- Strengthening water harvesting structures like open cast pits, farm ponds, canals and check dams.
- Breed development of cattle
- Promotion of rural poultry
- Ensured availability of fodder
- Capacity building of farmers, traders, and other stakeholders on grading, post harvest technologies, value addition and market intelligence.
- Paradigm shift from production oriented farming to market oriented agriculture with the promotion of Agro processing industries.
- Ensured availability of quality fingerling
- Development of canal fisheries and fishery in open water bodies
- Strengthening the extension machinery for effective dissemination of technology.
- Strengthening of rural markets with storage facilities.
- Strengthening of farmers' market with additional storage facilities.
- Establishment of cattle feed units.
- Inland fisheries development in major tanks and reservoirs and
- Development of sericulture.

Table I.2. District plan in a nutshell

Sl. No.	Sector	Financial requirements			Total
		2014-15	2015-16	2016-17	
1.	Agriculture	5143.56	16426.90	15186.50	36756.90
2.	Horticulture	565.00	456.00	527.50	1548.50
3.	Animal Resource Development	978.36	682.59	581.57	2242.52
4.	Fisheries	748.33	840.04	885.96	2474.33
5.	Agricultural Cooperation	240.50	249.00	125.00	614.50
6.	Agricultural Marketing	353.00	353.00	353.00	1059.00
7.	Sericulture	760.00	760.00	760.00	2280.00
GRAND TOTAL		**8788.748**	**8788.75**	**19767.52**	**18419.50**

1.6. Public Private Partnerships that can be envisaged in the proposed Plan

The Public-Private Partnerships are viewed as the governance strategy to minimize transaction costs and co-ordinating and enforcing relations between partners engaged in production of goods and services. They enable an optimal policy approach to promote social and economic development, bringing together efficiency, flexibility and competence of the

private sector with the accountability, long-term perspective and social interest of the public sector. Both the partners have mutual gains from such arrangements. Private benefits from the R&D are usually company gains that stem from cost reduction and improved quality and increased quantity of sales' products. They also relate to strategic goals such as market penetration, improved competitiveness, exploration of new markets or market power. Public benefits include a wide array of positive social, environmental and economic effects influencing livelihoods of ultimate beneficiaries. These could be consumers as also others involved in production, processing and marketing.

Public private partnership in the areas of capacity building, demonstration, farm mechanization, infrastructure development, marketing, food processing, animal resource development and marketing, protected cultivation etc. that can be envisaged in the plan are given below, block wise,

Block name	Type of private enterprise	Type of partnership
Andal	SHG/iduals etc.Co-operative/NGO/Private companies/ Individual	Seed production programme, mushroom production unit, oil extraction unit, pulse processing unit, rice processing unit for muri, chira etc., farm mechanization – combined paddy harvester.
Aushgram-I	Primary Agriculture Co-operative Society	Capacity building, demonstration, farm mechanization, marketing, food processing, soil testing-cum-plant protection diagnostic lab.
	Pesticide Companies	Awareness camp for bio-pesticides production and use
	Seed Enterprises	Seed village, seed production
	Implement Enterprises	Farm mechanization
Aushgram-II	Private companies dealing in agriculture, cooperatives, NGOs	Marketing support system development
		Development of oil crusher
		Development of Dal Mill
		Development of mechanical hub
		Development of Agri-clinic
		Development of food processing unit
Bhatar	Large scale private sector	Infrastructure development e.g. sunflower processing unit, rice mill, multipurpose cold storage
	Large scale private sector, SHG, NGO	Farm mechanization
	SHG, NGO, Co-operative society	Demonstration
	Farmers club, SHG, NGO	Marketing
	Private sector, SHG	
Burdwan	Primary Agriculture Co-operative Society	Capacity building, demonstration, farm mechanization, marketing, food processing, soil testing-cum-plant protection diagnostic lab, establishment of model village, seed production. (Demonstration- Pulse, Oilseeds)
	Pesticide Companies	Seed treatment campaign, judicious and safe use of pesticide use campaign.
	Machinery Companies	Farm mechanization
	Seed Companies	Seed production, replacement of seed and old varieties.
Faridpur-	SHG, NGO, SHG, NGO, Co-	Seed production unit, conditional Godown with

Durgapur	operative society, Private	capacity building
	Private	Food processing unit
	Co-operative society	Rural Godown
	Co-operative society	Farm mechanization
	Co-operative society	Agri-clinic(poly clinic), soil testing unit
Galsi-I	SHG, NGO, Co-operative society	Seed production unit
	SHG, NGO	Mushroom
	Capacity building	Vermicompost production, oil extractor unit, Dal processing unit
Galsi-II	Primary Agriculture Co-operative Society	Implement hub, community vermicompost, Dhainche demonstration, soil testing lab.
		Aromatic rice paddy demonstration
		Implement hub, must include potato planter, potato harvester, combine paddy harvester, zero tillage paddy transplanter etc.
Hirapur	SHG, NGO	Seed production unit and farmers training
	SHG, NGO	Vermicompost, minor irrigation, water harvesting
	SHG, NGO	Farm implement hub and specialized storage facility
	SHG, NGO	Fruit and vegetable production unit, food processing unit
	SHG, Private	Oil, pulse and maize processing unit
Jamalpur	PACS, Farmers Club	Mechanical hub
	PPP, Private	Food processing unit
	PPP	Agri-clinic
	Private	Protected cultivation
	Private	Milk processing plant
Kalna-I	Primary Agriculture Co-operative Society	Implement hub, plant disease diagnostic center, soil testing lab.
	Private Company	100% seed treatment campaign
	Private Company	Bio-fertilizer and bio-pesticide trial, water soluble fertilizer application trial
		Aromatic rice D.C., sunflower/ mustard oil extraction mill
Kanksa	SHG. NGO, Co-operative Society, Private	Seed processing unit
	Capacity building	Vermicompost production, mushroom production
	Skill development of related SHG. NGO, Co-operative Society, Private bodies	Oil extractor unit, Dal processing unit, soil testing lab
Katwa-I	Primary Agriculture Co-operative Society	Implement hub
	Primary Agriculture Co-operative Society/NGO	Soil testing lab
	Primary Agriculture Co-operative Society	Vermicompost demonstration
	Primary Agriculture Co-operative Society/Private Enterprise	Dal mill, seed production unit, aromatic rice/indigenous paddy.
Ketugram-I	Co-operative Society	Farm mechanization – implement hub
	PPP	Marketing for vegetables, oilseed and jute

	SHG	Food processing unit
	PPP	Oil crusher unit
		Capacity building
Khandaghosh	SKUS	Implement hub, model village establishment, soil testing lab.
	NGO	Soil testing lab, plant diagnostic center
	Private company	Implement hub , protected cultivation, seed treatment campaign
	SKUS	Dal mill, seed production unit, crop demonstration
Memari-I	Private, Govt	Infrastructure development
	SHG, Private	Marketing
	SHG, NGO, Private	Food processing
	NGO	Bio cultivation
	Private	Mechanical hub
	Farmers Club	Green house
Memari-II	Primary Agriculture Co-operative Society	Implement hub, Vermicompost production unit, demonstration & training, Dhaincha demonstration, Dal mill.
	Primary Agriculture Co-operative Society	Aromatic rice demonstration.
Mongalkote	Primary Agriculture Co-operative Society/SKUS	Soil, seed testing lab and plant disease diagnostic center
	Private Company	100% seed treatment campaign.
	Public	Training Hall within Block premises
Monteshwar	Primary Agriculture Co-operative Society/NGO	Capacity building, demonstration, implement hub, soil testing lab, establishment of seed production/processing unit
	Private Company	Establishment of hybrid seed production, 100% seed treatment campaign.
	Private Company	Protective cultivation units, green house, bio-fertilizer/bio-pesticide trial, implement hub, aromatic rice seed production and demonstration.
	Primary Agriculture Co-operative Society /Private Company	Establishment of aromatic rice, dal/mustard oil/sunflower/
Purbasthali-II	PACS	Farm mechanization – implement hub
	SHG, PPP	Food processing unit
		Marketing facilities
		Capacity building
		Soil testing lab
Raina-I	Co-operative Society	Implement hub
	Primary Agriculture Co-operative Society/NGO	Soil testing lab
	Primary Agriculture Co-operative Society	Model village establishment
	Co-operative Society	Lentil demonstration, dhaincha demonstration
	Primary Agriculture Co-operative Society	Dal mill
Raina-II	Private	Infrastructural development
	PACS	Mechanical hub
	Private, SHG	Marketing of aromatic rice

	Govt. and private	Farm mechanization
	PACS, SHG	Demonstration

1.7. Expected outcomes as a result of implementation of the Plan

- Above all, achieve the target of 5% growth in foodgrain over the period
- Increased cropping intensity from present level of 173% to 200%.
- More area under major, minor and micro irrigation.
- Ensured availability of quality seed and planting material.
- Increased cultivable area at 7% through use of fallow and waste lands, reclamation of problem soil
- More diversified cropping system in rice-rice belt of the district
- Much enhanced cropping intensity in the lateritic belt through meaningful interventions
- Increased output per quanta of land and water resources
- Holistic dissemination of improved technology through farmer-farmer dissemination mode.
- Augmented entrepreneurship development through post harvest value addition of agricultural produce through group formation
- Increase in milk production by 8-10% through improved feed, disease, breed management
- Ensured availability of quality fingerlings
- Much diversified fish production system
- Ensured market for agricultural produces
- Ensured value-chain for agricultural produces to augment farmers' income

INTRODUCTION

1. INTRODUCTION

1.1 Background and Planning Process

"… agriculture has effectively served as a basis for growth and reduced poverty in many countries, but many more countries could benefit, if governments and donors were to reverse years of policy neglect and remedy their underinvestment and mis-investment in agriculture…" (The World Bank, 2007).

GLOBAL food demand is expected to be doubled by 2050, while production environment and natural resources are continuously shrinking and deteriorating. Across the larger part of the world, inadequate attention to agriculture has led to steep rise in food prices which shed an estimated 100 million more people into poverty. More than one billion people in the world already are earning less than one dollar a day, and more than 800 million are suffering from hunger. Majority of them live in rural areas, and are largely dependent on agriculture. Food crisis has aggravated further because of climate change and diversion of arable lands to urbanization and industrialization. Climate change is another area that has to be coped up with which are making millions of people, particularly in resource-poor areas, vulnerable, when their livelihood and food security is depending on agriculture. To increase food production, augment income of the poor and to alleviate poverty and malnourishment, heads of the governments during the World Food Summit 2008, had reaffirmed the commitment to address challenges of high food prices, climate change and bio-energy. Role of agricultural research, policy support and institutional innovations were cited for reshaping agriculture to meet future demand for food and to eliminate hunger.

Agriculture contribution in the gross domestic product is declining in India, which in 2008-09 touched at 15.7% from about 30% in 1990-91. During the last two decades, the average annual growth of agriculture sector was less than half (around 3%) of the overall average growth of the economy (6 - 7%). Industrial and service sectors have outpaced performance of agriculture sector during the last two decades. But the proportion of workforce engaged in agriculture did not commensurate with the decline of its share in the gross domestic product. At present also, agriculture sector provides employment to about 52 % of the workforce that used to be about 61% in 1990-91. These starkly different trends reveal that incomes in non-agriculture sector are growing faster than agriculture sector. And a sizable workforce from agriculture is needed to be shifted to non-agriculture sector for income and livelihood opportunities. Hence, in the country the research and development focus needs to be reoriented in a way to develop and promote those technologies that raise agricultural income and ensure employment opportunities in the agri-supply chain to a vast majority of the workforce.

Concerned over this pace of growth in agriculture and allied sectors, the National development Council (NDC), in its meeting held on 29th May 2007 resolved that a special Additional Central Assistance Scheme. i.e. National Agriculture Development Programme/Rastriya Krishi Vikas Yojna (RKVY) be launched.

- To incentivize the States for increasing public investment in Agriculture and allied sectors.
- To ensure that agricultural plans of Districts/States are prepared and are based on agro-climatic conditions, availability of technology and natural resources.

• To reduce the yield gap in important crops and increase production and productivity in agriculture and allied sectors through focused and holistic initiatives.
• To ensure the local needs/crops/priorities are better reflected in the agricultural plans of the District/States.
• To provide flexibility and autonomy to States in planning and implementation of agriculture and allied sector schemes.
• To maximize income of farmers in agriculture and allied sectors.

As per the NDC resolution Government of India introduced a New Additional Central Assistance Scheme to incentives States to draw up plans for their agriculture sector more comprehensively, taking agro-climatic conditions, natural resource issues and technology into account, and integrating live stock , poultry and fisheries etc. This involves a new scheme for Additional Central Assistance (ACA) to State Plans, administered by the Union Ministry of Agriculture over and above in existing centrally sponsored schemes to supplement the state specific strategies. In order to rejuvenate the agriculture during XIIth plan a growth rate of 4 percent per annum has to be achieved (as per NDC commitment) by reorienting development strategies that meet the needs of the farmers. The agriculture growth being essential element of the strategy of making growth more inclusive, the NDC advised the State Governments on preparation of Comprehensive District Agriculture Plans (C-DAP) which includes allied agriculture sectors with full and efficient utilization of available resources.

The concept of integrated local area plans (to raise living standard in rural area and over come food shortage) based on specific endowments and needs of each area mooted in 1st Five Year plan in 1951, could not be materialized in true sense as only sporadic efforts and isolated cases of such planning were practically attempted. For success of local area or District level plans the underlying constraints needed to be identified and required infrastructural investment, extension (and research system) revamping and market reach with the systems conduct and performance have to be synchronized through a holistic policy approach.

1.2. Methodology

The methodology of C-DAP has focused on understanding the latent potential of the district for development and identifying initiatives required. These potentials are treated as goals to be achieved with the available and additional resources. In order to prepare the plan, the district statistical compilation is very useful to chalk the plan taking care of all details thereby leading to the understanding of the development perspective of the district. Considering these the district vision was developed and the SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was carried out blockwise for micro level planning. District Agriculture Planning Unit (DAPU) met a couple of times with the District Magistrate and unanimously Krishi Vigyan Kendra Burdwan was entrusted to formulate the CDAP for the XIIth plan. The strong point for KVK to formulate the plan was present of subject matter specialists of agriculture and allied aspects under one roof which is requisite for developing a comprehensive plan. The Agricultural Technology Management Agency (ATMA) at the district level amply facilitated the process of data collection and compilation for timely submission of the plan

Data collection and consultation:

For paucity of time, primary data from the Gram Panchayat level could not be collected comprehensively. Instead secondary level data were collected from the block level to make the plan comprehensive. All line department officials of department of agriculture at the block level submitted their block level plan to KVK for analysis and compilation of the plan. For the allied sectors plans were taken from the district level.

Although village/GP level plan was not collected primarily, the information gathered in the strategic research and extension plan were made use of for village level information in the different AES of the district. For ensuring farmers participation in the plan each agricultural blocks were requested to submit names of five villages and 5 progressive farmers in each village for whom information can be collected for the respective blocks. Formal and informal meetings with Agriculture and line department staffs were held at various level at KVK and office of Deputy Director of Agriculture. With this participatory process the KVK officials collected primary and secondary data and related statistics needed for planning from different departments and other sources.

Revalidation of the data:

The primary as well as secondary data collected was cross-checked through triangulations and verified from information available with different government departments and PRA based exercises with personal contact with farmers or gathering information over phone.

Analysis and compilation of data into CDAP

Information thus collected were scrutinized for uniformity among block and necessary rectifications were done where called for. Thus evolved the Comprehensive District Agricultural Plan of the district of Burdwan.

DISTRICT PROFILE

2. GENERAL DESCRIPTION OF THE DISTRICT

2.1. Introduction

The history of Burdwan is known from about 5000 BC and belonging to the Mesolithic or Late Stone Age. The name Burdwan is an anglicized form of the Sanskrit word *Vardhamana*. The first epigraphic reference to the name occurs in a 6th century AD copper plate found in the village of *Mallasarul* in Galsi Police Station. There are two views about the origin of the name Barddhamana. One, it might have been named after the *24th Jaina Tirthankar* or *barddhamanaswami*. According to the *Kalpasutra* of the Jains, Mahavira spent sometime in *Astikgrama* which was formerly known as Barddhamana. According to the other view, Barddhamana means prosperous growth centre. In the progress of Aryanisation from the upper Ganges valley, the frontier colony was called Barddhamana as a landmark of growth and prosperity.

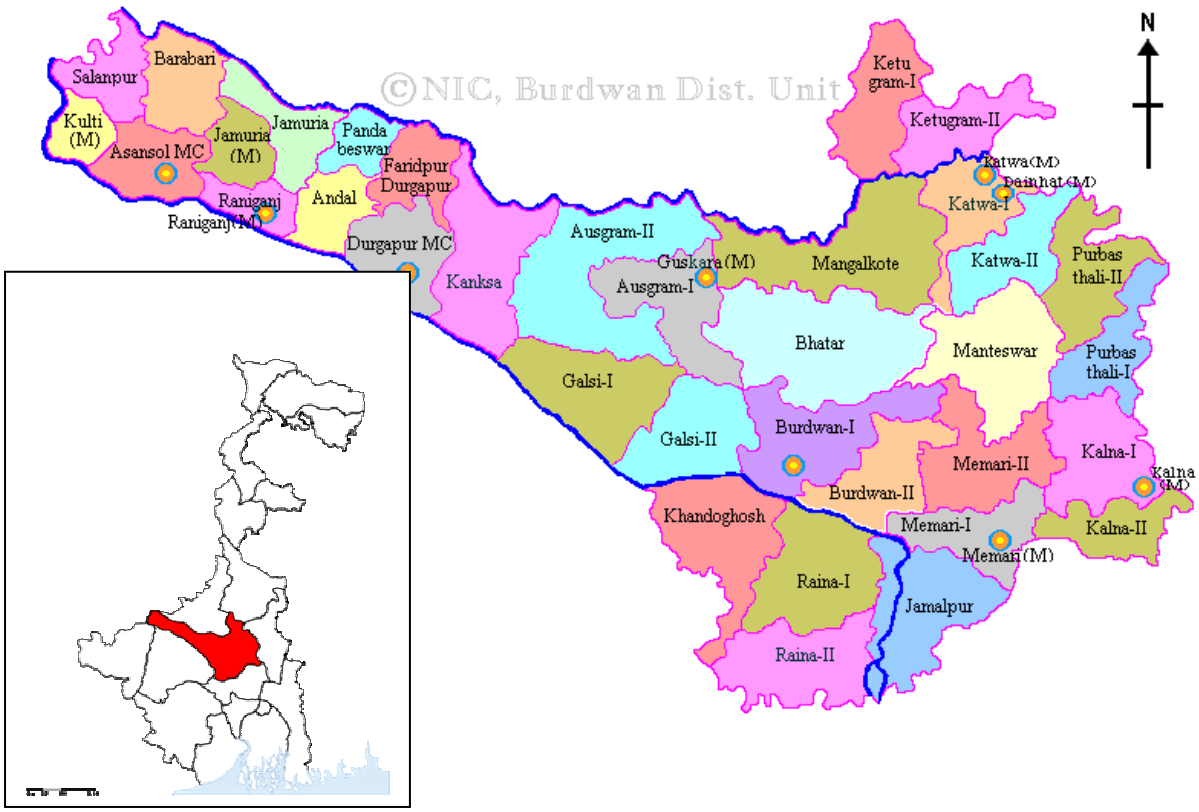


Fig. 2.1. Administrative map of the district and map of the state showing location of Burdwan

2.2. District at a Glance

2.2.1. Location and geographical units

Location

Bardhhaman district extends from 22°56' to 23°53' North latitude and from 86°48' to 88°25' East longitudes. Lying wi

thin Burdwan division, the district is bounded on the north by Dumka (of Jharkhand), Birbhum and Murshidabad, on the east by Nadia, on the south by Hooghly, Bankura and Purulia and on the west by Dhanbad (of Jharkhand) districts.

The river Barakar forms the State boundary to the west; the Ajay separates Birbhum and Dumka to the north with exception of a portion of Katwa subdivision; the Damodar forms a southern boundary with Purulia and Bankura, while Bhagirathi forms the main eastern boundary with a few exceptions. The maximum length from east to west is 208 Km while the maximum breadth from north to south is 112 KM. In shape the district resembles a hammer.

Table 2.1. Location of Burdwan

Name of the district	Latitude		Longitude		Name of district head quarter	Latitude	Longitude
	North	*South*	*East*	*West*			
Burdwan	23° 53' N	22° 56' N	88° 25' E	86° 48' E	Burdwan	23° 14' N	87° 51' E

Present Burdwan is a well balanced district in West Bengal as it has minerals, forests, industry and agricultural lands. Durgapur and Asansol subdivisions, the red lateritic zone, are famous for industries, whereas, Katwa, Kalna and Brdhaman Sadar subdivisions are mainly agrarian. Cottage industry, small scale industries and handloom have important presence in the district.

Table 2.2. Geographical units

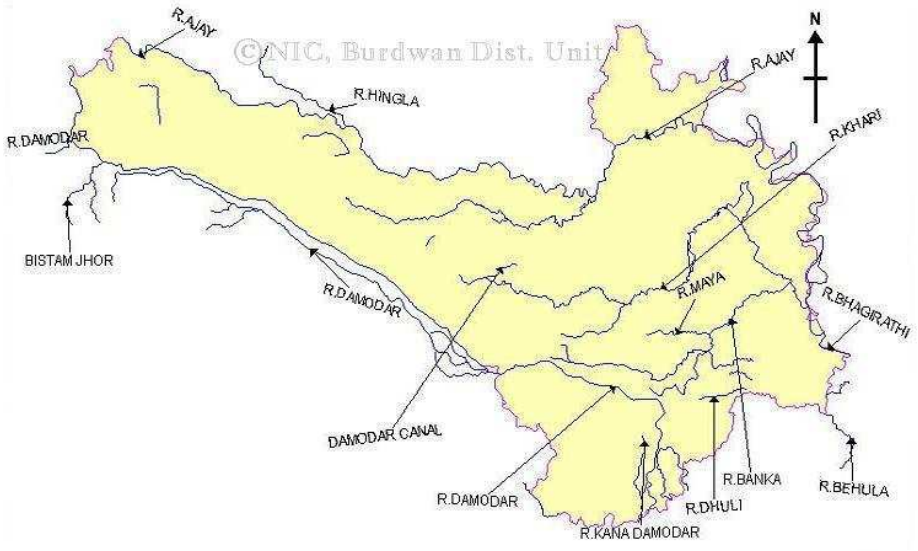
Sub-Division	Police Station	C.D.Block / M.C. / M	Panchayat			Mouzas	Inhabited Villages	House-holds	Town			
			Samity	Gram	Gram Sansad				Municipal Corporation		Municipality	
						(2001)	(2001)	(2001)	No.	Ward	No.	Ward
Asansol Sub-Div.	**10**	**4/1/3**	**4**	**35**	**271**	**181**	**168**	**277977**	**1**	**50**	**3**	**80**
	Chittaranjan Salanpur	Salanpur	1	11	65	74	67	31176	-	-	-	-
	Barabani	Baraboni	1	8	70	49	49	20089	-	-	-	-
	Asansol (N)-P	Raniganj	1	6	60	12	12	20239	-	-	-	-
	Raniganj	Raniganj (M)	-	-	-	-	-	20368	-	-	1	22
	Jamuria	Jamuria	1	10	76	46	40	22180	-	-	-	-
		Jamuria (M)	-	-	-	-	-	23433	-	-	1	23
	Asansol (Woman) Asansol (N) Asansol (S) Hirapur	Asansol (MC)	-	-	-	-	-	89243	1	50	-	-
	Kulti	Kulti (M)	-	-	-	-	-	51249	-	-	1	35
Durgapur Sub-Div.	**6**	**5/1/0**	**5**	**36**	**492**	**258**	**248**	**263447**	**1**	**43**	**-**	**-**
	Budbud-P Galsi-P	Galsi - I	1	9	112	87	86	35570	-	-	-	-
	Andal Pandabeswar-P Durgapur	Andal	1	8	112	14	13	34676	-	-	-	-
	Faridpur New Township-P	Faridpur-Durgapur	1	6	73	54	51	21601	-	-	-	-
	Pandabeswar Andal-P	Pandabeswar	1	6	93	17	17	31308	-	-	-	-
		Kanksa	1	7	102	86	81	30367	-	-	-	-
	Durgapur Coke Oven New Township	Durgapur (MC)	-	-	-	-	-	109925	1	43	-	-
Burdwan(N) Sub-Div.	**6**	**6/0/2**	**6**	**55**	**626**	**516**	**498**	**258186**	**-**	**-**	**2**	**50**
	Burdwan	Burdwan - I	1	9	118	80	78	36148	-	-	-	-
		Burdwan - II	1	9	89	89	84	29443	-	-	-	-
		Burdwan (M)	-	-	-	-	-	59517	-	-	1	35
	Kanksa											
	Ausgram	Ausgram - I	1	7	62	61	58	22265	-	-	-	-
		Guskara (M)	-	-	-	-	-	6589	-	-	1	15
	Ausgram-P Budbud	Ausgram - II	1	7	94	106	101	28569	-	-	-	-
	Bhatar	Bhatar	1	14	166	107	104	47551	-	-	-	-
	Galsi	Galsi - II	1	9	97	73	73	28104	-	-	-	-
Burdwan(S) Sub-Div.	**5**	**6/0/1**	**6**	**58**	**707**	**643**	**626**	**219220**	**-**	**-**	**1**	**16**
	Memari	Memari - I	1	10	126	113	112	40690	-	-	-	-
		Memari - II	1	9	100	89	88	28333	-	-	-	-
		Memari (M)	-	-	-	-	-	7520	-	-	1	16
	Jamalpur	Jamalpur	1	13	161	123	121	50381	-	-	-	-
	Raina	Raina - I	1	8	106	113	111	32007	-	-	-	-
	Madhabdihi	Raina - II	1	8	95	94	87	26690	-	-	-	-
	Khandaghosh	Khandaghosh	1	10	119	111	107	33599	-	-	-	-
Katwa Sub-Div.	**3**	**5/0/2**	**5**	**46**	**492**	**388**	**370**	**169072**	**-**	**-**	**2**	**33**
	Mongalkote	Mongalkote	1	15	156	132	129	46245	-	-	-	-
	Ketugram	Ketugram - I	1	8	93	66	62	27842	-	-	-	-
		Ketugram - II	1	7	66	56	55	21123	-	-	-	-
	Katwa	Katwa - I	1	9	93	66	63	29483	-	-	-	-
		Katwa - II	1	7	84	68	61	24591	-	-	-	-
		Katwa (M)	-	-	-	-	-	15262	-	-	1	19
		Dainhat (M)	-	-	-	-	-	4526	-	-	1	14
Kalna Sub-Div.	**3**	**5/0/1**	**5**	**47**	**584**	**543**	**528**	**202170**	**-**	**-**	**1**	**18**
	Purbasthali	Purbasthali - I	1	7	116	97	93	38186	-	-	-	-

		Purbasthali - II	1	10	116	89	87	39727	-	-	-	-
	Kalna	Kalna - I	1	9	123	100	99	40105	-	-	-	-
		Kalna - II	1	8	93	113	113	31781	-	-	-	-
		Kalna (M)	-	-	-	-	-	10895	-	-	1	18
	Monteswar	Monteswar	1	13	136	144	136	41476	-	-	-	-
6	**33**	**31/2/9**	**31**	**277**	**3172**	**2529**	**2438**	**1390072**	**2**	**93**	**9**	**197**

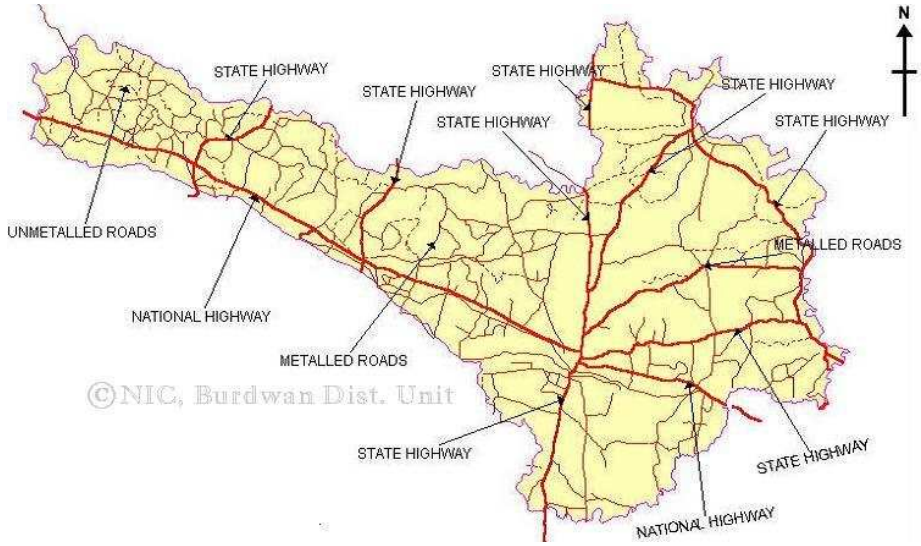
Geographical units

Sub divisions

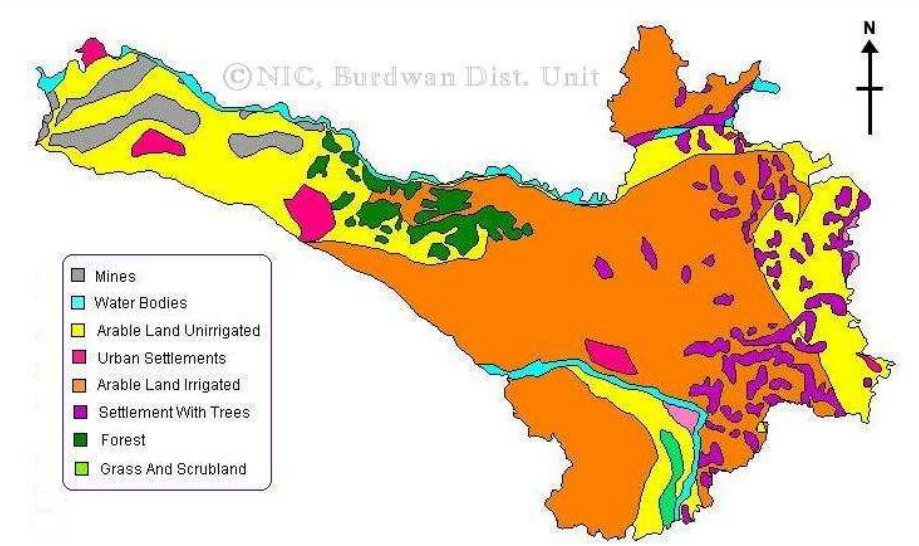
Rivers



Roads



Geographical units



2.2.2. Demographic Profile

Total population of the district is 7717563 as per Census 2011 and density of population is 1098 per Sq km. Total rural population is 4639264 and urban population is 3078299. Total male population is 3966889 and female population is 3750674. Sex ratio of the district is 945. Percentage of rural population to total population is 60%. The district is an agrarian district and agricultural labourers and cultivators make 44.6 percent of the total population. In a nutshell the district has following demongraphic profile,

Table 2.3. Demographic profile in a nutshell

Population (As per Census, 2011)	
a) Total	77,17,563
b) Density (Per Sq. K.M.)	1099

c) Male Population	39,66,889
d) Female Population	37,50,674
e) No. of Female per 1000 of Male	945
f) Urban Population	30,78,299
g) Rural Population	46,39,264
h) Percentage of Rural Population to Total Population	60.11 %
i) Schedule Caste Population -	
a) Rural	16,39,658
b) Urban	4,22,326
c)Total	20,61,984
j) Schedule Tribe Population -	
a) Rural	3,96,598
b) Urban	1,02,898 Nos.
c) Total	4,99,496 Nos.

Table 2.4. Block wise population and household

Block	No of House Hold	Total Population	Total Male Population	Total Female Population
Area not under any Sub-district	484029	2276742	1176388	1100354
Ausgram - I	29197	119363	60521	58842
Ausgram - II	37011	150896	77184	73712
Barabani	25120	123598	63950	59648
Bhatar	60080	263064	134096	128968
Burdwan - I	49695	215943	109841	106102
Burdwan - II	36438	152939	77276	75663
Faridpur Durgapur	25591	115924	60478	55446
Galsi - I	44656	187588	96755	90833
Galsi - II	35615	147177	74751	72426
Jamalpur	62889	266338	134529	131809
Jamuria	26102	123176	64578	58598
Kalna - I	49302	206945	105696	101249
Kalna - II	39427	167335	84680	82655
Kanksa	40438	178125	91350	86775
Katwa - I	39425	173087	89087	84000
Katwa - II	31714	136708	70588	66120
Ketugram - I	37123	165408	84966	80442
Ketugram - II	27501	118567	61413	57154
Khandaghosh	42911	189336	97092	92244
Mangolkote	61309	263240	134693	128547
Manteswar	54082	237398	120940	116458
Memari - I	51148	218425	110712	107713
Memari - II	35059	150252	76500	73752
Ondal	39704	186915	98149	88766
Pandabeswar	34248	161891	84651	77240
Purbasthali - I	48952	206977	107022	99955
Purbasthali - II	50566	212355	109442	102913
Raina - I	40787	180952	92392	88560
Raina - II	33973	151401	77538	73863
Raniganj	21653	106441	55835	50606
Salanpur	35182	163057	83796	79261

Table 2.5. Caste-wise Population (Total Population)

Block	SC Population	SC Male	SC Female	ST Population	ST Male	ST Female
Area not under any Sub-district	372073	190360	181713	69221	34758	34463
Ausgram - I	42659	21595	21064	15577	7696	7881
Ausgram - II	57141	29275	27866	21759	11002	10757
Barabani	35629	18270	17359	17574	8671	8903
Bhatar	85325	43370	41955	25626	12728	12898
Burdwan - I	65028	32895	32133	12127	5942	6185
Burdwan - II	59322	29785	29537	18242	9020	9222
Faridpur Durgapur	36641	19005	17636	8073	4037	4036
Galsi - I	67044	34233	32811	7652	3752	3900
Galsi - II	58342	29466	28876	10059	4921	5138
Jamalpur	96097	48254	47843	40432	19915	20517
Jamuria	37793	19391	18402	10272	5264	5008
Kalna - I	59242	30393	28849	20962	10404	10558
Kalna - II	61255	31174	30081	28930	14261	14669
Kanksa	62329	31830	30499	18239	9110	9129
Katwa - I	54731	28020	26711	2506	1262	1244
Katwa - II	40303	20698	19605	1963	952	1011
Ketugram - I	42660	21914	20746	1025	513	512
Ketugram - II	43442	22323	21119	692	362	330
Khandaghosh	73478	37493	35985	4345	2166	2179
Mangolkote	81950	41744	40206	7462	3700	3762
Manteswar	56862	28724	28138	6958	3363	3595
Memari - I	79976	40499	39477	34467	17217	17250
Memari - II	35933	18084	17849	27676	13877	13799
Ondal	52518	27145	25373	7628	3827	3801
Pandabeswar	49189	25314	23875	10821	5441	5380
Purbasthali - I	52705	27423	25282	7608	3795	3813
Purbasthali - II	55456	28833	26623	7920	3953	3967
Raina - I	62151	31350	30801	10503	5179	5324
Raina - II	61660	31268	30392	6062	3014	3048
Raniganj	37491	19387	18104	9982	5039	4943
Salanpur	39294	20069	19225	17084	8440	8644

Table 2.6. Caste-wise Population (Rural Population)

Block	SC Population	SC Male	SC Female	ST Population	ST Male	ST Female
Area not under any Sub-district	0	0	0	0	0	0
Ausgram - I	42659	21595	21064	15577	7696	7881
Ausgram - II	57141	29275	27866	21759	11002	10757
Barabani	23889	12274	11615	13774	6811	6963
Bhatar	85325	43370	41955	25626	12728	12898
Burdwan - I	54529	27590	26939	10483	5136	5347
Burdwan - II	57425	28806	28619	17921	8872	9049
Faridpur Durgapur	27799	14348	13451	6322	3134	3188
Galsi - I	61751	31536	30215	7374	3614	3760
Galsi - II	58342	29466	28876	10059	4921	5138
Jamalpur	96097	48254	47843	40432	19915	20517
Jamuria	23239	11907	11332	6476	3359	3117
Kalna - I	53709	27550	26159	20527	10185	10342
Kalna - II	53714	27266	26448	28891	14240	14651
Kanksa	42853	21971	20882	13605	6832	6773
Katwa - I	53193	27222	25971	2504	1261	1243
Katwa - II	40303	20698	19605	1963	952	1011
Ketugram - I	42660	21914	20746	1025	513	512
Ketugram - II	43442	22323	21119	692	362	330
Khandaghosh	73478	37493	35985	4345	2166	2179
Mangolkote	81950	41744	40206	7462	3700	3762
Manteswar	56862	28724	28138	6958	3363	3595
Memari - I	79041	40030	39011	34056	17000	17056
Memari - II	35933	18084	17849	27676	13877	13799
Ondal	10773	5657	5116	1675	856	819
Pandabeswar	6759	3398	3361	4167	2054	2113
Purbasthali - I	46648	24264	22384	7073	3530	3543
Purbasthali - II	55456	28833	26623	7920	3953	3967
Raina - I	58772	29637	29135	10204	5024	5180
Raina - II	61660	31268	30392	6062	3014	3048
Raniganj	9270	4742	4528	3398	1722	1676
Salanpur	29461	14999	14462	13256	6557	6699

Table 2.7. Caste-wise Population (Urban Population)

Block	SC Population	SC Male	SC Female	ST Population	ST Male	ST Female
Area not under any Sub-district	372073	190360	181713	69221	34758	34463
Ausgram - I	0	0	0	0	0	0
Ausgram - II	0	0	0	0	0	0
Barabani	11740	5996	5744	3800	1860	1940
Bhatar	0	0	0	0	0	0
Burdwan - I	10499	5305	5194	1644	806	838
Burdwan - II	1897	979	918	321	148	173
Faridpur Durgapur	8842	4657	4185	1751	903	848
Galsi - I	5293	2697	2596	278	138	140
Galsi - II	0	0	0	0	0	0
Jamalpur	0	0	0	0	0	0
Jamuria	14554	7484	7070	3796	1905	1891
Kalna - I	5533	2843	2690	435	219	216
Kalna - II	7541	3908	3633	39	21	18
Kanksa	19476	9859	9617	4634	2278	2356
Katwa - I	1538	798	740	2	1	1
Katwa - II	0	0	0	0	0	0
Ketugram - I	0	0	0	0	0	0
Ketugram - II	0	0	0	0	0	0
Khandaghosh	0	0	0	0	0	0
Mangolkote	0	0	0	0	0	0
Manteswar	0	0	0	0	0	0
Memari - I	935	469	466	411	217	194
Memari - II	0	0	0	0	0	0
Ondal	41745	21488	20257	5953	2971	2982
Pandabeswar	42430	21916	20514	6654	3387	3267
Purbasthali - I	6057	3159	2898	535	265	270
Purbasthali - II	0	0	0	0	0	0
Raina - I	3379	1713	1666	299	155	144
Raina - II	0	0	0	0	0	0
Raniganj	28221	14645	13576	6584	3317	3267
Salanpur	9833	5070	4763	3828	1883	1945

Table 2.8. Child Population (Total)

Block	Population under age of 6 yrs	Male population under 6 yrs	Female population under 6 yrs
Area not under any Sub-district	232323	120198	112125
Ausgram - I	13581	6871	6710
Ausgram - II	17204	8649	8555
Barabani	16192	8361	7831
Bhatar	28732	14711	14021
Burdwan - I	23365	11798	11567
Burdwan - II	15593	7872	7721
Faridpur Durgapur	13309	6913	6396
Galsi - I	19421	9922	9499
Galsi - II	15594	7986	7608
Jamalpur	27737	13991	13746
Jamuria	15141	7904	7237
Kalna - I	20853	10546	10307
Kalna - II	16567	8461	8106
Kanksa	20210	10301	9909
Katwa - I	20011	10173	9838
Katwa - II	15183	7883	7300
Ketugram - I	21009	10745	10264
Ketugram - II	13443	6880	6563
Khandaghosh	21168	10800	10368
Mangolkote	31133	15679	15454
Manteswar	26815	13625	13190
Memari - I	22294	11297	10997
Memari - II	15567	7930	7637
Ondal	20893	10855	10038
Pandabeswar	19709	10095	9614
Purbasthali - I	21828	11132	10696
Purbasthali - II	23091	11721	11370
Raina - I	18734	9610	9124
Raina - II	15330	7897	7433
Raniganj	12885	6699	6186
Salanpur	17118	8880	8238

Table 2.9. Cultivators (Total Population)

Block	Main Cultivator Population	Main Cultivator Males	Main Cultivator Female
Area not under any Sub-district	7776	6913	863
Ausgram - I	7020	6765	255
Ausgram - II	9112	8634	478
Barabani	2837	2685	152
Bhatar	18916	17819	1097
Burdwan - I	9092	8588	504
Burdwan - II	6361	6091	270
Faridpur Durgapur	3362	3205	157
Galsi - I	10495	10168	327
Galsi - II	8631	8381	250
Jamalpur	19163	18262	901
Jamuria	3989	3740	249
Kalna - I	11806	11334	472
Kalna - II	11544	10860	684
Kanksa	5394	5032	362
Katwa - I	11431	11203	228
Katwa - II	10979	10657	322
Ketugram - I	11078	10833	245
Ketugram - II	10721	10500	221
Khandaghosh	12605	12134	471
Mangolkote	20408	19841	567
Manteswar	15983	15528	455
Memari - I	10016	9637	379
Memari - II	9699	9364	335
Ondal	855	761	94
Pandabeswar	930	825	105
Purbasthali - I	9047	8841	206
Purbasthali - II	13610	12800	810
Raina - I	11267	10951	316
Raina - II	11309	11008	301
Raniganj	387	339	48
Salanpur	1370	1161	209

Table 2.10. Working Population (Total Population)

Block	Total Working population	Total Male Working population	Total Female Working Population	Total Main Workers	Male Main Workers	Female Main Workers
Area not under any Sub-district	770592	634529	136063	619126	534654	84472
Ausgram - I	55077	37286	17791	28051	23333	4718
Ausgram - II	68984	46956	22028	39283	31697	7586
Barabani	41506	34287	7219	27867	24531	3336
Bhatar	112207	83074	29133	84826	68718	16108
Burdwan - I	86966	66330	20636	63235	52108	11127
Burdwan - II	64356	46702	17654	45214	36247	8967
Faridpur Durgapur	40122	32902	7220	25911	23034	2877
Galsi - I	81142	59949	21193	47439	40756	6683
Galsi - II	65498	46521	18977	40260	32555	7705
Jamalpur	118096	84101	33995	88354	69034	19320
Jamuria	41120	34231	6889	27671	24564	3107
Kalna - I	85672	65022	20650	63653	52399	11254
Kalna - II	72147	52240	19907	55891	43239	12652
Kanksa	75480	53636	21844	47064	38486	8578
Katwa - I	61488	54040	7448	51347	46768	4579
Katwa - II	49409	43672	5737	42648	39151	3497
Ketugram - I	56415	49578	6837	41160	37857	3303
Ketugram - II	43158	37027	6131	34390	31621	2769
Khandaghosh	76622	59678	16944	55600	46816	8784
Mangolkote	98789	81539	17250	73138	64461	8677
Manteswar	86093	72096	13997	67816	59336	8480
Memari - I	99772	68512	31260	74675	55052	19623
Memari - II	64486	47046	17440	46133	36471	9662
Ondal	59131	50156	8975	43673	39049	4624
Pandabeswar	49850	41583	8267	35730	31644	4086
Purbasthali - I	84124	66169	17955	70018	58331	11687
Purbasthali - II	87017	67145	19872	67831	57308	10523
Raina - I	71602	57339	14263	50284	44140	6144
Raina - II	59911	48043	11868	44143	38561	5582
Raniganj	33361	28392	4969	25033	22314	2719
Salanpur	51058	43302	7756	39278	34446	4832

Table 2.11. Non-Working Population (Total Population)

Block	Non Working population	Non Working Males	Non Working Females
Area not under any Sub-district	1506150	541859	964291
Ausgram - I	64286	23235	41051
Ausgram - II	81912	30228	51684
Barabani	82092	29663	52429
Bhatar	150857	51022	99835
Burdwan - I	128977	43511	85466
Burdwan - II	88583	30574	58009
Faridpur Durgapur	75802	27576	48226
Galsi - I	106446	36806	69640
Galsi - II	81679	28230	53449
Jamalpur	148242	50428	97814
Jamuria	82056	30347	51709
Kalna - I	121273	40674	80599
Kalna - II	95188	32440	62748
Kanksa	102645	37714	64931
Katwa - I	111599	35047	76552
Katwa - II	87299	26916	60383
Ketugram - I	108993	35388	73605
Ketugram - II	75409	24386	51023
Khandaghosh	112714	37414	75300
Mangolkote	164451	53154	111297
Manteswar	151305	48844	102461
Memari - I	118653	42200	76453
Memari - II	85766	29454	56312
Ondal	127784	47993	79791
Pandabeswar	112041	43068	68973
Purbasthali - I	122853	40853	82000
Purbasthali - II	125338	42297	83041
Raina - I	109350	35053	74297
Raina - II	91490	29495	61995
Raniganj	73080	27443	45637
Salanpur	111999	40494	71505

2.2.3. Topography and Agro Climatic Characteristics

Topography:

Burdwan district with its varied tectonic elements and riverine features, is a transitional zone between the Jharkhand plateau which constitutes a portion of peninsular shield in the west and Ganga-Brahamaputra alluvial plain in the north and east. In general the Jharkhand plateau consists of the metasedimentary rocks of precambrian age, Gondwana sedimentary rocks, Rajmahal basalts and upper tertiary sediments. Laterite has developed on these older rocks as well as on early Quaternary sediments. Towards south, the alluvial plain merges with Damodar-kasain-Subarnarekha deltaic plains. The western half of the district resembles a promontory jutting out from the hill ranges of Chotonagpur plateau and consists of barren, rocky and rolling country with a laterite soil rising into rocky hillocks, the highest being 227 m. These diversify the otherwise monotonous landscape and lend a special charm to the skyline around Asansol subdivision. Ajoy-barakar divide is a convex plateau, the average altitude being 150 m. The gradient is westerly to the west and to the east it is northerly towards Ajay and southerly towards Damodar below the latitude. The Ajoy- Damodar inter-stream tract is made up of several stows consisting of vales and low convex spurs which run in almost all directions except north-east and thus lends a very complicated character to local relief.

Different types of soil are encountered in different topographical biological and hydrological as well as geological condition within the Burdwan district. In the west coarse gritty soil blended with rock fragments is formed from the weathering of pegmatite, quartz veins and conglomeratic sandstones, where as sandy soil characteristic of granite rocks and sandstones. This soil is of reddish colour, medium to coarse in texture, acidic in reaction, low in nitrogen, calcium, phosphate and other plant nutrients. Water holding capacity of this soil increases with depth as well as with the increase of clay portions. Towards the east alluvial soil attains an enormous thickness in the low level plains to the east. This alluvial soil is formed of alluvium brought down by the Ajay, Damodar, Bhagirathi and numerous other rivers. These soils are sandy, well drained and slightly acidic in nature.

Burdwan is one of the premier districts in India in terms of value of mineral. The Raniganj coalfield was the birth place of the Indian coal industry. Besides coal ,important minerals found in the district are ,iron ores, calcium carbonate, abrasives, silica bricks and moulding sands, glass sands, building materials, Manganese, Bauxite, laterite etc.

Table 2.12: Land classification according to location

Land classification according to location		
a	high land	8622 ha
b	medium land	241475 ha
c	low land	22038 ha

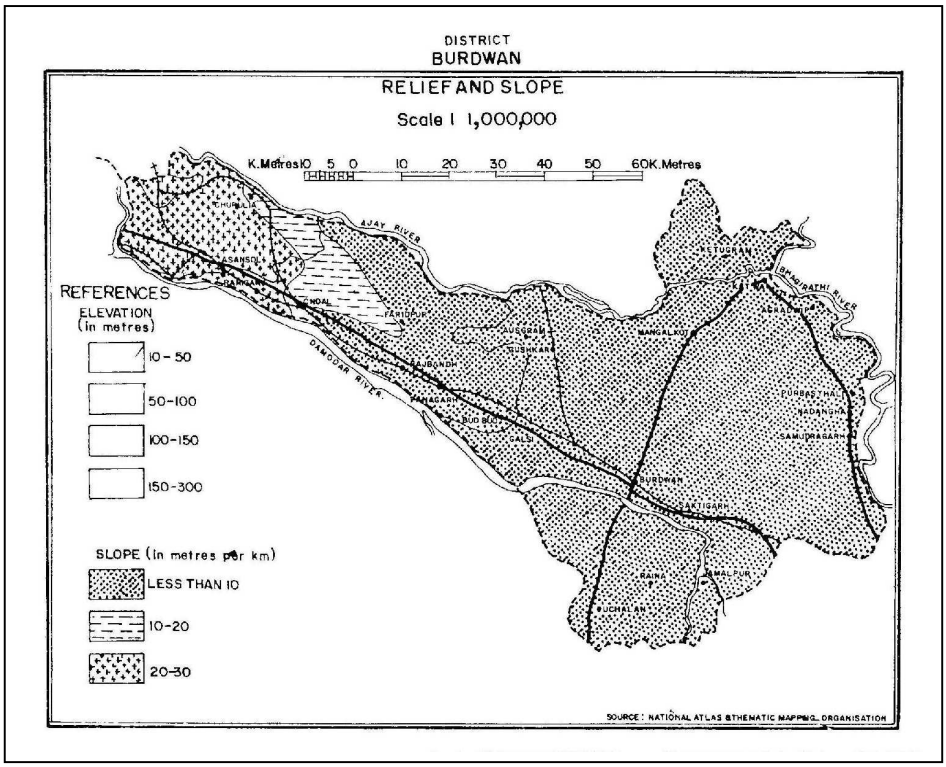


Fig. 2.2. Topographical map of Burdwan

Agro- climatic condition

The district experiences a climate which is transitional between CWg and AW types, where 'C' stands for 'warm temperate rainy climates with mild winter', 'W' for 'dry winter not compensated for by total rain in the rest of the year', 'g ' for 'eastern Ganges type of temperature trend' and 'AW ' for 'tropical savanna climates'. Average temperature in hot season is 30 C while at the cold season is 20 C. Average rainfall is 1496 mm. The cold season starts from about the middle of November and continues till the end of February. March to May is dry summer intervened by tropical cyclones and storms. June to September is wet summer while October and November is autumn.

Main crops of the district are autumn rice, winter rice, summer paddy, jute, potato, mustard and sesame, sugarcane and vegetables out of the said paddy covers about 87 percent in Kharif and winter paddy 66 percent and potato 13 percent in Rabi season. The animal resources of Burdwan is very rich and with a large variety. It rears cattle, buffalos, sheep, goats, pigs, fowls and ducks. Animal husbandry has good prospects specially in the western lateritic part of the district.

Net cropped area in the district is 66.2% of TGA with a cropping intensity of 173%. Area under Kharif, rabi and summer crops are 63%, 24% and 26% of TGA. Around 52% of TGA is under irrigation, of which 33% is canal irrigated and 19% is irrigated trough ponds and other type of irrigations. There are many tanks, wells, canals, swamps and bils are found all over the district. Within the Damodar Valley region, there are around 17000 tanks. The Durgapur barrage and Mithon dam have formed two large reservoirs at the south-western and western periphery of the district. The district has a fairly good cropping intensity of 173%.

Table 2.13. Average Maximum & Minimum Temperature (Station: District Seed Farm, Burdwan.)

Month	Average Temperature 2010 (° C)		Average Temperature 2011 (° C)		Average Temperature 2012 (° C)	
	Max	Min	Max	Min	Max	Min
Jan.	23.6	9.5	24.0	10.0	23.7	12.6
Feb.	28.5	15.4	28.3	15.4	28.3	14.3
March	35.0	21.5	32.8	20.4	33.2	19.3
April	38.5	21.7	34.0	22.8	35.0	23.3
May	35.0	25.4	34.0	24.4	37.2	25.1
June	34.7	26.0	33.6	25.8	36.4	27.0
July	32.8	26.1	32.4	26.1	32.6	25.7
August	32.7	26.1	31.5	25.8	31.9	25.7
Sept.	32.0	24.9	31.3	25.3	31.6	25.1
Oct.	31.2	23.0	31.8	22.6	30.6	21.9
Nov.	30.0	18.8	29.3	16.7	26.4	16.5
Dec.	25.0	12.2	25.0	12.3	23.9	12.0

Table 2.14. Average Precipitation (Station: District Seed Farm, Burdwan.)

Month	Expected Normal Rainfall	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Avg. of last 10 yrs.
Jan.	15.00	0.25	7.98	23.25	0.00	0.00	29.4	0.04	0.00	0.50	34.20	9.56
Feb.	31.00	29.90	0.00	14.10	0.00	43.7	15.0	2.60	8.90	0.70	6.90	12.20
March	31.00	46.35	21.17	76.93	3.90	37.30	18.30	32.20	4.00	32.50	1.80	27.45
April	41.00	40.00	90.93	13.55	55.80	35.25	37.92	1.50	24.50	77.10	42.90	41.95
May	111.00	80.43	84.85	65.65	84.37	114.90	128.30	241.20	92.30	110.50	67.30	107.00
June	250.00	206.20	206.00	150.80	168.35	211.57	342.60	67.70	235.20	324.80	109.80	202.30
July	346.00	204.80	144.70	252.18	503.27	466.19	401.59	211.00	192.10	213.60	297.60	288.70
August	332.00	130.15	229.80	153.90	301.68	291.41	264.30	355.40	121.10	321.00	219.00	238.77
Sept.	215.00	113.77	246.38	134.42	268.72	458.59	250.0	246.70	180.10	216.40	141.50	225.66
Oct.	102.00	257.00	113.87	287.87	18.33	58.46	60.60	89.60	45.00	27.20	62.20	102.01
Nov.	21.00	1.08	0.00	0.00	8.75	32.50	0.00	4.90	5.00	0.20	35.00	8.72
Dec.	5.00	10.87	1.42	8.78	0.00	0.00	0.00	0.00	38.40	0.00	7.60	6.70
Total	**1500.0**	**1120.8**	**1147.1**	**1181.45**	**1413.17**	**1749.84**	**1547.97**	**1252.84**	**946.60**	**1325.00**	**1025.80**	**1270.96**

2.2.4. Land Use pattern and Land holdings

The district both being an agrarian as well as industrial one, fairly large area in the district (25.2%) is under non-agricultural use. As compare to nearly 14% of total geographical area (TGA) under forest in the state, the district has only 4.14% area under forest. Though as compare to the districts of Bankura, Birbhum, Hooghly, Nadia, Murshidabad, Malda, North dinajpur, South Dinajpur and North 24 PGs, the district has much more area under forest; but in so far as total tree cover is concerned the district of Burdwan ranks at the very bottom with a meager 30% of TGA under tree cover. In view of the fact that, ideally atleast 33% of TGA should be under tree cover and the country at present has 27% area under tree cover, rapt attention is to be given so that the district becomes greener. The forest areas of the district are chiefly situated in the lateritic and red soil high lands in the Aushgram PS of Sadar Subdivision and in the Asansol subdivision. In Ausgram P.S. the forest areas are interspersed with paddy fields. The Durgapur forests are continued in the Birbhum district beyond the Ajay while the forest area in the Asansol subdivision forms a part of the forest area of Dumka District of Jharkhand.

Table 2.15. Land use pattern of the district

Year	Reporting Area	Forest Area	Area under Non-agricultural use	Permanent pastures & other grazing land	Culturable waste land	Fallow land other than current fallow	Current fallow	Net area sown
2006-07	698.77	21.17	200.89	0.65	6.92	1.96	7.04	458.51
2007-08	698.76	21.17	206.02	0.31	7.58	1.96	7.40	452.04
2008-09	698.76	21.17	207.77	0.32	5.92	1.14	6.95	452.39
2009-10	698.76	21.16	208.53	0.22	5.60	1.37	4.98	454.11
2010-11	698.76	21.16	211.56	0.26	4.88	1.24	4.35	452.46

(Area in thousand hectares)

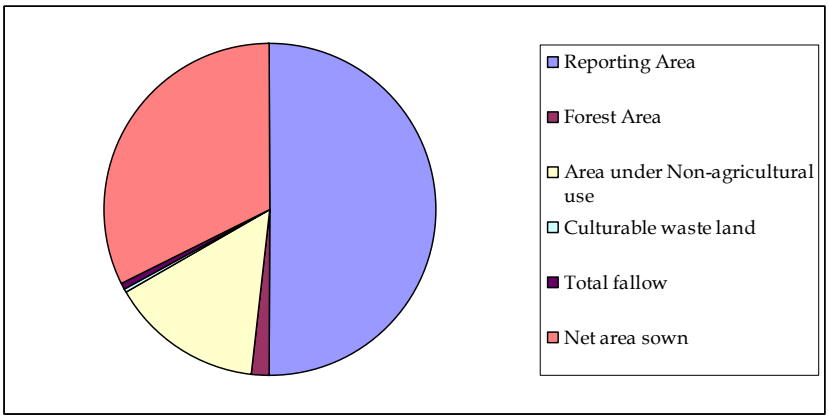


Fig 2.3. Land use pattern of major land uses

Table 2.16. Operational holding in the district

Year	S I Z E - C L A S S												Average size of holdings (hect.)
	Marginal		Small		Semi-medium		Medium		Large		Total		
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	
2000-01	325565	191610	88410	149896	32015	92627	6817	36993	60	992	452867	472118	1.04
2005-06	343359	196271	89543	154220	31761	92275	5377	27152	81	1500	470121	471418	1.00

2.5. Irrigation and Ground water

Around 52% of TGA is under irrigation, of which 33% is canal irrigated and 19% is irrigated trough ponds and other type of irrigations. There are many tanks, wells, canals, swamps and bils are found all over the district. Within the Damodar Valley region, there are around 17000 tanks. The Durgapur barrage and Mithon dam have formed two large reservoirs at the south-western and western periphery of the district.

Table 2.17. Yearwise area under different kind of irrigation

Year	Area irrigated by						
	Govt.Canal	HDTW	MDTW	LDTW	STW	RLI	Total
2006-07	296.00	19.75	2.25	1.74	0.12	11.79	331.65
2007-08	308.51	18.37	0.79	2.76	-	11.54	341.97
2008-09	279.39	20.87	0.82	1.23	0.08	11.19	313.58
2009-10	294.46	6.70	0.75	11.59	-	11.77	325.27
2010-11	245.63	7.82	0.75	11.78	-	12.00	277.98

Table 2.18. Yearwise number of different kind of irrigation

Year	HDTW	MDTW	LDTW	STW	RLI
2006-07	431	33	342	28	282
2007-08	433	33	548	-	282
2008-09	417	31	324	28	282
2009-10	179	31	260	-	282
2010-11	177	34	267	-	281

2.6. District Income

The district being both industrial and agrarian one the Gross district Domestic Product at current prices of Burdwan is very high with 30379 cr in the year 2009-10. In terms of percentage, Burdwan accounts for 10.36 % of SGDP of West Bengal. Though the district is among the

frontrunners in so far as district income is concerned, in terms of growth rate it lags behind many districts.

Table 2.19. Net District Domestic Product (NDDP) of Burdwan by Industry of Origin at Current Prices

Sl. No.	Industry	NDDP (Rs in lakh)
3.	Agriculture	623633
4.	Forestry	21445
5.	Fishery	81946
6.	Mining & Quarrying	245188
7.	Manufacturing (Registered)	284436
8.	Manufacturing (Un-Registered)	106516
9.	Construction	213251
10.	Electricity, Gas &water supply	59016
11.	Railways	60063
12.	Transport by other means	165819
13.	Storage	11632
14.	Communication	35179
15.	Trade, hotels and restaurants	688903
16.	Banking & Insurance	194240
17.	Real estate, ownership of dwelling and Business services	216949
18.	Public administration	168974
19.	Other services	409107
20.	Total	3585297
21.	Per capita income (In Rs.)	50396

Table 2.20. Trend of revenue collected from various sources

Year	Land Revenue	Stamp Revenue & Registration Fees	Excise Revenue	Sales Tax	Taxes on Vehicles	Entertain-ment Tax	Electricity Duty	Profes-sional Tax	Total
2006-07	23233	6960	15444	34821	8040	177	9247	3069	100990
2007-08	27154	7846	17084	37351	8436	247	8918	3026	110062
2008-09	28401	8738	18755	39669	9665	243	10918	2981	119370
2009-10	29165	11173	43172	49937	11839	241	10358	3202	159086
2010-11	45346	13987	32329	57777	14717	242	11126	3089	178612

2.2.7. Intra-district growth differentials

There is perceptible differences in growth differential like net earnings, monetary institutions, cooperatives etc., intra-district, i.e., among various blocks in the district. The reason being presence of industry in the western fringes of the district in the blocks

of durgapur, asansol, ranigunj etc. and large no. of mines in the blocks of Andal, Jamuria, Ranigunj etc. while other blocks in the alluvial region is broadly dependant on agriculture.

Table 2.21. Sub division and block wise net collection from net savings

Asansol Sub-Division	**34,477**
Salanpur	1,609
Barabani	1,111
Raniganj	607
Jamuria	310
Kulti (M)	2,418
Asansol (M.C.)	25,707
Raniganj (M)	2,501
Jamuria (M)	213
Durgapur Sub-Division	**27,195**
Galsi-I	815
Andal	2,324
Faridpur-Durgapur	152
Pandabeswar	2,123
Kanksa	1,738
Durgapur (M.C.)	20,043
Burdwan(N) Sub-Division	**20,095**
Burdwan-I	106
Burdwan-II	1,022
Ausgram-I	350
Ausgram-II	205
Bhatar	912
Galsi-II	779
Burdwan (M)	15,743
Guskara (M)	979
Burdwan (S) Sub-Division	**4,318**
Memari-I	315
Memari-II	279
Jamalpur	1,154
Raina-I	1,016
Raina-II	178
Khandaghosh	238
Memari (M)	1,138
Katwa Sub-Division	**5,725**
Mongalkote	809
Ketugram-I	210
Ketugram-II	177
Katwa-I	479

Katwa-II	218
Katwa (M)	3,412
Dainhat (M)	419
Kalna Sub-Division	**3,217**
Purbasthali-I	237
Purbasthali-II	121
Kalna-I	319
Kalna-II	218
Monteswar	230
Kalna (M)	2,092

Table 2.22. Block wise cooperative societies in the district

Name of Block	No. of Co-operative Societies	No. of Members	Working Capital ('000 Rs.)
Salanpur	40	18475	212511
Barabani	21	1799	6837
Raniganj	42	11321	237971
Jamuria	23	8245	35389
Galsi-I	80	17185	54723
Andal *	90	25769	137710
Faridpur-Durgapur	469	54800	1068475
Pandabeswar	..	..	..
Kanksa	57	9280	19315
Burdwan-I	71	12779	40518
Burdwan-II	67	18017	65786
Ausgram-I	63	14356	72914
Ausgram-II	48	15104	36991
Bhatar	65	20957	143531
Galsi-II	57	14501	48226
Memari-I	50	33548	300124
Memari-II	57	26324	475695
Jamalpur	71	30208	196775
Raina-I	76	22245	107834
Raina-II	52	22543	139876
Khandaghosh	64	18976	101434
Mongalkote	75	34468	556233
Ketugram-I	68	27452	441489
Ketugram-II	35	30458	490651
Katwa-I	97	29358	472661
Katwa-II	60	28491	456381
Purbasthali-I	44	27473	441832
Purbasthali-II	35	25557	410497
Kalna-I	70	35487	572898
Kalna-II	49	33402	444299
Monteswar	80	36408	587846

Table 2.23. Block wise commercial and gramin banks in the district

Name of Block	Number of Bank offices		Population served per Bank office(Commercial & Gramin) (No. in thousand)
	Commercial Bank	Gramin Bank	
Salanpur	7	2	17
Barabani	5	2	16
Raniganj	12	2	7
Jamuria	10	1	10
Galsi-I	7	4	16
Andal	8	-	21
Faridpur-Durgapur	5	2	15
Pandabeswar	9	-	16
Kanksa	9	3	13
Burdwan-I	12	2	13
Burdwan-II	9	2	13
Ausgram-I	6	2	13
Ausgram-II	6	4	14
Bhatar	11	5	15
Galsi-II	6	3	15
Memari-I	12	2	14
Memari-II	7	2	15
Jamalpur	7	5	20
Raina-I	7	1	20
Raina-II	6	3	15
Khandaghosh	9	3	14
Mongalkote	9	4	18
Ketugram-I	4	3	21
Ketugram-II	5	1	18
Katwa-I	7	3	15
Katwa-II	4	3	17
Purbasthali-I	6	2	23
Purbasthali-II	6	2	24
Kalna-I	6	2	24
Kalna-II	7	1	19
Monteswar	8	3	19

2.3. Development Vision and Strategy

2.3.1. Vision of CDAP

Enhancing Yield of Major Commodities:

Yield of major crops and livestock in the region, though higher than national averages in many cases, is much lower than that in the rest of the world. Considering that the frontiers of expansion of cultivated area are almost closed in the region, the future increase in food production to meet the continuing high demand must come from increase in yield. There is a need to strengthen adaptive research and technology assessment, refinement and transfer capabilities of the country so that the existing wide technology transfer gaps are bridged. For this, an appropriate network of extension service needs to be created to stimulate and encourage both top-down and bottom-up flows of information between farmers, extension workers, and research scientists to promote the generation, adoption, and evaluation of location specific farm technologies.

Integrated nutrient management:

In view of deteriorating soil quality and fertility, attention should be given to judicious and balanced use of nutrients. Phosphorus deficiency is now the most widespread soil fertility problem in both irrigated and unirrigated areas. Apart from major nutrients, depletions are being observed in micro and secondary nutrients as well. To improve efficiency of fertilizer use, what is really needed is enhanced location-specific research on efficient fertilizer practices (such as balanced use of nutrients, correct timing and placement of fertilizers, and, wherever necessary, use of micronutrient and soil amendments), improvement in soil testing services, development of improved fertilizer supply and distribution systems, and development of physical and institutional infrastructure.

Arresting deceleration in total factor productivity:

The CDAP is being formulated with an eye to enhanced public investment in irrigation, infrastructure development (road, electricity), research and extension and efficient use of water and plant nutrients which cumulatively can check deceleration of TFP growth. The sharp deceleration in total investment and more so in public sector investment in agriculture is the main cause for the deceleration. This has resulted in the slow-down in the growth of irrigated area and a sharp deceleration in the rate of growth of fertiliser consumption. This trend must be reversed as the projected increase in food and non-food production must accrue essentially through increasing yield per hectare. All the efforts need to be concentrated on accelerating growth in TFP, whilst conserving natural resources and promoting ecological integrity of agricultural system.

Bridging Yield Gaps:

The district of Burdwan, in general, is more productive as compared to many other districts reflected in greater productivity rates in many crops and enterprises. But in so far as pulses,

oilseeds, wheat are concerned, the district has lower yield rates as compared to district. Not only that this area has to be given due attention, productivity of other crops need to be adequately increased as to maintain food security.

Efficient water management for sustainable food production:

Agriculture is the biggest user of water, accounting for about 80 percent of the water withdrawals. There are pressures for diverting water from agriculture to other Sectors in the district of Burdwan. It is projected that availability of water for agricultural use in India may be reduced by 21 percent by 2020, resulting: in drop of yields of irrigated crops, especially rice, thus price rise and withdrawal of food from poor masses. Policy reforms including establishment of secure water rights to users, the decentralization and privatization of water, management functions to appropriate levels, pricing reforms, markets in tradable property rights, and the introduction of appropriate water-saving technologies are needed from now to avoid the negative developments in the years to come.

Accent on Diversification of Agriculture and Value Addition:

In the face of shrinking natural resources and ever increasing demand for larger food and agricultural production arising due to high population and income growths, agricultural intensification is the main course of future growth of agriculture in the region. Extending technologies for crop intensification should be the order of the day that will facilitate agricultural diversification particularly towards intensive production of fruits, vegetables, flowers and other high value crops that are expected to increase income growth and generate effective demand for food. The per capita availability of arable land is quite low and is declining over time. Diversification towards these high value and labour intensive commodities can provide adequate income and employment to the farmers dependent on small size of farms. Due importance should be given to quality and nutritional aspects. High attention should be given to develop post-harvest handling and agro-processing and value addition technologies not only to reduce the heavy post-harvest losses and also improve quality through proper storage, packaging, handling and transport. The role of biotechnology in post-harvest management and value addition deserves to be enhanced.

Emphasis on Post-Harvest Management, Value Addition and Cost-Effectiveness:

Post-harvest losses generally range from 5 to 10 percent for non-perishables and about 30 percent for perishables. This loss could be and must be minimized. Emphasis should therefore be placed to facilitating post-harvest handling, agro-processing and value-addition technologies not only to prevent the high losses, but also to improve quality through proper storage, packaging, handling and transport. The agro-processing facilities should preferably be located close to the points of production in rural areas, which will greatly promote off-farm employment. Such centres of processing and value addition will encourage production by masses against mass production in factories located in urban areas. Agricultural cooperatives and Gram Panchayats must play a leading role in this effort. In doing so, the needs of small farmers should be kept in mind.

Stress on Empowering the Small Farmers:

Greater emphasis needs to be placed on non-farm employment and appropriate budgetary allocations and rural credit through banking systems should be in place to promote appropriate rural enterprises. Specific human resource and skill development programmes to train them will make them better decision-makers and highly productive. Human resource development for increasing productivity of these small holders should get high priority. Thus, knowledge and skill development of rural people both in agriculture and non-agriculture sectors is essential for achieving economic and social goals.

Exploiting Information and Communication Technology:

Information is power and will underpin future progress and prosperity. Efforts must be made to strengthen the informatics in agriculture by developing new databases, linking databases with international databases and adding value to information to facilitate decision making at various levels.

2.3.2. Strategies to fulfill the vision

The sectoral strategies to fulfill the vision are as follows,

Agriculture

- Soil reclamation and preserving soil quality for sustainable crop production
- Increasing cropping intensity with suitable intervention. Promotion of pulse crops to be largely enhanced
- Productivity augmentation through judicious fertilizer and pest management. Introduction of improved cultivars, dissemination of promising technologies, seed treatment, farm mechanisation
- Capacity building of extension workers for efficient dessimination of technologies
- Implementing strategies for producing more per quanta of land and water through judicious use of resources. Adoption of integrated farming methodologies wherever applicable for enhancing farmers income is called for.
- Correction of soil acidity by using Dolomites, basic slugs, ash etc should be undertaken judiciously so that the effect should be sustainable. Fly ash from the thermal power stations in Burdwan can be purchased in a very low price and can be distributed among the farmers in place of Dolomite. This will ensure more procurement and less expenditure on transport and procurement.
- Production of quality seed material through participatory approach
- Adoption of climate resilient technologies to cope up with climate change which is

imminent

- More emphasis on red and lateritic zone for agriculture intensification through creation of water harvesting structures, watersheds etc.

- Value addition to agricultural produce to be given emphasis. SHGs, common interest groups, JLGs to be

Horticulture Sector

- Strengthening of horticultural department in the line of agriculture, ARD and fisheries department with block level officials and support staff
- Capacity building of farmers and extension workers for speedy development of horticulture in the district
- Protected cultivation techniques to be much strengthened
- Potential for horticulture development in the red and lateritic region is to be exploited. Extension of horticultural activities in this zone by supply of saplings (fruits and tree species) and undertaking plantation activities should be taken up. Plantation of *Arjun* in the lateritic zone can help the poor farmers, basically tribals by introducing Tasar cultivation in collaboration with Sericulture department.
- Emphasis to be given on production as well as marketing of high value horticultural crops
- Attention to be given on management of water resource through establishment of micro irrigation for fruit, plantation and vegetable crops.
- Entrepreneurship development through value addition to horticultural produces is to be pressed

Animal husbandry

- Breed up-gradation of livestock and poultry
- Capacity building of extension workers/ animal raisers for efficient dissemination of technologies
- Augmentation of productivity of livestock and poultry
- Emphasis on infrastructure of Artificial insemination
- Strengthening of animal feed resource through production of green fodder, preparation of home made concentrate feed and complete feed block
- Availability of medicines through *Pranibandhus* at the doorstep
- Provision for insurance and credit facility
- Strengthening of Post harvest operation including value addition of animal products
- Unorganised market should be converted into organised market linkages
- Removal of technological gap in nutrition, management and housing of poultry birds

Fishery

- Ensuring ready supply of quality fingerling in the district.

- Aquaculture based integrated farming modules to be implemented in all the excavated pond under MGNREGA scheme
- Entrepreneurship development in the area of fingerling production.
- Capacity building of fish farmers for improved techniques of fish production, including pond management, feed management, stocking species and density, multiple tire carp farming etc.
- Efficient marketing chain development through feasible cold chain establishment
- Entrepreneurship development in ornamental fish culture.
- Exploiting potential for fishery development in canals, enclosed large water bodies etc.

Agricultural marketing

- Partnership farming
- SHG/JLG/CIG mediated marketing strategy
- Infrastructural support for SHG/JLG/CIGs involved in production and marketing of agricultural produce

Sericulture

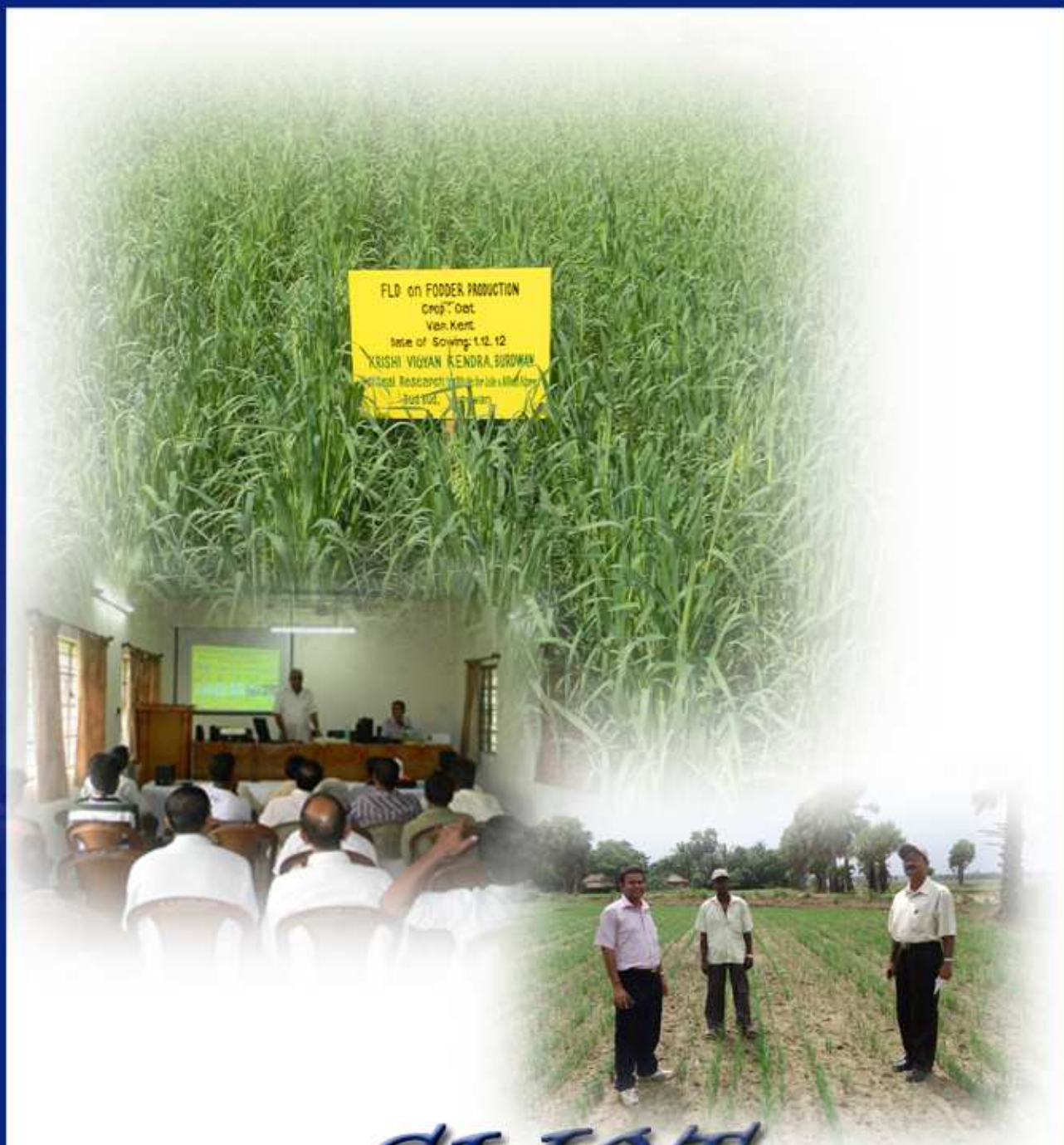
- Development of silvi-pastoral models with required plantation
- Ensure availability of seed
- Ensured availability of market

Credit & Cooperation

- Storage system for vegetables, followers etc. - Veg. godown & multipurpose godown is needed.
- Efficient linkage to be established between produced crops and marketing mainly for non-conventional crops.
- Farmers' club, adequate training, using modern – scientific technique for production of crops is needed.
- All the S.K.U.S.s should have well metal road connection for fertiliser business & other various purposed.
- Agro processing unit to form by Joint venture with S.K.U.S.s – if possible.
- PACS in the district should be promoted for all kinds of agricultural based activities, including production of seeds, distribution of fertilisers etc
- Credit linkages should be increased for the farmers so that they can market their products and a handsome amount

Irrigation

- Increase in minor as well as micro irrigation
- Construction of rain water harvesting structures
- Renovation of sub-canals
- Use of open cast pits in the lateritic zone



SWOT ANALYSIS

3.1. Introduction

One of most widely used strategic planning tools is a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. SWOT analysis is often used as basic guide for strategic planning. The term SWOT is the acronym made up of four words viz., Strengths, Weaknesses, Opportunities and Threats. The first two variables are internal to a sector whereas the last two are external. SWOT stands for strengths, weaknesses, opportunities and threats.

The following points highlight its importance:
1. SWOT Analysis brings to light whether the sector is healthy or sick.
2. An undertaking comes to know of both internal as well as external factors affecting the success or failure of the strategic plan.
3. It helps in the formation of a strategy so as to make preparations for the possible threats from the externalities.
4. SWOT analysis evaluates the sector environment in a detailed manner so as to take strategic decisions for the future course of action.

3.2. SWOT analysis of the district

For making the SWOT analysis comprehensive, for agricultural activities the same was made blockwise to draw out the picture with greater clarity as presented below. For the allied sectors, however, these were made department wise mentioned after that.

Table 3.1. Agricultural SWOT of selected blocks of the district

block	Strength	Weakness	Opportunity	Threat
Andal	1. Good Marketing facility at Durgapur. 2. Assured demand for Agricultural product.	1. Low rainfall & poor water holding capacity of soil. 2. Agricultural fields are scattered, major portion of land is under ECL/DVC/Aerocity etc. 3. Irrigation facility is very poor (only 15% of cultivable land).That irrigated area is not assured. 4. Shortage of Agricultural labours and skilled labours. 5. Poor use of farm mechanization. 6. Shortage of extension personals at village level.	1. By improving irrigation facility crop coverage can be improved .Farmers will cultivate rabi crops in a large scale as a result Cropping intensity in this block is possible to increase above 200% . 2. Scope for crop diversification and growing pulse and oilseed crops. 3. Scope for investment in Marketing and processing infrastructure of agricultural products. 4. Strengthening agricultural extension system.	1. ECL, Aerocity, DVC - Industrialization & Urbanization. 2. Declining area under agriculture due to land acquisition by ECL, Aerocity, DVC, Small industry etc. 3. As 85% of the cultivable land is under monocrop(due to lack of irrigation facilities) the farmers are losing their interest on agriculture farming . They are adopting other professions for their livelihood.
Barabani	**1.** Communication facility. **2**. Availability of more/ less sufficient water bodies. **3.** Availability of	**1.** Decline Soil Fertility status due to non availability of organic matter. 2. Farmers are not interested in remunerative agricultural activities	1. Development of water harvesting structure 2. Soil health management and development 3. Scope for awareness the farmers regarding quality seed	**1.** Soil erosion and Land development. **2.** Crop diversification **3.** Heavy metal toxicity **4.** Use of Chemical fertilizer due to non

	market 4. Favourable weather condition for seed production.	3. Non availability of credit in agricultural sector 4. Very weak and under develop Irrigation facility 5. Under develop of allied activities. 6. Poor Agricultural Extension system due to shortage of field level extension personnel/ worker. 7. Undulating Land and poor water holding capacity. 8. Soil is highly acidic in nature.	production and soil health management. 4. Scope for development of allied activities i.e Horticulture, fisheries, Animal husbandry etc. 5. Scope of development of Local market 6 . Scope for development of Agri-polyclinic under P.P.P mode.	availability of organic manure.
Faridpur-Durgapur	1. More or less satisfactory road network. 2. Presence of enough water bodies. 3. Condition suitable for seed production. 4. Good demand of quality agricultural produce and processed products in the urban areas.	1. Depleting soil fertility status because of insufficient availability and use of Organic Manure. 2. Lack of interest among farmers for less remunerative agricultural engagement vis-à-vis industrial activities. 3. Non-availability of recorded land for farmers to obtain credit facilities. 4. Non-availability of credit facilities in the agricultural sector. 5. Very weak and under-developed irrigation facilities. 6. Under-development of allied activities like livestock, sericulture, fishery, horticulture so that demand for green fodder, feed, flowers, fruits etc. develops. 7. Poor Agricultural Extension system for lack of field-level workers.	1. Scope of awareness and subsequent quality seed production. 2. Scope of land-grading and awareness for subsequent Farm Mechanisation. 3. Scope of creation of water-harvesting structures to harvest rain-water together with soil and water conservation activities. 4. Great scope for development of allied activities and post-harvest technologies to serve a rich market for table products. 5. Scope of development of post-harvest and food-processing industries under P.P.P. mode. 6. Scope of development of Agri-polyclinics under P.P.P. mode. 7. Use of ICT for better network and dissemination of knowledge.	1. Soil erosion and Land degradation. 2. Conversion of Agricultural land. 3. Dependence on chemical fertilizers because of non-availability of sufficient organic matter. 4. Heavy metal toxicity apprehended together with change in soil characteristics in pockets due to excavation work for Coal Bed Methane.
Galsi-I	1. Communication facility. 2Canal through the Block. 3. Condition suitable for seed production. 4. Good demand of quality agricultural produce and processed products in the urban areas.	1. Shortage of extension personnel. 2. Villages are scattered & Block area is very larged. 3. Under-development of allied activities like livestock, sericulture, fishery, horticulture so that demand for green fodder, feed, flowers, fruits etc. develops. 4. Poor Agricultural Extension system for lack of field-level workers.	1. Scope of awareness and subsequent quality seed production. 2. Scope of awareness for subsequent Farm Mechanisation. 3. Great scope for development of allied activities and post-harvest technologies to serve a rich market for table products. 4. Scope of development of post-harvest and food-processing industries under P.P.P. mode. 5. Scope of development of Agri-polyclinics under P.P.P. mode. 6. Use of ICT for better network and dissemination of knowledge.	1. Soil erosion and Land degradation. 2. Conversion of Agricultural land. 3. Dependence on chemical fertilizers because of non-availability of sufficient organic matter.

Kalna-I	1.Good communication facilities 2. Presence of irrigation facilities 3. Presence of Nationalized banks/SKUS 4.Presence of Regulatory market 5. Presence of trained Prani bandhu 6.Presence of large nos. of water bodies	1. Degradation of soil fertility due to insufficient use of O.M. 2. Strictly followed the same cropping sequence 3. lack of soil testing facility 4. Fragmentation of Agril. land 5.Absence of processing facilities of scented rice/sunflower/pulses 6.Unavailability of green fodder or grazing land	1.Scope for expansion of the area for scented rice 2. Scope of quality seed production 3. Scope of Farm Mechanization 4. Scope of scientific fish farming with duckery 5.Scope for P.P. partnership for processing or Post harvest structure	1.Gradual depletion of ground water 2. Fluctuating market price 3. Conversion of Agril. Land 4.Outbreak of disease and pest due to following same cropping sequence 5. Outbreak of avian influenza
Kalna-II	1. Good communication facilities 2. Presence of irrigation facilities 3. Presence of Nationalized banks/SKUS 4.Presence of Regulatory market 5. Presence of trained Prani bandhu 6.Presence of large nos. of water bodies	1. Degradation of soil fertility due to insufficient use of O.M. 2. Strictly followed the same cropping sequence 3. lack of soil testing facility 4. Fragmentation of Agril. land 5.Absence of processing facilities of scented rice/sunflower/pulses 6.Unavailability of green fodder or grazing land	1.Scope for expansion of the area for scented rice 2. Scope of quality seed production 3. Scope of Mechanization 4. Scope of scientific fish farming with duckery 5.Scope for P.P. partnership for processing or Post harvest structure	1.Gradual depletion of ground water 2. Fluctuating market price 3. Conversion of Agril. Land 4.Outbreak of disease and pest due to following same cropping sequence 5. Outbreak of avian influenza
Kanksa	1.Communication facility 2. Marketing Facility 3. DVC canal through the block	1.Shortage of extension personnel 2. Villages are scattered, large area of block, major portion forest area 3. Rainfed area mostly, irrigation facility poor 4. Agril. labourers less 5. Poor use of farm mechanization	1.Three GPs are agriculturally potential	1.Industrialization 2. Declining area under agriculture due to housing, industry etc.
Katwa-I	1.Presence of irrigation facility 2. Presence of bank/DACS 3. Availability of skilled &v unskilled laboures 4. Good	1.Lack of variation of cropping pattern 2. Lack of soil testing facility 3. Lack of awareness among the farmers 4. Lack of marketing infrastructure 5. Deterioration of soil health	1. Scope of river lift irrigation 2. Expanding market for vegetables & kisan Mandi 3. Scope for utilization of SHG	1.Declination of ground water level 2. Fluctuating market price 3. Excessive injudicious use of chemical fertilizer 4. Increase cost of cultivation

	communications			
Ketugram-I	a). Skill and unskilled labour is available. b). There are lots of resource for modern Agriculture, c) Horticulture, Pisiculture and dairy rearing. d). Raw material is available for producing organic farming.	a). Lack of knowledge in modern Agriculture & Allied Agriculture. b). Less interest in Horticulture crops. c). Co-operation between the farmers are less. d). uncultivable land is not properly utilized.	a). Wasteland/uncultivable land has to develop by social Forestry and fruits orchard plantation. b). Excavation & Reexcavation ponds for aqua culture. c). Disseminate modern technology through demonstration, farmer's training meeting, awareness camp in different line	a) Unorganized marketing system, therefore farmers not getting actual price for their crops. b) Unavailability of oil crusher ,Maize dehusker
Ketugram-II	1.Presence of irrigation facility 2. Presence of bank/DACS 3. Availability of skilled &v unskilled laboures 4. Good communications	1.Lack of variation of cropping pattern 2. Lack of communications 3. Lack of awareness among the farmers 4. Lack of marketing infrastructure and storage structure 5. Deterioration of soil health	1. Scope of river lift irrigation 2. Expanding market for vegetables & kisan Mandi 3. Scope for utilization of SHG	1.Declination of ground water level 2. Fluctuating market price 3. Injudicious use of chemical fertilizer 4. Increase cost of cultivation
Kulti	1. Presence of urban market 2. More or less satisfactory of road network 3. No /or minimum disease pest infestation	1. Erratic climatic condition and agriculture depends mainly on rainfall 2. No or extremely poor irrigation facilities/potentialities 3. Non-presence of allied departments like livestock, fisheries, sericulture, horticulture etc. 4. Poor Agricultural Extension system for lack of field-level workers 5. Undulating land structure and lack of credit facilities cause hindrance to machanization	1. Scope of creation of water-harvesting structures to harvest rain-water together with soil and water conservation activities 2. Crop diversification includes horticulture, rainfed agriculture, mixed farming etc. 3. Use of ICT for better network and dissemination of knowledge	1.Soil erosion and Land degradation 2.Conversion of Agricultural land 3.Lack of life saving irrigation
Mongalkote	1.Large Block Area 2.Diversified Soil pattern	1.Shortage of K.P. S. (Field Staff) 2. Aman Paddy- Potato-Boro paddy cropping patterns	1. Diversified cropping programme. 2. Opportunity for fishery and animal resource development.	1. Farmers are interested but individually. 2. Unavailability of quality seeds. 3. Excess harvesting of ground water instead of river and canal.
Purbasthali-I	1. Good Irrigation (Ground Water & Surface Water) facility available 2. Soil Fertility Status medium to	1. Farmers less interested to crop diversification 2. Price hike of Agril Inputs 3. Fragmentation of Land holdings 4. Unavailability of Agril	1. Organic Farming 2. Area expansion for horticultural crops 3. Crop Insurance 4. Integrated Farming	1. Soil health degradation 2. Arsenic Problem 3. Hampering Bio-Diversity

	high for Crop 3. Availability of Agril. Imputes	Labours		
Salanpur	1. Presence of urban market 2. More or less satisfactory of road network 3. No /or minimum disease pest infestation	1. Lack of fulltime Officer/ Asst. Director of Agriculture since last **SIX YEARS.** Situation is extremely difficult for an officer-in- additional charge to meet the multi-dimensional developmental need of a block. 2. Poor Agricultural Extension system for lack of field-level workers 3. Erratic climatic condition and agriculture depends mainly on rainfall 4. Undulating land structure and lack of credit facilities cause hindrance to machanization 5. No or extremely poor irrigation facilities/potentialities	1. Scope of creation of water-harvesting structures to harvest rain-water together with soil and water conservation activities 2.Crop diversification includes horticulture, rainfed agriculture, mixed farming etc. 3. Use of ICT for better network and dissemination of knowledge	1.Soil erosion and Land degradation 2.Conversion of Agricultural land 3.Lack of life saving irrigation

Horticulture

Strength

- Diversified soil condition helping different crops to be grown
- The agro-climatic condition of the district is suitable for growing variety of flowers and fruits like marigold, chrysanthemum, tuberose, mango, guava, papaya, lime, etc.
- Vast lateritic tracts suitable for orchards
- Good demand of fruits, vegetables and flowers in industrial urban areas and rural areas also
- Recently, production of some non-traditional fruit crops like pine apple, cashew nuts, etc. have been undertaken to a limited extent
- Good infrastructure of cold storages for storing vegetables
- There are 3 government nurseries at Katwa, Kalna and Ausgram-I and one District Seed Farm for fruit development

Weakness

- Un availability of high producing horticultural crop seed/planting materials
- Water stress condition in different part of district
- Lack of knowledge & technical know-how of farmers with respect to horticultural crops.
- Poor availability of good quality planting material and seeds
- Acute shortage of Staff and officer in the District, practically speaking, no Staff and only One Officer for such a large district
- Low availability of organic manures
- Inadequate market facilities

Opportunity

- Scope of producing high cost horticultural crops having good market value
- Market demand for production of high cost horticultural crops
- Farmers attitude towards diversified production

- The western lateritic zone of the district which suffers from poor agricultural productivity due to low irrigation is suitable for cultivation of flower and fruits
- Cultivation of vegetables (early and off-time) using net-house and polyhouse technology
- Floriculture and vegetable market complex based on which cultivation of flowers (open field like marigold, tuberose; protected like gerbera, rose) can be done
- Well connected to Kolkata through rail and road linkages
- National Horticultural Board extend subsidy assistance for promotion of Hi-Tech/Commercial Horticulture including nursery

Threat

- Ill developed marketing and cold chain
- Outbreak of pest and diseases
- Inappropriate technology adoption by the farmers and entrepreneurs
- Inadequate government support
- Inadequate consultancy services

Animal Husbandry

Strength

- Huge Agricultural activities in the District yields huge amount of Agri. By-products which provides potential source of animal nutrition.
- Large number of people from minority community, SC/ST and backward classes besides others earns their livelihood through animal husbandry activities solely.
- Widespread infrastructure of ARD Department upto G.P. Level and availability of doorstep services from Pranibandhus.
- Availability of Chicks and Khaki Campbell ducklings from Govt. Poultry farms situated in the district namely State poultry Farm- Durgapur, State poultry Farm- Golapbag and District Composite Farm- Burdwan Kalna Gate.
- Easy availability of animal feed from Govt. and non-Govt. feed plants including EPIC Feed Plant at Durgapur and fodder from natural grassland and forest fringe areas.
- Presence of so many organized broiler and layer poultry farms as well as organized input and marketing chains.
- The district has huge population to consume all animal products, many markets for animals and its products, functional milk co-operatives under Burdwan Milk Union and AMUL.
- Functional unit of Mother Dairy, Kolkata,

Weakness

- Intense Agricultural practices leave very small space for fodder cultivation resulting higher feeding cost.
- Rapid urbanization diminishing scope of animal rearing in some area.
- Lack of large organized cattle / goat/ pig farms.
- Breeds maintained by small animal farmers are indigenous and their productivity is very low,
- Breed upgradation / cross breeding, scientific animal husbandry, animal insurance etc. has

not yet been so developed,
- Infrastructures of ARD Dept. at different level remaining unmanned as vacancies are not filled regularly.
- High cost of feed ingredients like corns, oil cakes, fish meals etc. as those are procured from other states.
- Lack of infrastructure to control the entry of animal for surrounding states.

Opportunity

- Involvement of SGHs in poultry dev. Schemes is getting momentum. There is enormous scope of making non-functioning / poorly functioning Pry. Milk Co-ops active.
- With increasing number of Rice Bran Oil Industries being set up in the district, De-oiled Rice Bran , a major source of animal nutrition is getting available at a lower price,
- Large number of SC/ST and backward classes population leaves huge opportunity of pig farming,
- In addition to present infrastructure of ARD Deptt. Including PRANIBANDHU, PRANIMITRA (self employed *Kshudra Prani Palan Sahayika*) will be introduced in each G.P. to extend doorstep vaccination facility for small animals,
- Highly fertile land of this area can be used for commercial cultivation of multi-various high quality fodder crops ,
- Organized marketing channels for milk and other animal products are developing in the district
- **Modified Bishes Go Sampad Bikash Abhijan** is helping cattle farmers for potential development of high yielding cattle breeds.
- Introduction of Low Input Variety of poultry bird in rural areas boosting the egg as well as meat production.

Threat

- Young people of this area are losing interest in agriculture and animal farming as well.
- Risk of Bird Flu, Swine Fever and Encephalitis are major threats for poultry and pig farming.
- Recently developed tremendous demand of cow meat in Middle East after out break of Mad Cow Disease in beef exporting country like U.K. is a major cause of potentially productive cattle being slaughtered.
- Increasing objections from residents around animal farms in fear of pollution prohibiting willing farmers from erecting new farms and even old farmers are also losing interest.
- Trend of major portion of butchers cum meat sellers not to abide by the Rules and Regulations regarding slaughter imposing the risk of meat borne diseases.
- Imposing ban on **cage system of layer faring** may perturb the private organizations to enter into this industry.

Fishery

Strength

- Sufficient waterbody

- Avaivality of Local Fish feed ingredients like Rice Bran
- Subsidy oriented SchemesLike NFDB,FFDA, RKVY etc
- Availability of Quality Fish seed from Local Hatcheries/ Fish seed producers

Weakness

- Shortage of staff
- Traditional method of Culture
- Agricultural return is high so people based only on fishery is limited
- Insufficient Knowledge of the Farmenr in scientific Pisciculture
- Utilization of Open cast colliary Pits
- Strengthening of Co-Opt. Socities
- High silt and regular natural calamities restrict the fish capture from the rivers
- Non availability of good quality fish seed specially for air breathing fishes
- Absence of fish processing and preserving facilities

Opportunity

- Opportunity of Training and motivation of Fishfarmers on scientific Pisciculture
- Scope of fishery in abandoned open cast mines in western zone of the district
- There is an opportunity of supply of fish seed to private hatcheries
- Ample scope of inland fishery in domestic tanks, reservoirs, canals, railway ditches, etc.
- Scope for promoting polyculture and freshwater prawn culture
- Sufficient scope for ornamental fish culture

Threat

- Poaching & Poisoning
- Outbreak of diseases
- Lack of insurance in Aquaculture
- Natural calamity is a major threat to capture fishery
- High siltation in the rivers restricts fish production

Sericulture

Strength

- Agro-climatic condition of western lateritic part of the district highly favour production of Tasar
- In 2008-09 Tasar production of Burdwan was highest in the State. About 186 acre Tasar plantation was done that year with target of 100 acre
- Both mulberry and tasar can be produced in the district
- Adequate funding for sericulture programme
- Adaptation of technology by the farmers is promising
- There are 2 Technology Service Centers (TSCs) in Kanksa and Aushgram-I block

Weakness

- Inadequate infrastructure – District office and TSCs are all located in rented premises
- Shortage of vehicle for transportation of cocoon to reeling and weaving centers of Birbhum
- Delay in implementation of need based schemes due to shortage of skilled and motivated manpower

- No marketing infrastructure in Burdwan – solely depends on the purchasers of Birbhum
- Inadequate IT infrastructure and trained manpower

Opportunity

- Potential of tasar production in Burdwan is very high
- The return from sericulture is high
- Arjun trees planted under Social Forestry Department in Durgapur sub-division can be used for Tasar cultivation if departmental tie up can be established at higher level
- Developing SHGs only for sericulture
- Arrangement of training, exhibition and exposure visit for SHGs
- With Tasar, the farmers can do intercropping with vegetables and other short-term crops for better financial return
- Development of Tasar cultivation in western part can prevent people from coal-stealing for livelihood

Threat

- Shortage of skilled and motivated manpower

Soil Conservation

Strength

- New and old alluvium soil in Ganga basin and Ajoy-Damodar valley respectively has high potential of agricultural production
- Clayey-loam soil of the eastern part good for paddy production
- Depth of soil is good

Weakness

- Indiscriminate and imbalanced use of fertilizers and pesticides has negative affect on soil making it acidic
- Sand deposition after flood water is a menace
- Internal drainage problem due to heavy sub-soil
- Inadequate government soil testing laboratory exists and it is cumbersome and time consuming for the farmers to get the test result
- Shortage of manpower in government laboratories

Opportunity

- Establishing more soil testing laboratory in the blocks on PPP mode can be beneficial
- Mobile soil testing van can be helpful

Threat

- Slowly the soil is losing potash content due to high phosphate content
- Loss of micro and macro nutrients from soil
- pH value of the top soil is slowly turning acidic due to high use of chemical fertilizer and chemical-mixed irrigation water
- Brick kiln by the river banks is posing major threat to soil conservation
- Flood poses a major threat due to riverbank erosion

Krishi Vigyan Kendra Burdwan

Strength

- KVK has multi disciplinary experts such as Agriculture, Animal Husbandry and Veterinary Science, Horticulture, Fisheries, Agril. Extension and Home Science.
- Development, validation and dissemination of location specific technology.
- Capacity building of practicing farmers, farm women, rural youth, adolescent girls and extension functionaries.
- Entrepreneurship development through skill based training.
- Certified seed production of paddy on KVK's instructional farm.
- Production of seedlings various horticultural crop such as cabbage, cauliflower, brinjal tomato and chilli.
- Organizes trainings, vocational training and skill based training in agril and allied sectors.
- Works for better and empowerment of farm women.
- Identification and promotion of farmer's.
- Mass vaccination of animals to eradicated endemic diseases.
- Fully furnished water and soil testing laboratory
- Demonstration units on KVK instructions form.

Weakness

- Fund is limited to undertake big development programme.
- Cannot cater to undertake big development programme.
- Due to limited staff KVK's working is restricted to certain pockets of the district.

Opportunities

- KVK can contribute to R&D as well as capacity building of the farmers in development of new technology. More over they can impart training on orchard, nursery management.
- Management and rejuvenation of old orchards.
- Capacity developments.
- Seed production.
- Entrepreneurship development.
- More multi disciplinary work can be undertaken by KVK.
- Outreach can be increased with strong linkage with line department.
- A well equipped tissue culture laboratory and home science lab will be benefit.

Threat

- KVK's location is not suitable
- Inadequacy of staff for covering the entire district

3.3. Accommodating SWOT

Strategies for accommodating SWOT into the comprehensive plan is as below,

Agriculture

- Soil reclamation and preserving soil quality for sustainable crop production
- Increasing cropping intensity with suitable intervention. Promotion of pulse crops to be largely enhanced
- Productivity augmentation through judicious fertilizer and pest management. Introduction of improved cultivars, dissemination of promising technologies, seed treatment, farm mechanisation
- Capacity building of extension workers for efficient dessimination of technologies
- Implementing strategies for producing more per quanta of land and water through judicious use of resources. Adoption of integrated farming methodologies wherever applicable for enhancing farmers income is called for.
- Correction of soil acidity by using Dolomites, basic slugs, ash etc should be undertaken judiciously so that the effect should be sustainable. Fly ash from the thermal power stations in Burdwan can be purchased in a very low price and can be distributed among the farmers in place of Dolomite. This will ensure more procurement and less expenditure on transport and procurement.
- Production of quality seed material through participatory approach
- Adoption of climate resilient technologies to cope up with climate change which is imminent
- More emphasis on red and lateritic zone for agriculture intensification through creation of water harvesting structures, watersheds etc.
- Value addition to agricultural produce to be given emphasis. SHGs, common interest groups, JLGs to be

Horticulture Sector

- Strengthening of horticultural department in the line of agriculture, ARD and fisheries department with block level officials and support staff
- Capacity building of farmers and extension workers for speedy development of horticulture in the district
- Protected cultivation techniques to be much strengthened
- Potential for horticulture development in the red and lateritic region is to be exploited. Extension of horticultural activities in this zone by supply of saplings (fruits and tree species) and undertaking plantation activities should be taken up. Plantation of *Arjun* in the lateritic zone can help the poor farmers, basically tribals by introducing Tasar cultivation in collaboration with Sericulture department.

- Emphasis to be given on production as well as marketing of high value horticultural crops
- Attention to be given on management of water resource through establishment of micro irrigation for fruit, plantation and vegetable crops.
- Entrepreneurship development through value addition to horticultural produces is to be pressed

Animal husbandry

- Breed up-gradation of livestock and poultry
- Capacity building of extension workers/ animal raisers for efficient dissemination of technologies
- Augmentation of productivity of livestock and poultry
- Emphasis on infrastructure of Artificial insemination
- Strengthening of animal feed resource through production of green fodder, preparation of home made concentrate feed and complete feed block
- Availability of medicines through *Pranibandhus* at the doorstep
- Provision for insurance and credit facility
- Strengthening of Post harvest operation including value addition of animal products
- Unorganised market should be converted into organised market linkages
- Removal of technological gap in nutrition, management and housing of poultry birds

Fishery

- Ensuring ready supply of quality fingerling in the district.
- Aquaculture based integrated farming modules to be implemented in all the excavated pond under MGNREGA scheme
- Entrepreneurship development in the area of fingerling production.
- Capacity building of fish farmers for improved techniques of fish production, including pond management, feed management, stocking species and density, multiple tire carp farming etc.
- Efficient marketing chain development through feasible cold chain establishment
- Entrepreneurship development in ornamental fish culture.
- Exploiting potential for fishery development in canals, enclosed large water bodies etc.

Agricultural marketing

- Partnership farming
- SHG/JLG/CIG mediated marketing strategy

- Infrastructural support for SHG/JLG/CIGs involved in production and marketing of agricultural produce

Sericulture

- Development of silvi-pastoral models with required plantation
- Ensure availability of seed
- Ensured availability of market

Credit & Cooperation

- Storage system for vegetables, followers etc. - Veg. godown & multipurpose godown is needed.
- Efficient linkage to be established between produced crops and marketing mainly for non-conventional crops.
- Farmers' club, adequate training, using modern – scientific technique for production of crops is needed.
- All the S.K.U.S.s should have well metal road connection for fertiliser business & other various purposed.
- Agro processing unit to form by Joint venture with S.K.U.S.s – if possible.
- PACS in the district should be promoted for all kinds of agricultural based activities, including production of seeds, distribution of fertilisers etc
- Credit linkages should be increased for the farmers so that they can market their products and a handsome amount

Irrigation

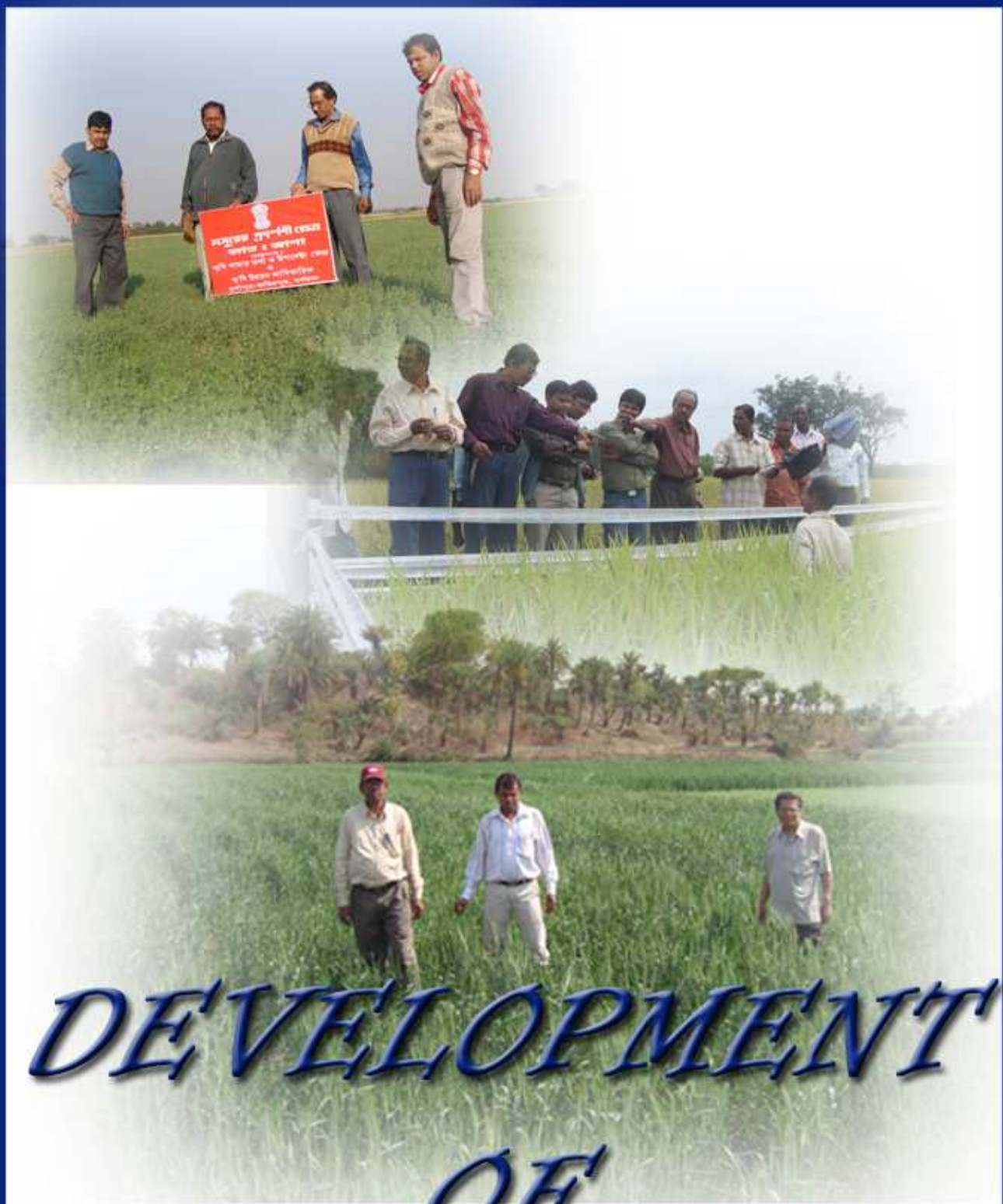
- Increase in minor as well as micro irrigation
- Construction of rain water harvesting structures
- Renovation of sub-canals
- Use of open cast pits in the lateritic zone

3.4. Growth drivers

The growth accelerators for agriculture and allied sectors have been decided after situation and trend analysis, and need assessment. Such growth drivers are presented below.

- Soil quality maintenance. Amelioration of problem soil
- Sustainable and judicious management of water resources.
- Popularizing resource conserving technologies.
- Increasing cropping intensity and intercropping.
- Promotion of integrated farming modules

- Development of suitable technologies such as varietal improvement, input management supported by a strong institutional arrangements for the supply of inputs like seed, fertilizers, plant protection chemicals, credit, etc, price support system favourable to farmers and market infrastructure for major crops like paddy, potato, maize, sugarcane, banana, vegetables, and fodder crops.
- Development of minor and micro irrigation
- Strengthening water harvesting structures like open cast pits, farm ponds, canals and check dams.
- Breed development of cattle
- Promotion of rural poultry
- Ensured availability of fodder
- Capacity building of farmers, traders, and other stakeholders on grading, post harvest technologies, value addition and market intelligence.
- Paradigm shift from production oriented farming to market oriented agriculture with the promotion of Agro processing industries.
- Ensured availability of quality fingerling
- Development of canal fisheries and fishery in open water bodies
- Strengthening the extension machinery for effective dissemination of technology.
- Strengthening of rural markets with storage facilities.
- Strengthening of farmers' market with additional storage facilities.
- Establishment of cattle feed units.
- Inland fisheries development in major tanks and reservoirs and
- Development of sericulture.



DEVELOPMENT OF AGRICULTURE

4.1. Introduction

Through oodles of rigorous revolutions and heaps of meticulous missions in food materials like green revolution in cereal crops, brown revolution in pulses, white revolution in milk, blue revolution in fish or missions like food security mission, horticulture mission, oilseeds and pulses mission India is now the leader or second best leader in gross production of many food and fibre materials like rice, wheat, cotton or animal products like milk, egg**.** But then we have to bear in mind that ours' is a country that harbours 17% of global population in only 2.3% land mass supported by 4% of fresh water resources and that we are some distance behind the leaders regarding productivity of food materials with our soils being relentlessly mined of essential nutrients while increasing the loads of nonessential or toxic ones. There is no denying the fact that the net cultivable area in the country of around 140 Mha is remaining constant or even squeezing on account of the pressures from urbanization, industrialization, infrastructure development, and to house the ever-increasing populace etc. Then loss of productive soil is another concern. Around 5 billion tonnes of soil is washed away every year taking away with it nearly 6 million tonnes of nutrients due to ill soil and water management practices.

According to the vision of Indian Council of Agricultural Research, the premier agricultural body in India, our country has to grow 345 million tonnes of foodgrains by 2030 from the present level of 263 million tonnes in 2013-14, meaning increase at a rate of more than 5%, to feed projected 1.6 billion mouths. Concerns are being voiced all over the country that contribution of agriculture and allied sector to the overall GDP is decreasing much rapidly. In fact the same has fallen from 53.7% in 1950-51 to 16.2 % in 2011-12 at factor cost at constant prices (2004-05).

The district of Burdwan plays an important role in production of food grain, particularly the rice in West Bengal it possesses an area of 11.30 in respect of total rice area and 13.34 percent of total production. It is contributing a lot of production in case of potato also. About 16.74 percent production of potato of West Bengal comes from Burdwan (2006 -07). But the production of pulse and oil seeds is not promising, which accounts for only 0.88 percent and 7.23 percent respectively. Moreover, there is improper development of agriculture in east and west. The eastern side has rich alluvial soil and canal irrigation which make the part very productive in comparison to western part which has unimpressive lateritic soils, lack of organic matter and irrigation water. Further, the eastern part is solely dependent on agriculture and business based on agri-products, but western part is depending upon industries – its coal mines, still plants, power generation plants, Locomotive industry etc which earn a handsome revenue for the district. This industry also supports the manual labourers (both technical and non-technical) for their sustainability. Though western part does not produce agricultural produces much, its food security is looked upon by the industrial wages.

4.2 Land use

The district both being an agrarian as well as industrial one, fairly large area in the district (25.2%) is under non-agricultural use. As compare to nearly 14% of total geographical area (TGA) under forest in the state, the district has only 4.14% area under forest. Though as compare to the districts of Bankura, Birbhum, Hooghly, Nadia, Murshidabad, Malda, North dinajpur, South Dinajpur and North 24 PGs, the district has much more area under forest; but in so far as total tree cover is concerned the district of Burdwan ranks at the very bottom with a meager 30% of TGA under tree cover. In view of the fact that, ideally atleast 33% of TGA should be under tree cover and the country at present has 27% area under tree cover, rapt attention is to be given so that the district becomes greener. The forest areas of the district are chiefly situated in the lateritic and red soil high lands in the Aushgram PS of Sadar Subdivision and in the Asansol subdivision. In Ausgram P.S. the forest areas are interspersed with paddy fields. The Durgapur forests are continued in the Birbhum district beyond the Ajay while the forest area in the Asansol subdivision forms a part of the forest area of Dumka District of Jharkhand.

Generally the soil of the eastern part of the district is pre-dominated with deep alluvium soil having higher clay content and high water holding capacity, sticky in nature. The soil is ideal for paddy cultivation.

Aman paddy is the common crop practiced in all 31 blocks of the district. In some of the blocks like Jamalpur, Memari I & II, Monaglkot, Ketugram II, Kalna I and Aus paddy is grown in the pre-kharif season. Boro paddy is grown in the winter season followed by Aman paddy. Boro is growing in 24 blocks. Among the Boro paddy growing blocks Manteswar, Bhatar, Managalkot, Burdwan I, Galsi I and II count for the major production.

Among other crops, jute is grown mainly in Kalna I & II, Purbasthali I & II, Katwa II blocks in Kharif season. Potato is another major crop grown in winter with a keen interest to grow in all blocks except in Salanpur, Barabani, Jamuria, Raniganj, Andal, Faridpur-Durgapur and to some extent Pandabeswar. The major area of potato is covered by Kalna I & II, Mangalkot, Memari I & II, Jamalpur and Raina II. The popular varieties of potato are Kufri-jyoti and Kufri-Chandramukhi. Among the oilseed crops sesame is grown after potato with residual moisture and in some cases with little irrigation. Mustard is also grown in winter season after the harvest of jute crop. Pulses are grown in few blocks like Ausgram, Ketugram and Purbasthali – I, with least importance. As reported, pulse cultivation is at its downfall now-a-days in Burdwan. Among the pulses, Bengal gram covers the major share. Lentil is given in few blocks but the area under cover is very low.

Table 4.1. Land use pattern of the district

Year	Reporting Area	Forest Area	Area under Non-agricultural use	Permanent pastures & other grazing land	Culturable waste land	Fallow land other than current fallow	Current fallow	Net area sown
2006-07	698.77	21.17	200.89	0.65	6.92	1.96	7.04	458.51
2007-08	698.76	21.17	206.02	0.31	7.58	1.96	7.40	452.04
2008-09	698.76	21.17	207.77	0.32	5.92	1.14	6.95	452.39
2009-10	698.76	21.16	208.53	0.22	5.60	1.37	4.98	454.11
2010-11	698.76	21.16	211.56	0.26	4.88	1.24	4.35	452.46

(Area in thousand hectares)

4.3. Soil health

Soil status of Burdwan

The soil of the district have been formed and enriched by the silt deposition of the river Ganga, Damodar, Ajay, Barakar, Khari, Banka and other small rivulets. There are 3 types of soil in the district –

(i) Gangetic Alluvium – This type of soil is found in this district along with river Ganges. This is predominant in Katwa and Kalna subdivisions.
(ii) Vindhya Alluvium – This alluvium soil is found between the rivers Ajoy and Damodar. This is created due to silt deposition of these two rivers.
(iii) Lateritic & Gravelly Soil – It is found in the Western part of the district which is highly porous and acidic in nature and deficient in organic matter. This soil is prone to erosion.

The Soil in the alluvium Zone is deep and fertile. In this region all type of crops are grown. As a matter of fact the district of Burdwan is called "Granary of West Bengal" because of high productivity of soil in this region. Fortunately this type of soil occurs in major parts of the district.

The western part of the district and some parts of Ausgram P.S. and Kanksa P.S. (Kanksa Block), Red and Lateritic Soil prevails with low fertility status resulting to low productivity. Undulated and terraced topography of land is found in this tract. Soil is porous with low moisture holding capacity. These factors coupled with drought prone nature has made it low in productivity. The average productivity of different crops in this tract are substantially low because of low fertility status of the soil.

The soils in the western part of the district is suffering from Soil Erosion to a great extent due to undulating nature of the land .Soil conservation measures should be taken to control the erosion of fertile soils and silting of rivers. Again, due to high

temperatures in summer and light texture of the soil , the organic matter content of the soils are very poor in the western part of the district.

In the district coarse-loamy soils including loamy sand, sandy loam, loam and silt loam textural class covered 21.1% area, while fine-loamy soils encompassing sandy clay loam, clay loam and silty clay loam textural class occupied another 33.6% area. Fine soils including sandy clay, silty clay and clayey textured soils embraced 42.1% area. Data on soil reaction showed that strongly (pH <4.5) and moderately acidic (pH 4.5 – 5.5) soils together were mapped in 46.3% area. Another 35.5 % area in the district was occupied by slightly acidic (pH 5.5 – 6.5) soils. Neutral (pH 6.5-7.5), slightly alkaline (pH 7.5-8.5) and alkaline (pH >8.5) soils were classified in 11.6, 2.5 and 0.9% area in the district, respectively. Results further highlighted that soils of 62.1% area of the district were high (>0.75%) in organic carbon, whereas medium (0.50-0.75%) and low (<0.50%) status of organic carbon was mapped in another 21.4 and 13.3% area, respectively.

Availability of nitrogen is high in 58.1% area (>450 kg ha-1), medium in 30.9% (280-450 kg ha-1) and low in 7.8% (<280 kg ha-1) area. Available phosphorus is low (<45 kg ha-1) in 50.0% area, medium (45 - 90 kg ha-1) in 25.7% area and high (>90 kg ha-1) in 21.1% area. Likewise availability of potassium is also low (<200 kg ha-1) in 57.4% area, medium (200 - 350 kg ha-1) in 27.7% area and high (>350 kg ha-1) in 11.7% area. Availability of sulphur is high (>15 mg kg-1), medium (10 - 15 mg kg-1) and low (<10 mg kg-1) in 64.0, 15.4 and 17.4 % area, respectively. Around 32.7% area in the district is deficient in zinc.

Soil maps of the district

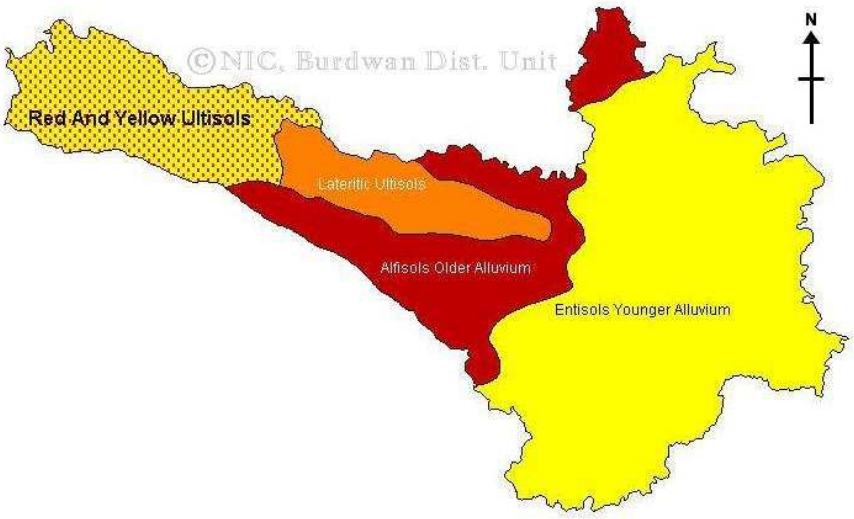


Fig. 4.1. Major soil classification in the district

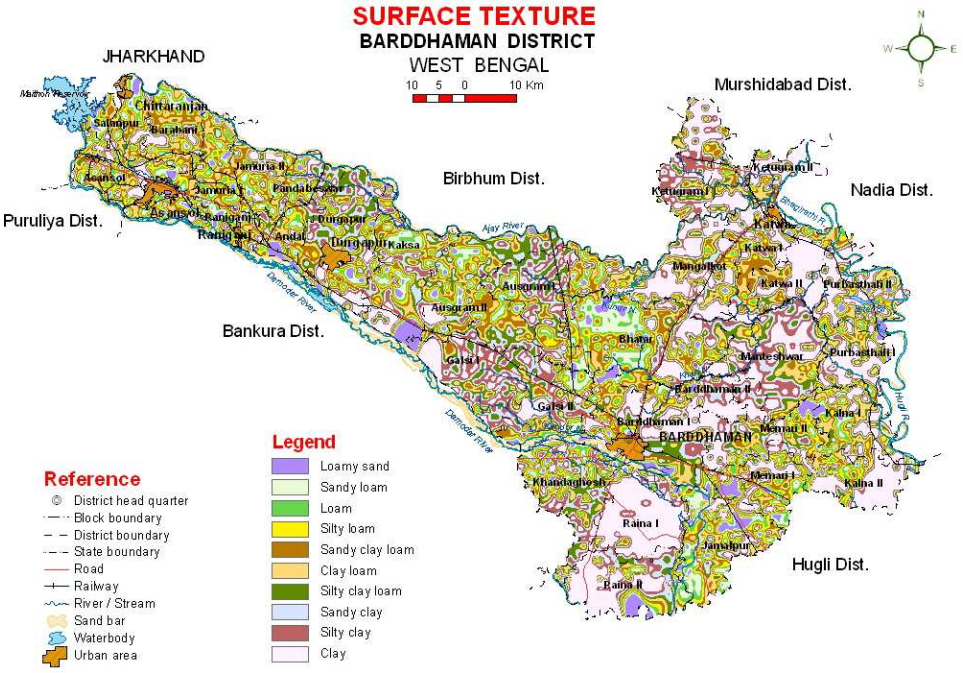


Fig. 4.2. Surface soil texture characteristics in the district

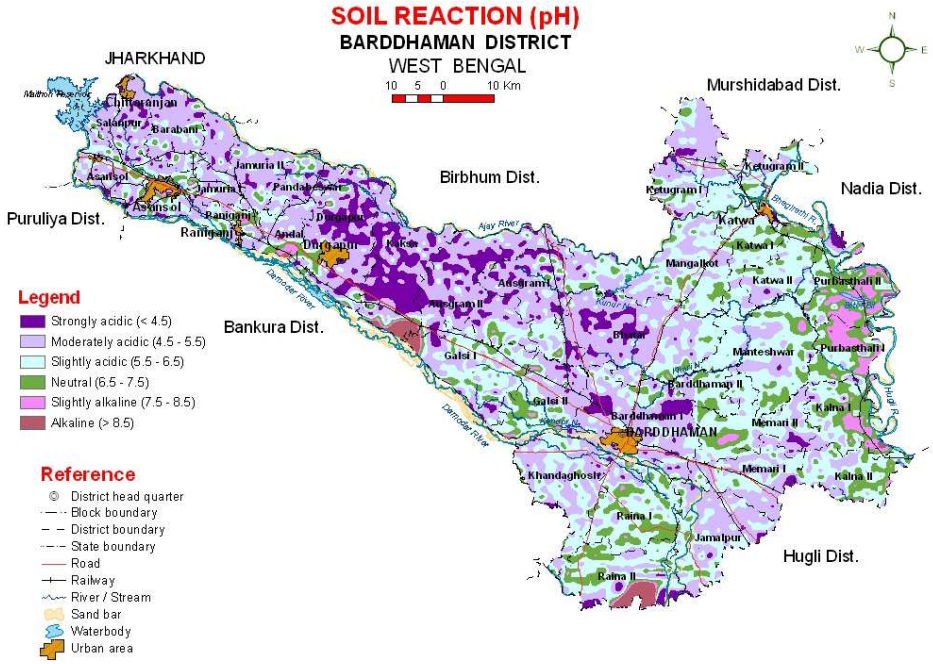


Fig. 4.3. Soil reaction map of the district

Fig. 4.4. Soil organic carbon map of the district

Fig. 4.5. Soil available nitrogen map of the district

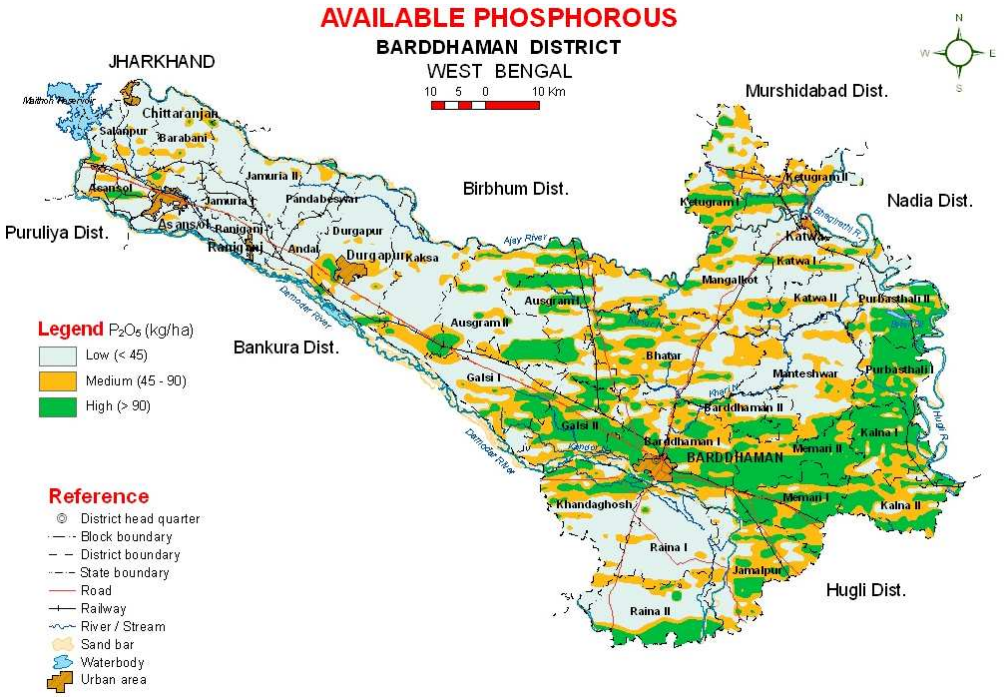


Fig. 4.6. Soil available phosphorus map of the district

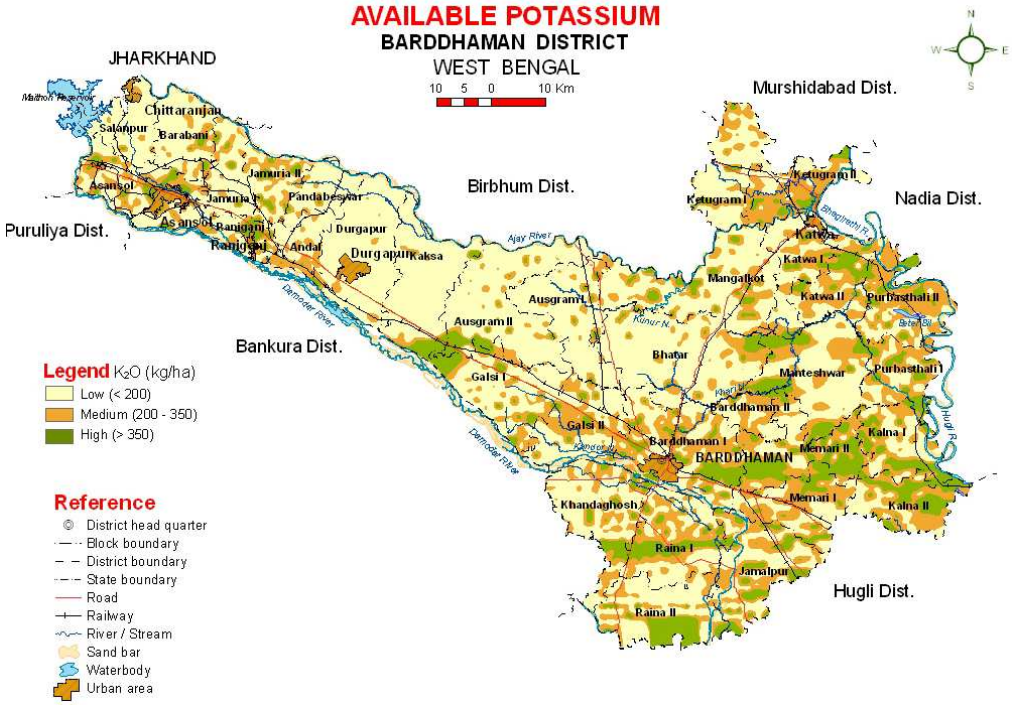


Fig. 4.7. Soil available potassium map of the district

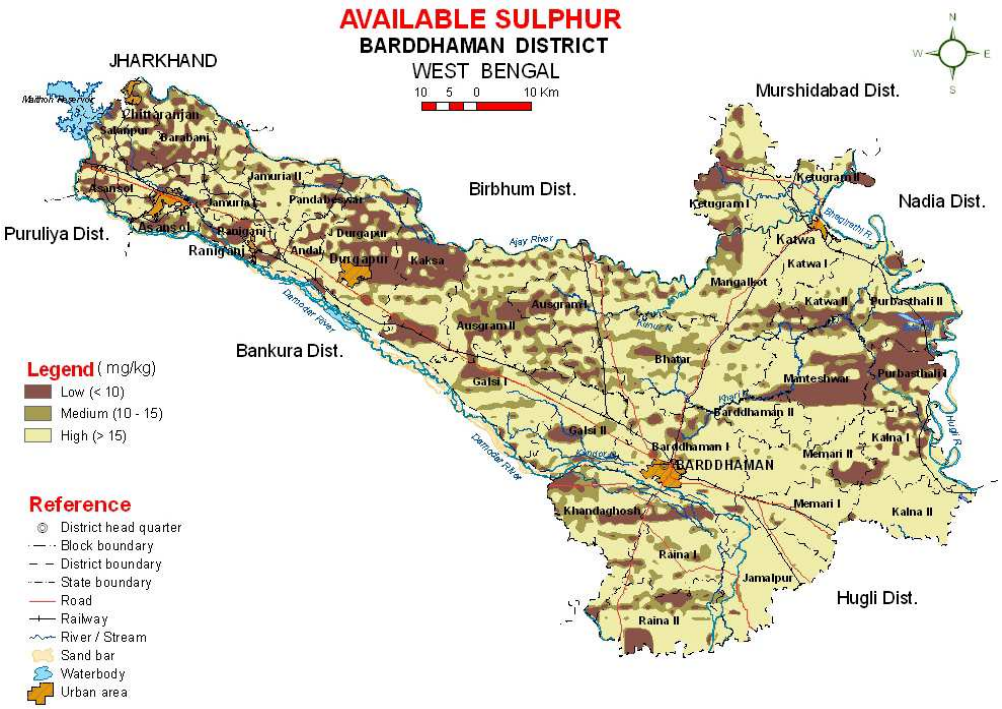


Fig. 4.8. Soil available sulfur map of the district

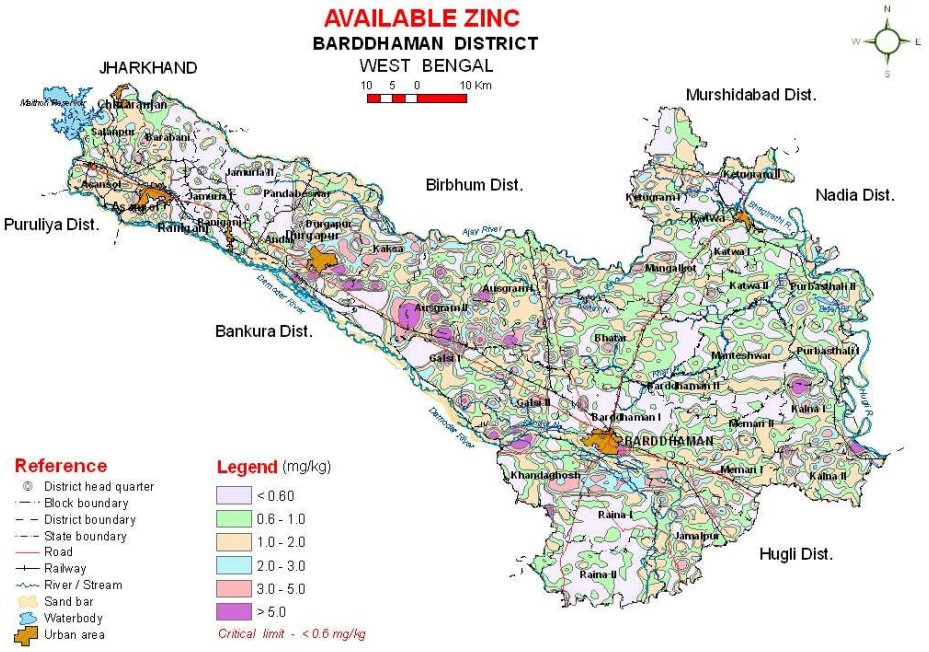


Fig. 4.9. Soil available zinc map of the district

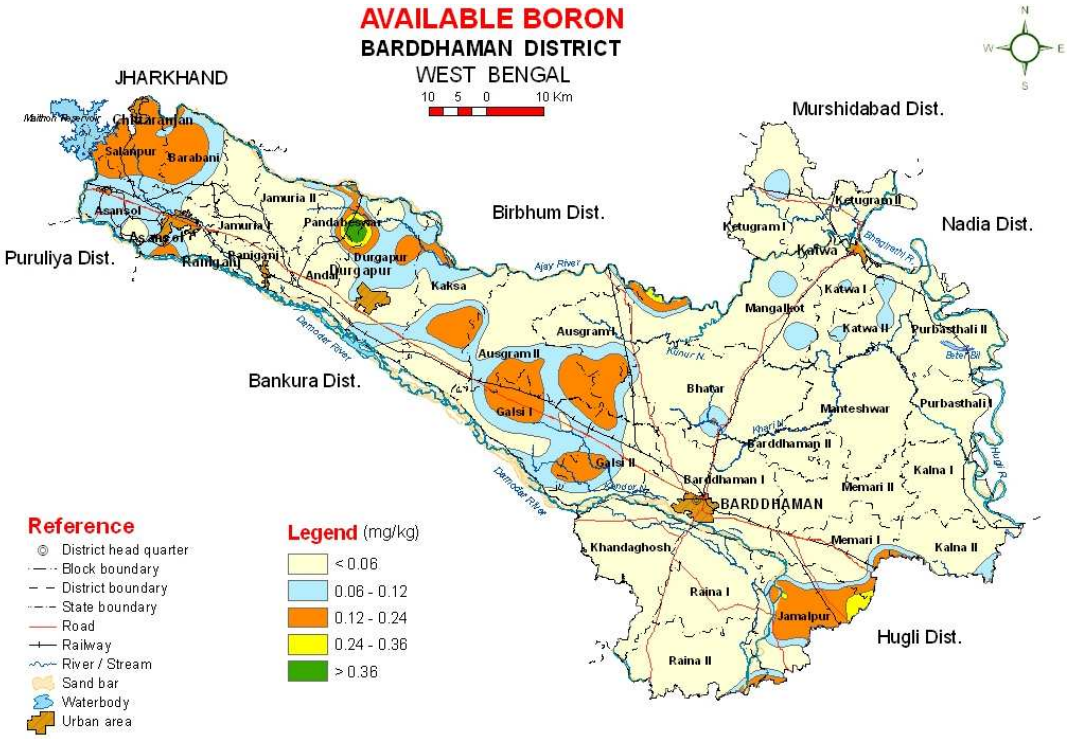


Fig. 4.10. Soil available boron map of the district

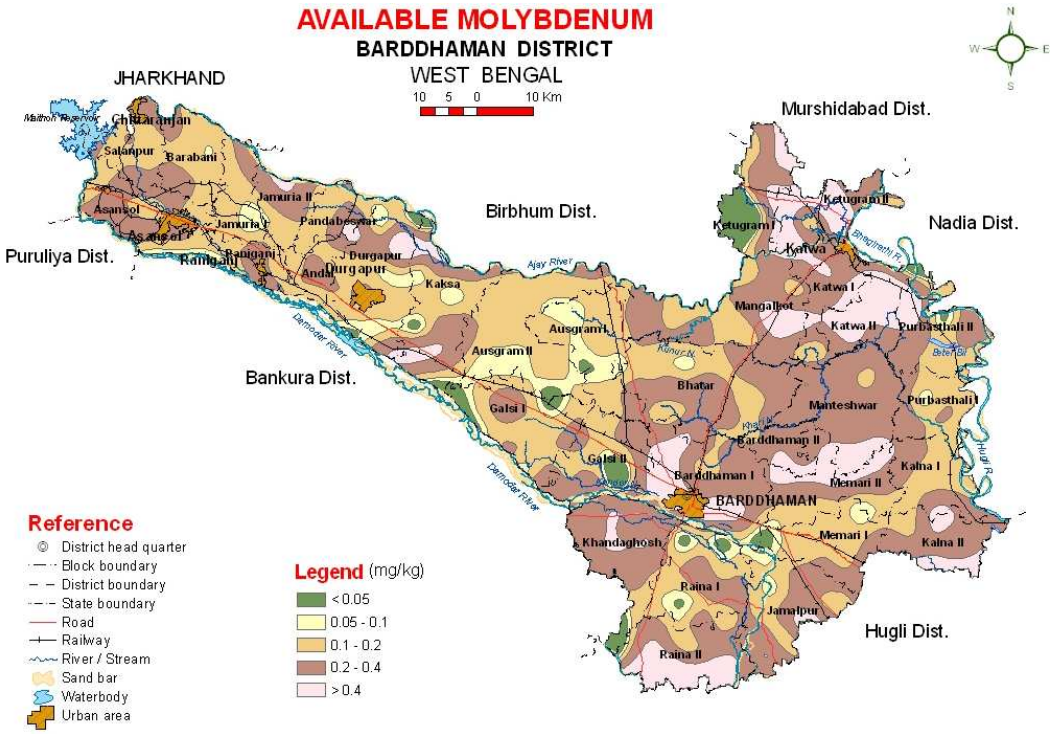


Fig. 4.11. Soil available molybdenum map of the district

Soil health management

No. of soil sample testing laboratory in Burdwan district: 3 (Three)

(a) Government – 1(One)
(b) Private – 2 (Two)

Table 4.2. Achievement of government soil testing laboratory

Name and Address of the Laboratory	Soil Testing Laboratory, District Seed Farm Campus, Kalna Road, P.O. & District - Burdwan, Pin-713 101, West Bengal
Annual Capacity	Static Laboratory – 10000 Nos. Sample, Mobile Laboratory – 2000 Nos. Sample
Year of Establishment	1964. This is one of the highly equipped laboratories in this State with modern sophisticated instruments including Atomic Absorption Spectrophotometer for micronutrient analysis.
Total samples received	4176 (including the samples from BGREI Scheme).
(i) From Extension Wing (ii) From Farmers directly (iii) From other sources (iv) Mobile Programme	3251 199 146 580
Total samples analysed	4176
Micronutrient Analysis (Zn, Fe, Mn, Cu)	2064
i) Only Zn analysis ii) Zn and Cu analysis iii) Zn, Fe, Mn, Cu analysis	1928 (Total 176 samples are identified as Zn deficient soil) 87 49
Mobile Soil Testing Van	Mobile Soil Testing Van was deployed in Krishi Melas at different blocks of Burdwan and Hooghly district and in Mati Utsab, 2013 held at Panagarh, Burdwan. Besides, we also conducted mobile soil testing programme covering some blocks of Burdwan district.
Lime Sample analysis	223 Nos.

Table 4.3. Reclamation and Development of acid soil

Name of block	Area under acid Soil (ha)	Area treated (ha) up to 2013	Balance Area (ha)
Andal	2400	500	1900
Aushgram-I	17950	4160	13790
Aushgram-II	14000	1000	13000
Barabani	7500	1500	6000
Bhatar	28248	2925	25323
Burdwan	26500	7800	18700
Faridpur-Durgapur	9540	2020	7520
Galsi-I	15600	2000	13600
Galsi-II	15050	1800	13250

Jamalpur	2000	200	1800
Jamuria – I	3000	1200	1800
Jamuria – II	5400	2500	2900
Kalna-I	900	200	700
Kalna-II	6500	25	6475
Kanksa	10000	2000	8000
Katwa-I	625	300	325
Katwa-II	2000	1500	500
Ketugram-I	1600	200	1400
Ketugram-II	1250	500	750
Khandaghosh	12000	1800	10200
Kulti	2000	200	1800
Memari-I	17184	4000	13184
Memari-II	18000	2000	16000
Mongalkote	22784	5696	17088
Monteshwar	17040	1080	15960
Purbasthali-I	1580	670	910
Purbasthali-II	3470	1200	2270
Raina-I	15100	2500	12600
Raina-II	11100	1665	9435
Salanpur	5000	500	4500
Total	**295321**	**53641**	**241680**

4.4. Water Resources & Management

There are many tanks, wells, canals, swamps and bils are found all over the district. Within the Damodar Valley region, there are around 17000 tanks. The Durgapur barrage and Mithon dam have formed two large reservoirs at the south-western and western periphery of the district. In this district there are two major source of irrigation –

1. Damodar Valley Command Area
2. Mayurakshi Command Area

Out of the 33 blocks, 20 blocks are irrigated by DVC area and 2 blocks, Ketugram I and II are by Mayurakshi Command area. Other sources of irrigation are Deep Tube well, shallow tube well, River lift Irrigation etc.

Ground Water

As per information received from the Water Resource Investigation Department it is understood that the surface water taping is only 11 percent. The blocks of surface water taping includes Barabani, Faridpur- Durgapur, Kanksa, Ausgram I & II, Salanpur Raniganj, Jamuria, Andal and Pandebeswar. The problem of rainwater harvesting is prominent in this district – non-availability of land is one of the major constraints in harvesting rain water. In the lateritic zone community land can be utilized for rain water harvesting structure.

The subdivision of Asansol and Durgapur are unfit for lifting groundwater. Bhatar, Monteswar, Ketugram I, Memari II, Purbasthali – II, and Mangalkot blocks are critical for lifting ground water under DTW. The problem of Arsenic infestation exists in Kalna – I and Burdwan Sadar, is almost saturated by irrigation through canal and ground water.

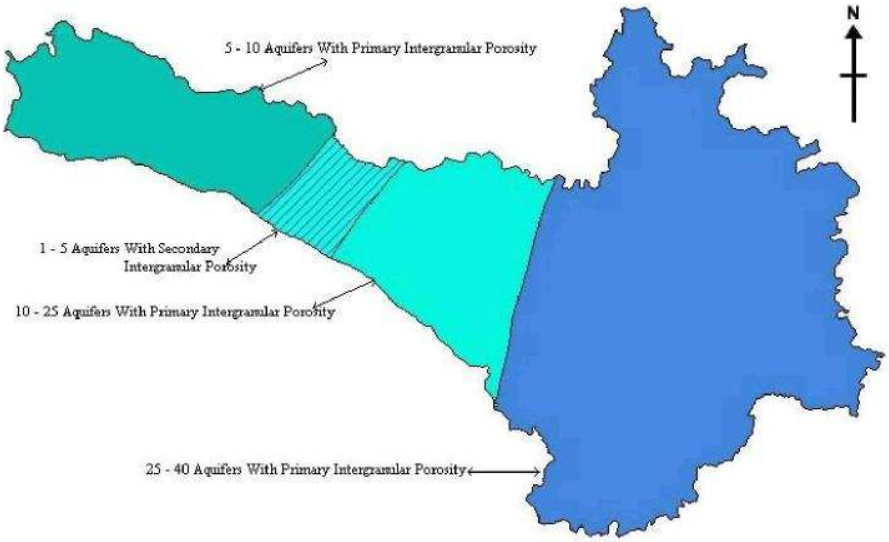


Fig. 4.12. Aquifer map of the district

4.5. Major Crops and Varieties in the District

Table 4.4. Prevalent cropping patterns in Burdwan district

ALLUVIAL REGION	RAINFED AREA (SUMMER – KHARIF – RABI)
(a) Upland	Fallow – Paddy/Vegetable – Mustard/Lentil/Wheat
(b) Medium Land	Fallow – Paddy – Pulse/Oilseed /Wheat
© Low Land	Fallow/Jute – Paddy – Pulse/Oilseed/Wheat
	IRRIGATED AREA
(a) Upland	Vegetable/Paddy/Jute – Paddy/Maize – Pulse/Oilseed/ Vegetable/Wheat/Potato/Onion
(b) Medium Land	Paddy/Sesamum/Jute – Paddy – Pulse/Oilseed/Vegetable/Wheat/Potato/Onion
© Low Land	Paddy/Jute – Paddy – Pulse/Oilseed/Vegetable/Wheat/Potato/Onion
LATERITIC REGION	RAINFED AREA
(a) Upland	Fallow – Paddy/Groundnut/Maize – Pulse/Mustard/ Kalai/Vegetable
(b) Medium Land	Fallow – Paddy – Mustard/Pulse/Paira Crops
© Low Land	Fallow – Paddy – Mustard/Lentil/Gram/Paira Crops

	IRRIGATED AREA
(a) Upland	Moong – Paddy/Maize/Vegetable – Mustard/Wheat/Maize/Pulse
(b) Medium Land	Moong/Vegetable/Maize – Paddy – Mustard/Wheat/Maize/Pulse/Potato
© Low Land	Moong/Vegetable – Paddy – Paddy/Vegetable/Pulse/Oilseed/Wheat

Table 4.5. Major crops and their varieties are given in the following table

Crop name	Varieties
Autumn Rice	Khitish, Satabdi, ratna
Winter Rice (HYV)	MTU 1010, IR 36, MTU 7029, CR 1010, GB 1
Summer Rice	MTU 1010, IR 36, IR 36, Ratna, Khitish, Lalat, IET 4786 4094
Wheat	UP 262, PBW – 443, Sonalika
Jute	JRO 524
Potato	Kufri Jyoti, Kufri Chandramukhi, Kufri Pokhraj
Mustard	B-9, B- 54
Til	Tilottama, Rama

Table 4.6. Crop coverage and production of different crops during

Sl. No.	**Name of Crop**	**2010-2011**		**2011-2012**		**2012-2013**	
		Coverage in Ha.	**Total Production In M.T.**	**Coverage in Ha.**	**Total Production In M.T.**	**Coverage in Ha.**	**Total Production In M.T.**
1.	Aus Paddy	39525	164938	42328	184508	42000	190302
2.	Aman Paddy	337971	1472407	391755	1797759	382136	1750583
3.	Boro Paddy	118380	531408	156620	642142	141290	656726
4.	Wheat	11470	33011	8830	21431	6620	16391
5.	Maize	882	1903	1113	2503	1007	2291
6.	Potato	71295	2558849	66845	1855150	72280	2010540
7.	Fibre Crops	9108	107195 Bales	9254	114035 Bales	9117	111866 Bales
8.	Oilseed	63479	71414	69364	73525	66896	77197
9.	Pulses	10032	8276	12061	8683	11309	8436
10.	Vegetable	61495	Not available	62197	Not available	59812	Not available
11.	Others	13432	-	14481	-	13302	-
	Total:	**737069**	**-**	**834848**	**-**	**805769**	**-**
	Cropping Intensity	**158.51%**		**179.54%**		**173.28%**	

Sub-division wise achievement and target of various crops

Sub division wise achievement and target of crop production in the district are given below,

4.7. Achievement and target of coverage & production of aus paddy

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	29600	35640	162327	29600	134817
Kalna	5200	4400	17864	5200	21112
Katwa	1600	1960	10111	1600	8254
Durgapur	350	-	-	350	1400
District Total	**36750**	**42000**	**190302**	**36750**	**165583**

4.8. Achievement and target of coverage & production of aman paddy (h.y.v.)

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	182750	163965	780186	178750	850537
Kalna	60400	56350	230167	60400	246710
Katwa	74000	68614	335042	73000	356459
Durgapur	69600	60335	303726	66400	334257
District Total	**386750**	**349407**	**1649121**	**378550**	**1787963**

4.9. Achievement and target of coverage & production of Aman paddy (local)

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	19300	28760	89337	19300	59951
Kalna	700	230	793	700	2415
Katwa	1900	1074	3327	1900	5886
Durgapur	4200	2665	7675	3400	9792
District Total	**26100**	**32729**	**101132**	**25300**	**78044**

4.10. Achievement and target of coverage & production of Boro paddy

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	90800	63250	305126	90800	438031
Kalna	38500	35800	146744	38500	157811
Katwa	33200	28935	145022	33200	166398
Durgapur	17500	13305	39888	17500	71732
District Total	**180000**	**141290**	**636780**	**180000**	**833972**

4.11. Achievement and target of coverage & production of Wheat

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	3800	2615	8323	3800	12095
Kalna	2700	1085	2007	2200	3712
Katwa	5850	1520	1659	2850	3110
Durgapur	1250	1400	3640	1850	4810
District Total	**13600**	**6620**	**15629**	**10700**	**23727**

4.12. Achievement and target of coverage & production of Kharif maize

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	45	14	42	30	90
Kalna	25	12	26.4	25	55
Katwa	-	-	-	40	88
Durgapur	755	440	1036.4	565	1243
District Total	**825**	**466**	**1264.0**	**660**	**1476**

4.13. Achievement and target of coverage & production of Rabi maize

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	30	31	62	35	70
Kalna	-	-	-	-	-
Katwa	25	-	-	25	50
Durgapur	230	270	614	265	603
District Total	**285**	**301**	**676**	**325**	**723**

4.14. Achievement and target of coverage & production of Summer maize

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	45	52	75	45	65
Kalna	-	-	-	-	
Katwa	-	-	-	25	36
Durgapur	335	188	376	245	490
District Total	**380**	**240**	**451**	**315**	**591**

4.15. .achievement and target of coverage & production of Gram

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	160	218	261	160	192
Kalna	260	240	180	260	195
Katwa	1100	870	1000	1100	1265
Durgapur	180	220	27	180	148
District Total	**1700**	**1548**	**1468**	**1700**	**1800**

4.16. Achievement and target of coverage & production of Lentil

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	2100	2545	2545	2100	2100
Kalna	2600	2250	2700	2600	3120
Katwa	900	977	715	900	658
Durgapur	400	330	216	400	262
District Total	**6000**	**6102**	**6176**	**6000**	**6140**

4.17. Achievement and target of coverage & production of Khesari

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	170	168	117	170	119
Kalna	370	300	240	370	296
Katwa	390	338	202	390	234
Durgapur	170	215	134	170	106
District Total	**1100**	**1021**	**693**	**1100**	**755**

4.18. Achievement and target of coverage & production of Kharif arahar

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	5	3	2.1	5	3.5
Kalna	30	15	10.5	35	24.5
Katwa	85	58	40.6	100	70
Durgapur	380	307	214.9	420	294
District Total	**500**	**383**	**268.1**	**560**	**392**

4.19. Achievement and target of coverage & production of Rabi arahar

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	-	-	-	-	-
Kalna	40	16	11.15	40	27.88
Katwa	50	42	29.27	50	34.85
Durgapur	50	15	10.45	45	31.36
District Total	**140**	**73**	**50.87**	**135**	**94.09**

4.20. Achievement and target of coverage & production of Kharif kalai

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	125	225	169	220	165
Kalna	200	215	174	155	126
Katwa	200	262	270	260	268
Durgapur	125	155	112	235	169
District Total	**650**	**857**	**725**	**870**	**728**

4.21. Achievement and target of coverage & production of Summer moong

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	100	141	70.5	100	50
Kalna	70	72	45	70	43
Katwa	290	128	87	290	197
Durgapur	40	4	2.4	40	24
District Total	**500**	**345**	**204.9**	**500**	**314**

4.22. Achievement and target of coverage & production of Pea

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	120	129	155	120	144
Kalna	280	270	351	280	364
Katwa	100	84	65	100	72
Durgapur	200	210	147	200	140
District Total	**700**	**693**	**718**	**700**	**720**

4.23. Achievement and target of coverage & production of Mustard

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	19000	18200	21264	19000	22192
Kalna	11200	10625	11156	11200	11760
Katwa	13500	11540	14425	13500	16875
Durgapur	2300	2105	2126	2300	2323
District Total	**46000**	**42470**	**48971**	**46000**	**53150**

4.24. Achievement and target of coverage & production of Summer til

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	13000	12650	12017	13000	12350
Kalna	4700	3515	4394	4700	5875
Katwa	4000	3505	4381	4000	5000
Durgapur	300	286	172	300	180
District Total	**22000**	**19956**	**20964**	**22000**	**23405**

4.25. Achievement and target of coverage & production of Kharif groundnut

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	-	-	-	-	-
Kalna	-	-	-	-	-
Katwa	-	4	4	5	5
Durgapur	70	36	36	50	50
District Total	**70**	**40**	**40**	**55**	**55**

4.26. Achievement and target of coverage & production of Rabi groundnut

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	-	5	6	10	12
Kalna	1625	1600	3520	1625	3575
Katwa	150	105	179	150	255
Durgapur	25	12	14	25	30
District Total	**1800**	**1722**	**3719**	**1800**	**3872**

4.27. Achievement and target of coverage & production of Summer groundnut

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	300	297	446	300	450
Kalna	150	14	21	150	225
Katwa	-	7	12	14	25
Durgapur	-	5	3	-	-
District Total	**450**	**323**	**482**	**464**	**700**

4.28. Achievement and target of coverage & production of Linseed

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Kalna	50	38	32	50	43
Katwa	170	92	39	170	71
Durgapur	10	15	10	10	7
District Total	**230**	**130**	**81**	**230**	**121**

4.29. Achievement and target of coverage & production of Sunflower

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	60	110	132	50	60
Kalna	10	12	22	15	27
Katwa	20	9	16	20	36
Durgapur	10	-	-	10	20
District Total	**100**	**131**	**170**	**95**	**143**

4.30. Achievement and target of coverage & production of Potato

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in M.T.)	Coverage (in ha.)	Production (in M.T.)
Burdwan	52100	53800	1655068	52100	1602752
Kalna	13000	13955	470244	13000	438061
Katwa	4100	3650	133772	4100	150265
Durgapur	800	875	29470	800	26944
District Total	**70000**	**72280**	**2288554**	**70000**	**2218022**

4.31. Achievement and target of coverage & production of Jute

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in Bales)	Coverage (in ha.)	Production (in Bales)
Burdwan	1025	350	4550	450	5850
Kalna	9100	7840	94080	8000	96000
Katwa	1820	820	11890	1500	21750
Durgapur	55	27	324	50	600
District Total	**12000**	**9037**	**110844**	**10000**	**124200**

4.32. Achievement and target of coverage & production of Mesta

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in Bales)	Coverage (in ha.)	Production (in Bales)
Burdwan	15	-	-	-	-
Kalna	10	15	150	20	200
Katwa	40	27	300	35	389
Durgapur	15	5	35	10	70
District Total	**80**	**47**	**485**	**80**	**659**

4.33. Achievement and target of coverage & production of Sunhemp

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)			Target (2013-2014)	
	Target (in ha.)	Achievement (in ha.)	Production (in Bales)	Coverage (in ha.)	Production (in Bales)
Burdwan	20	2	10	10	50
Kalna	-	-	-	-	-
Katwa	30	23	115	35	175
Durgapur	15	8	40	15	75
District Total	**65**	**33**	**165**	**60**	**300**

4.34. Achievement and target of coverage & production of Sugarcane

Name of the Sub-division	Target & Achievement of Coverage & Production (2012-2013)				Total Coverage (in ha.)	Production (in M.T.)
	Target (in ha.)		Achievement (in ha.)			
	New	Ratoon	New	Ratoon		
Burdwan	180	46	80	34	114	5700
Kalna	130	60	76	49	125	7750
Katwa	1480	350	911	273	1184	99456
Durgapur	156	74	37	17	54	3672
District Total	**1955**	**530**	**1104**	**373**	**1477**	**116578**

4.35. Target of coverage & production of Sugarcane

Name of the Sub-division	Target of Coverage & Production (2013-2014)			
	Target (in ha.)		Total	Production (in M.T.)
	New	Retoon		
Burdwan	150	46	196	9800
Kalna	110	60	170	10540
Katwa	1250	350	1600	134400
Durgapur	115	44	159	10812
District Total	**1625**	**500**	**2125**	**165552**

4.36. Achievement of coverage of Different Horticultural Crops during 2012-2013 In the District of Burdwan

Name of the Sub-division	Kharif Vegetable (in ha.)	Rabi Vegetable (in ha.)	Summer Vegetable (in ha.)	Turmeric (in ha.)
Burdwan	4700	8380	4010	82
Kalna	6650	11390	6180	63
Katwa	2395	3980	2177	21
Durgapur	3260	3800	2890	63
District Total	**17005**	**27550**	**15257**	**229**

4.36. Contd.

Name of the Sub-division	Kharif Chilli (in ha.)	Rabi Chilli (in ha.)	Summer Chilli (in ha.)	Zinger (in ha.)
Burdwan	392	371	162	71
Kalna	190	910	46	25
Katwa	53	107	40	27
Durgapur	157	185	175	53
District Total	**792**	**1573**	**492**	**176**

4.36. Contd.

Name of the Sub-division	Arum (in ha.)	Elephentfoot (in ha.)	Onion (in ha.)	Garlic (in ha.)	Spices (in ha.)
Burdwan	432	106	460	53	105
Kalna	257	117	2890	35	165
Katwa	486	14	1320	24	103
Durgapur	298	69	180	80	86
District Total	**1473**	**306**	**4850**	**192**	**459**

4.6. Input management

F e r t i l i z e r

Fertilizer is one of the major inputs and it plays a great role in accelerating the productivity of crops. The use of fertilizer for boosting up the crop production increased to many fold since its introduction but the farmers are not using the fertilizers in judicious manner. The imbalance use of fertilizers creates problems in physiochemical characteristics of soil, lowering down the soil pH and fertility status of soil. Fertilizers should be used along with organic manures adequately. Intregated approach of application of Organic Manure, Biofertilizer, Chemical Fertilizer and Micronutrient should be maintained to enhance the Soil health & Fertility.

Table 4.37. Total requirement of fertilizer in the from of N:P:K in the district of burdwan for pre-kharif and kharif crops during 2013-2014

Sl. No.	Name of fertilizer	Nitrogen (N) in M.T.	Phosphate (P2O5) in M.T.	Potash (K2O) in M.T.
1.	Urea (60398 M.T.)	27783	0	0
2.	S.S.P. (5069 M.T.)	0	811	0
3.	M.O.P. (14907 M.T.)	0	0	8944
4.	D.A.P. (17688 M.T.)	3184	8136	0
5.	Complex (31297 M.T.)	3130	8137	8137
	Total:	**34097**	**17084**	**17081**

Table 4.38. Total requirement of fertilizer in the from of N:P:K in the distirct of burdwan for rabi and rabi-summer crops during 2013-2014

Name of fertilizer	Nitrogen (N) in M.T.	Phosphate (P2O5) in M.T.	Potash (K2O) in M.T.
Urea (98268 M.T.)	45203	0	0
S.S.P. (45879 M.T.)	0	7341	0
M.O.P. (30735 M.T.)	0	0	18441
D.A.P. (25920 M.T.)	4666	11923	0
Complex (57440 M.T.)	5744	14360	14360
Total:	**55613**	**33624**	**32801**

Table 4.39. Block wise requirement of fertilizer in the from of N:P:K

Name of the Block	Pre-Kharif and Kharif Season			Rabi and Rabi-Summer Season		
	N	P2O5	K2O	N	P2O5	K2O
Burdwan	2266	1133	1133	5263	2945	2947
Ausgram-I	1349	675	675	1308	838	840
Ausgram-II	1619	810	810	914	536	538
Bhatar	2156	1079	1079	3520	1853	1844
Galsi-II	1308	654	654	2718	1446	1448
Jamalpur	1540	772	772	4826	3232	3235
Khandaghosh	1391	697	697	2236	1406	1409
Memari-I	1214	607	607	3590	2276	2277
Memari-II	1109	555	555	3174	2040	2041
Raina-I	1441	721	721	2467	1515	1520
Raina-II	1158	579	579	1734	1019	1015
Kalna-I	927	464	464	1947	1257	1277
Kalna-II	986	493	493	1390	1544	1567
Purbasthali-I	921	461	461	2162	1210	1230
Purbasthali-II	1365	685	685	2928	1652	1663
Monteswar	1626	813	813	3006	1555	1556
Katwa-I	1041	521	521	1518	866	879
Katwa-II	1006	503	503	1346	747	765
Ketugram-I	1118	560	560	1190	623	631
Ketugram-II	973	487	487	1839	981	990
Mongalkote	2074	1038	1038	3037	1692	1702
Faridpur-Durgapur	816	408	408	127	70	70
Kanksa	951	476	476	671	362	323
Asansol	129	65	65	190	99	100
Galsi-I	1243	622	622	2215	1122	1123
Barabani	489	245	245	77	42	43
Hirapur	107	54	54	166	88	88
Jamuria-I	246	123	123	67	37	38
Jamuria-II	494	248	248	133	79	80
Kulti	185	92	92	130	71	72

Salanpur	369	185	185	126	76	77
Andal	293	146	146	125	72	73
Raniganj	163	82	82	146	82	83

Table 4.40. Fertilizer use status of burdwan district

Rate of Fertilizer Use in Burdwan District:

Name of the Fertilizer (Nutrient)	2008-2009	2009-10	2010-11	2011-12	2012-13
Nitrogen	122.5 Kg. /Ha.	124.1 Kg. /Ha.	123.5 Kg. /Ha.	125.4 Kg. /Ha.	128.6 Kg. /Ha.
Phosphate	57.1 Kg. /Ha.	60.4 Kg /Ha.	59.1 Kg. /Ha.	62.2 Kg. /Ha.	58.4 Kg. /Ha.
Potash	48.6 Kg. /Ha.	47.6 Kg. /Ha.	52.3 Kg. /Ha.	46.6 Kg. /Ha.	44.8 Kg. /Ha.

Quality control of fertilizer

The Fertilizer Inspectors at different block level, Sub-division level and district level are keeping strict vigilance over the quality of fertilizer applied by the farmers to their crops for obtaining higher yield and the proper distribution of fertilizers through out the district. The Fertilizer Inspectors of the district draw fertilizer samples from 2171 Nos. of Dealers and Distributors' points randomly for analysis in Fertilizer Testing Laboratory (Tollygunge). The target of fertilizer sampling in respect of quality control of fertilizer is furnished on the next page.

Table 4.41. Block- wise Target of Fertilizer Sample Collection, 2013-14

Name of the Block	Target of Fertilizer Sample Collection during 2013-2014.
Burdwan	24
Ausgram-I	24
Ausgram-II	24
Bhatar	24
Galsi-II	24
Jamalpur	24
Khandaghosh	24
Memari-I	24
Memari-II	24
Raina-I	24
Raina-II	24
S.A.O's.Office,Burdwan(s)	24
Sub-division Total:	**288**
Kalna-I	24
Kalna-II	24
Purbasthali-I	24
Purbasthali-II	24
Monteswar	24
S.A.O's. Office , Kalna	24
Sub-division Total:	**144**
Katwa-I	24
Katwa-II	24
Ketugram-I	24
Ketugram-II	24
Mongalkote	24
S.A.O's. Office, Katwa	24
Sub-division Total:	**144**
Faridpur-Durgapur	12
Kanksa	24
Asansol	12
Galsi-I	24
Barabani	12
Hirapur	12
Jamuria-I	12
Jamuria-II	12
Kulti	12
Salanpur	12
Andal	12
Raniganj	12
S.A.O's. Office, Durgapur	12
Sub-division Total:	**180**
P.A.O's Office	**24**
District Total	**780**

Constraints in fertilizer distribution / availability in burdwan district

Day by Day, with the intensification of Crop Diversification Programme and enhancement of Cropping Intensity for Multiple Cropping System in this district, Consumption of Balance Fertilizers are increasing remarkably.

But it has experienced since last two years that availability of Fertilizers was by and large not so favourable as a result of which we had have to face problems due to disruption of supply chain, actually inadequate supply of fertilizers in the season of peak demands.

Supply of Fertilizers specifically IFFCO 10:26:26 to Co-operative Sector in this district should be enhanced as because the Co-operative Marketing Sectors is functioning very smoothly and properly for the interest of the Farming Community in this district.

Supply of Fertilizers with actual M.R.P in the remotest corner / villages of this district is a great problem. If we can able to make necessary arrangements for the same, then it will obviously play a major role to restrict mal practices in fertilizers distribution like, price hike / dearth situation.

Full time engagement of Fertilizer Inspectors with proper mobility provision / facility should be taken into consideration.Thats why, creation of a post of an Input inspector at Block level and a full time officer i.e., Assistant Director of Agriculture (Fertilizer) at District level is highly needed for proper monitoring of Fertilizer distribution.

Dearth of Fertilizer and price hike at consumer's point are being experienced for a short period due to uneven supply of fertilizers and tagging of other inputs by the companies which are not at all expected. The freight subsidy on roads should be disbursed at the time of supply up to the Block level. The forceful tagging of micronutrients/pesticide/sulphur/seed etc. along with the fertilizers creates tremendous problem although the companies denied to agree this. This should be stopped at any cost.

Plant protection chemicals

Plant Protection Chemicals have been deemed as one of the important inputs for sustaining the productivity and production of different crops. To avoid indiscriminate use of P.P. Chemicals causing human and animals health hazards, ecological imbalance, environmental pollution, affects the beneficial Bio-agents and resistance to pesticides etc., the unique system of Pest Management popularly known as "Integrated Pest Management (I.P.M.)" Scheme has in operation for the last two decades in many blocks of this district for controlling the pest population of major crops. The farmer's awareness is made in application of P.P. Chemicals only as preventive measures at critical condition except which the yield level may decline below the threshold level. However the quantum of Plant Protection Chemicals consumed during 2011-2012 is given below.

Table 4.42. Consumption of plant protection chemicals in burdwan district during 2012-13

Insecticides		Fungicides		Weedicides		Bio/Botanical pesticides	
Formulation	**Consumption**	**Formulation**	**Consumption**	**Formulation**	**Consumption**	**Type**	**Consumption**
Dust	10.4 M.T.	Dust	1.3 M.T.	Dust	2.5 M.T.	Tricoderma Viridi	3.45 M.T.
Liquid	189.25 K.L.	Liquid	121.6 K.L.	Liquid	89.45 M.T.	Pseudomonas flurosence	1.40 M.T.
Granular	105.8 M.T.	Granular	2.5 M.T.	Granular	1.67 M.T.	T. hurgeniu m	3.0 M.T.
W.P.	12.1 M.T.	W.P.	21.2 M.T.	W.P.	39.8 M.T.	Azadiracti n	46.25 M.T.

Table 4.43. Block- wise Target for Pesticide Sample Collection in Burdwan District

Name of the Block	Target of Pesticide Sample Collection during 2013-2014.
Burdwan	1
Ausgram-I	1
Ausgram-II	1
Bhatar	1
Galsi-II	1
Jamalpur	1
Khandaghosh	1
Memari-I	1
Memari-II	1
Raina-I	1
Raina-II	1
S.A.O's.Office,Burdwan(s)	10
Sub-division Total:	**21**
Kalna-I	1
Kalna-II	1
Purbasthali-I	1
Purbasthali-II	1
Monteswar	1
S.A.O's. Office , Kalna	7
Sub-division Total:	**12**
Katwa-I	1
Katwa-II	1
Ketugram-I	1
Ketugram-II	1
Mongalkote	1
S.A.O's. Office, Katwa	7
Sub-division Total:	**12**
Faridpur-Durgapur	1
Kanksa	1
Asansol	1
Galsi-I	1
Barabani	1
Hirapur	-
Jamuria-I	-
Jamuria-II	1
Kulti	-
Salanpur	1
Andal	1
Raniganj	1
S.A.O's. Office, Durgapur	6
Sub-division Total:	**15**
P.A.O's Office	**5**
District Total	**65**

Table 4.44. No. of Fertilizer, Seed and Pesticide dealers operating in different Blocks of Burdwan district

Name of the Block	Fertilizer			Seed	Pesticide
	Wholesale	Retail	Total		
Burdwan	16	128	144	31	83
Ausgram-I	7	55	62	14	40
Ausgram-II	3	36	39	1	10
Bhatar	5	135	140	25	116
Galsi-II	2	76	78	9	37
Jamalpur	5	134	139	16	141
Khandaghosh	9	98	107	16	65
Memari-I	7	93	100	25	84
Memari-II	3	80	83	10	41
Raina-I	4	111	115	11	78
Raina-II	5	79	84	7	60
Sub-division Total:	**66**	**1025**	**1091**	**165**	**755**
Kalna-I	3	77	80	15	95
Kalna-II	5	71	76	20	39
Purbasthali-I	8	94	102	16	30
Purbasthali-II	6	82	88	8	33
Monteswar	3	68	71	7	27
Sub-division Total:	**25**	**392**	**417**	**66**	**224**
Katwa-I	9	69	78	14	28
Katwa-II	2	57	59	5	12
Ketugram-I	3	36	39	NIL	7
Ketugram-II	1	49	50	1	2
Mongalkote	5	130	135	3	61
Sub-division Total:	**20**	**341**	**361**	**23**	**110**
Faridpur-Durgapur	2	36	38	6	15
Kanksa	3	46	49	4	14
Asansol	-	7	7	4	9
Galsi-I	5	60	65	6	25
Barabani	-	12	12	-	3
Hirapur	1	6	7	3	3
Jamuria-I	-	7	7	3	1
Jamuria-II	-	25	25	-	2
Kulti	-	2	2	4	4
Salanpur	-	8	8	3	2
Andal	-	14	14	6	6
Raniganj	1	3	4	3	7
Sub-division Total:	**12**	**226**	**238**	**42**	**91**
District level dealers	**64**	**-**	**64**	**18**	**-**
District Total:	**187**	**1984**	**2171**	**314**	**1180**

Seed

Seed is an important constituent of one of the vital inputs in Agricultural Production. The use of quality seed alone can boost up 10% to 30%. crop production. Quality Seed Production Programme has been undertaken by several Govt., Semi-Govt. and Private Institutions like Government Farm, West Bengal State Seed Corp. Ltd., Co-operative Societies and Private Farms in the district.

The quantum of quality seeds production in the district is not adequate enough to cater the needs of farmers. Samabai Krishi Unnayan Samities and farmers are encouraged by the Extension Agencies to extend their hands of co-operations in undertaking the quality seed production programme in the district and also to use certified seeds in their farms for better production.

Quality control of seeds

Seed is the basic and primary unit for enhancement of production of crops by using quality seeds as far as practicable. In order to keep regular strict vigilance over the standard of seed either produced in the district or marketed in the district trade channels, the Seed Inspectors draw samples of seeds for testing. The Agricultural Development Officers, Subject Matter Specialists, Sub-divisional Agricultural Officers and District level Officers draw samples of seed of different kinds and varieties from the 314 numbers of sale points. The target for seed sampling during 2013-2014 has been fixed which is given on next page.

Table 4.45. Target of Seed Sample collection in Burdwan District (Block wise)

Name of the Block	Target of Seed Sample Collection during 2013-2014
Burdwan	10
Ausgram-I	10
Ausgram-II	10
Bhatar	10
Galsi-II	10
Jamalpur	10
Khandaghosh	10
Memari-I	10
Memari-II	10
Raina-I	10
Raina-II	10
S.A.O's.Office,Burdwan(s)	20
Sub-division Total:	**130**
Kalna-I	10
Kalna-II	10
Purbasthali-I	10
Purbasthali-II	10
Monteswar	10
S.A.O's. Office , Kalna	20

Sub-division Total:	**70**
Katwa-I	10
Katwa-II	10
Ketugram-I	10
Ketugram-II	10
Mongalkote	10
S.A.O's. Office, Katwa	20
Sub-division Total:	**70**
Faridpur-Durgapur	5
Kanksa	10
Asansol	5
Galsi-I	10
Barabani	5
Hirapur	5
Jamuria-I	5
Jamuria-II	5
Kulti	5
Salanpur	5
Andal	5
Raniganj	5
S.A.O's. Office, Durgapur	10
Sub-division Total:	**80**
P.A.O's Office	**80**
District Total	**430**

Table 4.46. Total No. of Seed Samples analysed by the Seed Testing Laboratory, Burdwan during the last 10 years

Year	No. of seed samples received	No.of seed samples analysed
2003-2004	8262	6567
2004-2005	10526	8302
2005-2006	10734	8432
2006-2007	11419	7362
2007-2008	10612	7051
2008-2009	10837	6552
2009-2010	12476	9740
2010-2011	18545	10586
2011-2012	20861	13364
2012-2013	23419	16667

Table 4.47. Seed Production at Block seed farm

Name of the Block	Crop	Seed production during 2013 (q)	Proposed Seed Production (q)		
			2014-15	2015-16	2016-17
Aushgram-I	HYV Paddy	145	155	160	165
	Potato	71.5	150	150	160

	Mustard	1.6	10	11	12
	Til	7.15	10	11	10
	Wheat	3.48	5	5.5	6.0
Aushgram-II	Rice- 16.5 Acre	105	160	170	200
	Mustard- 5Acre	2.10	4	6	8
Bhatar	Aman Paddy	134.7	125	127	129
Galsi-I	Paddy	135	500	550	600
Jamalpur	Aman Paddy(2.8)	68.00	90.00	110	130
	Mustard (2.4)	7.46	20	30	40
	Potato(1.0)	60.00	200	250	300
	Til (1.6)	6.49	15	20	25
Kalna-I	Paddy	157.910	173	158	158
	Mustard	5.245	6	7	7.5
	Lentil	1.835	2	2.5	3
	Potato	82.97	90	95	95
Ketugram-I	Paddy(6 Acre)	78.8	82	85	85
	Potato(1.25 Acre)	7.5	25	30	30
	Mustard (2Acre)	0.92	1	1.1	1.1
	Til(4.5 Acre)	1.97	2	2	2
Ketugram-II	Paddy (MTU-7029) 1.6 Ha.	59.2	70	84	100
	Till 0.4 Ha.	0.85	1	1.1	1.2
Memari-I	Paddy	97	130	135	145
	Potato	178.5	200	210	220
	Mustard	0.83	3	3.5	4
	Til	0.5	1.5	1.5	2
Memari-II	Aman Paddy	76.05	76.05	76.05	76.05
Mongalkote	Aman Paddy	103.30	120	125	125
	Mustard	3.07	3.5	3.75	3.75
	Sesame	3.05	3.5	3.75	3.75
Monteshwar	Paddy	73.20	100	100	100
Purbasthali-I	Paddy	159.47	116	124	130
	Lentil	5.00	6.00	6.00	7.00
	Potato	12.30	20.00	28.00	30.00
Purbasthali-II	Paddy	67	80	85	90
	Pulse	0.45	1	1	1
Raina-I	Paddy	200	110	120	130
Raina-II	Paddy	74.51	80	90	105
	Til	3.2	4	5	5.5
Total		**2202.11**	**2950.55**	**3183.75**	**3445.9**

Table 4.48. Seed Production under trial cum demonstration

Name of the Block	Crop	Seed production during 2013(q)	Proposed Seed Production (q)		
			2014-15	2015-16	2016-17
Aushgram-I	Paddy	35500	37000	40000	42000
	Moong	--	10	20	30
	Mustard	1650	1700	1700	1750

Aushgram-II	Paddy	32400	35000	37000	40000
Bhatar	Kh Paddy	27000	22500	22950	23409
	Boro	10000	15000	15300	15606
	Mustard	1062	1100	1122	1145
Burdwan	Paddy	--	1000	1500	2000
	Potato	--	5000	8000	12000
	Mustard	--	100	200	500
Faridpur-Durgapur	Paddy	14400	15000	15000	15000
	Wheat	1200	2800	3000	3000
	Mustard	75	100	100	100
	Maize	230	250	250	250
Galsi-I	Paddy	30500	31000	32000	35000
Galsi-II	Paddy	28500	30000	32000	34000
Jamalpur	Paddy	16000	20000	22000	24000
	Potato	750	1000	5000	10000
	Mustard	--	50	100	150
	Til	--	50	150	250
Kalna-II	Paddy	840	1200	1500	2000
Katwa-I	Paddy	1000	1250	1500	1750
	Mustard	--	50	75	100
	Sesame/Til	--	50	75	100
	Lentil	--	10	15	20
Katwa-II	Paddy	5000	5750	5800	6000
	Pulse	100	216	230	250
	Oil seed	100	175	200	250
Ketugram-I	Paddy	5000	10000	15000	20000
	Mustard	60	120	180	240
	Sesame	80	160	240	320
Ketugram-II	Aus Paddy	850	850	1150	1300
	Aman Paddy	--	150	200	250
	Boro Paddy	--	100	150	200
	Mustard	--	10	15	20
	Till	--	8	10	12
	Pulses	--	3	5	7
	Sugarcane	--	220	250	300
Memari-II	Kh Paddy	27000	22500	22950	23409
	Boro	10000	15000	15300	15606
	Mustard	1062	1100	1122	1145
Mongalkote	Aman Paddy	5000	5200	5200	5300
Monteshwar	Paddy, Mustard	270250	30000	32000	34000
Raina - I	Paddy	6200	8000	9000	10000
Total		**462259**	**247072**	**270839**	**298989**

4.7. Farm Mechanization/ Farm equipments

In order to achieve the desired production growth, farm mechanization is mightily important. Mechanization in agriculture helps in increasing production, productivity and profitability in

agriculture by achieving timeliness in farm operations, bringing precision in metering and placement of inputs, reducing available input losses, increasing utilization efficiency of costly inputs (seed, chemical, fertilizer, irrigation, water etc.), reducing unit cost of produce, enhancing profitability and competitiveness in the cost of operation. It also helps in the conservation of the produce and byproducts from qualitative and quantitative damages; enables value addition and establishment of agro processing enterprises for additional income and employment generation from farm produce. It is one of the important inputs to usher in all round development in the rural India.

Importance of farm mechanization

The efficiency of mechanization can be judged from the fact that modern plough is about 200 to 300 % efficient than indigenous plough, efficient machinery helps in increasing productivity by about 30% besides, enabling the farmers to raise a second crop or multi crop making the Indian agriculture attractive and a way of life by becoming commercial instead of subsistence. There is a need to double the food production by 2020. This will call for raising more crops in a year thus limiting the turn around time. Increased production will require more use of agricultural inputs and protection of crops from biotic and abiotic stresses. This will call for greater engineering inputs which will require development and introduction of high capacity, precision, reliable and energy efficient equipment

Earlier, it was considered that mechanization creates unemployment. The myth has been broken and it has been observed that, agricultural mechanization besides increasing production and productivity, also generates income and employment opportunities. Several studies conducted in different parts of India have shown that mechanization has helped in increasing production, productivity, generation of income and employment. Punjab, a highly mechanized state, employs 7.0 lakh laborers from adjoining states, out of which 3.5 lakh are employed on a regular basis and remaining during the main cropping season.Total farm power availability has increased from 0.25 kW/ha in 1951 with animate power contributing 97.4 percent to 1.15 kW/ha in 1997 with animate sources contributing only 22.7 percent, mechanical sources 43.5 percent and electrical sources 33.8 percent.

The availability of draft animals is reducing, thus shortfalls have to be met mostly through electromechanical power sources. The number of land holdings is increasing and holding size has declined from 2.30 ha in 1970-71 to 1.57 ha in 1990-91. Small (1 to 2 ha) and marginal (below 1 ha) farms numbering 78 per cent of the total number of holdings, cultivate only 32.1 percent of the area; whereas 20.4 percent medium farms (2 to10 ha) account for 50.4 percent of the cultivated area and 1.7 percent large farms (above 10 ha) account for 17.5 percent of the cultivated area.

However, it is heartening to note that average emerging land holdings are large enough for mechanized farming as evidenced in Punjab and Haryana.As discussed in the earlier paragraph, one of the major constraints of increasing agricultural production and productivity is the inadequacy of farm power and machinery with the farmers. The average farm power availability needs to be increased from the current 1.15 kW/ha to at least 2 kW/ha to assure timeliness and quality in field operations, undertake heavy field operations like sub soiling, chiseling, deep ploughing, summer ploughing, handling agricultural produce and byproducts

efficiently, process them for value addition, income and employment generation. All these works in agricultural operations is possible to be attended only when adequate agricultural mechanization infrastructure is created.

The plan for farm mechnisation is given under infrastructure and asset development plan for the district blockwise including other type of infrastructural development plans.

4.8. Special Projects/ Programmes on- going in the district

Various programmes are currently under way in the district sponsored by either state or central government for development of agriculture and allied sectors, such as,

- Bringing green revolution to eastern India
- Integrated Scheme for Oilseeds, Pulses and Maize
- FIAC
- Crop Diversification Programmme under Rainfed and Dryland
- National food security mission
- FSSM
- OTA- Small implements
- OTA-EAP
- Agricultural Technology Management Agency
- Accelerated development in minor irrigation
- Soil Health Management
- Farm Mechanisation
- CRF
- Relief Fund
- Jute Mini Mission-II
- OTA-Electrical connection
- Rashtriya Krishi Vikash Yojna
- SEED VILLAGE
- Special Jute Development Programme
- Animal Health Camp
- Bishes Go Sampad Bikash Avijan
- Improvement of Livelihood through Pig Farming
- Improvement of Livelihood through Goat Farming
- Intensive sheep/ goat production
- Distribution of Chick/Duckling among Women SHG
- Centrally Sponsored Rural Backyard Poultry Development
- Mobile Veterinary Clinic (MVC)
- Strengthening of bio-security practices in Govt. Poultry Farms
- Assistance to State for Control of Animal Diseases (ASCAD)
- Fish culture in backyard pond
- Distribution of Hygenic insulated box
- Beel fisheries
- Distribution of fingerling in large water bodies

- Distribution of net and handies
- Polyculture in MGNREGA pond
- Farmers' Old Age Pension Scheme

Below is a brief financial accomplishment of the major programmes

Table 4.49. Financial achievement of major special schemes

Name of the Scheme / Sub-scheme	2012-2013		2013-2014
	Fund Sanctioned / Received (Rs. in Lakh)	Fund utilized (Rs. in Lakh)	Proposed Financial Target (Rs. in Lakh)
R.K.V.Y	1527	1512	150.00
BGREI	1154.1084	1145.1084	As received from the H.Q.
OTA- EAP	216.00	41.04	174.96
FSSM	664.25	550.45	275.00
OTA- Small Implements	150.00	105.25	150.00
National Food Security Mission (NFSM)- Pulse	12.593	10.360	30.00
Natural Calamity Fund	39.6	39.6 (Liability)	-
Farmers' Old Age Pension(FOAP)	303.9975	297.0225	342.45
ISOPOM	18.6218	18.4716	30.00
Diversified Cropping Programme	17.7479	17.7479	20.00
Farmers' Son Training Programme	2.25	2.25	2.5
Field oriented Farmers Group Meeting	0.8	0.8	2.5
Agril Training Camp under Rural Mass Education	2.0	1.7	3.0
Jute Technology Mission under MM-II	8.7	6.63520	15.91

Name of the Scheme: ISOPOM, 2012-2013 in Burdwan District

Table 4.50. Oil seed development

Name of the work component	Target		Allotment		Achievement	
	Phy.	Fin. (Rs. In Lakh)	Phy.	Fin. (Rs. In Lakh)	Phy.	Fin. (Rs. In Lakh)
2.	3.	4.	5.	6.	7.	8.
(a) Certified Seeds Production	50 Qtl.	0.5	50 Qtl	Nil	-	-
(b) Mustard D/C	175 ha.	3.5	175 ha.	3.5	175 ha.	3.5
(c) Groundnut D/C	70 ha.	2.8	70 ha.	2.8	70 ha.	2.8

(d) Sunflower D/C	60 ha.	1.5	60 ha.	1.5	60 ha.	1.5
(e) Sesame D/C	350 ha.	5.25	350 ha.	5.25	350 ha.	5.25
(f) Farmers' Training	4 Nos.	0.6	4 Nos.	0.6	4 Nos.	0.6
(g) Officers' Training	1 No.	0.16	1 No.	0.16	1 No.	0.16
(h) IPM D.C.	1 No.	0.2268	1 No.	0.2268	1 No.	0.22664
(i) P.P. Chemicals	475 ha.	2.375	475 ha.	-	475 ha.	-
(j) P.P. Equipments	70 nos.	0.56	-	-	-	-
(k) Rhizobium / P.S.B.	600 ha.	0.6	600 ha.	-	600 ha.	-
(l) Micronutrients	150 ha.	0.75	150 ha.	-	150 ha.	-
(m) Implements (Power Driven)	10 nos.	1.5	-	-	-	-
(n) Seed Bins	100 nos.	2.0	-	-	-	-
(o) Pipe for carrying water	75 units	11.25	-	-	-	-
Modified programme:						
(a) Sunflower D/C	50	3.69	50	-	50	-
(b) Sesame(Til) D/C	75	2.92275	75	-	75	-

Table 4.51. Maize development

(a) Maize D/C	60 ha.	2.4	60 ha.	2.4	60 ha.	2.4
(b) Farmers' Training	3 Nos.	0.45	3 Nos.	0.45	2 Nos.	0.3
(c) Officers' Training	1 No.	0.16	1 No.	0.16	1 No.	0.16
(d) P.P. Chemicals	60 ha.	0.3	60 ha.	0.3	60 ha.	0.3
(e) P.P. Equipments	20 Nos.	0.16	-	-	-	-
(f) Dolomite / Pyrites	30 ha.	0.225	30 ha.	0.225	30 ha.	0.225
(g) Rhizobium / P.S.B.	200 ha.	0.2	200 ha.	0.2	200 ha.	0.2
(h) Micronutrients	50 ha.	0.25	50 ha.	-	50 ha.	-
(i) Pipe for carrying water	20 Units	3.0	-	-	-	-
Total		**47.32955**		**17.7718**		**17.62164**
Operational Cost		**0.85**		0.85		0.85
Grand Total				**18.6218**		**18.47164**

Table 4.52. Performance of Minikits supplied under the scheme- ISOPOM, 2012-2013.

Name of the crop & variety	No. of Minikits supplied	Lowest yield Kg/ha	Highest yield Kg/ha	Average yield Kg/ha
Maize Minikit Var- PEHM-5	1000 Nos. @ 2 kgs.	1940	2850	2660
Maize Minikit Var- HQPM-1	750 Nos. @ 2 kgs.	1890	2920	2750
Mustard Minikit Var- JD-6	2000 Nos. @ 2 kgs.	1140	1750	1520

Number of farmers benefited in the scheme: ISOPOM, 2012-2013 in Burdwan District under oilseed development and maize development are as below,

Table 4.53. Oil seed development

Sl. No.	Name of the work component	Male				Female				Grand Total
1.	2.	Gen	SC	ST	Total	Gen	SC	ST	Total	
1.	(a) Certified Seeds Production	-	-	-	**-**	-	-	-	**-**	**-**
2.	(b) Mustard D/C	742	162	83	**987**	242	54	30	**326**	**1313**
3.	(c) Groundnut D/C	271	61	33	**365**	118	27	15	**160**	**525**
4.	(d) Sunflower D/C	206	48	25	**279**	122	33	16	**171**	**450**
5.	(e) Sesame D/C	1342	329	171	**1842**	583	129	71	**783**	**2625**
6.	(f) Farmers' Training	102	28	13	**143**	48	13	6	**67**	**210**
7.	(g) Officers' Training									
8.	(h) IPM D.C.	28	8	3	**39**	13	4	3	**20**	**59**
9.	(i) P.P. Chemicals	1879	412	199	**2490**	797	182	94	**1073**	**3563**
10.	(j) P.P. Equipments	-	-	-	**-**	-	-	-	**-**	**-**
11.	(k) Rhizobium / P.S.B.	2379	509	264	**3152**	1013	222	113	**1348**	**4500**
12.	(l) Micronutrients	583	129	72	**784**	256	56	29	**341**	**1125**
13.	(m) Implements (Power Driven)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
14.	(n) Seed Bins	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
15.	(o) Pipe for carrying water	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Modified programme:									
16.	(a) Sunflower D/C	**183**	52	25	**260**	80	23	12	**115**	**375**
17.	(b) Sesame(Til) D/C	**292**	68	35	**395**	123	30	15	**168**	**563**
	Total	**8007**	**1806**	**923**	**10736**	**3395**	**773**	**404**	**4572**	**15308**

Table 4.54. Maize development

Sl. No.	Name of the work component	Male				Female			
1.	2.	Gen	SC	ST	Total	Gen	SC	ST	Total
1.	(a) Maize D/C	223	34	18	**275**	128	29	18	**175**
2.	(b) Farmers' Training	78	20	13	**111**	32	9	4	**45**
3	(c) Officers' Training								
4	(d) P.P. Chemicals	190	47	26	**263**	141	31	15	**187**
5.	(e) P.P. Equipments	-	-	-	**-**	-	-	-	**-**
6.	(f) Dolomite / Pyrites	115	25	14	**154**	45	16	10	**71**
7.	(g) Rhizobium / P.S.B.	980	22	9	**1011**	365	83	41	**489**
8.	(h) Micronutrients	182	48	22	**252**	87	25	11	**123**
	(i) Pipe for carrying water	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Total	**1768**	**196**	**102**	**2066**	**798**	**193**	**99**	**1090**

Physical and Financial achievement of other schemes, title wise, are as below,

Table 4.55. "Integrated Cereal Development Programme – Wheat" under Macro Management Mode Work Plan on Agriculture during the year 2012-2013.

Sl. No.	Particulars	Target		Achievement	
		Phy.	Fin. (in lakh.)	Phy.	Fin. (in lakh.)
1	Demonstration of Improved package of practice	500	10.00	500	10.00
2	Training of Farmers at FFS pattern; assistance @ Rs. 17,000/- per FFS.	**5**	0.85	5	0.84971
	Total		**10.85**		**10.84971**

Table 4.56. "Integrated Cereal Development Programme – Rice" under Macro Management Mode Work Plan on Agriculture during the year 2012-2013.

Sl. No.	Particulars	Target		Achievement	
		Phy.	Fin. (in Rs.)	Phy.	Fin. (in Rs.)
1	Demonstration on HYV Rice- Normal or SRI @ Rs. 7,50,000/- per D/C (100 ha cluster)	**15**	**112.50**	**15**	**112.50**
2	Demonstration of Hybrid Rice @ Rs. 7,50,000/- per D/C (100 ha cluster)	**3**	**22.50**	**3**	**22.49999**
3	Training of Farmers at FFS pattern; Assistance @ Rs. 17,000/- per FFS.	18	3.06	14	2.2803
	Total		**138.06**		**137.28029**

Table 4.57. "Sustainable Development of Sugarcane Based Cropping System(SUBACS)-Sugarcane Development Programme" under Macro Management Mode Work Plan on Agriculture during the year 2012-2013.

Sl. No.	Particulars	Target		Achievement	
		Phy.	Fin. (in Rs.)	Phy.	Fin. (in Rs.)
1	Technology Demonstration 0.5 ha @ Rs. 7500/- per D/C	70	5.25	70	5.21548
2	Two days training for 50 farmers @ Rs. 10,000/-	**2**	**0.20**	2	0.19994
	Total		**5.45**		**5.41542**

Table 4.58. "Diversified Cropping Programme under Dry land / Rainfed Condition" during the year 2012-2013

Particulars	Target						Achievement					
	Phy.			Fin. (in Lakh)			Phy.			Fin. (in Lakh)		
	Nor	SCP	TSP	Nor	SCP	TSP	Nor	SCP	TSP	Nor	SCP	TSP
Hybrid Maize D.C.	4	3	1	2.253	1.68975	0.56325	4	3	1	2.253	1.68975	0.56325
Groundnut D.C.	4	4	4	2.058	2.058	2.058	4	4	4	2.058	2.058	2.058
Arhar /other pulses(Lentil) D.C.	13	8	6	2.9601	1.8216	1.3662	13	8	6	2.9601	1.8216	1.3662
a) Block level Training Meeting	3	5	2	0.18	0.3	0.12	3	5	2	0.18	0.3	0.12
b) District level Training Meeting	1	1	-	0.16	0.16		1	1	-	0.16	0.16	
Total				**7.6111**	**6.02935**	**4.10745**				**7.6111**	**6.02935**	**4.10745**

Table 4.59. Beneficiary Coverage under "Diversified Cropping Programme under Dryland/Rainfed Condition" for the year 2012-2013 in Burdwan District

Sl. No.	Name of the Component	Nos. of Beneficiary Covered				
		Gen	SC	ST	Total	Women
1	Maize DC	40	31	6	77	2
2	Ground Nut DC	38	35	23	96	3
3	Pulse DC	77	56	41	174	7
4	Block level Training Meeting	120	200	80	400	11
5	District Level Training Meeting	53	52	-	105	5

Table 4.60. "Agricultural Training Camp under Rural Mass Education @ Rs.10000.00 for each Camp" for the financial year 2012-2013.

Particulars	Target		Achievement	
	Phy.	Fin. (in Rs.)	Phy.	Fin. (in Rs.)
Agricultural Training Camp under Rural Mass Education .	20 Nos.	2.00	17 Nos.	1.70
Total	**20 Nos.**	**2.00**	**17 Nos.**	**1.70**

Table 4.61. "Field Oriented Group Meeting of One day's duration @ Rs.2000.00 for each Group Meeting" for the financial year 2012-2013

Particulars	Target		Achievement	
	Phy.	Fin. (in Rs.)	Phy.	Fin. (in Rs.)
Field Oriented Group Meeting of One day's duration	40 Nos.	0.80	40 Nos.	0.80
Total	**40 Nos.**	**0.80**	**40 Nos.**	**0.80**

Table 4.62. "Farmers' Son Training Camp on Agriculture @ Rs.15000.00 for each Training Camp" for the financial year 2012-2013

Particulars	Target		Achievement	
	Phy.	Fin. (in Rs.)	Phy.	Fin. (in Rs.)
Farmers' Son Training Camp on Agriculture for 3 days duration.	15 Nos.	2.25	15 Nos.	2.25
Total	**15 Nos.**	**2.25**	**15 Nos.**	**2.25**

Table 4.63. Progress report of Farmers' Old Age Pension (As on 31.03.2012)

Name of Sub-division	Sanctioned strength of pensioners (in No.)			Achievement (in No.)		
	General	MIC	Total	General	MIC	Total
Burdwan (Sadar)	1038	36	1074	924	36	960
Kalna	680	06	686	592	06	598
Katwa	648	05	653	609	04	613
Durgapur	1244	06	1250	1155	06	1161
District Total	**3610**	**53**	**3663**	**3280**	**52**	**3332**

Table 4.64. "Mini Mission-under the Jute Technology Mission-SJDP during, 2011-2012.

Particulars	Target		Achievement	
	Physical	Financial (in Rs.)	Physical	Financial (in Rs.)
Arrear Liabilities of previous years		4.50		2.536
Essential Nutrient Minikits	1200	2.40	1200	2.40
Kaccha Retting Tank	10	0.25	6	0.15
Farmers Training Meeting	15	0.75	15	0.75
District level Training Meeting	1	0.30	1	0.30
Contingencies		0.50		0..4992
Total		**8.70**		**6.6352**

4.9. Constraint Analysis

For constraint analysis selected blocks from the three different AES in the district, i.e. old alluvium, new alluvium and red and lateritic, were chosen to have an in depth overview about the constraints faced by the crop husbandry sector. Block wise constraints identified are as follows,

Table 4.65. Block wise identified constraints in the crop husbandry sector

Block	Constraints Identified
Andal	i. **Physical:** Only 15 % areas of cultivable land are Irrigation. That irrigated area is not assured. ii. **Social:** Lack of awareness & interest. iii. iii. **Financial:** Govt. support
Barabani	i. **Physical:** Irrigation, Seed ii. **Social:** Awareness iii. **Financial:** Govt, support
Burdwan	i. **Physical**: fragmented land ii. **Social:** very rigid in existing cropping pattern, variety and practice iii. **Financial:** Institutional loan is not easily accessible to them
Faridpur-Durgapur	i. **Physical:** Undulating or rolling topography of the Block together with the primarily low organic matter content of the soil rendering very low organic carbon content of the soil is the main impediment towards low productivity of agricultural crops. Extremely high temperature during the summer months burns away the organic matter content and does not allow sufficient scope for decomposition. Water holding capacity and CEC of the soil – Lateritic Ultisols – are hence quite low. To aggravate the situation, very poor status of irrigation facility is also a cause of hindrance for appreciable agricultural development in the otherwise agriculturally well-developed district. **ii. Social:** The development of the large scale public sector heavy industries like the Durgapur Steel Plant, Alloy Steel Plant, Durgapur Projects Limited, the D.V.C. -D.T.P.S. and their likes have lured the larger chunk of the population of the Block and its surroundings from decades past towards industrial engagement rather than agricultural engagement primarily because the former being much more remunerative. Agriculture thus remains at the back seat in the predominantly industrial area. **iii. Financial:** Credit facilities to the secondary agrarian community is a much neglected issue, the commercial financial institutions in the Block being reluctant to offer their services to the farmers, more so, as definite delineation of sectarian (Agriculture Sector) responsibility is not available to them. The Co-operative Sector has not developed in this Block to serve the purpose.
Galsi-I	i. **Physical:** Irrigation & Seed **ii. Social:** Awareness. iii. **Financial:** Govt. support.
Jamalpur	i. **Physical**: Fragmented land , Lack of marketing particularly in Maize, Pulse and oil seed crop ii. **Social:** Very rigid in existing cropping pattern and variety.
Kanksa	i. **Physical:** Irrigation, Seed ii. **Social:** Awareness

	iii. **Financial:** Govt. support
Katwa-I	i. **Physical:** Poor infrastructure of of office establishment. ii. **Social:** Women farmer are less interested in farming, Income from Agriculture is less. iii. **Financial :** ADA Block had less financial power
Katwa-II	i. **Physical:** Development of interest to agriculture (Mental drain to Govt. job or private business) ii. **Social:** Poor economic condition iii. **Financial:** Financial Support through agricultural loan.
Ketugram-I	i. **Physical:** poor infrastructure in office establishment ii. **Social :** women personals are less interested iii. **Financial:** requirement of clerk, cashier/ accountant for maintaining of financial account
Ketugram-II	i. **Physical:** Flood effected area and there is no Storage
Kulti	i. **Physical:** a. Undulating topography and uneven land condition /or micro agro-climatic condition b. Lack water for irrigation and irrigation structures **ii. Social:** **a.** Lack of community approach among farmers for development in agriculture **b.** Lack of initiative towards problem which needs social intervention like problems of grazing by farm animals etc. **c.** Industrial opportunities in this belt has often weakened the gross interest towards agriculture. **iii. Financial:** **a.** Credit facilities through KCC have not matured for inadequate provisions in the municipal areas. **b.** The Co-operative Sector has not developed in this Block to serve the purpose.
Memari-I	i. **Physical**: fragmented land ii. **Social:** very rigid in existing crpping pattern and variety iii. iii. **Financial:** most of the farmers are defaulter in KCC. Institutional loan is not available to them
Mongalkote	i. **Physical:** Shortage of field staff ii. **Social:** Existing paddy-potato-boro paddy cropping system.
Purbasthali-I	i. **Physical :** Fragmentation of Land holdings, Difficulties in Farm Mechanisation ii. **Social:** Lack of recognition of Farmers in the society iii. **Financial:** Price hike for Agril. Labour & Agril Inputs
Salanpur	i. **Physical:** a. Undulating topography and uneven land condition /or micro agro-climatic condition b. Lack water for irrigation and irrigation structures **ii. Social:** **a.** Lack of community approach among farmers for development in agriculture **b.** Lack of initiative towards problem which needs social intervention like problems of grazing by farm animals etc. **c.** Industrial opportunities in this belt have often weakened the gross interest towards agriculture.

	iii. Financial: **a.** Credit facilities through KCC have not matured due to lack proper documents. **b.** The Co-operative Sector has not developed in this Block to serve the purpose.

4.9.1. Yield gap analysis of major crops and reasons for gaps

Table 4.66. Block wise yield gap and reasons for gap

Name of crops	Yield (q/ha)		Yield gap (q/ha)	Reasons for gap
	District av. Of 5 years	Avarage from 20 FLDs		
Kharif Paddy	42.72	72.60	29.88	• Non adoption of SRI principles • Imbalanced fertilisation • Non adotion of INM • Lack of disease resistant variety • Non adotion of IPM • Poor soil health • Ill timing of transplanting • Lack of quality seed
Boro paddy	47.79	68.50	20.71	• Imbalanced fertilisation • Non adotion of INM • Non adotion of IPM • Poor soil health • Lack of quality seed
Potato	252.83	325.50	72.67	• Non adotion of IPM • Non adotion of INM • Poor soil health • Lack of quality seed
Mustard	8.51	13.46	4.95	• Lack of disease resistant variety • Soil acidity • Ill timing of sowing • Non use of sulfur
Lentil	6.47	12.6	6.13	• Lack of HYV seed • No use of biofertiliser • Less use of phosphatic fertiliser • Poor pest and disease management • Soil acidty
Sesame	5.95	9.95	4	• Non use of sulphur • Lack of quality seed • Imbalanced fertilization • Ill weed management
Jute	29.47	38.54	9.07	• Ill weed management • Lack of HYV seed • Improper retting • Improper fertilization

4.9.2. Research/ Extension/ Adoption gaps

There are certain research and extension gap in crop production. Co-ordination between KVK, other research stations and district officials is very essential. In most of the cases convergence is not at all done by the allied department in case of demonstration and training. Extension gap is very prominent in agriculture sector. This is due to lack of sufficient number of extension machinery in the field level. The KPSs have been undertaking the extension works to the doorsteps of the farmers but their number is inadequate to the service and no new recruitment is being done.

However, the crop wise research extension and adoption gaps, as identified, are as below,

Table 4.67. Block wise research, extension and adoption gaps in the crop husbandry sector

Name of crops	Research gaps	Extension gaps	Adoption gaps
Paddy	• Identification of sheath blight resistant variety • Modified system of rice intensification	• Poor extension of basic knowledge, like proper nutrient management • Lack of adequate extension workers • Lack of extension of improved methodologies of crop production	• Wide spread skepticism • Adequate no of demonstration to bring out the effectivity
Potato	• Identification of late blight resistant variety • True potato seed	• Poor extension of IPM measures	• Skepticism • No reliance on govt. machinery • Adequate no of demonstration
Mustard	• Club root resistant cultivar • High yielding yellow mustard • Sulfur management	• Poor extension of IPM measures • Inadequate awareness on water management under club root condition	• Club root resistant cultivar of WBBN 1/2 is poorly adopted for longer duration and enhanced cost of cultivation
Lentil	• High yielding cultivars • Phosphorus management • Wilt resistant cultivars	• Poor extension of INM measures	• Lack of awareness about the profitability side • Inadequate no of demonstration
Sesame	• High yielding cultivars • Sulfur management	• Poor extension of nutrient	• Lack of awareness about the profitability side

	• Proper weed management	management measures	
Jute	• Weed management techniques • Post harvest management techniques	• Poor extension of improved methodologies	• Skepticism • Fear of loss

4.9.3. Processing/ Storage/ Marketing gaps

Processing and marketing gap of some agricultural products like groundnuts, sunflower, til and maize is found to be difficult. Due to marketing gap in soyabean and cotton in Durgapur subdivision, the area of the above mentioned crops are being decreased this year.

Burdwan produces significant quantity of groundnut, pulse, maize etc. But for lack of processing unit farmers are forced to sell their products in a very low rate and most of the cases incur loss. Proper arrangement of processing units needs to be established in order to increase the area and production of the crops.

Requirement felt for processing units given below –

- Dal Mills are proposed in the blocks where large quantity of pulse production
- Low cost maize sheller developed by CIFE, ICAR to be promoted
- Wheat thresher is required in Raina I and II block, Khandaghosh, Ausgram I and II,
- Purbasthali I and II, Katwa I Mangalkot, Raniganj, Jamalpur, Salanpur, Andal and Burdwan Sadar etc
- Sugarcane crusher is required in Ketugram I and II, Pubasthali II and Kanksa block
- Maize crusher is needed in Ausgram I and II, Raniganj, Durgapur-Faridpur block.

4.9.4. Existing Institutional Mechanism in the Government Sector

Below are the existing institutional mechanisms in the govt sector

Table 4.68. Storage structures and markets

Block	Storage Structures						Markets (Numbers)	
	Rural Godowns		Cold storage		Any other		Main market	Sub market
	Nos.	Capacity (MT)	Nos.	Capacity (MT)	Nos.	Capacity (MT)		
Andal	0	0	0	0	0	0	03	08
Aushgram-I	5	10000	8	120035.5			7	20
Ausgram-II			1	250			1	4

Barabani	0	0	0	0	0	0	1	05
Bhatar	2	5000					4	20
Burdwan	9	540	9	200000			13	35
Faridpur-Durgapur							3	12
Galsi-I	15	15					01	9
Galsi-II	20	20	1	14400	8	5000	01	5
Jamalpur			14	200000				
Kalna-I			12	300000			1	4
Kalna-II			18	3800000			1	3
Kanksa	0	0	1	150000	0	0	01	06
Katwa-I	01		04		50	500	01	1
Katwa-II								4
Ketugram-I	1						1	6
Ketugram-II							1	2
Khandaghosh			2	1000			2	10
Kulti							3	10
Memari-I	2	6000	22	172928.5			5	27
Memari-II	2	5000	5				2	10
Mongalkote			4	400000			1	3
Purbasthali-I	3	2500	1	17452.34			1	7
Purbasthali-II			1	15000			2	10
Raina-I	3	8000	5	43000			8	30
Raina-II	2	6000	2	15720.7			6	27
Salanpur							3	5
Total	**65**	**43075**	**110**	**5449787**	**58**	**5500**	**73**	**283**

(Capacity in tonnes)

Table 4.69. Farm Level Storage Plan existing facilities (2013-14)

Block	Type	No.	Capacity (MT)
Aushgram-I	Rural godown	2	10000
	Cold storage	8	1200
	Others	10	
Aushgram-II	Rural Godowns	7	100
	Cold storage	1	1000
Bhatar	Rural Godowns		
	Cold storage		
	Others	11	
Burdwan	Rural Godowns	9	540
	Cold storage	9	200000
Galsi-I	Rural Godowns	15	15
	Cold storage		
	Others		
Galsi-II	Rural Godowns	20	20
	Cold storage	1	14400
	Others		
Ketugram-I	Rural godowns	2	100
	Cold storage		

	Others		
Khandaghosh	Rural Godowns		
	Cold storage	2	1000
	Others	20	
Memari-I	Rural Godowns	2	6000
	Cold storage	22	172928.5
	Others	10	
Memari-II	Rural Godowns		
	Cold storage	5	
	Others	12	
Purbasthali-I	Rural Godowns	3	2500
	Cold storage	1	17450
Raina-I	Rural Godowns	3	8000
	Cold storage	5	43000
	Others	30	
Raina-II	Rural Godowns	2	6000
	Cold storage	2	15720
	Others	40	
Total		**254**	**499976**

(Capacity in tones and investment Rs. In lakh)

Table 4.70. Agro Processing Unit in the block (including Sugar, Milk, Silk, etc., related to Agriculture only) N.A.

Block	Type of Agro-Processing unit	No. of Processing units
Andal	Small Rice dehusker	05
	Muri mill	10
Aushgram-I	Milk Packaging	1
	Rice mill	10
	Oil Crusher	10
	Dal Mills	1
Barabani	Rice Mill	01
	Small Rice dehusker	12
	Muri Mill	02
	Chira Mill	02
Bhatar	Rice mill	11
	Oil Crusher	34
Burdwan	Milk Packaging	1
	Rice mill	72
	Oil Crusher	23
	Dal Mills	1
	Rice Bran Oil Mill	1
Faridpur-Durgapur	Dal Mill	1
	Puffed Rice Mill ('Muri')	5
	Rice Mill	1
Galsi-I	Rice Mill	25
	Oil Mill	01

Galsi-II	Rice Mill	18
	Dal Mill	1
	Oil Mill	10
Jamalpur	Rice mill	7
	Oil Crusher	50
Jamuria – I	Rice Mill	03
	Small Rice dehusker	10
	Muri Mill	10
Jamuria – II	Rice Mill	01
	Small Rice dehusker	30
	Muri Mill	15
Kalna-I	Rice Mill	03
Kanksa	Rice Mill	3
	Small Rice dehusker	30
Katwa-I	Flattend Rice	03
	Puffed Rice	05
	Rice mill	06
Katwa-II	Sugar	5
Ketugram-I	RICE MILL	1
Khandaghosh	Milk Packaging	1
	Rice mill	20
	Oil Crusher	20
Memari-I	Milk Packaging	1
	Rice mill	10
	Oil Crusher	30
	Dal Mills	1
Memari-II	Rice mill	12
	Oil Crusher	7
Mongalkote	Rice mill	1
	Poultry feed	1
Purbasthali-I	Paddy Husking Unit	35
	Edible Oil Extraction Unit	15
Purbasthali-II	Rice Mill	2
	Pulse husking Mill	2
	Paddy husking Mill	10
	Oil Mill	5
Raina- I	Milk Packaging	1
	Rice mill	30
	Oil Crusher	10
	Dal Mills	1
Raina-II	Rice mill	40
	Oil Crusher	12
Salanpur	Rice Mill	1
Total		**709**

4.10: Recommended interventions for the district, with detailed Action Plan with costs for achieving the production target

The crop wise interventions in the district are as below to meet up the production target,

Rice

It is necessary to give more emphasis on raising the productivity level per unit area as there is practically no possibility for organizing more area under Rice Cultivation. At the same time, attention may be given for sustainable yield of the existing varieties. Following measures may be taken for boosting up the productivity of the crop.

1) **Replacement of Seeds:**

The old long used farmers seeds may be replaced by recently released improved varieties of quality seed at least by 20% every year.

2) **Location specific high yielding varieties:**

Use of location specific suitable improved high yielding varieties may be done instead of using local traditional varieties with low yield potentiality. Strengthening the grass root level extension work with modern scientific technology for wide adaptability may also be done.

3) **Hybrid Rice Cultivation:**

Adoption of hybrid rice cultivation technology by the farmers in wider scale and imparting training to farmers and grass root level extension workers with technological know how may be done.

a. **Area under HYV/Improved Rice Varieties:**

The area covered by HYV / Improved Varieties of Rice may be increased to 98% during Kharif season from local traditional varieties & to increase the area of scented rice varieties.

b. **Improvement of Soil Health:**

Activities of all level extension personnel may be intensified in respect of application of o rganic manures, green manure and application of Bio-fertilizer for improving soil health.

c. **Use of Chemical Fertilizer:**

As far as practicable Chemical Fertilizers may be used on the basis of soil testing report. Recommended balanced dose of fertilizer may be used when soil testing could not be done.

d. **Plant Protection and Micronutrients :**

For sustaining the yield potentiality of Rice, plant protection strategy will be based on the principle of IPM concept. Special emphasis would be given on Seed Treatment, Seed Bed Treatment and Script-row system of planting to resist the spreading of BPH attack. Long duration varieties to be avoided for pest and disease attack. Application of specific Micronutrient should also be applied in deficit areas.

e. **Irrigation & Drainage**:

Judicious management of irrigation water at the critical growth of crop specially in kharif season, whenever possible would be adopted. Improved drainage condition in Aus and Aman Paddy would also be looked into.

f. **Contingency Planning :**

Contingency planning may be drawn up in well ahead to combat any natural calamity like Flood, Drought and Pest endemic etc.

Wheat

Wheat is the second and most important food grain crop in our state. Demand of wheat is increasing day by day due to growing population. Beside that, a considerable mass uses wheat as a substitute of rice. So the target of coverage and production of this crop in this district has been fixed with higher aspiration.

Following measures are to be taken up for reaching the targetted production of wheat:

1) **Use of Quality Seeds:**
   Use of quality seeds (certified) to be increased to the extent of 80% at least. Arrangements for distribution of certified seeds both from Govt. and Private trade channel would be continued like previous year.
2) **Replacement of Old Varieties:**
   Farmers would be advised by the extension personnel to discard old varieties and to use improved recently released varieties where ever available.
3) **Judicious application of Fertilizer:**
   Timely application of Chemical Fertilizers on the basis of soil testing report or use of recommended dose of fertilizer in absence of soil testing report would be made acceptable to farmers along with the application of organic manure of recommended quantity.
4) **Application of Micronutrients:**
   Extension personnel should give due importance on use of specific micronutrients in deficite areas.
5) **Plant Protection:**
   Due emphasis would be given towards need based Plant Protection Measures observing principle of Integrated Pest Management.
6) **Timely sowing of seeds in West Bengal:**
   Winter season does not last for long period; attention to be given on timely sowing of seeds because it is a key factor of producitivity of wheat crop.
7) **Transfer of latest technology:**
   Extension agencies would intensify the transfer of latest technology to farmers as evolved from field trials and demonstrations through T & V Programme.
8) **Irrigation:**
   Judicious application of irrigation to the crop at critical stages of growth depending on availability of water as far as possible.
9) **Trials and Demonstrations:**
   On going trials and demonstration on newly evolved varieties to be continued like previous years which have become susceptable to various pest hazards.

Oil Seeds

In agricultural economy the oilseeds stand next only to the food grains in acreage, tonnage and value. Vegetable oils are essential part of human diet. Vegetable oils are also used in making industrial products like soap, paints, lubricants, cosmetics, hair oil, pharmaceuticals etc. Oil cakes and de-oil meals are used in making food products for human consupmptions and animal feeds as well as manures and raw materials for industrial use. Some oilseeds, oils, oil cakes/de-oil meals are exported for earning foreign exchange.

Historically we are deficient in production of oilseeds to its requirement, though we have made a good progress in the field of oilseed production, programmes to be taken up for doubling the food production and making our country hunger free in ten years. The production of oilseeds during 10th to 11th Plan period will also be taken up so that gap between the requirement and production could be narrowed down.

Rapeseed-Mustard are major oilseed crops in this district. It occupies more than 85% of total area under oilseed. There has been a real break through in the expansion of area and to some extent production. In a decade the area has increased three fold, but the production not to that extent.It remained static or it showed down ward trend. Seasamum is the second important oilseed crop in this district. Area of this crop is also increasing and its productivity is encouraging. Next to seasmum is groundnut, which is gaining popularity and has been included in expansion programme of oilseeds in this district. With its present level of production the district has given emphasis to increase the productivity of the crop so that with the limited area available under oilseed, the production of oilseeds can be doubled at the end of 11th 5 year Plan.

Follwing strategies for the increase of production of oilseed crops would be adopted:
Area Approach –

1) Diversion of low yielding rice areas of lateritic region to Kharif Groundnut crops in the Western part of the district i.e. Durgapur Sub-division.
2) To introduce cultivation of Kharif Sesamum in the Western part of the district instead of Rice cultivation where irrigation is not sufficient.
3) To campaign for higher coverage under short duration Toria as a catch crop before start of Rabi season.
4) Diversion of area under rainfed Wheat to Rapeseed-Mustard.
5) Inter-cropping, mixed cropping of Mustard with Autumn-sown Sugarcane, Gram, Lentil and in the border of Potato field.
6) Extensive cultivation of Rabi-Summer Groundnut after the harvest of Aman crop with available soil moisture.
7) Area of Potato are increasing day by day, Sesamum can be grown in those areas after the harvest of Potato Crop.
8) Timely sowing – Farmers should be motivated for timely sowing of Oilseed crops due to short span of winter season.
9) Recently Sunflower has been introduced as a source of alternate Oilseed. Demonstrations are being organized in farmers' field to make it popular. However, if marketing facilities may be provided to the farmers, they can take up Sunflower as an alternate oilseed crop.

Pulses

Pulse cultivation as a major crop could not be popularized due to its low yield in comparison to other field crops. As a result, this crop has become less remunarative to the farmers which replace the interest of farmers from pulse cultivation. Due to this reason a wide gap has been created between the requirement and production of the crop.

However with a view to bridge the gap between the demand and production of the crop, certain measures may be taken up as follows:

1) Cultivation of Pulse Crop in Western tracts of the district -
In the Western rainfed tracts of the district (Durgapur Sub-division) Kharif Pulse i.e. Kalai, Mung and Cowpea cultivation would be adopted in large areas especially in drought prone areas with Maize.
2) Stabilisation of Pulse Area –
Pulse area should be stabilized by adopting Intercropping, Mixed cropping and Paira cropping.
3) Summer Pulse Cultivation –
The pulse area can be increased by growing Summer Mung and Kalai after harvest of Rabi crops. Similarly, in Potato harvested fields, cultivation of Mung can be introduced.
4) Pulse in Non-traditional Areas -
Growing of Pulse crop in Non-traditional areas of Waste land and Water-shed development areas may be introduced.
5) Improved Technology -
Introduction and adoption of improved modern scientific technology of cultivation in traditional areas under pulse in the Kalna and Katwa Sub-division may be done where Lentil, Gram, Arahar have already occupied considerable areas.
6) Rabi Pulse Cultivation in Irrigation Command Area -
Short duration Rabi-Pulse i.e. Arahar cultivation may be popularized and it can be introduced in fringe areas of irrigation command areas.
7) Soil amendments –
Use of Soil amendments (i.e. Basic Slag etc.) for correcting the soil acidity in pulse growing areas would be encouraged for cultivation of pulse crop.
8) Multiplication & Distribution of Quality Seeds –
Multiplication of quality seeds (Foundation / Certified) of various pulse crops in Government concern and other seed producing concern like West Bengal State Seed Croporation Ltd. would be encouraged and adopted for distribution of quality seeds to farmers for enhancing production and productivity of pulse crop.
9) Use of Phosphatic and Bio-fertilizers -
Phosphatic Bio-fertilizers including Phosphate Solubilising Bacterias (PSB) would be introduced in pulse cultivation and spraying of DAP and Micronutrient in deficient areas may also be adopted to boost up pulse production.
10) Plant Protection -
Necessary Plant Protection measures may be adopted maintaining the principle of Integrated Pest Management and use of NPV for control of Pod borer in case of Arahar by organizing Result Demonstration Centre.

Jute

Jute is one of the major important commercial crops in the district cultivated intensively in the Eastern part (i.e. Kalna & Katwa Sub-division). For increasing the productivity of the crop, major thrust would be given on the following steps:

1) Improved Package of Practice -
Adoption of improved package of practice for reduction of cost of cultivation and enhancing the productivity of the crop by the following measures:

a. Distribution of Certified Seeds.
b. Conduction of technological demonstration in farmers plot.
c. Use of balanced fertilizer as per soil testing report or recommended dose in absence of soil testing report.
d. Practicing foliar spray in wide scale.

2) Improvement of Fibre quality -
Fibre quality would be improved by adopting –

a. Timely sowing and harvesting of the crop.
b. Use of fungal culture.
c. Retting in slow running water.
d. Timely washing of fibre in fresh water.
e. Proper drying and storing of fibre.

3) Training of Farmers & Extension Personnel -
The farmers and extension personnel up to grass root level would be imparted training for successful implementation of Centrally Sponsored Special Jute Development Scheme (SJDP) in order to make them acquainted with various technological aspects for boosting up production of Jute.

Sugarcane

Sugarcane is an important commercial crop. Its coverage in the district could not be increased significantly as it is an annual crop and due to the lack of Processing Industry / Sugar Mill in Burdwan district. Following measures would be taken to achieve the targetted production.

a. Production & Distribution of short duration varieties –
Intensification of production of short duration improved varieties and distribution of disease free planting materials.

b. Improved Cultural Practices –
Adoption of improved cultural practices including treatment of sets and use of balanced fertilizer as per soil testing report or recommended dose in absence of soil testing report.

c. Coverage under Autumn Planting –
The extension personnel right from grass root level should motivate the farmers for increasing the area of coverage of Autumn Planting for making availability of Canes to Sugar Mills (if established).

d. Intercropping -
Practice of Intercropping with companion crops both in autumn and spring season would be advocated.

e. Demonstrations –

Conducting more numbers of Technological Demonstration Centre and establishment of Seedcane Multiplication Nursery Centres with application of advanced modern scientific technology would be organized.

f. Transport Subsidy –

Transport subsidy would be allowed to farmers for bringing quality seedcane from different authentic seedcane production centres.

g. Marketing price of Seedcane –

Action would be taken up so that the quality seed cane growers get remunerative marketing price of their produce from the Mill owners.

Table 4.71. Financial requirement for reclamation and Development of acid soil

Name of Block	Area to be reclaimed and fund requirement*						Total	
	2014-15		2015-16		2016-17			
	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Andal	190	14	380	29	380	29	950	71
Aushgram-I	1379	103	2758	207	2758	207	6895	517
Aushgram-II	1300	98	2600	195	2600	195	6500	488
Barabani	600	45	1200	90	1200	90	3000	225
Bhatar	2532	190	5065	380	5065	380	12662	950
Burdwan	1870	140	3740	281	3740	281	9350	701
Faridpur-Durgapur	752	56	1504	113	1504	113	3760	282
Galsi-I	1360	102	2720	204	2720	204	6800	510
Galsi-II	1325	99	2650	199	2650	199	6625	497
Jamalpur	180	14	360	27	360	27	900	68
Jamuria – I	180	14	360	27	360	27	900	68
Jamuria – II	290	22	580	44	580	44	1450	109
Kalna-I	70	5	140	11	140	11	350	26
Kalna-II	648	49	1295	97	1295	97	3238	243
Kanksa	800	60	1600	120	1600	120	4000	300
Katwa-I	33	2	65	5	65	5	163	12
Katwa-II	50	4	100	8	100	8	250	19
Ketugram-I	140	11	280	21	280	21	700	53
Ketugram-II	75	6	150	11	150	11	375	28
Khandaghosh	1020	77	2040	153	2040	153	5100	383
Kulti	180	14	360	27	360	27	900	68
Memari-I	1318	99	2637	198	2637	198	6592	494
Memari-II	1600	120	3200	240	3200	240	8000	600
Mongalkote	1709	128	3418	256	3418	256	8544	641
Monteshwar	1596	120	3192	239	3192	239	7980	599
Purbasthali-I	91	7	182	14	182	14	455	34
Purbasthali-II	227	17	454	34	454	34	1135	85
Raina-I	1260	95	2520	189	2520	189	6300	473
Raina-II	944	71	1887	142	1887	142	4718	354
Salanpur	450	34	900	68	900	68	2250	169
Total	**24168**	**1813**	**48336**	**3625**	**48336**	**3625**	**120840**	**9063**

Table 4.72. Seed Production at Block seed farm:

Name of the Block	Crop	Seed production during 2013 (q)	Proposed Seed Production (q)		
			2014-15	2015-16	2016-17
Aushgram-I	HYV Paddy	145	155	160	165
	Potato	71.5	150	150	160
	Mustard	1.6	10	11	12
	Til	7.15	10	11	10
	Wheat	3.48	5	5.5	6.0
Aushgram-II	Rice- 16.5 Acre	105	160	170	200
	Mustard- 5Acre	2.10	4	6	8
Bhatar	Aman Paddy	134.7	125	127	129
Galsi-I	Paddy	135	500	550	600
Jamalpur	Aman Paddy(2.8)	68.00	90.00	110	130
	Mustard (2.4)	7.46	20	30	40
	Potato(1.0)	60.00	200	250	300
	Til (1.6)	6.49	15	20	25
Kalna-I	Paddy	157.910	173	158	158
	Mustard	5.245	6	7	7.5
	Lentil	1.835	2	2.5	3
	Potato	82.97	90	95	95
Ketugram-I	Paddy(6 Acre)	78.8	82	85	85
	Potato(1.25 Acre)	7.5	25	30	30
	Mustard (2Acre)	0.92	1	1.1	1.1
	Til(4.5 Acre)	1.97	2	2	2
Ketugram-II	Paddy (MTU-7029) 1.6 Ha.	59.2	70	84	100
	Till 0.4 Ha.	0.85	1	1.1	1.2
Memari-I	Paddy	97	130	135	145
	Potato	178.5	200	210	220
	Mustard	0.83	3	3.5	4
	Til	0.5	1.5	1.5	2
Memari-II	Aman Paddy	76.05	76.05	76.05	76.05
Mongalkote	Aman Paddy	103.30	120	125	125
	Mustard	3.07	3.5	3.75	3.75
	Sesame	3.05	3.5	3.75	3.75
Monteshwar	Paddy	73.20	100	100	100
Purbasthali-I	Paddy	159.47	116	124	130
	Lentil	5.00	6.00	6.00	7.00
	Potato	12.30	20.00	28.00	30.00
Purbasthali-II	Paddy	67	80	85	90
	Pulse	0.45	1	1	1
Raina-I	Paddy	200	110	120	130
Raina-II	Paddy	74.51	80	90	105
	Til	3.2	4	5	5.5
Total		**2202.11**	**2950.55**	**3183.75**	**3445.9**

Table 4.73. Seed Production under trial cum demonstration

Name of the Block	Crop	Seed production during 2013(q)	Proposed Seed Production (q)		
			2014-15	2015-16	2016-17
Aushgram-I	Paddy	35500	37000	40000	42000
	Moong	--	10	20	30
	Mustard	1650	1700	1700	1750
Aushgram-II	Paddy	32400	35000	37000	40000
Bhatar	Kh Paddy	27000	22500	22950	23409
	BORO	10000	15000	15300	15606
	Mustard	1062	1100	1122	1145
Burdwan	Paddy	--	1000	1500	2000
	Potato	--	5000	8000	12000
	Mustard	--	100	200	500
Faridpur-Durgapur	Paddy	14400	15000	15000	15000
	Wheat	1200	2800	3000	3000
	Mustard	75	100	100	100
	Maize	230	250	250	250
Galsi-I	Paddy	30500	31000	32000	35000
Galsi-II	Paddy	28500	30000	32000	34000
Jamalpur	Paddy	16000	20000	22000	24000
	Potato	750	1000	5000	10000
	Mustard	--	50	100	150
	Til	--	50	150	250
Kalna-II	Paddy	840	1200	1500	2000
Katwa-I	Paddy	1000	1250	1500	1750
	Mustard	--	50	75	100
	Sesame/Til	--	50	75	100
	Lentil	--	10	15	20
Katwa-II	Paddy	5000	5750	5800	6000
	Pulse	100	216	230	250
	Oil seed	100	175	200	250
Ketugram-I	Paddy	5000	10000	15000	20000
	Mustard	60	120	180	240
	Sesame	80	160	240	320
Ketugram-II	Aus Paddy	850	850	1150	1300
	Aman Paddy	--	150	200	250
	Boro Paddy	--	100	150	200
	Mustard	--	10	15	20
	Till	--	8	10	12
	Pulses	--	3	5	7
	Sugarcane	--	220	250	300
Memari-II	Kh Paddy	27000	22500	22950	23409
	BORO	10000	15000	15300	15606
	Mustard	1062	1100	1122	1145
Mongalkote	Aman Paddy	5000	5200	5200	5300
Monteshwar	Paddy, Mustard	270250	30000	32000	34000
Raina - I	Paddy	6200	8000	9000	10000
Total		**531809**	**320782**	**349559**	**382769**

Table 4.74. Proposed Plan to Improve Agriculture & Allied Training Facilities for Farmers at block level

Block	New Agro polyclinics proposed	Govt./ Non Govt.	Capacity generated (No. of farmers)	Requirement of Funds for renovation of old / establishment of new agro polyclinics		
				Type of Facility Required	Financial Requirement (Rs. In Lakh)	Additional Capacity generated through farmers training (No. of farmers)
Andal	01	Govt.	100	• Plant Pathological clinic, Farmers (50 nos) training hall with AV aids.	20	1000
Aushgram-I	1	Govt.	50	• Quick Soil testing kit • Training hall • Sitting arrangement • Mirophone facility • Laptop Projector • Screen • Sample preservation shelf • Fridge	10	500
Barabani	01	Govt.	100	• Disease Diagnosis., Soil testing	15	800
Burdwan	1	Govt.	100	• Soil testing kit • Refrigerated Sample preservation system • Training hall along with Sitting arrangement • Ssound system, audio-visual facility	15	500
Faridpur-Durgapur	2	Govt.	15000	• Disease diagnosis • Soil Testing	30	1000
Galsi-I	01	Govt.	75	• Quick soil testing • Reagents • Testing apparatus including glass wares • Computer accessories • Training hall with audio visual sets	15	500
Galsi-II	01	Govt.	50	• Testing apparatus including glass wares • Reagents • Quick soil testing with • Training hall with audio visual sets • 5. Computer accessories	12	500
Jamalpur	2	Govt./ Non Govt.	2000	• Infrastructure	40.00	500
Jamuria – I	01	Govt.	100	• Disease Diagnosis, • Soil testing	15	800
Jamuria – II	01	Govt.	100	• Disease Diagnosis,	15	800

				• Soil testing		
Kalna-I	1	Govt./ Non Govt.	100	• Power point presentation • Sitting arrangements of 100 farmers • Soil testing	30.0	100
Kalna-II	1	Non-Govt.	100	• Power point presentation • Sitting arrangements of 100 farmers • Soil testing • Canteen	20.00	100
Kanksa	01	Govt.	100	• Testing apparatus, reagents, soil testing kits, training hall with AV aids.	15	800
Katwa-I	01	Govt	100		15	1000
Katwa-II	4	Govt.	700	New	60	100
Ketugram-I	1	Govt.			15	200
Khandaghosh	1	Govt.	50	• Quick Soil testing kit • Training hall • Sitting arrangement • Mirophone facility • Laptop, • Projector • Projectoreen • Sample preservation shelf • Refrigerator	10	450
Memari-I	1	Govt.	50	• Quick Soil testing kit • Training hall • Sitting arrangement • Mirophone facility • Laptop Projector • Screen • Sample preservation shelf • Refrigerator	10	500
Mongalkote	1	Govt.	200	• Disease Centre	2.00	50
Monteshwar	4	Govt./Non-Govt	500	• New Building, • Bio-Fertilizer • unit, Soil • Testing • Laboratory, • High tech Farm • Machinery, • Plant • Pathological • laboratory, • Contractual person	70	600
Purbasthali-I	2	Govt.	4000	• R.C.C., Lab, Manpower, Kits etc.	70	1500
Raina-I	1	Govt.	50	• Quick Soil testing kit • Training hall	10	450

				• Sitting arrangement • Mirophone facility • Laptop, Projector Projectoreen • Sample preservation shelf • Refrigerator		
Raina-II	1	Govt.	50	• Quick Soil testing kit • Training hall • Sitting arrangement • Mirophone facility • Laptop, Projector Projectoreen • Sample preservation shelf • Refrigerator	10	450
Total	**33**		**23685**		**524**	**13200**

Table 4.75. Planning for Farmers Training Programme Related to Agriculture and Allied Departments in block

Name of Block	**Name of technologies to be transferred**	**No of farmers to be trained and fund requirement***					
		2014-15		**2015-16**		**2016-17**	
		Phy	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**
Andal	Zero tillage	400	1.2	600	1.8	1000	3
	Drum Seeder etc.	400	1.2	600	1.8	1000	3
	Organic farming	400	1.2	600	1.8	1000	3
	Crop diversification	400	1.2	600	1.8	1000	3
	Agriculture mechanization	400	1.2	600	1.8	1000	3
	IPM/INM	400	1.2	600	1.8	1000	3
Aushgram-I	Zero tillage	1500	4.5	2000	6	4500	13.5
	SRI	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	1000	3	1500	4.5	4000	12
	Organic Farming	1500	4.5	2000	6	4000	12
Ausgram-II	SRI	800	2.4	800	2.4	2200	6.6
	Drum Seeder	600	1.8	800	2.4	1800	5.4
	Zero Tillage	1000	3	1000	3	2800	8.4
	Vermi compost	400	1.2	400	1.2	1200	3.6
Barabani	Zero tillage	300	0.9	400	1.2	800	2.4
	SRI	200	0.6	300	0.9	600	1.8
	Drum Seeder etc.	200	0.6	300	0.9	600	1.8
	Crop diversification	200	0.6	300	0.9	600	1.8
	Agriculture	300	0.9	400	1.2	800	2.4

	mechanization						
	Organic farming	200	0.6	300	0.9	600	1.8
Bhatar	Zero tillage	3000	9	4000	12	9000	27
	SRI	3000	9	4000	12	9000	27
	Alternate crop	3000	9	4000	12	9000	27
	Introduction of Mechanised agriculture	3000	9	4000	12	9000	27
	Drum Seeder	3000	9	4000	12	9000	27
	Mixed Farming Technique	2000	6	3000	9	8000	24
Burdwan	Zero tillage	1500	4.5	2000	6	4500	13.5
	SRI	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	1000	3	1500	4.5	4000	12
	Organic Farming	1500	4.5	2000	6	4000	12
Faridpur-Durgapur	SRI	500	1.5	500	1.5	1500	4.5
	Zero tillage	500	1.5	500	1.5	1500	4.5
	Drum Seeder	500	1.5	500	1.5	1500	4.5
	Bio village	100	0.3	100	0.3	300	0.9
Galsi-I	SRI	250	0.75	600	1.8	1000	3
	Zero Tillage	250	0.75	600	1.8	1,000	3
	Crop diversification	250	0.75	600	1.8	1,000	3
	Agriculture Mechanization	1000	3	2000	6	3500	10.5
	Integrated Farming	100	0.3	200	0.6	350	1.05
	Alternate crop nutrients	200	0.6	500	1.5	800	2.4
	Organic farming	100	0.3	200	0.6	350	1.05
Galsi-II	SRI	200	0.6	500	1.5	800	2.4
	Zero Tillage	200	0.6	500	1.5	800	2.4
	Crop diversification	200	0.6	500	1.5	800	2.4
	Agriculture Mechanization	1000	3	2000	6	3500	10.5
	Integrated Farming	100	0.3	200	0.6	350	1.05
	Alternate crop nutrients	200	0.6	500	1.5	800	2.4
	Organic farming	100	0.3	200	0.6	350	1.05
Jamalpur	Zero Tillage in paddy	200	0.6	200	0.6	500	1.5
	SRI	150	0.45	200	0.6	450	1.35
	Potato Seed Production	300	0.9	400	1.2	900	2.7
	Poly house cultivation	100	0.3	100	0.3	250	0.75
	Low cost Storage	100	0.3	200	0.6	350	1.05
	Off season vegetable production	200	0.6	300	0.9	650	1.95
	Kharif Onion	100	0.3	200	0.6	350	1.05
Jamuria – I	Zero tillage	150	0.45	200	0.6	400	1.2
	SRI	100	0.3	150	0.45	300	0.9
	Drum Seeder etc.	100	0.3	150	0.45	300	0.9

	Crop diversification	100	0.3	150	0.45	300	0.9
	Agriculture mechanization	100	0.3	200	0.6	400	1.2
	Organic farming	100	0.3	150	0.45	300	0.9
Jamuria – II	Zero tillage	300	0.9	400	1.2	800	2.4
	SRI	200	0.6	300	0.9	600	1.8
	Drum Seeder etc.	200	0.6	300	0.9	600	1.8
	Crop diversification	200	0.6	300	0.9	600	1.8
	Agriculture mechanization	300	0.9	400	1.2	800	2.4
	Organic farming	200	0.6	300	0.9	600	1.8
Kalna-I	One day training on IPM	250	0.75	250	0.75	750	2.25
	One day training on INM	250	0.75	250	0.75	750	2.25
	One day training on Seed production technology	250	0.75	250	0.75	750	2.25
	One day training on horticultural nursery management	100	0.3	100	0.3	300	0.9
	One day training on improved dairy management for increase milk production	250	0.75	250	0.75	600	1.8
	Composite fish culture for better utilisation of pond	250	0.75	250	0.75	600	1.8
Kalna-II	INM	250	0.75	250	0.75	750	2.25
	IPM	250	0.75	250	0.75	750	2.25
	Nursery	100	0.3	100	0.3	300	0.9
	Mushroom Prep. Tech.	100	0.3	100	0.3	300	0.9
	Fish seed hatcheries	250	0.75	250	0.75	750	2.25
	A.I. of cows	250	0.75	250	0.75	750	2.25
	Vaccination of Poultry	250	0.75	250	0.75	750	2.25
Kanksa	Zero tillage	300	0.9	400	1.2	800	2.4
	SRI	200	0.6	300	0.9	600	1.8
	Drum Seeder etc.	200	0.6	300	0.9	600	1.8
	Crop diversification	200	0.6	300	0.9	600	1.8
	Agriculture mechanization	300	0.9	400	1.2	800	2.4
	Organic farming	200	0.6	300	0.9	600	1.8
Katwa-I	SRI	500	1.5	600	1.8	1350	4.05
Katwa-II	Microfinance related to Agriculture	420	1.26	420	1.26	630	1.89
	Production Synchronise with demand of market	420	1.26	420	1.26	420	1.26
	Diversification of production price & market	420	1.26	420	1.26	420	1.26
	BPL (Boyler, Poultry, Lactiferous)	420	1.26	420	1.26	420	1.26
Ketugram-I	SRI	100	0.3	100	0.3	250	0.75

	Drum seeder	100	0.3	100	0.3	250	0.75
	Organic farming	100	0.3	100	0.3	250	0.75
	IPM	100	0.3	100	0.3	250	0.75
	Vermicompost	100	0.3	100	0.3	300	0.9
	INM	100	0.3	100	0.3	250	0.75
Ketugram-II	Seed production Technologist	150	0.45	180	0.54	420	1.26
	IPM	120	0.36	150	0.45	330	0.99
	INM	120	0.36	180	0.54	360	1.08
	SRI	120	0.36	180	0.54	360	1.08
	Organic farming	150	0.45	180	0.54	420	1.26
	Crop diversification	120	0.36	180	0.54	360	1.08
	Vermicompost Production	120	0.36	180	0.54	390	1.17
Khandaghosh	SRI	1500	4.5	2000	6	4500	13.5
	Zero tillage	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	1000	3	1500	4.5	4000	12
	Organic Farming	1500	4.5	2000	6	4000	12
Kulti	Improved Methods of cultivation of Paddy like SRI, ZeroTillage, Drum Seeder etc.	100	0.3	100	0.3	100	0.3
	Rainfed Agriculture with special emphasis to cultivation of pulses	100	0.3	100	0.3	100	0.3
	Improved method of cultivation of Maize and Wheat	100	0.3	100	0.3	100	0.3
	INM	50	0.15	50	0.15	50	0.15
Memari-I	IPM	50	0.15	50	0.15	50	0.15
	SRI	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	1000	3	1500	4.5	4000	12
	Organic Farming	1500	4.5	2000	6	4000	12
Memari-II	Zero tillage	3000	9	4000	12	9000	27
	SRI	3000	9	4000	12	9000	27
	Alternate crop	3000	9	4000	12	9000	27
	Introduction of Mechanised agriculture	3000	9	4000	12	9000	27
	Drum Seeder	3000	9	4000	12	9000	27
	Mixed Farming	2000	6	3000	9	8000	24

	Technique						
Mongalkote	Drum Seeder	100	0.3	50	0.15	250	0.75
	Zero tillage	50	0.15	100	0.3	200	0.6
	Goatery	100	0.3	100	0.3	250	0.75
	Fishery	100	0.3	100	0.3	250	0.75
	Floriculture	50	0.15	50	0.15	150	0.45
Monteshwar	SRI, IPM. INM, Drup Seeder, Zero Tillage, Organic Farming	2000	6	2500	7.5		0
Purbasthali-I	S.R.I	150	0.45	150	0.45	450	1.35
	Drum Seeder	60	0.18	60	0.18	180	0.54
	Seed Treatment	150	0.45	150	0.45	450	1.35
	Green House	90	0.27	90	0.27	240	0.72
	Soil Health Management	180	0.54	180	0.54	510	1.53
	Bio- Fertilizer & Bio-Pesticide use	150	0.45	150	0.45	420	1.26
	Drip Irrigation	60	0.18	60	0.18	180	0.54
	Agro Shed Net & Poly culture of horticultural crops	90	0.27	90	0.27	270	0.81
	Zero Tillage	30	0.09	30	0.09	90	0.27
Purbasthali-II	One day training on 1PM	250	0.75	250	0.75	250	0.75
	One day training on INM	250	0.75	250	0.75	250	0.75
	One day training on Seed production technology	250	0.75	250	0.75	250	0.75
	One day training on horticultural nursery management	100	0.3	100	0.3	100	0.3
	One day training on improved dairy management for increase milk production	250	0.75	250	0.75	250	0.75
	Composite fish culture for better utilisation of pond	250	0.75	250	0.75	250	0.75
Raina-I	Zero tillage	1500	4.5	2000	6	4500	13.5
	SRI	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	1000	3	1500	4.5	4000	12
	Organic Farming	1500	4.5	2000	6	4000	12
Raina-II	Zero tillage	1000	3	1500	4.5	3000	9
	SRI	1500	4.5	2000	6	4500	13.5
	Alternate crop	1500	4.5	2000	6	4500	13.5
	Introduction of Mechanised agriculture	1500	4.5	2000	6	4500	13.5
	Drum Seeder	1500	4.5	2000	6	4500	13.5
	Mixed Farming Technique	500	1.5	500	1.5	4000	12

	Organic Farming	1500	4.5	2000	6	4000	12
Salanpur	SRI, Zero Tillage, Drum Seeder.	100	0.3	100	0.3	100	0.3
	Rainfed Agriculture with special emphasis to cultivation of pulses	100	0.3	100	0.3	100	0.3
	Improved method of cultivation of Maize and Wheat	100	0.3	100	0.3	100	0.3
Total		**120340**	**361.02**	**162220**	**486.66**	**356120**	**1068.36**

*(Phy. in no. and fin. in lakh Rs.)

Total financial requirement for capacity building programme under the plan = (361.02 + 486.66 +1068.36) lakh = 1916.04

Table 4.76. Planning of Agriculture Inputs in the District – Seed

Block Name	Name of the Crop	Area under Crop (ha)	Present SRR	Target SRR
Andal	Kharif Paddy	2700	60	100
	Wheat	150	80	100
	Mustard	155	60	100
	Lentil	80	80	100
Aushgram-I	Paddy Kharif	16000	25	30
	Boro Paddy	3000	50	30
	Potato	3000	70	30
Aushgram-II	Paddy	22000	25	70
	Potato	850	20	75
Barabani	Kharif Paddy	6500	15	25
Bhatar	Paddy Kharif	30000	25	40
	Boro Paddy	20000	80	100
	Potato	1300	90	25
	Mustard	1200	70	80
Burdwan	Paddy Kharif	31600	30	40
	Boro Paddy	16500	60	70
	Potato	4600	50	25
	Mustard	200	30	50
Faridpur-Durgapur	Paddy	8750	20	30
	Wheat	90	100	100
Galsi-I	1.Kharif Paddy	17000	20	30
	2.Boro Paddy	13000	40	50
Galsi-II	1.Kharif Paddy	17000	20	33
	2.Boro Paddy	9000	50	33
Jamuria – I	Kharif Paddy	3000	15	25
Jamuria – II	Kharif Paddy	6000	15	25
Kalna-I	Paddy	8700	50	100
	Potato	4900	75	100
	Mustard	750	80	100
	Jute	1200	100	100
Kalna-II	Aman Paddy	12400	50	100

	Boro Paddy	5200	70	100
	Potato	5800	60	100
	Jute	550	100	100
	Onion	500	60	100
Kanksa	Kharif Paddy	12500	20	35
	Boro Paddy	4000	40	35
Katwa-I	Paddy	15535	02	05
	Mustard	975	0.4	01
	Sesame/Til	640	0.1	01
	Lentil	132	0.2	1.2
Ketugram-II	Aus Paddy	500	10	80
	Aman Paddy	10500	12	25
	Boro Paddy	9000	15	75
	Mustard	500	50	100
	Till	400	25	50
	Pulses	350	40	60
	Sugarcane	250	0.2	10
Khandaghosh	Paddy Kharif	18500	25	33
	Boro Paddy	5000	55	33
	Potato	5000	70	33
Kulti	Paddy	2000	20	25
	Wheat	150	50	60
Memari-I	Paddy Kharif	16500	25	33
	Boro Paddy	10000	55	33
	Potato	9000	70	33
Mongalkote	Aman Paddy	100	35	50
	Pulse & oilseeds	100	40	65
Monteshwar	Aman Paddy	22000	60	90
	Boro Paddy	18000	70	90
	Mustard	2300	70	90
Purbasthali-I	Aman Paddy	8518	54	90
	Boro Paddy	4450	65	90
	Jute	2450	89	100
	Potato	1450	42	95
	Til	630	40	90
	Mustard	1790	45	90
	Onion	725	86	100
Purbasthali-II	Paddy	10750	50	100
	Potato	1200	75	100
	Mustard	3400	80	100
	Jute	4000	100	100
	Vegetables	13000	80	100
Raina-I	Paddy Kharif	21300	25	30
	Boro Paddy	6000	25	30
	Potato	5000	70	33
Salanpur	Paddy	4500	20	25
	Wheat	150	80	100
Total		**523920**		

SRR – Seed Replacement Rate

Table 4.77. Planning of Soil Testing Programme (Year 2014-15 to 2016 – 17)

Block	Item	No of Villages	Total Samples to be analyzed	Total Soil Health Cards to be distributed
Andal	General Soil sample	50	200	200
	Special Soil sample	50	50	50
	Micro Nutrient Soil sample	50	100	100
Aushgram-I	General Soil sample	100	6000	6000
	Special Soil sample	100	1000	1000
	Micro Nutrient Soil sample	100	1500	1500
	Water sample	100	3000	3000
	Tissue (leaf & Petiole) sample	100	300	300
Aushgram-II	General Soil sample	133	10000	10000
	Special Soil sample	20	500	500
	Micro Nutrient Soil sample	25	100	100
	Soil Survey sample	20	100	100
	Water sample	20	100	100
	Tissue (leaf & Petiole) sample	10	50	305
Barabani	General Soil sample	52	520	520
	Special Soil sample	20	65	65
	Micro Nutrient Soil sample	20	65	65
Bhatar	General Soil sample	137	1800	1800
	Special Soil sample	137	1000	1000
	Micro Nutrient Soil sample	137	1500	1500
	Water sample	137	100	100
	Tissue (leaf & Petiole) sample	137	100	100
Burdwan	General Soil sample	218	6540	6540
	Special Soil sample	218	1308	1308
	Micro Nutrient Soil sample	218	1308	1308
Faridpur-Durgapur	General Soil Sample	17	1700	1700
	Special soil Sample	7	400	400
	Micronutrient Soil sample	6	600	600
	Soil survey sample	6	300	300
Galsi-I	General Soil sample	110	1000	1000
	Special Soil sample	105	1000	1000
	Micro Nutrient Soil sample	105	1000	1000
Galsi-II	General Soil sample	105	1000	1000
	Special Soil sample	105	1000	1000
	Micro Nutrient Soil sample	105	1000	1000
Jamalpur	General Soil sample	20	400	400
	Special Soil sample	5	25	25
	Micro Nutrient Soil sample	5	25	25
	Soil Survey sample	5	100	100
	Water sample	5	100	100
	Tissue (leaf & Petiole) sample	10	20	20
Jamuria – I	General Soil sample	20	400	400
	Special Soil sample	10	40	40
	Micro Nutrient Soil sample	10	40	40

Jamuria – II	General Soil sample	40	800	800
	Special Soil sample	20	80	80
	Micro Nutrient Soil sample	20	80	80
Kalna-I	General Soil sample	50	1000	1000
Kalna-II	General Soil sample	13	1000	1000
	Special Soil sample	10	200	200
	Micro Nutrient Soil sample	05	50	50
	Water sample	10	50	50
Kanksa	General Soil sample	100	1000	1000
	Special Soil sample	50	500	500
	Micro Nutrient Soil sample	50	500	500
Katwa-I	General Soil sample	20	200	200
	Micro Nutrient Soil sample	08	35	35
Katwa-II	General Soil sample	8	40	20
	Special Soil sample	5	100	100
	Micro Nutrient Soil sample	16	100	100
Ketugram-I	General Soil sample	20	150	150
	Micro Nutrient Soil sample	8	35	35
Ketugram-II	General Soil sample	2	40	40
Khandaghosh	General Soil sample	131	6000	6000
	Special Soil sample	131	1000	1000
	Micro Nutrient Soil sample	131	1500	1500
	Water sample	131	3000	3000
	Tissue (leaf & Petiole) sample	131	300	300
Kulti	General Soil Sample	25	750	750
	Micronutrient Soil sample	10	100	100
Memari-I	General Soil sample	117	6000	6000
	Special Soil sample	117	1000	1000
	Micro Nutrient Soil sample	117	1500	1500
	Water sample	117	3000	3000
	Tissue (leaf & Petiole) sample	117	300	300
Memari-II	General Soil sample	138	3000	3000
	Special Soil sample	100	100	100
	Micro Nutrient Soil sample	50	50	50
Mongalkote	General Soil sample	5	250	250
	Special Soil sample	15	60	80
Monteshwar	General Soil sample	100	2000	2000
	Special Soil sample	20	200	200
	Micro Nutrient Soil sample	20	200	200
	Soil Survey sample	100	2000	2000
Purbasthali-I	General Soil sample	103	1200	1200
	Special Soil sample	10	250	250
	Micro Nutrient Soil sample	25	450	450
Purbasthali-II	General Soil sample	15	150	150
Raina-I	General Soil sample	113	5000	5000
	Special Soil sample	113	1000	1000
	Micro Nutrient Soil sample	113	1000	1000
	Water sample	113	2000	2000
	Tissue (leaf & Petiole) sample	113	300	300

Raina-II	General Soil sample	116	5000	5000
	Special Soil sample	116	1000	1000
	Micro Nutrient Soil sample	116	1000	1000
	Water sample	116	1000	1000
	Tissue (leaf & Petiole) sample	116	200	200
Salanpur	General Soil Sample	10	500	500
	Micronutrient Soil sample	5	250	250
Total		**6661**	**106026**	**106281**

Table 4.78. Proposed production of organic input and formation of organic groups in the XIIth plan

Block	**Production of Organic inputs (q)**						**Other activities**		
	Biofertilizers	**Vermi Compost**	**Biodynamic Compost**	**Biopesticides Group**	**Botanical pesticides**	**Organic farming seeds**	**O. F. Groups**	**Organic Certification Group**	**Required Amount (in lakh Rs.)**
Andal		100							0.8
Aushgram-I		1000	50	10	2	1	10	1	2
Ausgram-II		3							1.80
Barabani		24							
Bhatar		200	70	05	2	1	10	2	2
Burdwan		200	50	4	2		4		8
Faridpur-Durgapur		120							
Galsi-I		100							10
Galsi-II		100							10
Jamalpur	10	1000	100	1	1	20	10	1	
Jamuria – I		30							
Jamuria – II		50							
Kalna-I		5000							
Kalna-II	40	40		10	100	100	100	100	5.0
Kanksa		80							5
Katwa-I		15							
Katwa-II		60	100						
Ketugram-II	50	45	20	20	10	10	2		
Khandaghosh		140	50	10	1		10	2	2
Kulti		500							
Memari-I		100	50	10	2	1	10	2	2
Memari-II		125	30	05	2	1	10	2	2
Mongalkote		100	100						1.0
Monteshwar	100	2000	40	50	20	50	20	10	
Purbasthali-I	10	1000		10	50	5	10		
Purbasthali-II		2000							
Raina-I		100	50	10	2	1	10	2	2
Raina-II		100	20	5	2	2	10	2	1.5
Salanpur		500							
Total	**210**	**14832**	**730**	**150**	**196**	**192**	**216**	**124**	**55.1**

Table 4.79. IPM Demonstrations in XIIth plan

Block	Name of crop	Present Area under IPM (ha)	IPM Demonstration Projections					
			2014-15		2015-16		2016-17	
			Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Andal	Paddy(K)	50	2	0.80	2	0.80	3	1.2
	Vegetables	20	2	0.80	2	0.80	3	1.2
	Pulse	20	2	0.80	2	0.80	3	1.2
Aushgram-I	Potato	100	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Aushgram-II	Aman Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	50	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Barabani	Paddy	50	2	0.80	2	0.80	3	1.2
Bhatar	Paddy	400	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Burdwan	Potato	50	2	0.80	2	0.80	3	1.2
	Paddy	150	2	0.80	2	0.80	3	1.2
	Mustard	20	2	0.80	2	0.80	3	1.2
Faridpur-Durgapur	Paddy	200	2	0.80	2	0.80	3	1.2
	Vegetables	20	2	0.80	2	0.80	3	1.2
	Maize	50	2	0.80	2	0.80	3	1.2
	Mustard	20	2	0.80	2	0.80	3	1.2
Galsi-I	Potato	140	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Galsi-II	Potato	100	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Jamalpur	Aman Paddy	0	2	0.80	2	0.80	3	1.2
	Boro Paddy	0	2	0.80	2	0.80	3	1.2
	Potato	0	2	0.80	2	0.80	3	1.2
	Mustard	0	2	0.80	2	0.80	3	1.2
	Til	0	2	0.80	2	0.80	3	1.2
Jamuria – I	Paddy	1			2	0.40	2	0.40
Jamuria – II	Paddy	1			2	0.80	2	0.80
Kalna-I	Pulse	1	2	0.80	2	0.80	3	1.2
Kalna-II	Aman Paddy	150	2	0.5	2	0.5	2	0.5
	Boro Paddy	100	2	0.2	2	0.2	2	0.2
	Potato	100	2	0.5	2	0.5	2	0.5
Kanksa	Paddy	12	1	0.40	2	0.80	2	0.80
	Mustard	10	1	0.40	2	0.80	2	0.80
Katwa-I	Pulse & Oilseed	10	5	2.0	8	3.2	10	4.0
	Paddy	20	5	2.0	8	3.2	10	4.0
Katwa-II	Paddy	100	2	0.6	4	0.12	4	0.12
	Oil seed	50	1	0.3	2	0.6	3	0.9

	Pulse	20	1	0.3	2	0.6	2	0.6
Ketugram-I	Pulse	10	5	2.0	8	3.2	10	4.0
	Paddy	150	5	2.0	8	3.2	10	4.0
Ketugram-II	Oil Seed	20	5	2.0	8	3.2	10	4.0
	Paddy	300	1	0.05	2	0.1	3	0.15
	Pulses	100	1	0.05	2	0.1	3	0.15
Khandaghosh	Potato	100	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Kulti	Paddy	10	2	0.80	2	0.80	3	1.2
Memari-I	Potato	100	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Memari-II	Paddy	400	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Mongalkote	Aman Paddy	100	1	0.5	2	1.0	2	1.0
Monteshwar	Paddy	90	5	2.0	8	3.2	10	4.0
Purbasthali-I	Paddy	150	5	2.0	8	3.2	10	4.0
	Lentil	18	5	2.0	8	3.2	10	4.0
	Til	30	5	2.0	8	3.2	10	4.0
	Jute	50	5	2.0	8	3.2	10	4.0
Raina-I	Potato	30	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
	Mustard	10	2	0.80	2	0.80	3	1.2
Raina-II	Potato	200	2	0.80	2	0.80	3	1.2
	Paddy	200	2	0.80	2	0.80	3	1.2
Salanpur	Paddy	100			1		1	
Total		**5753**	**155**	**59.8**	**199**	**74.52**	**267**	**100.92**

(Phy – Area covered in ha.; Fin – Rs. In lakh)

Total fund requirement = (59.8 +74.52+100.92) or 234.92 lakh

Table 4.80. INM Demonstrations in XIIth plan

Block	Name of crop	Present Area under INM (ha)	IPM Demonstration Projections					
			2014-15		2015-16		2016-17	
			Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Andal	Aman Paddy	500	2	0.80	2	0.80	3	1.2
	Wheat	400	2	0.80	2	0.80	3	1.2
	Mustard	50	2	0.80	2	0.80	3	1.2
	Lentil	20	2	0.80	2	0.80	3	1.2
	Vegetables	90	2	0.80	2	0.80	3	1.2
Aushgram-I	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Aushgram-II	Aman	200	2	0.80	2	0.80	3	1.2

	Mustard	100	2	0.80	2	0.80	3	1.2
	Potato	300	2	0.80	2	0.80	3	1.2
Barabani	Paddy	300			2	1.00	3	1.00
Bhatar	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	50	2	0.80	2	0.80	3	1.2
Burdwan	Potato	150	2	0.80	2	0.80	3	1.2
	Paddy	250	2	0.80	2	0.80	3	1.2
	Mustard	100	2	0.80	2	0.80	3	1.2
Faridpur-Durgapur	Paddy	300	2	0.80	2	0.80	3	1.2
	Wheat	200	2	0.80	2	0.80	3	1.2
Galsi-I	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Galsi-II	Paddy	200	2	0.80	2	0.80	3	1.2
	Boro Paddy	150	2	0.80	2	0.80	3	1.2
	Potato	130	2	0.80	2	0.80	3	1.2
Jamalpur	Aman Paddy	300	2	0.80	2	0.80	3	1.2
	Boro Paddy	150	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Jamuria – I	Paddy	200	2	0.80	2	0.80	3	1.2
Jamuria – II	Paddy	150	2	0.80	2	0.80	3	1.2
Kalna-I	Pulse	130	2	0.80	2	0.80	3	1.2
Kalna-II	Aman Paddy	300	2	0.80	2	0.80	3	1.2
	Boro Paddy	150	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Kanksa	Paddy	200	1	0.50	2	1.00	2	1.00
Katwa-I	Paddy	200	2	0.80	2	0.80	3	1.2
	Pulse & Oilseed	200	3		4		6	
Katwa-II	Paddy	150	8	0.32	10	0.40	12	0.48
	Oil seed	130	5	0.2	8	0.32	10	0.40
	Pulse	300	5	0.2	8	0.32	10	0.40
Ketugram-I	Lentil	50	20	0.80	25	1.0	25	1.0
Ketugram-II	Paddy	100	3	1.5	4	0.2	6	0.3
	Pulses	20	2	0.4	4	0.6	6	0.8
	Oil Seed	40	2	0.4	4	0.6	6	0.8
Khandaghosh	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Kulti	Paddy	440	2	0.80	2	0.80	3	1.2
Memari-I	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	3	1.2
Memari-II	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	50	2	0.80	2	0.80	3	1.2
Mongalkote	Aman Paddy	200	1	0.5	2	1.0	2	1.0
	Potato	120	1	1.0	2	2.0	2	2.0
Monteshwar	Paddy	500	2	0.80	2	0.80	3	1.2

Purbasthali-I	Paddy	600	2	0.80	2	0.80	3	1.2
	Lentil	18	2	0.80	2	0.80	3	1.2
	Til	20	2	0.80	2	0.80	3	1.2
	Jute	100	2	0.80	2	0.80	3	1.2
Purbasthali-II	Boro Paddy	250	2	0.80	2	0.80	3	1.2
	Pulse	140	2	0.80	2	0.80	3	1.2
	Til	80	2	0.80	2	0.80	3	1.2
Raina-I	Paddy	200	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	200	2	0.80	2	0.80	3	1.2
Raina-II	Paddy	100	2	0.80	2	0.80	3	1.2
	Boro Paddy	100	2	0.80	2	0.80	3	1.2
	Potato	100	2	0.80	2	0.80	2	0.8
Salanpur	Paddy	250	2	0.80	2	0.80	2	0.8
Total		**10678**	**165**	**51.42**	**189**	**54.04**	**259**	**76.78**

(Phy – Area covered in ha.; Fin – Rs. In lakh)

Total fund requirement = (51.2 +54.04+76.78) or 182.02 lakh

Table 4.81. Varietal Demonstration in XIIth plan

Block	Name of crop	Average Area per demon-stration (ha.)	Present Area under Varietal demon. (ha)	Varietal Demonstration Projection					
				2014-15		2015-16		2016-17	
				Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Andal	Aman Paddy	0.4	100	22	3	26	4	29	4
	Mustard	0.13	50	9	1	10	2	11	2
	Lentil	0.13	50	3	0	3	1	4	1
	Maize	0.13	150	20	3	24	4	26	4
Aushgram-I	Paddy	0.4	300	22	3	26	4	29	4
	Boro	0.4	200	22	3	26	4	29	4
	Onion	0.13	10	1	0	2	0	2	0
Aushgram-II	Aman Paddy	0.4	100	22	3	26	4	29	4
Barabani	Aman Paddy	0.4	200	22	3	26	4	29	4
Bhatar	Paddy	0.4	150	44	7	53	8	58	9
	Boro	0.4	200	44	7	53	8	58	9
	onion	0.13	10	3	0	3	1	4	1
Burdwan	Paddy	0.4	1100	22	3	26	4	29	4
	Potato	0.4	500	11	2	13	2	15	2
	Mustard	0.4	100	22	3	26	4	29	4
Faridpur-Durgapur	Paddy	0.4	150	44	7	53	8	58	9
	Wheat	0.4	150	22	3	26	4	29	4
	Mustard	0.4	50	44	7	53	8	58	9
	Maize	0.4	100	53	8	63	10	70	10
Galsi-I	Paddy (Aman)	0.4	200	44	7	53	8	58	9
	Paddy (Boro)	0.4	200	44	7	53	8	58	9
	Mustard	0.13	100	7	1	9	1	9	1
Galsi-II	Paddy (Aman)	0.4	400	44	7	53	8	58	9

	Paddy (Boro)	0.4	400	44	7	53	8	58	9
	Mustard	0.13	100	43	6	51	8	57	8
	Onion	0.26	5	7	1	9	1	9	1
Jamalpur	Paddy	0.4	300	44	7	53	8	58	9
	Boro Paddy	0.4	200	44	7	53	8	58	9
	Onion	0.13	5	1	0	2	0	2	0
	Til	0.13	40	4	1	5	1	6	1
Jamuria – I	Aman Paddy	0.4	200	44	7	53	8	58	9
Jamuria – II	Aman Paddy	0.4	200	44	7	53	8	58	9
Kalna-I	Paddy	0.4	100	44	7	53	8	58	9
	Mustard	0.13	100	23	3	27	4	30	5
	Lentil	0.13	50	2	0	3	0	3	0
	Sunflower	0.26	20	6	1	7	1	8	1
	Moong	0.13	50	4	1	5	1	6	1
	Groundnut	0.13	20	3	0	3	1	4	1
	Sesame	0.26	50	14	2	17	3	19	3
Kalna-II	Aman Paddy	0.8	100	88	13	106	16	116	17
	Boro Paddy	0.8	200	88	13	106	16	116	17
	Potato	0.4	300	22	3	26	4	29	4
	Kharif Onion	0.13	10	3	0	3	1	4	1
Kanksa	Aman Paddy	0.8	300	88	13	106	16	116	17
	Boro Paddy	0.4	500	44	7	53	8	58	9
	Mustard	0.26	200	29	4	34	5	38	6
Katwa-I	Paddy	0.8	250	132	20	158	24	174	26
	Pulse	0.13	50	7	1	9	1	9	1
	Oilseed	0.13	100	7	1	9	1	9	1
Katwa-II	Paddy	0.8	300	88	13	106	16	116	17
	Jute	0.4	100	22	3	26	4	29	4
	Sugar cane	0.13	30	3	0	3	1	4	1
	Mustard	0.4	100	22	3	26	4	29	4
	Sesame	0.26	50	14	2	17	3	19	3
	Moong	0.13	25	4	1	4	1	5	1
Monteshwar	Boro+Aman Paddy	0.8	1000	264	40	317	48	348	52
	Mustard	0.13	600	23	3	27	4	30	5
	Pulses	0.13	25	11	2	14	2	15	2
	Sesame	0.13	30	6	1	8	1	8	1
	Sunflower	1	10	110	17	132	20	145	22
Purbasthali-I	Paddy	0.8	300	44	7	53	8	58	9
	Ground Nut	1	20	22	3	26	4	29	4
	Til	1	14	17	2	20	3	22	3
	Jute	1	25	28	4	33	5	36	5
	Mustard	1	50	55	8	66	10	73	11
Purbasthali-II	Paddy	0.8	100	88	13	106	16	116	17
	Lentil	**0.4**	25	22	3	26	4	29	4
	Sunflower	0.8	15	18	3	21	3	23	3
	Moong	0.13	25	1	0	2	0	2	0
Raina-I	Paddy	0.8	300	132	20	158	24	174	26
	Boro	0.8	200	88	13	106	16	116	17

	onion	0.26	10	3	0	3	1	4	1
Raina-II	Paddy (A. Rice)	0.8	700	132	20	158	24	174	26
	Boro	1	200	55	8	66	10	73	11
	Paddy	0.8	400	176	26	211	32	232	35
	Wheat	0.4	500	22	3	26	4	29	4
	Maize	0.4	100	44	7	53	8	58	9
Salanpur	Arhar	0.4	100	22	3	26	4	29	4
Total	**5400.03**	**42**	**17874**	**3886**	**583**	**4664**	**700**	**5130**	**769**

(Phy Area covered in ha) (Fin – Rs. In lakh)

Totl fund requirement = (583 +700 +769) lakh = 2052 lakh

Table 4.82. Farmers Field Schools Projection in XIIth plan

Block	Name of crop	2014-15		2015-16		2016-17	
		No. of FFS	No .of villages to be covered	No. of FFS	No. of villages to be covered	No. of FFS	No. of villages to be covered
Andal	Paddy	1	8	2	8	1	8
Aushgram-I	Paddy	2	10	2	10	10	100
	Boro	1	10	1	10	10	50
	Potato	2	5	2	5	5	100
	Fish	2	5	2	5	5	100
	Animal Husbandry	2	4	2	4	4	100
Barabani	Paddy	2	10	1	10	10	5
	Wheat	1	5	1	5	5	4
Bhatar	Paddy	2	10	2	10	10	100
	Boro	1	10	1	10	10	50
	Potato	2	10	2	10	10	100
Burdwan	Paddy	4	8	6	8	8	16
	Potato	2	4	4	4	4	12
	Mustard	2	10	4	10	10	30
Faridpur-Durgapur	Paddy	1	10	1	10	10	1
	Wheat	1	5	1	5	5	1
Galsi-I	Paddy	1	10	2	10	10	2
Galsi-II	Paddy	1	10	2	10	10	2
	Mustrad	1	5	1	5	5	1
Jamalpur	Aman Paddy	2	10	2	10	10	100
	Boro Paddy	1	10	1	10	10	50
	Potato	2	10	2	10	10	100
Jamuria – I	Paddy	2	10	1	10	10	3
Jamuria – II	Paddy	2	10	1	10	10	3
	Wheat	2	5	1	5	5	4
	Potato	1	7	1	7	7	1

	Paddy	1	8	1	8	8	1
Kalna-II	AmanPaddy	2	10	2	10	10	2
	Boro Paddy	2	10	2	10	10	2
	Potato	2	5	2	5	5	2
	Kharif Onion	2	5	2	5	5	2
Kanksa	Paddy	1	10	2	10	10	
Katwa-I	Paddy	0	10	1	10	10	2
	Pulse	1	5	1	5	5	2
	Oilseed	1	4	1	4	4	2
Katwa-II	Paddy	1	5	2	5	5	4
	Mustard	1	5	1	5	5	4
	Oil seed	1	5	1	5	5	4
Ketugram-I	PADDY	1	10	2	10	10	6
Ketugram-II	Paddy	2	10	3	10	10	2
	Pulse	2	10	3	10	10	3
	Oil seed	3	5	3	5	5	4
Khandaghosh	Paddy	2	4	2	4	4	100
	Boro	1	7	1	7	7	50
	Potato	2	4	2	4	4	100
	Fish	2	6	2	6	6	100
	Animal Husbandry	2	5	2	5	5	100
Kulti	Paddy	1	10	1	10	10	1
Memari-I	Paddy	2	5	2	5	5	100
	Boro	1	10	1	10	10	50
	Potato	2	10	2	10	10	100
	Fish	2	5	2	5	5	100
	Animal Husbandry	2	5	2	5	5	100
Memari-II	Paddy	2	10	2	10	10	100
	Boro	1	5	1	5	5	50
	Potato	2	10	2	10	10	100
Mongalkote	AmanPaddy	2	10	4	10	10	22
	Boro Paddy	1	7	2	7	7	15
Monteshwar	1	2	4		4	4	
Purbasthali-I	Aman Paddy	2	4	2	4	4	6
	Mustard	1	10	1	10	10	3
Purbasthali-II	Paddy	1	5	1	5	5	
Raina-I	Paddy	2	10	2	10	10	10
	Boro	1	5	1	5	5	5
	Potato	1	5	2	5	5	10
	Fish	2	10	2	10	10	10
	Animal Husbandry	2	10	2	10	10	10
Raina-II	Paddy	2	10	2	10	10	2

	Boro	1	10	1	10	10	1
	Potato	2	10	2	10	10	2
	Fish	2	5	2	5	5	2
	Animal Husbandry	2	5	2	5	5	2
Total		**116**	**544**	**129**	**544**	**537**	**2336**

Total fund requirement for FFS:

Fund requirement for one (1) FFS = 0.8 lakh

Total FFS planned in the plan = (544+544+537) = 1625

Therefore, total fund requirement = 1625 * 0.8 = 1300 lakh

Table 4.83. Crop Diversification Plan in XIIth plan

Block	Existing Cropping Pattern 2013-14		Crop Diversification Proposed (Area in ha.)					
			2014-15		2015-16		2016-17	
	Crop Group	Area	Area under crop	Change in area with reference to 13-14 (+/-)	Area under crop	Change in area with reference to 13-14 (+/-)	Area under crop	Change in area with reference to 13-14 (+/-)
Andal	Aman Paddy – fallow	2200	2000	-200	1800	-400	1620	-580
	Aman paddy-Wheat	150	250	100	275	125	247.5	97.5
	Aman Paddy - Mustard	150	300	150	330	180	297	147
	Aman Paddy – Lentil/Gram	100	300	200	330	230	297	197
	Aman Paddy – Veg. – Veg.	100	150	50	165	65	148.5	48.5
Aushgram-I	Paddy -potato - Til	3000	3200	200	3520	520	3168	168
	Paddy- Mustard -Til	1000	1200	200	1320	320	1188	188
	Paddy -potato - GN	100	150	50	165	65	148.5	48.5
	Paddy-paddy	7000	6500	-500	5850	-1150	5265	-1735
	Kh Veg- rabi Veg-summer veg	400	450	50	495	95	445.5	45.5
Aushgram-II	Rice- Mustard	1000	1200	200	1320	320	1188	188
	Rice- Potato	650	750	100	825	175	742.5	92.5

	Rice- Mustard-Veg	2000	2500	500	2750	750	2475	475
	Paddy- Lentil	1000	2000	1000	2200	1200	1980	980
	Rice	12000	8000	-4000	7200	-4800	6480	-5520
Barabani	Aman Paddy – fallow	4000	2000	-2000	1800	-2200	1620	-2380
	Aman Paddy - Mustard	6000	6500	500	7150	1150	6435	435
	Aman Paddy – Potato - Till	500	750	250	825	325	742.5	242.5
	Aman Paddy – Veg. – Veg.	500	750	250	825	325	742.5	242.5
Bhatar	Paddy- Mustard -Paddy	1250	1000	-250	1100	-150	990	-260
	Paddy -potato - Paddy	1550	2000	450	2200	650	1980	430
	Paddy-Potato-Til	1400	1500	100	1650	250	1485	85
	Kh Veg- rabi Veg-summer veg	25	50	25	55	30	49.5	24.5
Burdwan	Aman paddy-Boro paddy	21000	15000	-6000	16500	-4500	14850	-6150
	Aman paddy-Mustard- Boro	3000	3500	500	3850	850	3465	465
	Aman paddy - Potato	2800	3000	200	3300	500	2970	170
	Kharif Veg- Rabi Veg	850	1000	150	1100	250	990	140
	Aman paddy - Potato- Til	800	1000	200	1100	300	990	190
	Aman Paddy-Rabi Veg.	700	900	200	990	290	891	191
	Kharif Veg.-Potato- Summer Veg.	700	900	200	990	290	891	191
	Aman paddy - Potato- Summer Veg.	500	90	-410	99	-401	89.1	-410.9
	Kharif Veg.-Potato- Til	200	500	300	550	350	495	295
Faridpur-Durgapur	Cereals	9200	8000	-1200	7200	-2000	6480	-2720
	Pulses	50	150	100	165	115	148.5	98.5
Galsi-I	Paddy -potato - Til	7000	7500	500	8250	1250	7425	425
	Paddy- Mustard -Til	100	150	50	165	65	148.5	48.5
	Paddy -potato - GN	100	150	50	165	65	148.5	48.5
	Paddy-paddy	9000	7000	-2000	6300	-2700	5670	-3330
	Kh Veg- rabi Veg-summer veg	200	500	300	550	350	495	295

Galsi-II	Paddy -potato - Til	9000	9000	0	9900	900	8910	-90
	Paddy- Mustard -Til	100	200	100	220	120	198	98
	Paddy -potato - GN	100	200	100	220	120	198	98
	Paddy-paddy	7000	5000	-2000	4500	-2500	4050	-2950
	Kh Veg- rabi Veg-summer veg	400	500	100	550	150	495	95
Jamalpur	Paddy -potato - Til	10000	10500	500	11550	1550	10395	395
	Paddy- Mustard -Til	700	850	150	935	235	841.5	141.5
	Paddy -potato - GN	400	500	100	550	150	495	95
	Paddy-paddy	5000	3000	-2000	2700	-2300	2430	-2570
	Kh Veg- rabi Veg-summer veg	800	1000	200	1100	300	990	190
Jamuria – I	Aman Paddy – fallow- Cereals	3000	2400	-600	2160	-840	1944	-1056
	Aman Paddy – Mustard - Pulse			0	0	0	0	0
	Aman Paddy – Potato – Till Oil seed	3000	3500	500	3850	850	3465	465
	Veg. - Potato			0	0	0	0	0
Jamuria – II	Aman Paddy – fallow- Cereals	120	500	380	550	430	495	375
	Aman Paddy – Mustard -Pulse			0	0	0	0	0
	Aman Paddy – Potato – Till Oil seed	100	150	50	165	65	148.5	48.5
	Veg. - Potato			0	0	0	0	0
Kalna-I	Aman Paddy-Potato-Til	5500	4250	-1250	3825	-1675	3442.5	-2057.5
	Aman Paddy - Onion-Jute			0	0	0	0	0
	Aman Paddy-Mustard-Boro Paddy	6000	6200	200	6820	820	6138	138
Kalna-II	Aman Paddy			0	0	0	0	0
	Boro Paddy	120	200	80	220	100	198	78
	Potato			0	0	0	0	0
	Onion	100	200	100	220	120	198	98
	Jute			0	0	0	0	0
	Vegetables	5000	5200	200	5720	720	5148	148
Kanksa	Aman Paddy – fallow	1200	1500	300	1650	450	1485	285
	Aman Paddy -	800	1500	700	1650	850	1485	685

	Mustard							
	Aman Paddy – Potato - Till	12400	8000	-4400	7200	-5200	6480	-5920
	Aman Paddy – Veg. – Veg.	5200	50	-5150	55	-5145	49.5	-5150.5
Katwa-II	Cereal	5800	20	-5780	22	-5778	19.8	-5780.2
	Fibre crop	450	500	50	550	100	495	45
	Oil seed	550	55	-495	60.5	-489.5	54.45	-495.55
	Pulse crop	1400	1500	100	1650	250	1485	85
Ketugram-II	Onion	4000	2000	-2000	1800	-2200	1620	-2380
	Mustard	6000	2000	-4000	2200	-3800	1980	-4020
	Pulse	500	1000	500	1100	600	990	490
Khandaghosh	Paddy -potato -Til	500	1000	500	1100	600	990	490
	Paddy- Mustard -Til	11500	9000	-2500	8100	-3400	7290	-4210
	Paddy -potato -GN	500	550	50	605	105	544.5	44.5
	Paddy-paddy	800	1000	200	1100	300	990	190
	Kh Veg- rabi Veg-summer veg	505	1000	495	1100	595	990	485
	Paddy -Masoor	100	8900	8800	9790	9690	8811	8711
Kulti	Cereals	200	8700	8500	9570	9370	8613	8413
	Pulses	150	8550	8400	9405	9255	8464.5	8314.5
Memari-I	Paddy -potato -Til	5000	5200	200	5720	720	5148	148
	Paddy- Mustard -Til	1000	1200	200	1320	320	1188	188
	Paddy -potato -GN	500	750	250	825	325	742.5	242.5
	Paddy-paddy	5000	3000	-2000	2700	-2300	2430	-2570
	Kh Veg- rabi Veg-summer veg	700	1000	300	1100	400	990	290
Memari-II	Paddy -Paddy	1000	1200	200	1320	320	1188	188
	Paddy- Mustard -Paddy	2150	2100	-50	1890	-260	1701	-449
	Paddy -potato -Paddy	80	130	50	143	63	128.7	48.7
	Paddy-Potato-Til	9000	9500	500	10450	1450	9405	405
	Kh Veg- rabi Veg-summer veg	100	150	50	165	65	148.5	48.5
Mongalkote	Aman Paddy	100	150	50	165	65	148.5	48.5
	Boro Paddy	7000	5000	-2000	4500	-2500	4050	-2950
	Potato	400	500	100	550	150	495	95
Monteshwar	Boro Paddy - Aman Paddv	4000	3000	-1000	2700	-1300	2430	-1570
	Aman Paddy -Mustard	1250	1500	250	1650	400	1485	235
	Aman paddy-	7000	7500	500	8250	1250	7425	425

	Potato							
	Aman Paddy - Sesame	1500	1750	250	1925	425	1732.5	232.5
	Aman Paddy - union	35	70	35	77	42	69.3	34.3
	Aman paddy-pulses	26800	20000	-6800	18000	-8800	16200	-10600
	Vegetables - other	15000	13000	-2000	14300	-700	12870	-2130
Purbasthali-I	Cereal Crops	6000	6000	0	6600	600	5940	-60
	Pulse Crop	19800	15000	-4800	13500	-6300	12150	-7650
	Oil Seed			0	0	0	0	0
	Fibre Crop	2400	2300	-100	2530	130	2277	-123
Purbasthali-II	Jute - Rice	900	1000	100	1100	200	990	90
	Jute - Onion	400	450	50	495	95	445.5	45.5
	Rice - Potato- Til	150	200	50	220	70	198	48
	Jute - Kalai - Rice			0	0	0	0	0
	Rice- Vegetable	45	80	35	88	43	79.2	34.2
	Jute - Vegetable/ Rabi crops	650	680	30	748	98	673.2	23.2
	Rice - Oil seed/Pulse -Rice	13210	8518	-4692	7666	-5544	6899.58	-6310.42
	Rice - Rice	935	450	-485	495	-440	445.5	-489.5
	Paddy -potato - Til	2515	2080	-435	2288	-227	2059.2	-455.8
	Paddy- Mustard -Til	2570	2450	-120	2695	125	2425.5	-144.5
	Paddy -potato - GN	400	450	50	495	95	445.5	45.5
	Paddy-paddy	500	550	50	605	105	544.5	44.5
	Kh Veg- rabi Veg-summer veg	1100	1200	100	1320	220	1188	88
Raina-II	Paddy -potato - Til	65	100	35	110	45	99	34
	Paddy- Mustard -Til	4000	4500	500	4950	950	4455	455
	Paddy -potato - GN	3000	3200	200	3520	520	3168	168
	Paddy-paddy	700	1000	300	1100	400	990	290
	Kh Veg- rabi Veg-summer veg	3000	2000	-1000	1800	-1200	1620	-1380
Salanpur	Cereals	7000	7100	100	7810	810	7029	29
	Pulses	200	250	50	275	75	247.5	47.5
Total		**388795**	**353443**	**-35352**	**361633.7**	**-27161.3**	**325470.33**	**-63324.67**

Table 4.84. Additional area to be brought / under Organic Farming in XIIth plan

Block	Present area (2013-14) under Organic Farming (ha)	Year wise area to be brought under organic farming (ha)			
		2014-15	2015-16	2016-17	Total
Andal		5	10	15	30
Aushgram-I	100	500	700	900	2100
Aushgram-II	25	35	100	150	285
Barabani			5	10	15
Bhatar	610	5	10	15	30
Burdwan	50	100	200	300	600
Faridpur-Durgapur			5	5	10
Galsi-I		10	20	50	80
Galsi-II		10	20	50	80
Jamalpur	100	300	500	700	1500
Jamuria-I			3	6	9
Jamuria – II			5	10	15
Kalna-I		15	20	25	60
Kanksa		5	10	20	35
Katwa-I	03	05	07	10	22
Katwa-II		2	3	4	9
Ketugram-I	3	5	6	10	21
Ketugram-II	10	100	200	300	600
Khandaghosh	100	500	700	900	2100
Kulti		2	2	2	6
Memari-I	100	500	700	900	2100
Memari-II	500	10	10	15	35
Mongalkote		50	100	200	350
Monteshwar		5	**10**		
Purbasthali-I		25	40	100	**165**
Purbasthali-II		**10**	15	25	
Raina-I	200	300	400	600	1500
Raina-II		50	70	100	220
Salanpur		2	2	2	6
Total	**1801**	**2551**	**3873**	**5424**	**11983**

Additional proposed activities and fund requirement therein for RKVY support are as below,

Table 4.85. Production Growth sector

Block Name	Activity proposed	Target					
		2014-15		2015-16		2016-17	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Andal	Demonstration of ICM for Aman paddy, mustard, lentil etc.			50	5	50	5
	Construction of irrigation structure by improving irrigation cannals.			1	10	1	10
Aushgram-I	Demonstration of medium or early rice			50	5	50	5

	Demonstration of zero tillage machine in rice			50	5	50	5
	Demonstration of zero tillage machine in wheat			50	5	50	5
	Hybrid maize seed production	10	0.5	5	0.5	5	0.5
	Hybrid sunflower seed production	10	0.2	2	0.2	2	0.2
	Demonstration of traditional rice (30 varieties)	20	0.2	2	0.2	2	0.2
	Soil health card			1500	7.5	1500	7.5
	Demonstration on hybrid rice	10	1	10	1	10	1
	Kharif Onion demonstration			10	1	10	1
	Demonstration of maize based on nutrient expert system	25	2.5	25	2.5	25	2.5
	Demonstration of wheat based on nutrient system			25	2.5	25	2.5
	Demonstration of rice based on nutrient system			25	2.5	25	2.5
Aushgram-II	Demonstration of rice of different traditional varieties.			50	5	50	5
	Demonstration of innovative technology like zero tillage			100	10	100	10
	Demonstration of seed production	20	2	20	2	20	2
	Demonstration of potato seed			30	3	30	3
	Demonstration of scented rice			100	10	100	10
	Construction of germplasm demonstration unit			10	2	10	2
	Soil health testing kit	50	2.5	50	2.5	50	2.5
	Demonstration of sprinkler and drip irrigation	10	5	10	5	10	5
	Demonstration of rice mini harvester			10	1	10	1
	Demonstration of hybrid rice			20	2	20	2
Bhatar	Hybrid rice demonstration			50	5	50	5
	Aromatic rice demonstration			100	10	100	10
	Seed village			10	5	10	5
	Mechanical controlled demonstration			10	5	10	5
Burdwan	HYV paddy demonstration with new variety			100	10	100	10
	Demonstration of sunflower, groundnut			100	10	100	10
	Implement hub			2	100	2	100
	Demonstration on organic farming			100	20	100	20
	Subsidy for farm mechanization	1	50	1	50	1	50
Faridpur-Durgapur	Demonstration on SRI			10	1	10	1
	Demonstration on zero tillage in paddy			20	2	20	2
	Demonstration on zero tillage in wheat			10	1	10	1
	Demonstration on drum seeder	5	0.5	20	2	20	2
Galsi-I	Agriculture mechanization				0		0
	IFS	5	2.5	50	5	50	5

	Demonstration of organic farming			50	5	50	5
Galsi-II	Aromatic rice demonstration				0		0
	Sesame demonstration	100	10	100	10	100	10
	Lentil demonstration	50	5	50	5	50	5
	Groundnut demonstration			10	1	10	1
Hirapur	Seed production unit			6	0.6	6	0.6
	Poly vermipit	10	4	40	4	40	4
	Godowns					4	60
	Oil mill			5	7.5	5	7.5
	Food processing unit			10	15	10	15
	Irrigation canal with pump			5	25	5	25
	Re-excavation of ponds	1	10	10	50	10	50
	Vehicle for carrying of field product to market			10	40		
	Office building					1	50
Jamalpur	Implement hub					2	40
	Soil testing lab					1	5
	Food processing unit			1	5	1	5
	Demonstration unit			30	45		
	Exposure visit	1	0.5	5	2.5	5	2.5
	Model village			1	5		
Kalna-I	Sesame demonstration	50	5	50	5	50	5
	Aromatic rice demonstration			50	5	50	5
	Mustard demonstration			50	5	50	5
	Demonstration of pulses and oilseeds			50	5	50	5
	Agricultural mechanization			1	10	1	10
	Development of rainfed farming system			10	1	10	1
	Organic manure		0		0		0
	Cultivation of horticulture crops	10	1	30	3	30	3
Katwa-I	Sesame demonstration	10	1	50	5	50	5
	Lentil demonstration			100	10	100	10
Ketugram-I	Zero tillage in rice			5	0.5	5	0.5
	Drum seeder D/C	10	1	10	1	10	1
	D/C on dhaincha			15	1.5	15	1.5
	Kharif onion D/C			1	0.1	1	0.1
	Soil health card	100	0.5	500	2.5	500	2.5
Khandaghosh	Lentil demonstration			100	10	100	10
	Sesame demonstration			100	10	100	10
Memari-I	D/C on scented rice			20	2	20	2
	D/C on hybrid rice			100	10	100	10
	D/C on off season vegetable			100	10	100	10
	Seed village			20	10	20	10
	Seed village of potato			5	7.5	5	7.5
	Organic farming			5	0.5	5	0.5
	D/C on groundnut			100	10	100	10
	D/C on mixed farming			5	0.5	5	0.5
	D/C on lentil			100	10	100	10
Memari-II	Mustard demonstration			100	10	100	10
	Pulse demonstration			50	5	50	5

	Sesame demonstration			100	10	100	10
Mongalkote	HRD training for extension officials	2	0.4	2	0.4	2	0.4
Monteshwar	Compact area demonstration/ area expansion in paddy			500	50	500	50
	Compact area demonstration in mustard and other oil seed			100	10	100	10
	Compact area demonstration in pulses			100	10	100	10
	Compact area demonstration in aromatic rice			200	20	200	20
	Compact area demonstration in maize			50	5	50	5
Purbasthali-II	D/C on dhaincha			20	2	20	2
	Bio-control of pest and insects	2	0.2	2	0.2	2	0.2
	D/C on jute ribboning			1	0.1	1	0.1
	D/C on microbial jute retting			200	20	200	20
Raina-I	Lentil demonstration			500	2500	500	2500
Raina-II	Demonstration			10	4	10	4
	Leaflet	10	2	10	2	10	2
	Green house			1	8	1	8
	Model village			2	8		
	Seed village of aromatic rice			6	9	6	9
Total			**107.5**		**3345.8**		**3402.8**

(Phy. in ha. and Fin. in Lakh)

Total fund requirement for other activities = (107.5+3345.8+3402.8) lakh = 6856.1 lakh

Table 4.86. Infrastructure and assets sector

Block	Activity proposed	Target					
		2014-15		2015-16		2016-17	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Andal	Construction of new ADA office including farmers training hall, godown, lab, polyclinic.					1	100
Aushgram-I	Training hall			1	20		
	Pest and disease monitoring system through ICT			1	10		
	Information Kiosk			1	2.5	1	2.5
	Infrastructure of ADA office				10		
	Soil testing lab and pest & disease diagnostic center			1	20		
	Green house & poly house for vegetables			2	25	1	12.5
	Implement hub			2	30		
	Improved godown for BSF			1	20		
	Multipurpose cold storage					2	20
Aushgram-II	Plant health clinic			1	10		
	Soil health clinic			1	10		
	IT support system					1	20
	Weather forecasting support system			1	10		
	Implement hub at farmers level			1	50		
	Seed processing unit			1	20		
	Seed storage godown					1	10
Bhatar	Boundary wall			1	40		
	Office building			1	30		
	Godown			2	5	2	5
	Soil testing lab			1	5		5
	Meeting hall			1	10		
	Implement hub					1	30
	IT facility				5		
	Man power at field level			2	10		
Burdwan	Construction of office building at block level			1	50		
	ICT infrastructure at ADA office		5		2		2
	Setting up of soil testing lab & diagnostic lab with PPP mode			2	20		
	Vermicompost unit	4	4	10	10	15	15
	Green house/poly house	2	20	4	40	6	60
	Mobility support	1	3	1	3.5	1	4
	Mobile agriculture extension van			2	50		
	Well equipped training hall for extension			1	20		

Faridpur-Durgapur	Office with training hall			1	40		40
	Godown			1	20		
	Conditional godown			1	50		
	Seed godown (rural)			3	40	3	40
Galsi-I	Boundary wall				50		
	Godown						20
	Mobility support by hired vehicle						3
Galsi-II	Establishment of block level krishi bhavan including new furnished training hall, seed godown etc					1	50
Hirapur	ADA office building			1	50		
	Training hall			1	20		
	Implement hub			1	20	1	20
	Irrigation channel				10		20
	Marketing infrastructure			2	10	2	10
	Soil testing lab			1	20		10
Jamalpur	ADA office with godown			1	50		
	Training hall			1	30		
	Video conferencing	1	5				
Kalna-I	Office of ADA with training hall with hundred sitting capacity and seed godown with 500 MT capacity			1	50		
	Desktop, printer, laptop			1	3		
	Photocopy machine			1	2		
	Steel file/instrument cabinet			1	0.5		
Kanksa	ADA office including training hall, godown			1	50		
	Boundary wall						50
Katwa-I	Establishment of ADA office, training hall.			1	50		
	Godown.			2	20	2	20
	Computer	2	1				
	Jumbo Xerox	1	1				
	Printer	3	1.5				
	Projector	1	1.5				
	Scanner	1	0.5				
Ketugram-I	Expansion of ADA office			1	50		
	Approach road to ADA and BSF office				40		
	Boundary wall						50
	Training hall						20
	Godown			1	20		
	Soil testing lab			1	20		
	Information Kiosk			1	2.5		
Khandaghosh	HRD training			2	2	2	2
	Management training			1	2	1	2
	Information Kiosk			2	5	2	5

	Establishment of ADA office with training center with godown			1	50		50
	Xerox/fax machine			1	1		
	Laptop/Tablet PC			1	1		
Memari-I	Boundary wall					1	50
	Boundary wall of BSF, Memari –I					1	50
	Seed godown			1	30		
	Fertilizer godown			1	20		
	Telecommunication				10		
	Information Kiosk			1	2.5		
	Training hall			1	50	1	25
Memari-II	Establishment of ADA office at block level			1	20		
	Establishment of farmers training hall at block block level			1	25		
	Projector	1	1.5				
	Desktop	1	0.5				
	Xerox	1	1				
Mongalkote	Training meeting hall with 50 sitting capacity			1	20.5		20.5
	ADA office cum demonstration component godown (500 MT)			1	50		
Monteshwar	Establishment of block krishi bhavan					1	50
	Establishment of boundary wall in block seed farm				20		
	Establishment of irrigation channel in block seed farm				10		
	ICT facilities at block level		5				
	Training hall at block level			1	10		
	Seed and Input godown					1	15
	Establishment of mustard / sunflower extraction mill			1	10		
	Establishment of dal mill			1	10		
	Implement hub at G.P. level			4	40	5	50
Purbasthali-II	Boundary wall of BSF				50		50
	Boundary wall of ADA office				40		40
	Godown				20		20
	Training hall			1	20		
	Soil testing lab			1	20		
	Furniture of ADA office				5		
	Projector, scanner cum printer			1	2		
	ADA office infrastructure				5		
	Conditional seed godown					1	70
Raina-II	Office building			1	40		
	Godown					1	30
	Training hall			1	10		
	Video conferencing					1	1

	Farm boundary wall					1	60
	AFM office			1	20		
	Farm godown					1	30
	Pump house			1	2		
	Covered threshing floor			2	2		
	IT facilities				2		2
Total			**50.5**		**1883**		**1261.5**

(Phy. in nos. and Fin. in Lakh)

Total fund requirement for other activities = (50.5+1883+1261.5) lakh = 3195 lakh

Apart from these regular activities, few innovative programme to be undertaken, e.g. information kiosk at ADA office/model village, soil health card, multi component integrated farming system, climate resilient programmes, protection of plant varieties, identification and promotion of farmers innovation, farmer-farmer technology dissemination etc. for meeting the projected growth target in the XIIth plan. These are enumerated below, blockwise,

Table 4.87. Innovative programme to be undertaken

Name of Blocks	Proposed Programmes	Fund required (Lakh)
Kalna-1	Information Kiosk for providing weather data/pest disease information and marketing information	5.00
	Setting up of implement hub on PPP mode – 3 nos.	25.00
	Setting up of soil testing labs at block level	5.00
	Plant disease diagnostic centre at block level	10.00
	Setting up of vermicompost production unit on individual farm – 50 nos @ Rs.60,000/- each	30.00
	To organize exposure visit/study tour within district and outside district at 10 nos. per year (at least 50 farmers per time)	5.00
Burdwan sadar	Information Kiosk at ADA office – 1 no.	2.50
	Information Kiosk at G.P office and model village – 20 nos.	50.00
	Pest & disease warning system	10.00
	Cold chain facilities	20.00
	Soil health card	10.00
	Germplasm presentation of indigenous varieties	10.00
Galsi-II	ICT based Kiosk at ADA office/GP level	5.00
	Pest and disease warning system (SMS based recommendation)	5.00
	Introduction of pulse mill (Dall mill) (2 Nos.)	5.00
	Cold chain facility for marketing of vegetables and flowers	10.00
	Renovation and re-excavation of "Bhuri Bill" to get rid of inundation problem at Galsi-II block	500.00
	Mobile agriculture extension vehicle`	20.00
Raina –I	Implement hub	10.00
	Dal Mill	5.00
	Information Kiosk	5.00

	Combined harvester	10.00
	Soil health card	5.00
	Mobile extension van	10.00
Memari – II	Information Kiosk 2 Nos. (ADA office & model village)	5.00
	Soil health card and soil testing laboratory	5.00
	Exposure visit of farmers	5.00
	Seed village – 10 nos.	5.00
	Bio village – 2 Nos.	5.00
Katwa – I	Information Kiosk at ADA office	10.00
	Exposure visit of farmers within state and outside the state	5.00
	Soil testing laboratory	10.00
	Seed village – 4 nos.	2.00
Khandaghosh	Information Kiosk at ADA office, model village	10.00
	Multi component integrated farming system include vermin compost, organic manure production	5.00
	Protection of plant varieties by formation of seed bank by PPP mode	10.00
	Identification and promotion of farmers innovation by awarding farmers for their innovative activities	2.00
	Farmer to farmer technology dissemination by arranging study tour, farmer's training programme etc.	10.00
Ausgram-I	Information Kiosk – 2 Nos. (Block office & Model village)	5.00
	Soil health card – soil testing lab	10.00
	Dal mills – 3 Nos at co-operative to increase area and quality of production	8.00
	Awareness about climate resilient agriculture and adoption of smart village, development of system to disseminate information on climate change to farmers	1.00
	Implement hub	20.00
	Laser land labeler with tractor	15.00
	Sunflower expulsion machine to increase the area of oil seed	10.00
	Maize sheller to promote maize grower farmers	5.00
	Mobile agriculture – extension school	50.00
Mongalkote	Information Kiosk at ADA office and 2 model villages, total 3 Nos.	5.00
	Soil health card at disease diagnostic centre	2.50
	Block plant museum for protection of plant varieties	2.50
	Farmers to farmers technology through 50 nos. farmers training meeting – 30 nos.	3.00
	Seed village and bio-village – 40 nos and 5 nos. respectively	6.00
Monteswar	ICT Kiosks at ADA office/PACs	2.00
	Mobile soil testing van	2.00
	Pest and disease diagnostic centre	2.00
	Exposure visit of farmers and extension personnel of block level	2.00
	Establishment of bio village	1.5
	Compact area demo of oilseeds and pulses	10.00
	Literature preparation and distribution on all types of	2.00

	scientific technologies	
	Sunflower oil extraction mill	2.00
Ausgram-II	Information Kiosk at ADA office	2.50
	Single window polyclinics	10.00
	Plant protection support through SMS to the innovative farmers/SHG/Co-operatives/NGO etc.	2.00
	Farmers to farmers technology dissemination through exposure visit	2.50
	Farmer reward for innovative/outstanding activities	2.00
Raina – II	Information Kiosk at ADA office	10.00
	Plant health laboratory	5.00
	Climate resilient programmes	1.00
	Farmer to farmers technology dissemination	0.50
	Protection of aromatic varieties	1.00
	Farmers recognition	0.20
Jamalpur	Farmers to farmers technology dissemination	0.50
	Farmers recognition	0.20
	Plant health laboratory	5.00
	Information Kiosk at ADA office	10.00
	Climate resilient programme	0.50
	Model village	5.50
Bhatar	Information Kiosk at ADA office	10.00
	Establishment of plant protection clinic	15.00
	Establishment of soil testing lab	10.00
	Enforcement and extension of Matir-Shakti protect at all KPS level	5.00
	Model- village	10.00
	Climate resilient programme	
	Encourage the farmers innovation	5.00
	Farmers to farmers technology dissemination	2.00
Ketugram – I	Plant health clinic centre	3.00
	Soil health card	2.00
	Climate resilient programme like SRI programme	2.00
	Farmers to farmers information technology dissemination	2.00
	Information Kiosk at ADA office	2.50
Purbasthali –II	Plant health diagnostic centre to be established	2.50
	Soil testing facilities to be extended by providing kits to some farmers groups after giving proper training	2.50
	Supplying microscope to the office of ADA for plant disease diagnosis	2.50
Andal	Information Kiosk at ADA office	2.50
	Soil health card	2.0
	Multi component integrated farming system	5.00
	Model village	5.00
Galsi-I	Model village	5.00
	Information Kiosk	2.50
	Protection of plant varieties	2.00
Kanksa	Soil health card	2.50
	Information Kiosk at ADA office	2.50
Durgapur-Faridpur	Information Kiosk at model village/ADA office	2.50

	Multi component integrated farming system at model village	5.00
	Farmer to farmer technology dissemination like plastic drum seeder, zero-tillage technology	10.00
Memari – I	Information Kiosk at ADA office and at least 2 small one in GP level	10.00
	Mobile soil testing lab (preliminary level) in every subdivision	10.00
	Enforcement and extension upto every GP level at Krishi Sakti Project	2.00
	Video conferencing unit at every block level telecalling unit in every subdivision level	5.00
	Model village	10.00
	Innovative farmers prize	0.50
	Agri poly clinic	2.00
	Model village	5.00
	Farmer to farmer technology dissemination (tours of farmers to after villages)	5.00
Total		**1258.4**

Agri Irrigation

The existing agri-irrigation facilities prevailing in the district is as follows,

Table 4.88. Block-wise statement on both surface water and ground water irrigation structure In the district of burdwan during 2012-13

Name of Block	No. of RLI				NO. Of DTW (Figure in No.)				No. Of MDTW (Figure in No.)				No.of SDTW (Figure in No.)			
	Govt.	Private	Defunct	Area (in hect)	Govt.	Private	Defunct.	Area (in hect)	Govt.	Private.	Defunct	Area (in hect)	Govt.	Private.	Defunct	Area (in hect)
Burdwan	7	25	l	560	21	-	4	660	1180	1000	12	4330	21	2200	6	2200
Ausgram-I	7	25	1	100	5	-	3	40	100	50	75	1500	4	310	4	620
AusgrarrHI	22	313	-	720	8	-	1	240	5	-	--	100	29	81	**1**	460
Bhatar	8	64	-	780	3	-	1	40	2940	1000	48	3900	41	1370	11	1370
Galsi-ll	-	94	3	180	4	-	1	160	100	140	40	2100	-	1420	380	1700
Jamalpur	24	41	8	880	4	-	1	120	405	375	--	1760	6	2040	22	2000
Khandagho	1	-	1	-	30	-	-	450	-	-	--	-	43	1900	50	3000
Memari-I	3	~	-	60	14	-	-	350	200	85	--	1760	30	100	25	600
Memari-il	6	-	1	200	29	-	-	740	2	-	--	40	1	1200	25	3000
Raina-I	3	22	-	1000	50	-	-	840	800	50	65	2670	7	1560	240	5290
Raina-ll	5	-	-	400	40	3	1	740	-	-	-	-	7	1555	55	5590
Sub- div. Total	**86**	**584**	**15**	**4880**	**208**	**3**	**12**	**4380**	**5730**	**2703**	**240**	**18160**	**190**	**13736**	**818**	**25830**

Kalna-l	31	22	-	2480	40	3	1	1760	1	-	-	20	20	2007	7	4040
Kalna-ll	3	2	1	240	44	4	-	1680	2	-	-	40	143	1900	43	4160
Purbasthali-	52	14	-	3760	60	1	2	2240	-	-	-	-	7	1700	23	3500
Purbasthali-	13	73	*	2520	63	4	9	2280	2	-	-	40	55	3900	45	7820
Monteswar	19	20	1	1360	49	3	2	1480	-	-	-	-	6	2155	110	4280
Sub-Div. Total	**118**	**131**	**2**	**10360**	**256**	**15**	**13**	**9440**	**5**	**-**	**-**	**100**	**231**	**11620**	**228**	**23800**
Katwa-I	4	2	-	320	35	2	8	1680	2	-	-	40	9	863	20	1740
Katwa-I!	7	24	1	780	54	1	10	1400	2	-	-	40	4	650	-	1300
Ketugranv	4	92	3	480	14	-	-	70	1040	-	253	7880	38	880	10	1300
Ketugrarr	27	85	4	1880	28	1	11	800	13	-	3	260	40	760	-	1560
Mongalkot	4	138	1	7200	12	1	-	460	-	-	-	-	4	1700	26	3400
Sub.-Div. Total	46	**341**	9	10660	**143**	5	29	**4410**	1057	-	**256**	8220	95	**4853**	56	**9300**
Faridpur-Durgapur	8	107	1	320	-	-	-	-	-»	-	-	-	-	—	—	—
Kanksa	24	97	9	720	1	-	-	**40**	-	-	-	-	62	640	24	300
Asansol	-	-	-	-	-	-	-	-	-	-	-	<-	1	12	-	50
Galsi-I	2	71	-	40	7	1	1	280	-	-	-	-	62	640	24	300

Table 4.89. Proposal for new installation of irrigation facilities

Name of Block	Submersible Pump up to 5HP with G.I. Pipe @6 Lack per unit				Water Detention Tank (WDT) up to 50 decimal @ Rs. 15 lack per unit				Water lifts Pump from Surface / Open Caste Pit / River Channel / Bandh with Eump and Transformer and Pipe line (300 meter approx) ((0, 10 lack per unit				Total amount (in lakh)
	No.	Benefited Area in ha.	No. of farmers will be benefit	Amount (Rs. in lack)	No.	Benefited Area in ha	No. of farmers will be benefite	Amount (Rs. in lack)	No. of Lift Iriga-	Benefited Area in ha	No. of farmers w i l l be benefited	Amount (Rs. in lack)	
Burdwan	5	25	100	30	5	10	40	75	2	50	100	20	125
Ausgram-I	10	50	200	60	10	20	80	150	1	25	50	10	220
Ausgram-11	30	150	600	1 8 0	15	30	120	225	3	75	150	30	435
Bhatar	5	25	100	30	5	10	40	75	2	50	100	20	125
Galsi-ll	5	25	100	30	5	10	40	75	2	50	100	20	125
Jamalpur	2	10	40	12	2	4	16	30	2	50	100	20	62
Khandaghos	5	25	100	30	5	10	40	75	3	75	150	30	135
Memari-I	1	5	20	6	1	2	8	15	1	25	50	10	31
Memari-II	5	25	100	30	3	10	40	75	3	75	150	30	135
Raina-1	5	25	60	30	5	10	40	75	2	50	100	20	125
Raina-II	2	10	40	12	2	4	16	30	1	25	50	10	52
Sub-Div. Total	**75**	**375**	**1460**	**450**	**60**	**120**	**480**	**900**	**22**	**550**	**1100**	**220**	**1570**
Kalna-I	5	25	100	30	5	20	40	75	1	25	50	10	115
Kalna-II	10	50	200	60	5	10	40	75	2	50	100	20	155
Purbasthali-I	20	100	400	120	10	10	80	150	4	100	200	40	310
Purbasthali-I!	20	100	400	120	10	20	80	150	3	75	150	30	300
Monteswar	10	50	200	60	10	20	40	150	4	100	200	40	250

Sub-Div. Total	**65**	**325**	**1300**	**390**	**40**	**80**	**280**	**600**	**14**	**350**	**700**	**140**	**1130**
Katwa-I	10	50	200	60	5	10	40	75	2	50	100	20	155
Katwa-II	10	50	200	60	5	10	40	75	2	50	100	20	155
Ketugram-1	10	50	200	60	10	20	80	150	2	50	100	20	230
Ketugram-II	10	50	200	60	10	20	80	150	2	50	100	20	230
Mongalkote	5	25	100	30	5	10	40	75	2	50	100	20	125
Sub-Div. Total	**45**	**225**	**900**	**270**	**35**	**70**	**280**	**525**	**10**	**250**	**500**	**100**	**895**
Durgapur-[illegible]	3	15	60	18	20	40	80	300	5	125	250	50	368
Kanksa	2	10	40	12	10	20	40	150	5	125	250	50	212
Asansol	-	-	-	-	20	40	80	300	5	125	250	50	350
Galsi-I	5	25	100	30	10	20	40	150	4	100	200	40	220
Barabani	-	-	-	-	20	40	80	300	6	150	300	60	360
Hirapur	-	-		-	20	40	40	150	3	75	150	30	180
Jamuria-1	-	-	-		20	40	80	300	4	100	200	40	340
Jamuria-II	-	-	-	30		60	120	450	6	150	300	60	510
Kulti	-	-	--		20	40	80	300	4	100	150	40	340
Salanpur		-	-	-	20	40	80	300	4	100	150	40	'
Andal		-	-	-	15	30	60	225	4	100	150	40	265
Raniganj		-	-	-	15	30	60	225	4	100	150	40	265
Sub-Div.	**10**	**50**	**200**	60	**190**	440	**840**	**3150**	**86**	**1075**	**2500**	**540**	**3750**
District **Total**	**195**	**975**	**3860**	**1170**	**325**	**710**	**1740**	**5175**	**132**	**2225**	**4800**	**1000**	**7345**

Soil conservation

The main objective of the work is to bring additional area under cultivation by way of developing culturable / cultivable wastelands into arable one and to increase the irrigation potential by conserving as much as rainwater in the surface, sub-surface and underground and utilization of the same for agricultural development by increasing production & productivity of agricultural crops and allied sectors.

Considering the existing infrastructural facility available under this establishment, following blocks of Burdwan District have been taken for development. The main constrains to higher agricultural productivity of this agro-climatic zone are as follows.

Table 4.90. Main constraints to higher productivity of the area of operation

Agro-climatic zones	Operational Blocks	Constraints to higher productivity
Undulating Lateritic zone	Salanpur	[Average annual rainfall – 1427 mm, Air temperature – Maximum – 37.0 0 C; Minimum – 14.8 0 C] Undulating topography with mounds & hillocks, unbunded cultivable wastelands, sloppy lands, excessive runoff, susceptible to soil erosion, moisture stress,
	Barabani	
	Durgapur - Faridpur	

	Pandabeswar	Soil depth shallow at ridges & deep in valleys, low pH, acidic soils, low in organic matter, The organic carbon content, potash, phosphate, base saturation is significantly low in the ridges and increases down the slope, Micro nutrient deficiencies like Bo, Zn, Mo and S etc observed. inadequate irrigation facility, ground water economically not trappable, Application of low input due to lack of economic access of the farmers.
	Andal	
	Kanksa	
	Ausgram – II	
	Ausgram - I	

Strategy & action proposed for soil & water conservation measures in the degraded lands of undulating Lateritic Agro-climatic zone of Burdwan District :

To bring more area under cultivation by development of cultivable wastelands into arable land. Cultivable wastelands in the ridge areas which are lying unbunded, will be developed through land levelling, field bunding, graded bunding, bench terracing, gully control measures etc and thereby a significant area can be brought under cultivation additionally. This measure also promotes in-situ moisture conservation to a great extent.
The wastelands which have been developed in to cultivable lands, at least one crop will be grown during kharif season, resulting increase in 100% cropping intensity. By creating water resources adjacent to the same location, two or three additional crops can also be grown, resulting increase in cropping intensity up to 200% or 300%. This will contribute towards additional agricultural production & productivity to a great extent which ultimately contributes towards the growth of agriculture as desired under the RKVY scheme.

To intercept and reduce runoff and induce larger and extensive in-situ absorption of rainwater into the soil profile as well as trap eroded materials (thus reduce sediment production either into the streams or reservoirs) through vegetative barriers, loose boulder checks, earthen checks / bunds, earthen bunds fortified with vegetative support / grass turfing / sodding etc. Depending upon the specific sites, the estimates for each structure varies from place to place. To harvest our precious rainwater on the surface, sub-surface and also for recharging underground water through construction / excavation of plenty of water storage structures, dug-out ponds, farm ponds / tanks, water harvesting structures, check dams, wells / dug wells / ring wells etc. to maximize the water storage capacity of the area for irrigation purpose to increase the cropping intensity of the area and also to increase fisheries production.

To maximize the water storage capacity of existing surface water bodies / canals through re-excavation of partially silted-up tanks / farm ponds / surface water bodies / water harvesting structures etc for life saving irrigation to crops during post rainy season and also for development of fisheries. This will not only ensure assured kharif production to a larger extent but also increase the production & productivity of rabi crops to a great extent.

To reduce water loss during transmission of irrigation water from the source, pucca water transmission channels will be constructed.

To rejuvenate the un culturable wastelands / degraded lands, plantation of cashew nut, mango, guava, citrus etc delivered a significant result and also remunerative one. This measure converts those un culturable wastelands into productive lands.

Depending upon the specific sites of execution, the estimates for each activity may vary from block to block. The physical target may vary to some extent and smaller or bigger size may be allowed depending upon the location & site, availability of land, type of activity, size & shape of the activity and actual need of the area. The payment will however be made on the basis of actual measurement of each structure as per the existing schedule of rates of the State Government. For successful implementation of the programme, one percent amount of the total allocated fund will be utilised as contingent expenditure for supervision & monitoring of schemes during execution, transport cost towards movement of officials and miscellaneous unforeseen expenses etc.
The proposal for implementation of "Land & water resources development through soil & water conservation measures in Burdwan District" under RKVY programme for the year 2014 - 15 to 2016 -17 is detailed in the following pages :-

Table 4.91. Soil conservation plan under RKVY in XIIth plan

Sl. No.	Components	Sub-scheme / Item of Soil & Water Conservation Measures	Unit Cost	2014-15		2015-16		2016-17		Total	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	In-situ moisture conservation & development of culturable wastelands in to arable lands	In-situ moisture conservation and development of culturable wastelands into arable lands through land leveling, field bunding, graded bunding etc in the Undulating Lateritic Agro-climatic Zone of Burdwan District.	0.30	5	1.50	5	1.50	5	1.50	15	4.50
		Plantation of fruit / horticultural crops / mixed plantation in the unculturable wastelands and converting into productive lands.	0.30	1	0.30	2	0.60	2	0.60	5	1.50
		Control of gully & rill erosion of arable & non- arable land through loose boulder structure, brush wood dam, drop spillway, chute spillway etc. in the Undulating Lateritic Agro-climatic Zone of Burdwan District.	1.00	5	5.00	5	5.00	5	5.00	15	15.00
2	Water Resources Develop	Excavation of new Water Harvesting Structures / Dug well etc in the Lateritic Agro-climatic Zone	3.50	10	35.00	10	35.00	10	35.00	30	105.00

		Re-excavation of existing small water bodies in Lateritic Agro-climatic Zone	3.00	12	36.00	12	36.00	11	33.00	35	105.00
		Re-excavation of existing big water bodies in Lateritic Agro-climatic Zone	8.50	3	25.50	3	25.50	4	34.00	10	85.00
		Construction of Dhal Bandh (embankment) / big size WHS / Check Dam etc in Lateritic Agro-climatic Zone	15.00	2	30.00	2	30.00	2	30.00	6	90.00
		Pucca Irrigation channel / water transmission channel etc.	0.03	800	2.40	800	2.40	800	2.40	2400	7.20
		Supply of water lifting devises with necessary delivery pipes for the efficient use of irrigation water.	0.40	10	4.00	10	4.00	5	2.00	25	10.00
3	Maintenance of created assets	Maintenance of fruit / horticultural crops / mixed plantation created during previous years	0	0	0.8	0	0.8	0	0.7	0	2.30
4	Training Camp	Generation of mass awareness among the people regarding reasons & effect of soil erosion, conservation & management of rainwater.	0.25	10.00	2.50	10.00	2.50	10.00	2.50	30	7.50
5	ICT	Maintenance & fortification of existing infrastructural facilities, creation of new infrastructural facilities etc.	0	0	1.00	0	1.00	0	1.00	0	3.00
6	Contingency				1.45		1.45		1.46		4.36
		GRAND TOTAL			**145.45**		**145.75**		**149.16**		**440.36**

Table 4.92. Expected outcome out of the programme

Sl. No.	Proposed activities to be done	Physical Targets	Expected outcome / benefits
1	In-situ moisture conservation and development wastelands into arable lands	15 hectares	About 45 hectares of culturable wastelands will be brought under cultivation additionally.
2	Plantation in the unculturable wastelands and to be converted into productive land.	05 hectares	About 05 hectares of unculturable wastelands will be converted into productive lands through plantation of Cashew nut / Mango / Citrus / Guava etc.
3	Water Resources development through excavation / re-	81 Nos.	With conserving / storing creating of about 25 Hectare Meters of rain /

	excavation of water harvesting structures / dug wells / ring wells / check dams / Dhal bandh etc.		runoff water in the created structures, about 20 hectares of command area will be created additionally and the same will be brought under assured irrigation.
6	Efficient use of Irrigation water through construction of Pucca Irrigation channel / water transmission channel etc.	2400 RMT	About 25 hectares of arable lands. will be brought under assured irrigation.

Strengthening of Krishi Vigyan Kendra, Bud Bud

KVK Bud Bud is a multidisciplinary unit of scientist of agriculture and allied disciplines working towards economic upliftment of the Burdwan district with the prime mandates of,

- On-farm testing of agricultural technologies to identify its location –specificity under various farming systems
- Frontline demonstrations to establish its production potentials
- Training of farmers to update their knowledge and skills
- Training of extension personnel to orient them in the frontier areas of technology development
- Seed production of major crop/crops of the region

KVK is the principal extension wing of ICAR, Govt. of India and therefore strengthening of KVK has been identified as prime area under RKVY as per Planning Commission guidelines. Below is the outlined proposal of KVK strengthening under XIIth plan in RKVY,

Table 4.93. Plan for KVK, Bud Bud under RKVY in XIIth plan under production growth component

Sl. No.	Name of scheme / programme under production growth	Unit cost.	2014 - 2015		2015 - 16		2016 - 17		Total	
			Ph	Fin	Ph	Fin	Ph	Fin	Ph	Total
1.	**Establishment of bio-fertilizer lab for bulk production of bio- fertilizer**									
a)	Purchasing and setting up of bio safety cabinet for bio-fertilizer lab	15.00			1	15.00			1	15.00
b)	Construction of lab	25.00			600 sq ft	25.00			600 sq. ft	25.00
c)	Purchasing and setting up of B O D incubator cum shaker.	2.50					1	2.50	1	2.50
d)	Purchasing & setting a centrifuge.	0.50					1	0.50	1	0.50
e)	Procurement of deep freeze and refrigerator	1.00			1	0.4	1	0.60	1	1.00
f)	Purchasing & setting of	0.50	-	0.50	-		-		-	0.50

	accessories like stabilizer, gas cylinder, air conditioner & installation of the system.									
g)	Purchasing of autoclave	1.30	1	1.30	-		-		1	1.30
h)	Running cost for maintaining the lab for 3 years including honorariums for assistant.	4.00	-	1.50	-	1.50	-	1.00	-	4.00
Sub total		**49.80**		**46.9**		**1.90**		**1.00**		**49.80**
2.	**Establishments of demonstration unit of fruit orchard for production of quality planting materials.**									
a)	Establishing drip irrigation system for 1 ha of land.	2.50	1	1.50	1	0.50	1	0.50	1	2.50
b)	Fertigation system and other accessories like tank, pump & electrical fitting.	1.50	1	1.50	-	-		-	1	1.50
c)	Purchase of power tiller	1.50	1	1.50	-	-		-	1	1.50
d)	Land development & levelling	4.50	1	2.00	1	2.00		0.50	1	4.50
e)	Table cum working desk and computers to conduct training documentation	0.65	3	0.50	1	0.15	-	-	4	0.65
g)	Cost of vegetable production and fruit orchard management including cost of seed fertiliser etc.	2.0	1	1.0		0.5		0.5		2.0
Sub –total		**12.65**		**8.00**		**3.15**		**1.50**		**12.65**
3.	**Developing of hatchery for hi- breathing Fish (Deshi Magur)**									
a)	Capital cost	1.00		0.40	1	0.3	1	0.3	3	1.00
b)	Pond construction	0.40	0.10/0.10 ha-m	0.40	-	-	-	-	1	0.40
c)	Construction of hatchery shed - - - -	1.00	1	1.00	-	-	-	-	1	1.00
d)	Hatchery (Portable) - - - -	0.80	1	0.80	-	-	-	-	1	0.80
e)	Electrical connecting fitting - - - -	0.40	-	0.40	-	-	-	-	-	0.40
f)	Rearing tank - - - - (1m x 1m x 0.25m)	0.40	1	0.40	-	-	-	-	1	0.40
g)	Aerators	0.60	0.25	0.60			-	-	12	0.20
h)	Operational equipment - - - -	0.20	-	0.20	-	-	-	-	1	0.20
i)	Overhead tank	0.50	0.50	0.50	-	-	-	-	1	0.50
j)	Electrical pump - - - -	0.50	0.50	0.50		-	-	-	1	0.50
k)	Blood stock, Feed inducing agent, laboures	1.00	-	1.00	-	-	-	-	1	1.00
Sub Total		**6.80**		**6.20**		**0.30**		**0.30**		**6.80**
4.	**Formulation and production of mineral mixture for goat**									
a)	Grinder	0.50			1	0.50			1	0.50
b)	Mixer (For preparing homogeneous mineral mixture)	0.75			1	0.75			1	0.75

c)	Packaging unit	3.0			1	3.0			1	3.0
d)	Glass ware and Digital balance	3.0					1	3.0		0.025
e)	Deep Freeze (-20 ^{O}C)	0.75			1	0.75			1	0.75
g)	Ingredients for mineral mixture preparation (DCP, copper sulphate, zinc sulphate, cobalt salt, iodine salt, manganese salt etc)	1.50	10 q	1.20		0.30				1.50
Sub Total				**9.20**		**0.30**				**9.50**

Table 4.94. Plan for KVK, Bud Bud under RKVY in XIIth plan under infrastructure and asset component

Sl. No.	**Name of scheme / programme under infrastructure and asset**	**Unit cost.**	**2014 - 2015**		**2015 - 16**		**2016 - 17**		**Total**	
			Ph.	**Fin**	**Ph.**	**Fin**	**Ph.**	**Fin**	**Ph.**	**Fin**
5. **Establishment of Plant – Animal –Fish Health Clinic**										
a)	Stanchion	0.20	1	0.20						0.20
b)	Hospital shed	6.00	180 sq. ft	6.00	-	-	-	-	-	6.00
c)	Refreezarator	0.40	1	0.40	-	-	-	-	-	0.40
d)	A. C.	0.80	2	0.80						0.80
e)	Inspection table -hydraulic	0.8	1	0.8						0.8
f)	Light microscope	1.20	1	1.20	-		-	-	-	1.20
g)	Knife , desiccators	0.50	1 set	0.50	-		-	-	2	0.50
h)	Hospital aids	0.40	1 set		-	0.40	-	-	-	0.40
i)	Chemical and media	0.80	-		-	0.80	-	-	-	0.80
j)	Surgical set (scissors, forceps, needle)	0.50	1set	0.50	-		-	-	-	0.50
k)	Oxygen generator	0.60	1	0.60	-		-	-	-	0.60
l)	U. S. G unit	4.50	1		-	4.50	-	-	-	4.50
m)	Portable digital X- ray unit	4.10	1	4.10						4.10
Sub –total		**20.80**		**14.10**		**6.70**				**20.80**
6.	**Mushroom spawns production cum maintenance lab.**									
a)	Motorized Grain Cleaner	0.75	1	0.75					1	0.75
b)	pH meter	0.50	1	0.50					1	0.50
c)	Autoclave	0.75	1	0.75					1	0.75
d)	Digital weighing scale Accuracy 10 g Capacity 50 kg	0.40	1	0.40					1	0.40
e)	Grain Boiler	0.50	1	0.50					1	0.50
f)	Boiled Grain and Chalk Powder Mixer	0.60	1	0.60					1	0.60
g)	Bag Filling Machine	0.80			1	0.80				0.80
h)	Bulk Spawn Inoculator	0.05	1	0.05					1	0.05
i)	Laboratory (40 ft x 25 ft x 10 ft)	6.00	1	6.00					1	6.00
j)	Manpower	1.0		0.40		0.30		0.30		1.0
Sub –total		**11.35**		**9.95**		**1.10**		**0.30**		**11.35**

7.	**Establishment of Information technology Lab at KVK and and Information Kiosk center in six village**									
a)	Construction of lab	35.00	1000 sq ft	35.00	-	-	-	-	1000 sq. ft	35.00
b)	Purchasing and setting of computers	0.55	6	3.30	6	3.30	-	-	12	6.60
c)	Purchasing of computer tables and chairs.	0.12	6	0.72	6	0.72	-	-	12	1.44
d)	Purchasing printers.	0.20	6	1.20	6	1.20	-	-	12	2.40
e)	Purchasing of softwares and other accessories	0.10	6	0.60	6	0.60	-	-	12	1.20
f)	Purchasing & setting air conditioner.	0.40	2	0.80	-	-	-	-	2	0.40
g)	Development of CD-ROMs	1.00	-	-	2	2.00	3	3.00	5	5.00
h)	Purchase of Camcorder	0.70	1	0.70					1	0.70
i)	Running cost for maintaining the lab for 3 years including honorariums for village Helper. -	0.60 (for lab) 4.45 for lab and Kiosk	-	0.60	-	4.45	-	4.45	-	9.5
	Sub total	**43.12**	**28**	**42.92**	**26**	**12.27**	**3**	**7.45**	**57**	**62.24**
8.	**Establishment of Home sc. lab. for preparation of weaning food/ value added food product**									
a)	Cooking range	1.50	1	1.50					1	1.50
b)	Culinary utensil	0.50	1	0.50					1	0.50
c)	Input cost of demonstration	1.00	1	0.80	1	0.20			1	1.00
d)	Freeze	0.20	1	0.20					1	0.20
e)	Multi-purpose grinder/mixer	0.60	1	0.30	1	0.30			1	0.60
f)	Capacity building programme	0.60	1	0.20		0.20		0.20	1	0.60
h)	Dryer	0.20	1	0.20					1	0.20
i)	Vacuum packaging unit	5.00	1	5.00					1	5.00
Sub –total		**9.6**	**8**	**8.7**	**2**	**0.7**	**0**	**0.2**	**8**	**9.6**
9.	**Infrastructure for capacity building through training**									
a)	Colour Copier	5.00			1	5.00			1	5.00
b)	Projector with necessary accessories for training hall	3.00			1	3.00			1	3.00
c)	LED T.V. set for training purpose with accessories	1.00			2	2.00			2	2.00
d)	Laptop Computer	0.75			3	2.25			3	2.25
e)	Colour Laser printer cum scanner	0.60			1	0.60			1	0.60
f)	Digital SLR camera	1.50			1	1.50			1	1.50
	Tablet computer for training	0.25			3	0.75			3	0.75
Sub –total					**11**	**15.10**			**11**	**15.10**

Table 4.95. Plan for KVK, Bud Bud under RKVY in XIIth plan under special programme component

Sl. No.	Name of programme under special programme	Unit cost	2014-15 Ph	2014-15 Fin	2015-16 Ph	2015-16 Fin	2016-17 Ph	2016-17 Fin	Total Ph	Total
10.	**Assessment of paddy productivity through SRI (*kharif)* vis-à-vis nutrient mining in rice oriented production systems under irrigated and medium upland situation of Burdwan district**									
a)	Glass triple distillation unit	1.0			1	1.00			1	1.0
b)	Centrifuge	0.50			1	0.50			1	0.50
c)	BOD incubator	1.80			1	1.80			1	1.80
d)	Milipore water preparation unit	4.0	1							4.0
e)	Operational expenses	0.50	1							0.50
f)	Field school /Training	0.60	1	0.30	1	0.30				0.60
g)	Input cost for demonstration	1.00	4 ha	0.60		0.30		0.10		1.00
h)	Wages as labour	0.80	1 ha	0.60	1 ha	0.20				0.80
i)	Chemical and glassware	2.00	1	1.00	1	0.50	1	0.50	1	2.00
Sub –total		**12.20**		**10.30**		**1.30**		**0.60**		**12.20**

Total fund requirement for KVK = Sum of sub totals from Sl. No. 1 -10 = 210.04

4.11: Researchable issues in the district

The researchable issues in the district are as below,

Table 4.96. Researchable issues

Block Name	Researchable issues
Andal	1. Soil acidity amelioration. 2. Mixed Fruit orchard – mango, apple, kool, etc.
Aushgram-I	1. Replacement of old varieties (approx 10 yr.) 2. Incorporation of high protein pulses. 3. Research on 30 folk rice varieties which is maintained in BSF, Aushgram – I. 4. Research on diabetic potato.
Aushgram-II	1. Weed management. 2. Low cost storage structure. 3. Development of G.P. level cropping system. 4. Formation and development of bio-control agents. 5. Creation of information standard for use of liming materials for correction of soil acidity.
Bhatar	1. Soil acidity amelioration. 2. Variety replacement. 3. Integrated training system. 4. Bio-controlled agents.
Burdwan	1. Introduction of suitable variety to replace MTU-7029. 2. Low cost storage structure for vegetable. 3. Low cost multipurpose cold storage.

	4. Increase of protein content in pulse. 5. Suitable wheat variety for the region.
Faridpur-Durgapur	1. Soil acidity amelioration.
Galsi-I	1. Use of Plastic Drum Seeder in rice. 2. More suitable INM and IPM should be emphasized. 3. Acid soil reclamation.
Galsi-II	1. Development of paddy variety to replace MTU-7029. 2. Development of low cost storage structures for onion.
Hirapur	1. Yield increase of paddy, wheat vegetables. 2. Crop diversification. 3. Location specific bio-pesticide.
Jamalpur	1. True potato seed production. 2. Hybrid rice seed production. 3. Low cost storage structure. 4. IFS along with Animal Husbandry and Fishery.
Kalna-I	1. Varietal replacement for increase productivity. 2. Soil acidity amelioration programme.
Kanksa	1. Soil acidity neutralization. 2. On farm resrevoir
Ketugram-I	1. Aromatic traditional rice germplasm conservation 2. Soil acidity amelioration. 3. Low cost storage structure. 4. Replacement of old varieties.
Khandaghosh	Soil acidity amelioration Low cost storage for crops, pulses & vegetables. Integrated farming system. Anti lodging scented rice variety invention.
Memari-I	1. Replacement of old variety with hybrid one. 2. Combat against LB of potato. 3. Ddisease resistant variety of potato. 4. Club root resistant mustard. 5. Less water consumption technology in boro rice.
Memari-II	Feasible techniques for water soluble fertilizer. Mobile soil testing van through PPP model.
Mongalkote	1. Increasing crop productivity by changes in cropping system. 2. Soil acidity amelioration by applying Dolomite application by demonstration. 3. Soil health card by "Soil Testing Kiosk" of the block 4. Integrated farming system in model village of the block under RKVY scheme. 5. ICT based extension is already running in block with more numbers of Tablets is needed.
Monteshwar	1. Hybrid rice seed production. 2. Certified seed production/small duration varieties in oilseed and pulses. 3. Low cost storage system of paddy. 4. Establishment of ICT Kiosk at G.P. level.
Purbasthali-II	1. Low cost storage structure for onion, vegetables. 2. Soil acidity amelioration. 3. Replacement of old verities with newer one.
Raina-I	1. Varietal replacement.

	2. Bio-fertilizer and bio-pesticides. 3. Anti lodging scented rice variety.
Raina-II	1. Non conventional Green manure. 2. Soil acidity amelioration. 3. Proper storage structure of aromatic rice. 4. IFS

DEVELOPMENT OF ALLIED SECTORS

5.1 Introduction

The flow of two rivers Ganga and Damodar covered the larger areas of the district where vegetable cultivation is the major activities of the farmers specially Kanla, Katowa and Burdwan Sadar subdivisions. Apart from the horticulture, other Allied sectors like animal husbandry, fisheries development, sericulture, forestry and agricultural marketing contribute substantially to agricultural growth of the district. Animal resources and aquatic resource of the district also help in employment generation, supplementing family nutrition as well as income generation among the rural and semi urban communities. In Durgapur Subdivision, there are huge prospects of development of fruit orchard specially gouva, bel and ber cashew with development of water harvesting shed to make the area clean and green. The resource poor and weaker section of the society of Andal, Salanpur, Jamuria, Faridpur- Durgapur, Pandabeswar, Barabani etc can be developed through animal husbandry, sericulture and horticulture activities for better livelihood support. Therefore development of Allied sectors assumes to create a significant impact in the district to ensure the food security of the district as well as the nation.

5.2. Horticulture

The horticulture sector of the district offers a wide variety of crops, vegetables, fruits and medicinal plants. The agro climatic situation of the district is ideal and conducive for the growth and development of horticultural crops. Kalna-and Katwa subdivision are identified as major onion grower areas of state. The sector also gives emphasis on kharif onion production and storage under zero energy structure. Many fruitfull and innovative approaches has been taken for adoption and popularization of area suited technologies like protective cultivation under High-tech Poly Green House, micro-irrigation, kisan nursery, drought tolerance plantation cropping at laterite zone and Horti-food festival. The horticulture of the district includes fruits, vegetables, flowers, spices, plantation crops, medicinal and aromatic plants. Out of total coverage of fruit plantation i.e. about 1.6 lakh hectare, Burdwan occupies only 7200 hectare or 4.5 percent of total area. Total production of fruit in Burdwan is near about 70 thousand M.T. Among the vegetables, onion, Brinjal, chilli, Ladies finger, Cucurbits, Tomato, Cabbage, Cauliflower are cultivated widely with profuse production. This sector has necessity to emphasize in planed manner for sustainable growth and production in the district.

Objectives of the development:

- To encourage the small and marginal farmers to adopt the horticulture practices for the economic upliftment
- Utilization of high / medium land which are under waste / barren / bushy land as well as coastal embankment, small river, canal and village road side for horticulture programme
- Marginal waste land need to be brought under the cultivation of legumes & grasses & reduce the soil erosion & restore the soil & moisture
- Preservation of horticulture product like vegetable, flower & fruits etc.
- To establish the multi cold storage to promote the preservation facility of vegetables, fruits & flowers etc. during off-season
- To strengthen drip and sprinkler irrigation facility for cultivation of vegetables, fruits, flowers, spices and other horticultural crops

- To develop the skill of the farmers on vegetables, fruits, flowers, spices and other horticultural crops production

Table: 5.2.1: The Status of Horticulture in Burdwan

Area under Horticulture (Fruit, Vegetables, Flowers etc.)	39080 Ha
Area under Fruits	7205 Ha
Area under Vegetables	
Summer	22670 Ha
Rainy	10090 Ha
Winter	25590 Ha
Area under Spices, Plantation crops etc.	6165 Ha
Area under Flowers	80 Ha
Area under Medicinal & Aromatic Plants	40 Ha
Infrastructure	
a) Distillation Plants (Pvt)	3
b) Tissue Culture Laboratory (Pvt)	1
c) Poly-greenhouse (Flower)	4
(Exotic Vegetables)	2
d) Protective cultivation (high value vegetable)	25
e) Multipurpose Cold Storage (Govt) :	3
(Pvt.)	3

5.2.2: Area and Production of Fruits and Vegetables in the district of Burdwan

Name of Fruits / Vegetables	Area (Thousand hectares)					Prouduction (Thousand tonnes)				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. Fruits :										
Mango	3.79	3.81	3.81	3.81	3.82	15.34	15.53	15.54	16.54	17.54
Banana	0.98	0.98	1.08	1.08	1.09	15.95	16.08	16.49	16.49	16.89
Pineapple	0.06	0.05	0.05	0.05	0.05	1.55	0.95	0.96	0.96	0.96
Papaya	0.50	0.50	0.50	0.50	0.51	14.14	14.23	14.23	14.23	14.33
Guava	0.68	0.70	0.70	0.70	0.71	8.53	8.93	8.93	8.93	9.13
Jackfruit	0.58	0.58	0.58	0.58	0.58	6.98	6.99	6.99	6.99	6.99
Litchi	0.29	0.29	0.29	0.29	0.29	3.02	3.12	3.12	2.85	2.85
Other Citrus	0.31	0.32	0.33	0.33	0.33	2.64	2.96	3.16	3.16	3.26
Sapota	-	-	0.03	0.03	0.03	-	-	0.25	0.25	0.25
Others	0.41	0.41	0.41	0.41	0.40	3.70	3.71	3.91	3.92	3.96
Total	**7.60**	**7.64**	**7.78**	**7.78**	**7.81**	**71.85**	**72.50**	**73.58**	**74.32**	**76.16**
B. Vegetables :										
Tomato	2.71	2.69	2.69	2.69	2.72	36.27	36.27	36.27	47.27	47.89
Cabbage	3.27	3.25	3.25	3.25	3.29	92.76	92.67	92.67	92.67	93.97
Cauliflower	3.18	3.16	3.16	3.16	3.20	90.51	85.85	85.85	85.85	86.98
Peas	1.03	1.02	1.02	1.02	1.04	6.13	6.15	6.15	6.15	6.34
Brinjal	8.17	8.17	8.16	8.16	6.84	144.92	145.16	145.09	145.09	123.90
Onion	0.90	0.88	0.88	0.88	0.89	9.36	15.50	15.50	16.50	16.95
Cucurbits	12.91	13.01	9.15	13.60	13.80	125.26	126.03	139.33	153.93	159.30
Ladies Finger	5.11	5.11	5.23	5.33	5.40	55.35	55.79	58.59	59.59	61.23
Radish	2.03	1.95	1.95	1.95	0.33	19.03	19.87	19.87	19.87	6.13
Others	30.78	17.88	23.02	18.67	27.33	203.86	89.17	92.67	93.07	135.25
Total	**70.09**	**57.12**	**58.51**	**58.71**	**64.84**	**783.45**	**672.46**	**691.99**	**719.99**	**737.94**

Table: 5.2.3 .Horticulture production plan in this XII plan

Name of crops	**2014-15**		**2015-16**		**2016-17**	
	Production ('000 MT)	Productivity (MT/Ha)	Production ('000 MT)	Productivity (MT/Ha)	Production ('000 MT)	Productivity (MT/Ha)
Fruits	86.59	9.78	87.131	9.79	87.71	9.80
Vegetables	798.11	12.45	800.2622	12.47	802.5	12.50
Cut flower	0.03	0.95	0.02842	0.98	0.0297	0.99
Loose flower	0.33	2.49	0.34638	2.51	0.35532	2.52
Spices	7.25	2.06	7.2306	2.06	7.26984	2.07

5.2.4: Financial plan for horticulture development:

Name of activities	2014-15		2015-16		2016-17		Total Financial cost (Rs. In lakh)
	Physical	Financial	Physical	Financial	Physical	Financial	
NHM (Post harvest management)	25 no low cost onion storage	12.50	30 no low cost onion storage	15.00	40 no low cost onion storage	20.00	47.50
Horticultural mechanization	10 no tractor	30.00	12 no tractor	36.00	15 no tractor	45.00	111.00
	15 no power tiller	22.50	20 no power tiller	30.00	25 no power tiller	37.50	90.00
Protective cultivation unit	30	300.00	20	200.00	20	200.00	700.00
Demonstration of micro-irrigation system	50	100.00	50	100.00	50	100.00	300.00
Development of high value orchard	10 ha	50.00	10 ha	50.00	20 ha	100.00	200.00
Construction of Water harvesting structure in western part of the district	20	50.00	10	25.00	10	25.00	100.00
Total		565.00		456.00		527.50	**1548.50**

5.3: Animal husbandry Development:

The district has a gigantic livestock and poultry population. The sector gives a significant economic contribution through production of milk, meat, eggs and hides. The major livestock enterprises are cattle, goat, sheep, pig, buffalo, poultry and duck. The visions of the sector are i) improvement of animal productivity including poultry sector to reduce the demand gap and ii)

generation of livelihood of rural/semi-urban communities through improved livestock husbandry practice. Very small numbers of Emu has been introducing for meat and oil production. The population of crossbred cattle is near about 14 % of the total cattle population. The district runs a central funded scheme in the name of **Bishes Go Sampad Bikash Abhijan** for fast and sustainable crossbreeding programme. The district also creates a good animal polyclinic at Fagupur, Burdwan with latest health care facilities. There are many constraints in livestock like poor genetic stock of the animals and poultry, scarcity of feed, improper scientific knowledge, low productivity, distressed selling of livestock produces specially milk. Therefore district needs to be emphasized for sustainable growth of animal husbandry to ensure district as well as national food security.

.

Objectives of the development of ARD sector of the district:

- Strengthening of A.I. facilities by infusion of exotic germ plasm for breed up -gradation to enhance milk production
- Strengthening of State Poultry Farm, which acts as nodal unit for providing inputs like (chicks/ducklings/hatching eggs) for implementation of different Govt. shemes and increasing production and productivity of the existing stock reared under backyard system.
- For providing better health coverage facilities to livestock and poultry of the district, health units at district, sub-division and blocks requires to be equipped with necessary equipments and other infrastructures. At G.P. level the Animal Dev. Aid Centres will be provided with facilities for A.I.
- Economic upliftment of weaker section of the community by providing subsidized distribution of poultry/piggery/goatery/fodder plot / enrichment of cellulosic waste units under family base programme through departmental scheme
- Improvement of production and productivity of livestock through adoption of location specific technologies and improved extension programme like training, demonstration, health camp and exposure visit.

5.3.1: Infrastructure of the sector

Type	Number	Location	Type of service render
Office of the DD, ARD & PO	01	Purta Bhavan 6th floor, Sripally, Burdwan	Administrative activities of ARD dept. for whole district
Veterinary Hospital	62	All blocks and municipalities	Treatment, immunization, extension etc.
Block Livestock Development Office	31	All blocks	Extension activities including all departmental schemes implementations
Veterinary Poly clinics	01	Fagupur, Burdwan	Special care of the ailing animals mainly complicated surgery
Animal Dev. Aid Centre	198	Various GP covering whole district	AI and primary health care
Regional Disease Diagnostic Laboratory	01	Burdwan	Disease diagnostic for whole Burdwan Division
Pathological Laboratory	03	Burdwan, Durgapur and Katwa	Diagnostic services for the field units
Feed Plant (Under dairpol)	01	Durgapur	Feed processing of all kind of livestock.

Milk Union	01	Burdwan	Milk collection from the milk co-operatives and dispatch to Mother Dairy & Central dairy.
Milk co-operatives	101	Ketugram-I &I, Katwa-I&II, Memari-II, Purbasthali-I	Milk procurement from the farmers and dispatched to BMU
Chilling Plant	02	Kusumgram, Katwa	Temporary storage of milk
Bulk Milk Cooler	09 (04 no. are functional)	Galbati, Kusumgram (2) Beldanga kanchgaria, Asanpur, Rakshitpur, Kandra, Nimar, Amgaria	Temporary storage of milk
State Dairy	02	Burdwan, Durgapur	Milk collection, packaging and marketing
Fodder farm	02	Rasulpur, Sursurah	Production of fodder for local supply.
Input supply farm/ livestock breeding farm	03	SPF Golapbag, DCF Kalna Gate and SPF Durgapur	Supply of chick/duckling to the farmers and the govt. for implementation of schemes.
Training centers	03	Golapbag, DCF Kalna Road and Durgapur	Training to the farmers and also various governmental trainings
A.I Unit / centre	313	Throughout the district	AI activities at GP level
Liquid Nitrogen Storage Centre	01	Fagupur, Burdwan	Supply of LN_2 for FSS transport through the district.
Mobile Veterinary centre	03	Ausgram-II, Memari-II and Purbasthali-II	Animal Health Care services in remote areas of the district.
Slaughter house	01	Asansol	Slaughtering of large animals
Check post	01	Barakar	Control of transboundary diseases
Central Medical Store	01	Burdwan	Temporary storage place of medicine for the whole district.
Milk cooperative	01	Kalna and Katwa subdivision	collection of molk from producers and bulk cooling.

5.3.2: Livestock Census of the district Burdwan (2007-08) (source: District ARD Burdwan)

Name of Block	Total Cattle	Cross bred Cattle (%)	Total Buffalo	Total Sheep	Total Goat	Total Pig	Total Fowl	Total Duck
Ausgram-I	44539	4.64	3236	3182	35282	1718	87576	43396
Ausgram-I	73841	1.63	3868	4867	58016	5824	444230	59891
Bhatar	115115	9.0	8091	19598	82034	4463	610749	133206
Burdwan-I	81837	13.35	6530	10107	73687	2896	198663	104502
Burdwan-II	45321	23.64	1672	3339	50904	1875	106670	73786
Galsi-II	41550	9.44	2471	317	34840	1848	93802	47019
Bardhaman (M)	10099	45.31	498	74	13569	761	23438	12990
Guskara (M)	4646	2.35	166	80	3485	169	5655	4609
Jamalpur	78446	22.34	1131	442	80743	5044	146717	87317
Khandaghosh	76215	4.78	3539	343	77195	375	129650	88704
Memari-I	50660	25.89	1586	640	49464	5566	108590	54467
Memari-II	45739	14.14	1666	1958	39815	1579	75828	53837
Raina-I	62638	4.53	2320	22	39003	2281	144294	69919
Raina-II	76096	7.57	4938	25	36332	1500	375775	70381
Memari (M)	1708	23.89	29	0	4598	77	7542	1605

Kalna-I	55165	31.96	3299	1239	49864	5916	79674	62214
Kalna-II	43632	18.19	1296	4766	29406	4428	64196	51397
Monteswar	80156	16.91	6025	12206	68459	2093	114074	106320
Purbasthali-I	59051	44.01	1113	3841	49600	910	104346	60810
Purbasthali-II	33707	47.85	1631	6448	56481	892	105433	50261
Kalna (M)	2362	95.64	0	0	1065	29	2117	1382
Katwa-I	48489	11.85	4229	16235	36388	5500	65502	55671
Katwa-II	39876	12.5	3383	13839	22354	434	32151	29412
Ketugram-I	51650	3.58	4906	19682	56710	2405	127455	74171
Ketugram-II	39989	8.29	4783	13425	26943	1353	41654	40190
Manglkote	99930	2.98	6396	22236	67328	1745	182902	137792
Dainhat (M)	3594	6.34	55	174	3654	40	4987	2049
Katwa (M)	2785	39.53	42	135	2354	414	5011	1534
Andal	14655	11.14	2187	367	12854	919	22292	6637
Durgapur-	37159	6.70	1952	2341	22823	2689	534064	26214
Galsi-I	55478	4.93	3335	879	56201	3884	106381	82877
Kanksa	42996	7.60	2392	1851	26961	2516	198320	25392
Pandabeswar	12375	12.18	1512	101	7928	2334	13040	2729
Durgapur (MC)	36725	38.06	7314	390	22772	2709	42858	12383
Baraboni	39325	3.54	4096	4415	26917	6435	34501	15829
Jamuria	27554	2.65	1856	1203	15112	3196	39246	6566
Raniganj	14402	6.89	1051	0	4974	936	8578	855
Salanpur	22616	11.81	1845	1575	15628	4003	41767	4283
Asansol (MC)	18840	41.24	7974	304	14043	2051	31519	3063
Jamuria (M)	14308	6.22	989	217	12022	2510	29923	6005
Kulti (M)	18879	26.42	3407	2806	15287	1800	26718	6359
Raniganj (M)	6663	18.79	1553	0	5197	1810	6348	810
Total	**1730811**	**14.72**	**120362**	**175669**	**1408292**	**99927**	**4624236**	**1778834**

5.3.3: Production and productivity of milk, meat, egg and wool of the district

Species	Produces	Production (2013-14) (Estimated)	Productivity
Cattle (Ind.)	Milk	358.859 Metric Tonnes	NA
Cattle (CB)		224.825 Metric Tonnes	NA
Buffalo		57.859 Metric Tonnes	NA
Goat		17.983 Metric Tonnes	NA
All species (Cumulative)	Meat	48952.1 Metric Tonnes	NA
Desi Fowl	Egg	1946.88 Lakhs No.	NA
Improved Fowl		643.77 Lakhs No.	NA
Duck		2125.27 Lakhs No.	NA
Sheep	Wool	68.885 Metric Tonnes	NA

5.3.4: Carcass yield of meat animals and poultry

Type of animals	Average live weight of mature animals (Kg)	Average carcass weight (Kg)
Goat	14.5	7.368
Sheep	15.6	8.045
Pig	45.3	28.488
Poultry	1.95	1. 31

5.3.5: Milk yield of type of animals in whole district

Type of animals	Average milk yield /lactation (Kg)
Desi cow	650-750
Graded cows	1300-1400
Cross bred cows	1700-1800
Buffaloes	1800-2000
Goat	12-14

5.3.6: Information regarding milk marketed by producer

District	Private vendors (%)	Avg. milk price/Lt. (Rs)	Co operative chain (%)	Avg. milk price/Lt. (Rs)
Burdwan	>99%	26.00	<1% (Total 2500 litre/day)	21.00

5.3.7: Production target in XII plan

Name of commodity	Baseline (2013-14)		2014-15		2015-16		2016-17	
	Production	Productivity	Production	Productivity	Production	Productivity	Production	Productivity
Milk (MT)	659526	NA	692502	NA	727127	NA	763484	NA
Meat (MT)	489952	NA	514450	NA	540172	NA	567181	NA
Egg (Million)	471.592	NA	495.172	NA	519.930	NA	545.927	NA
Wool (MT)	68.885	NA	72.329	NA	75.946	NA	79.743	NA

5.3.8: on-going project/ Scheme of the department

Sl. No.	Name of Scheme/ plan/ project	Year of initiation	Funding agent	Sanctioned Amount (Rs in Lakhs)	Status
1	Optimization of productive efficiency through organization of Animal Health Camp (Parasitic Control Camp & Fertility Improvement Camp).	**2010-11**	RKVY	243.4403	Continuing in 2014-15
2	Bishes Go Sampad Bikash Avijan (Modified)	**2009-10**	PBGSBS	1257.7656	Continuing in 2014-15
3	Distribution of inputs for improvement of Livelihood through Pig Farming.	**2013-14**	RKVY	24.00	Continuing in 2014-15
4	Distribution of inputs for improvement of Livelihood through Goat Farming.	**2013-14**	RKVY	58.196	Continuing in 2014-15
5	Augmentation of meat production by intensive sheep/ goat production through adoption of good husbandry practices.	**2013-14**	RKVY	101.70	Continuing in 2014-15
6	Distribution of Chick/Duckling among Women SHG.	**2013-14**	State Plan	162.36	Continuing in 2014-15
7	Centrally Sponsored Rural	**2011-12**	Centrally	362.20	**Fund for received**

	Backyard Poultry Developmen		Sponsored		
8	Extension of Animal Health Care Services in Remote areas of W. B through Mobile Veterinary Clinic	**2014-15**	RKVY	21.87	**Initiated**
9	Strengthening of bio-security practices in Govt. Poultry Farms	**2014-15**	RKVY	15.00	**Initiated**
10	Assistance to State for Control of Animal Diseases (ASCAD)	**2008-09**	Centrally Sponsored	295.138	**Fund received**

5.3.9: Financial plan of the Department of Animal Husbandry

A. Budget for production growth

Sl. No.	Name of Activity	2014-15			2015-16			2016-17			Total Financial Involvement
		Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	
1	Organization of Animal Health Camp (24 camps in each block)	0.05	744	37.20	0.055	744	40.92	0.06	744	44.64	122.76
2	Organization of Fertility Camp (4 camps in each block)	0.10	124	12.40	0.11	124	13.64	0.12	124	14.88	40.92
3	Distribution of pig (3 sows/ beneficiary & 2 boar/) among SHG members (16 SHG i.e 160 beneficiary for the district)	3.50	6	21.00	3.80	5	19.00	4.20	5	21.00	61.00
4	Distribution of goat (4 does/beneficiary & 2 bucks/group) among SHG members (2 SHG i.e 20 beneficiary /GP)	1.00	184	184.00	1.10	185	203.50	1.2	185	222.00	609.50
5	Assistance to goat rearers for renovation of shelter, medicinal support and training. (500 beneficiaries from each block)	0.015	5500	82.50	0.0175	5000	87.50	0.020	5000	100.00	270.00
6	Distribution of Chick/Duckling among Women SHG (60 SHG from each block)	0.066	1860	122.76	0.073	1860	135.78	0.080	1860	144.80	403.34
7	Purchase of FAX and photocopier (1 set/ block including district HQ)	0.50	16	8.00	16	0.50	8.00	-	-	-	16.00
8	Installation of public addressing system in all three farms for training	1.00	1	1.00	1.00	1	1.00	1.00	1	1.00	3.00
9	Renovation of Rasulpur Fodder farm and demonstrative Goat Farm.	20.00	1	20.00	-	-	-	-	-	-	20.00
10	Demonstrative Dairy Farm for farmers	-	-	-	20.00	1	20.00	-	-	-	20.00
11	Setting up laboratory of the Veterinary Polyclinic at Fagupur, Burdwan.	10.00		5.00						5.00	10.00
12	20 bed residential set up for farmers in all three SPF/DCF	25.00	1	25.00	25.00	1	25.00	25.00	1	25.00	75.00
	Total			**498.86**			**534.34**			**558.32**	**1591.52**

B. Budget for infrastructure and asset

Activity proposed	Target (Rs. In Lakh)						Total	
	2014-15		2015-16		2016-17		XII plan	
	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Physical	Financial
Feed plan	1	75.00	-	-	-	-	1	75.00
Office of the DD, ARD including J.D. office Burdwan division zone – III	1	300.00	1(Furnishing)	100	-	-	2	400.00
Vety. Poly clinics and A.B.H. C.	32	32.00	32	32.00	1	20	63	84.00
A.I. container	100	7.50	50	3.25	50	3.25	200	14.00
Fodder Kiosk/livestock Kiosk	32	64.00	6	12.00	-	-	38	76.00
Bulk cooler for milk collection	1	1.00	1	1.00	-	-		2.00
Total	**167**	**479.5**	**90**	**148.25**	**51**	**23.25**	304	651.00
Total Financial plan	**(A +B)= 1591.52 +651.00= 2242.52**							

5.4: Fishery Development

Burdwan district has 50819.19 ha. Water bodies in the form of small, medium and large tanks. Besides there is some riverine resources of captured fisheries. Area of cultivation of IMC is increasing day by day due to high profitability and demand in the district as well as in the state. During last three decades the Fisheries Department has made effort in the field of Seed & table fish production by motivating people with training and financial assistance through F.F.D.A. This has resulted in employment generation and uplifted socio-economic condition of the fishermen community. The species cultivated are *Telapia*, *Parshe*, *Anabus* sp., Indian major carps, Indian minor carps, pangus, etc. There is one central fishery society and 55 nos of primary society. In this sector, insufficient fish seed, lack of ownership of community water bodies, technological gap and lack of processing and storage facilities are the major production constrains. The sectors should be emphasized for development in holistic manner to reduce the production and demand gaps.

The objectives of development of this sector:

- To make the district self sufficient in fish production increasing productivity of the water areas already in culture or bringing them under culture through scientific pisciculture
- To develop skill of the fish farmers to enrich their technical knowledge for scientific fish culture
- To develop pisciculture in tanks owned by different Govt. Department / Institution / Panchayat bodies for fish culture through social fishery scheme
- To Strengthen the production of quality fish seed by setting up of carps as well as magur hatcheries
- Top develop the production of fresh water prawn and magur culture by setting up demonstration centres.
- To help the poor fishermen through different welfare measures by introducing pension scheme and development of infrastructural facilities.
- To introduce ornamental fish breeding and culture through self help groups
- To generate employment to the rural youth and to meet the demand of protein in our society.

5.4.1 : Fishery Resource

Aquatic resource	Area (ha)
Impounded Water Area	31180.28
Reverine Water Area	11316.64
Canal	5951.36
Beel	1939.91
Water Logged Area	0.00
Reservoir Fishery	60.00
Total	50448.19

5.4.2: Seed production status in Burdwan

Sl No	Resources	Water Area (in ha.)	Seed production (in million)
1	Private Hatchery (27)	12.40	7200
2	Government hatchery under SFDC (1)	24.00	1306
3	Natural	0.00	200
	TOTAL	36.40	8706.00

5. 4. 3. Status of Fishery Sector

Name Of Block	No Of Govt. Scheme Operated	Expenditure in Thousand	Assistance to needy Fisherman	Net Area Available for Pisci Culture (Ha)	Net Area Under Effective Pisci Culture (Ha)	No Of Persion Engaged
Salanpur	5	182	167	390.8	270	1916
Barabani	6	1238	1223	1071.1	771.71	1320
Raniganj	5	963	948	290.6	269.28	2100
Jamuria	4	92	77	704.67	560.46	1125
Galsi - i	6	1830	1815	1005	850	3690
Andal	7	1043	1028	718.67	508	2130
D.Faridpur	6	3524	3509	1533.81	1073.66	3122
Padabeswar	6	989	974	337.73	70	1002
Kanksa	7	2775	2760	1095.55	879.64	5300
Burdwan - I	7	4433	4418	956.25	930	8006
Burdwan - II	5	2685	2670	1000.25	850	4580
Ausgram - I	6	3025	3010	1624.45	1500	6750
Ausgram - II	8	3606.8	3591.8	700	600	4560
Bhatar	6	2731	2716	2376.12	2160	5040
Galsi - II	7	1094.2	1079.2	1045.43	800	4990
Memari - I	7	5973	5958	1149.4	940	7165
Memari - II	7	2689	2674	1347.38	1064.36	4483
Jamalpur	7	2054.5	2039	1318.21	1014.36	5428
Raina - I	8	3014.8	2999	820	520	4570
Raina - II	6	1920.4	1905.4	800.41	605	3842
Khandaghosh	7	2930	3065	1535.65	1237	5146
Mangolkote	6	3578	3563	2476.65	1954.95	5430
Ketugram - I	5	2657	2642	600.1	450	5134
Ketugram - II	7	2940.2	2925	659	509	5475
Katwa - I	10	3711.2	3696	605	550.74	8441
Katwa - II	7	3733.2	3718	790.02	711	7815
Purbasthali - I	10	281449.4	14943	601.6	450	5591
Purbasthali - II	8	2933.8	2918	660.04	510	4884
Kalna - I	5	3963.5	3948	904	680	8265
Kalna - II	7	2822.6	2807	800.75	737	5156
Monteswar	6	1862	1997	1261.64	728.34	5117
	204	358443.6	91783.4	31180.28	24754.5	147573

Table: 5.4.4Financial target

A. Budget for production Growth Rs. 1593.73 lakhs

Activity proposed	Target (Phy. in ha. and Fin. in Lakh)					
	2014-15		2015-16		2016-17	
	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Culture of indigenous small fish in backyard ponds	100	30	110	33	150	45
Seed Mahotsav	20	10	30	15	40	20
Liberation of fish fingerlings in the ponds excavated under MGNREGS	40	4	50	5	60	6
Scheme for intensive fish culture	900	331.20	1000	368	1100	404.80
Scheme for production of fingerling of carps	300	34.50	330	37.95	360	41.40
Culture of magur in small ponds	08	2.928	09	3.292	10	3.66
Scheme for brooders management and production of quality spawn of IMC	100	20	110	22	120	24
Culture of Monosex Tilapia	100	30	110	33	120	36
Rearing of indigenous small fish seed from wild collection	100	10	110	11	120	12
	1668	**472.628**	**1859**	**528.242**	**2080**	**592.86**

B. Budget for Infrastructure and assets : Rs. 880.60 lakhs

Activity proposed	Target (financial- Rs. In Lakhs)					
	2014-15		2015-16		2016-17	
	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Distribution of hygienic insulated box to fish vendors	1800	59.40	2000	66.00	2200	72.60
Distribution of bi-cycle with insulated box to fish vendors	360	28.80	400	32.00	440	35.20
Distribution of matsyajan	70	35.00	75	37.50	80	40.00
Construction and commissioning of block lab. cum trg. center.	6	43.20	6	72.00	3	36.00
Soil and water testing kits	100	70.00	100	80.00	100	80.00
Infrastructure for oxygen packing of fish seed	31	9.30	31	9.30	31	9.30
Fish seed carrying vehicle.	6	30.00	3	15.00	4	20.00
Total	**2373**	**275.7**	**2615**	**311.8**	**2858**	**293.1**

Total financial budget for fishery development: (A+B)= (1593.73 +880.60)= Rs. 2474.33 lakhs

5.5: Sericulture development:

Sericulture in Burdwan is only 14 years old. Soil status of Burdwan favours both Mulberry and Tassar, as *Tassar* requires less irrigation so it has a very good prospect in western lateritic zone. Mulberry requires more irrigation and so it can be grown in the eastern parts of the district except Durgapur sub-division but the farmers have not shown interest in growing mulberry in the fertile soil. Rather crop farming is their primary focus. *Tassar*, on the other hand can be grown in the lateritic area in Arjun plantations.

Sericulture provides an alternate livelihood opportunity for women, disadvantaged and landless people of the district especially in the lateritic zones. It is low investment farming with lucrative profit. The district has a great scope for tassar silk production and has been the highest producer in the state in 2010-11. There are two Technical Support Centres (TSCs) – Kanksa block and Aushgram –I block.

The objectives of sericulture development in the district are ;

- Overall development of the silk industry
- Expanding land acreage/ coverage increasing the number of farmers/families in Sericulture
- Maintenance of quality basic seed Supply of disease free silkworm seeds
- Prevention and control of disease and pest of silkworm and their food plants
- Extending marketing support to the producers
- Development of Tasar silk
- Popularization of silk reeling and weaving activity
- Dissemination of improve technological knowledge to farmers, revelers through the officials
- Providing institutional / financial support, collaboration with other Govt. organizations or non-Govt. Organization for a wider financial and logistic support

Table 5.4.1: Status of Production in Sericulture in Burdwan

Year	Cocoons production		Value of production (thousand rupees)	
	Mulberry (MT)	Tasar (thousand kahan)	Mulberry	Tasar
(1)	(2)	(3)	(4)	(5)
2006-07	0.073	33.80	5.8	27
2007-08	0.080	156.00	6.4	124
2008-09	0.085	117.86	7.2	106
2009-10	0.060	94.00	5.4	113
2010-11	0.062	214.56	6.2	200

N.B. : 1 Ganda = 4 No., 1 Pon = 20 Ganda = 80 No.,
1 Kahan = 16 Pon = 320 Ganda = 1280 No.

Source : Dy.Director of Sericulture, Burdwan

5.4.2: Financial budget for sericulture development: (Rs. In Lakhs)

Sl. No.	Particulars of Work	Unit	2014 - 15		2015-16		2015-17		Total	
			Phy.	Fin. Rs in lakhs)	Phy.	Fin. (Rs in lakhs)	Phy.	Fin. Rs in lakhs)	Phy.	Fin. (Rs in lakhs)
A	Egg Supply	'000	30000	30.00	30000	30.00	30000	30.00	90000	90.00
	Transportation			10.00		10.00		10.00		30.00
	Supply of kit to the farmers	Per kit	100	20.00	100	20.00	100	20.00	300	60.00
B	Cocoon purchase from the farmers	Kahan	100000	80.00	100000	80.00	100000	80.00	300000	240.00
	Purchase of Cocoon collection van	Unit van	1	120.00	1	120.00	1	120.00	3	360.00
	Cocoon storing unit in the collection centers	Unit	1	500.00	1	500.00	1	500.00	3	1500.00
	Grand Total (A+B): :		130102	760	130102	760	130102	760	390306	**2280.00**

5.5: Agricultural Marketing

The department is playing a vital role in development of agriculture marketing, transportation of produces and setting up the Minimum Support Price (MSP) of agricultural produces. The basic vision of the department is to develop the vast and strong market network of farm produces for better profitability of farmers and better linkage between producers and consumers. .

The basic objectives of the sector are

- To establish the modern krishak bazaar at all blocks of the district
- To promote agricultural processing for minimization of post harvest losses and value addition of produces
- Promotion of indigenous agricultural produces of the district for better market linkage
- To develop the organized market through SHGS and Co-operatives

Table 5.5.1: Storage & Marketing Facilities in Burdwan

Nos. of cold storage	114
Total Capacity	1600013.29 MT
Nos. Regulated Market Nos. Sub-Market	Regulated market -4 Sub market- 12
Nos. of wholesale market and Terminal market Nos.	38
Bazar/Hat	155

Table 5.5.2: Plan of Agriculture Marketing

Sl.no.	Activity	Financial requirement (in lakh Rs.)			
		2014-15	2015-16	2016-17	Total
	Processing & Preservation of Fruits & Vegetables-001	2.00	2.00	2.00	6.00
	Farmer's Training in Post Harvest Technology-003	2.00	2.00	2.00	6.00
	Construction and Improvement of Storage Structure-800	50.00	50.00	50.00	150
	Development of farm to Market Link Roads	50.00	50.00	50.00	150.00
	Development of Rural and Primary Markets	50.00	50.00	50.00	150.00
	Development of Regulated Markets	100.00	100.00	100.00	300.00
	Export Promotion of flower	8.00	8.00	8.00	24.00
	Training and Marketing	5.00	5.00	5.00	15.00

	Officials & Others				
	Introduction of Pledge Finance	4.00	4.00	4.00	12.00
	Agril. Marketing Information & Exhibition	15.00	15.00	15.00	45.00
	Annual Macro Management Mode Work Plan	1.00	1.00	1.00	3.00
	Subsidy to Bullock Cart & Van Rickshaw	60.00	60.00	60.00	180.00
	Scheme for Strengthening & Supervision of Cold Storages	6.00	6.00	6.00	18.00
	Total:				**1059.00**

5.6: Agriculture credit and cooperation

Development of Co-operatives, especially the Primary Co-operative Societies is required to bring in real development of farming community. Special emphasis has been given for strengthening of financial base vis-à-vis sustaining economic solvency of the members. The credit facilities through rural bank, cooperative gramin banks and nationalished bank have been provided to the farmers for agriculture purpose. Therefore the development of credit and co-operative sector needs to be emphasized for better agricultural growth.

5.6.1: Agriculture Co operative and credit society:

Type of society / Year		Number of		Working capital (Rs.in thousand)	Loans due from individuals & other societies (Rs.in thousand)	Loans repayment by individuals & other societies (Rs.in thousand)
		Societies	Members			
(1)		(2)	(3)	(4)	(5)	(6)
1	**Central Bank :**					
	2006-07	1	1745	9764647	4098605	3880516
	2007-08	1	5460	9822191	5135487	4299943
	2008-09	1	5492	11476487	5621482	4905209
	2009-10	1	1076	15392391	4199766	5040300
	2010-11	1	5460	9822191	5135487	4299943
2	**Primary Land Mortgage bank :**					
	2006-07	2	14057	506778	374446	134483
	2007-08	2	14034	530689	217817	75313
	2008-09	2	14112	651963	230113	189335
	2009-10	2	14598	651437	291839	405273
	2010-11	2	14058	665357	248672	112399
3	**Agricultural Credit Societies**					

	:					
	2006-07	617	418799	2283912	1320920	1054792
	2007-08	617	460517	2432204	1559151	943619
	2008-09	586	470710	2480425	2249038	1587135
	2009-10	560	535158	3986131	1028166	1693746
	2010-11	561	559196	4020978	1906326	1253275

(Source: Statistical handbook, Burdwan-2011)

Table 5.6.2: List of credit institutions in Burdwan

FINANCIAL INSTITUTIONS:	Nos
a) Commercial Banks	417 Nos.
b) Gramin (Rural) Bank	67 Nos.
c) Burdwan Central Co-operative Bank	36 Nos.
d) Burdwan Co-operative Agril. & Rural Development Bank	5 Nos.
e) West Bengal Finance Corporation	1 No.
f) Land Development Bank	1 No.
g) National Bank for Agril. And Rural Development (NABARD) Regional Office	1 No.

Source: District Statistical Handbook, Burdwan

Table5.6.3: Co-operative Societies in the Blocks of Burdwan in the 2013-14

Ll. No	Name of Block	No. of Co-operative Societies	No. of Members	Working Capital ('000 Rs.)
(1)	(2)	(3)	(4)	(5)
1	Burdwan-I	76	23609	52382
2	Burdwan-II	69	15288	84307
3	Ausgram-I	64	16310	97188
4	Ausgram-II	57	17876	48975
5	Bhatar	65	30389	177442
6	Galsi-II	54	14000	63691
7	Memari -I	55	49931	389047
8	Memari -II	62	30474	545574
9	Jamalpur	65	41616	236388
10	Raina I	73	34389	146279
11	Raina II	49	26413	186794
12	Khandaghosh	62	21428	113706
	Total	**751**	**321723**	**2141773**

Table: 5.6.4: Financial Plan (Rs. In Lakh)
A. : Proposals under RKVY Scheme for Co-operative Societies from Burdwan –I Range

Sl. No.	Proposal	Amount per unit	Scheme Name	No. of Proposals							
				2014-15		2015-16		2016-17		Total	
				No. of Scheme	Amt. Required	No. of Scheme	Amt. Required	No. of Scheme	Amt. Require	No. of Schem	Amt. Required
1	Agril Hubs	20.00	Agri Hubs/ Customs Hiring Unit	2	40.00	1	20.00	3	60.00	6	120.00
2	Agro- Processing Unit	6.00	Agro- Processing Unit	1	6.00	1	6.00	-	-	2	12.00
3	Bio- Fertiliser Unit	1.50	Bio- Fertiliser/ Vermicompost (2 Units)	1	1.50	1	1.50	1	1.50	3	4.50
4	Farmers' Training Centre	10.00	Farmers' Training Centre	6	60.00	4	40.00	3	30.00	13	130.00
5	Godown	6.00	Rural Storage Godown	12	72.00	10	60.00	10	60.00	32	192.00
6	Integrated Farming Unit	10.00	Integrated Farming Unit	-	-	-	-	-	-	-	-
7	Mini Deep Tubewell	2.50	Mini Deep Tubewell/ Drip Irrigation/ Sprinkle	44	110.00	30	75.00	10	25.00	84	210.00
8(a)	Repair of Godown	1.50	Repairing of Storage Godown	12	18.00	10	15.00	11	16.50	33	49.50
8(b)	Completion of Incomplete	4.00	Repairing of Storage Godown	2	8.00	2	8.00	-	-	4	16.00
9	Rural Haat/ Market	10.00	Rural Haat	2	20.00	2	20.00	1	10.00	5	50.00
10	S.H.G. Workshed	8.00	S.H.G. Workshop- cum-Sales Counter- PACS	6	48.00	6	48.00	3	24.00	15	120.00

11	Seed Processing Unit	20.00	Seed Multiplication & Processing Unit	2	40.00	3	60.00	1	20.00	6	120.00
TOTAL				90	423.50	70	353.50	43	247	203	**1024**

B. Activity wise Physical and Financial Outlay of Co-operation Department- Raina-I block

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown	Raina-II	K.B.C	1	6.00					1	6.00
Do		Kamargoria			1	6.00			1	6.00
Do		Hodilpur					1	6.00	1	6.00
Repair of Godown		Chotobainan	1	1.50					1	1.50
Do		Barati					1	1.50	1	1.50
Completion of Incomplete		Keunta		4.00					1	4.00
Do		Bulchand				4.00			1	4.00
Mini Deep Tubewell		Srirampur	1	2.50					1	2.50
DO		Pahalanpur			1	2.50			1	2.50
SHG Workshop		Neor Pasanda			1	8.00			1	8.00
Total										42.00

C. Activity wise Physical and Financial Outlay of Co-operation Department- Burdwan-II

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Agril Hubs		Adarsha	1	20.00					1	20.00
Do		Korori			1	20.00			1	20.00
Do		Brahmanpara					1	20.00	1	20.00
Bio-Fertiliser Unit		Majherpara	1	1.50					1	1.50
Do		Bhaita					1	1.50	1	1.50
Farmers Training Centre		Balgona Malkita	1	10.00					1	10.00

Do	Burdwan-II	Swasti			1	10.00			1	10.00
Do		Hatgobindapur					1	10.00	1	10.00
Mini Deep Tubewell		Nabastha	5	12.50					5	12.50
Do		Adarsha	5	12.50					5	12.50
Do		Ghatsila			2	5.00			2	5.00
Do		Majherpara			3	7.50			3	7.50
Do		Sonapalashi			3	7.50			3	7.50
Repair of Godown		Samanti	1	1.50					1	1.50
Do		Korori	1	1.50					1	1.50
Do		Raipur			1	1.50			1	1.50
Do		Nabastha					1	1.50	1	1.50
Rural Haat		Samanti			1	10.00			1	10.00
Do		Adarsha					1	10.00	1	10.00
SHG Workshop		Sanakur Kashiara	1	8.00					1	8.00
Do		Adarsha			1	8.00			1	8.00
Seed Processing Unit		Sukur	1	20.00					1	20.00
Seed Processing Unit		Sonakur Kashiara			1	20.00			1	20.00
Seed Processing Unit		Balgona Malkita			1	20.00			1	20.00
Total										240.00

D. Activity wise Physical and Financial Outlay of Co-operation Department- Burdwan-I

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown		Baro Kashiara	1	6.00					1	6.00
Do		Deypara	1	6.00					1	6.00
Do		Panrui			1	6.00			1	6.00
Do		Pallimongal			1	6.00			1	6.00
Do		Chotobelun					1	6.00	1	6.00
Do		Kshetia					1	6.00	1	6.00
Repair of Godown		Pallimongal	1	1.50					1	1.5
Mini Deep Tubewell		Panrui	1	10.00					1	10.00
DO		Barokasiara			1	10.00			1	10.00

Do	Burdwan-I	Mahinagar					1	5.00	1	5.00
SHG Workshop		Jamar	1	8.00					1	8.00
Do		Sanpar			1	8.00	1	8.00	2	16.00
Farmers Training Centre		Jamar			1	10.00			1	10.00
Total										96.50

E. Activity wise Physical and Financial Outlay of Co-operation Department- Galsi-II

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown	Galsi-II		1	6.00					1	6.00
Repair of Godown		Gomai	1	1.50					1	1.50
Do		Sarul	1	1.50					1	1.50
Do		Uro Chotomuria			1	1.50			1	1.50
		Masjidpur					1	1.50	1	1.50
Mini Deep Tubewell										
Total									5	**12..00**

F. Activity wise Physical and Financial Outlay of Co-operation Department- Ausgram-II

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown		Koucha	1	6.00					1	6.00
Do		Amrargarh	1	6.00					1	6.00
Completion of Incomplete Godown		Balarambati Garai	1	4.00					1	4.00
Repair of Godown		Dhonkora			1	1.50			1	1.50
Do		Erar UCACS			1	1.50			1	1.50
Do		Aus Mktg.	1	1.50					1	1.50
Do		Amrarghar					1	1.50	1	1.50
Mini Deep Tubewell		Jagalmohal	1	2.50					1	2.50

DO	Ausgram-II	Jamtara			1	2.50			1	2.50
Do		Sar					1	2.50	1	2.50
		Kalaijhuti					1	2.50	1	2.50
SHG Workshop		Vivekananda	1	8.00					1	8.00
Do		Jangalmohal			1	8.00			1	8.00
Farmers Training Centre		Aus-II Marketing			1	10.00			1	10.00
Total										58.00

G. Activity wise Physical and Financial Outlay of Co-operation Department- Bhatar

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Agril Hub	Bhatar	Sahebganj No.I	1	20.00					1	20.00
Do		Bamunara						20.00	1	20.00
Bio-Fertiliser Unit		Kubrajpur						1.50	1	1.50
Farmers Training Centre		Nityanandapur Balbona	1	10.00					1	10.00
Rural Godown		Bhumsore	1	6.00					1	6.00
Do		Madhpur				6.00			1	6.00
Do		Sahebgnj Ucacs				6.00			1	6.00
Do		Basuda						6.00	1	6.00
Do		Aruar						6.00	1	6.00
Repairing of Godwn		Palligandhi Bamunara				1.50			1	1.50
Mini Deep Tubewell		Bonpas	5	12.50					5	12.50
DO		Basuda			5	12.50			5	12.50
SHG Workshop		Sahebganj No.I					1	8.00	1	8.00
Do		Hargram			1	8.00			1	8.00
Do		Barabelun	1	8.00					1	8.00
Seed Processing Unit		Kashipur	1	20.00					1	20.00
Do		Kubajpur			1	20.00			1	20.00
Total										172.00

H. Activity wise Physical and Financial Outlay of Co-operation Department- Ausgram-I

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown	Aus-I	Batagram Kalyanpur	1	6.00					1	6.00
		Ausgram Skus			1	6.00			1	6.00
		Belari					1	6.00	1	6.00
		Billwagram					1	6.00	1	6.00
		Digha Gobindapur			1	6.00			1	6.00
Repair of Godown		Majhergram	1	1.50					1	1.50
		Joykrishnapur	1	1.50					1	1.50
		Silut			1	1.50			1	1.50
		Batagram kalyanpur			1	1.50			1	1.50
		Digha Gobindapur			1	1.50			1	1.50
		Takipur Chowari					1	1.50	1	1.50
		Ban nabagram					1	1.50	1	1.50
		Ausgram					1	1.50	1	1.50
Total										42.00

I. Activity wise Physical and Financial Outlay of Co-operation Department- Khandakosh

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay (Rs. In lakhs)							
			2014-15		2015-16		2016-17		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Hat		Berugram	1	10.00					1	10.00
		Ukhrid			1	10.00			1	10.00
Rural Godown		Indos	1	6.00					1	6.00
		Sakha			1	6.00			1	6.00
		Daichanda					1	6.00	1	6.00

Repair of Godown	Khandakosh	Daichanda	1	1.50					1	1.50
		Jotchandi			1	1.50			1	1.50
		Sagrai					1	1.50	1	1.50
Total										42.50

J. Activity wise Physical and Financial Outlay of Co-operation Department- Mem.II

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Rural Godown	Mem-II	Horkola					1	6.00	1	6.00
Do		Kuchut					1	6.00	1	6.00
Do		Makra	1	6.00					1	6.00
Do		Jhikira 'O'Bamunpukur	1	6.00					1	6.00
Do		Mondalgram	1	6.00					1	6.00
Repairing of Godown		Bijur	1	1.50					1	1.50
Rural Hat		Baneswarpur	1	10.00					1	10.00
Farmers Training Centre		Astogram	1	10.00					1	10.00
Do		Bitra			1	10.00			1	10.00
Do		Panchgram	1	10.00					1	10.00
SHG Workshop		Gandharbapur	1	8.00					1	8.00
Do		Hamunpur			1	8.00			1	8.00
Agril. Hubs		kandarpapur	1	20.00					1	20.00
Mini Deep Tubewel		Kandarpapur	1	2.50					1	2.50
Agro. Processing Unit		Mohanpur	1	6.00					1	6.00
Total										116.00

K. Activity wise Physical and Financial Outlay of Co-operation Department- Mem.I

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
		Gope gantar	1	6.00					1	6.00
Godown		Kenna			1	6.00			1	6.00
Repair of Godown		Mobarakpur					1	1.50	1	1.50

Mini Deep Tubewell	Memari-I	Jujharpurpur	5	12.50	5	12.50			10	25.00
		Sahanui	6	15.00					6	15.00
		Debipur	5	12.50			5	12.50	10	25.00
		Mobarakpur			5	12.50			5	12.50
		Haripur			1	1.50			1	1.50
		Borakona					1	2.50	1	2.50
SHG Workshed		Sashinara	1	8.00					1	8.00
		Nimo			1	8.00			1	8.00
Farmers Training Centre		Kashiarapally	1	10.00					1	10.00
		Daluibazar	1	10.00					1	10.00
		Mobarakpur			1	10.00			1	10.00
		Gope gantar			1	10.00			1	10.00
		Amadpur					1	10.00	1	10.00
		Sahanui					1	10.00	1	10.00
Agril Hubs		Sahanui			1	20.00			1	20.00
		Gope gantar					1	20.00	1	20.00
Agro Processing Unit		Sashinara			1	6.00			1	6.00
Total										217.00

L. Activity wise Physical and Financial Outlay of Co-operation Department- Raina-I

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Godown	Raina-I	Jotsadi	1	6.00					1	6.00
		Bontir			1	6.00			1	6.00
Repair of Godown		Dharan	1	1.50					1	1.50
		Rmbati			1	1.50			1	1.50
		Rainagar					1	1.50	1	1.50
		Meral					1	1.50	1	1.50
		Borakona	1	1.50					1	1.50
		Balagarh			1	1.50			1	1.50
		Gopinaathpur	1	2.50	1	2.50			2	5.00
		Burar	1	2.50	1	2.50			2	5.00

Mini Deep Tubewell		Rainagar	2	5.00	1	2.50			3	7.50
		Sanktia	1	2.50	1	2.50			2	5.00
		Kulia Nurpur	1	2.50	1	2.50			1	2.50
Bio-Fertiliser Unit		Dharan			1	1.50			1	1.50
		Haripur			1	1.50			1	1.50
		Borakona					1	1.50	1	1.50
SHG Workshed		Shyamsundar			1	8.00			1	8.00
Fermers Training Centre		Gopalpur					1	10.00	1	1.00
Seed Processing Unit		Bujrukdighi					1	20.00	1	20.00
Total										**79.50**

M. Activity wise Physical and Financial Outlay of Co-operation Department- Raina-I

Name of activity/programme/ scheme	Name of block	Name of SKUS	Physical and financial outlay							
			2014-15		2015-16		2016-17		Total (Rs. In lakhs)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Municipal Circle	Burdwan policeline consumer co-op. stores ltd.	1	1.50					1	**1.50**

Grand total budget for Agril. Credit & cooperation: Rs. 2143.00 lakhs

5.7: Constraints of the allied sectors and proposed recommendation/ strategies:

A. Horticulture: Constraints identified

	Significant yield gap in fruits, vegetables and spices	> Knowledge and skill gap in production technologies > Non-adoption of IPM/INM > Scarcity of water at critical crop stages > Poor acceptance of F1 vegetable seeds > Excess post harvest loss > Imbalanced use of plant nutrients > Want of rejuvenation of old orchards and senile plants > Dearth of quality planting materials > Lack of personnel
	Low profitability	> Unorganized marketing > Establish markets for flower sell > Lack cool chain system of transportation > Lack of value addition and agro-processing > Export oriented production and production

Proposed extension / research strategies

- Improvement of micro irrigation facilities
- Development of climate suitable horticultural crops specially fruit and plantation crops
- Crop diversification
- Skill development of farmers
- Dissemination of protective cultivation / hi-tech horticultural technology
- Research on exotic crops and flowers

B. Animal Husbandry:

Constraints identified in animal husbandry practices in the district

	Slow rate of cross breeding and artificial insemination	• Malnutrition of indigenous cows/buffaloes • Constraints in transportation of LN_2 and frozen semen • Inadequate mobility and supervision • Prevalence of stray bull and natural crossing • Repeat breeding • Limited LIs for door service • Limited bank finance for Gir variety cows

	Low productivity of dairy animals	• Use of non-descriptive indigenous breed • Want of green fodder • Poor sanitation, nutrition and housing • Improper health measures like vaccination, de-worming etc. • Non-availability of medicines in rural areas • Knowledge and skill gap among dairy farmers • Limited insurance facility
	Low productivity of poultry birds	• Severe diseases like bird flu • Technological gap in nutrition, management and housing • Non-availability of poultry feed at reasonable rate • Limited finance and insurance • Unorganized marketing
	Low productivity of small ruminants	• Want of improved breeds of goat and sheep • Poor nutrition, housing and sanitation • Lack of de-worming and periodic treatment against major diseases

Other few areas of production constrains

- Poor production due to poor genetic stock and inadequate feed resource
- Increasing objections from residents around animal farms in fear of pollution perturbing willing farmers from erecting new farms and even old farmers are also losing interest.
- Reluctance of the banker to provide loan for setting up the livestock farm to the beneficiaries.
- Insurance coverage facilities of the livestock are getting squeezed day by day.

Proposed extension strategies

- .Skill development of the animal raisers and extension personnel.
- ABAHC in all Blocks as only 20 ABAHC are there out of 31 blocks
- Additional 14 ADACs to cover all GPs as only 198 ADACs are there out of 212 GPs without any BAHC (31) , ABAHC(20) or SAHC(3).
- Addition pranibandhu recruitment for the GPs with more than 1600 breedable cattle.
- Strengthening of feed resource through fodder cultivation and use of homemade feed at penside.
- Introduction of improved and adopted superior germ plasm

C. Fishery Sector:

Various constraints identified in fishery development are:

- Lack of ownership of community water bodies
- Derelict water
- Technological gap in improved cultivation

- Insufficient availability of improved fry/fingerling
- Inadequate credit support
- Limited composite pisciculture
- Contamination of river water due to effluence of industries
- Lack of processing and storage
- Limited hatcheries

Proposed extension strategies for fishery development :

- Establishment of hatchery for fish seed production
- Awareness and skill development programme for cultivation of fish
- Introduction of modern technologies for augmenting productivity
- Improvement of aquatic resources and infrastructure.

D. Sericulture:

Constrains:

- Poor productivity
- Poor processing and storage facilities
- Lack of awareness of improve production technologies
- Prevalence of disease

Proposed extension strategies for fishery development

The broad strategies required for sericulture development in the district would be:

- Increase in the area under sericulture feed plantation in lateritic zone where tribal population is maximum
- Increase in the capacity of seed farms
- Purchase of refrigerated cocoon supply van
- Construction of cocoon collection and storing centre at block level
- Improvement in credit and market linkages for tassar cooperatives
- Effective tie up of farmer's cooperatives with weaver's cooperatives

E. Agricultural marketing

Constrains identified

- Un -organized marketing of agricultural commodities
- Poor marketing chain and information network
- Poor transport and storage facilities

Proposed extension strategies for Agricultural marketing

Realising the constraints in agricultural marketing sector the following broad strategies have been suggested:

- Encouraging private markets as per Amendment of APMC Act 2005
- Encouraging contract farming in the district
- Facilitating SHGs and cooperatives for organised marketing
- Initiating core group for marketing
- Establishing market information network and linkages
- Establishing of Mega Food Park (Agri Food Processing Units)
- Policy interventions to facilitate private sector participation in strengthening market infrastructure

F: Agriculture Credit & Co operation

Major constrains are

- Poor credit repayment facilities
- Lack of poor storage and post harvesting facilities
- Lack of awareness about post harvest operation
- Inadequate / non functioning PACs

Proposed extension strategies for Agricultural credit & cooperation:

- Strengthening of rural food storage facilities
- Strengthening of rural co operative societies
- Infrastructural development of cool storage facilities

5.8: Expected Out come from the plan:

The most significant outcomes of the plan are

i) Augmenting productivity and production of agricultural, horticultural crops with improvement of production of animal and fishery sectors
ii) Skill of the SHGs/ common interest groups, rural youths farmers and farm women will be developed through different training programmes
iii) Improvement of rural infrastructure for holistic development of agriculture and allied sectors
iv) 100 % reach of extension facilities to all farming community
v) Production of quality seed through seed village programme for better seed replacement
vi) Increase area of horticultural crops with the view of crop diversification
vii) Generation of employment among rural mass and augmentation of family income through various innovative programmes of animal husbandry, horticultural, fishery and sericulture activities.
viii) Entrepreneurship development in various agriculture and allied sectors

DISTRICT PLAN

6.1.Introduction

A major revival package is essential for the growth and development of the agriculture and allied sector linked to higher investment and strategies to make agriculture attractive and profitable. Different strategies in combination with technology, credit, marketing, risk management and institutional support would be required to revitalize the agricultural economy of the district. Among the sub-sectors, a major increase has been proposed for crop husbandry, animal husbandry, fisheries and agricultural research. Enhancement of food grain production, supplementary income sources through livestock and fish production have been given thrust in the annual plan 2008-09 based on the broad framework of the Twelfth Five Year Plan. Innovative schemes have been suggested for promotion of organic farming, soil health maintenance, integrated farming system and diversification.

6.2. Growth drivers

The growth drivers to fulfill the vision are as follows,

Agriculture

- Soil reclamation and preserving soil quality for sustainable crop production
- Increasing cropping intensity with suitable intervention. Promotion of pulse crops to be largely enhanced
- Productivity augmentation through judicious fertilizer and pest management. Introduction of improved cultivars, dissemination of promising technologies, seed treatment, farm mechanisation
- Capacity building of extension workers for efficient dessimination of technologies
- Implementing strategies for producing more per quanta of land and water through judicious use of resources. Adoption of integrated farming methodologies wherever applicable for enhancing farmers income is called for.
- Correction of soil acidity by using Dolomites, basic slugs, ash etc should be undertaken judiciously so that the effect should be sustainable. Fly ash from the thermal power stations in Burdwan can be purchased in a very low price and can be distributed among the farmers in place of Dolomite. This will ensure more procurement and less expenditure on transport and procurement.
- Production of quality seed material through participatory approach
- Adoption of climate resilient technologies to cope up with climate change which is imminent
- More emphasis on red and lateritic zone for agriculture intensification through creation of water harvesting structures, watersheds etc.

- Value addition to agricultural produce to be given emphasis. SHGs, common interest groups, JLGs to be

Horticulture Sector

- Strengthening of horticultural department in the line of agriculture, ARD and fisheries department with block level officials and support staff
- Capacity building of farmers and extension workers for speedy development of horticulture in the district
- Protected cultivation techniques to be much strengthened
- Potential for horticulture development in the red and lateritic region is to be exploited. Extension of horticultural activities in this zone by supply of saplings (fruits and tree species) and undertaking plantation activities should be taken up. Plantation of *Arjun* in the lateritic zone can help the poor farmers, basically tribals by introducing Tasar cultivation in collaboration with Sericulture department.
- Emphasis to be given on production as well as marketing of high value horticultural crops
- Attention to be given on management of water resource through establishment of micro irrigation for fruit, plantation and vegetable crops.
- Entrepreneurship development through value addition to horticultural produces is to be pressed

Animal husbandry

- Breed up-gradation of livestock and poultry
- Capacity building of extension workers/ animal raisers for efficient dissemination of technologies
- Augmentation of productivity of livestock and poultry
- Emphasis on infrastructure of Artificial insemination
- Strengthening of animal feed resource through production of green fodder, preparation of home made concentrate feed and complete feed block
- Availability of medicines through *Pranibandhus* at the doorstep
- Provision for insurance and credit facility
- Strengthening of Post harvest operation including value addition of animal products
- Unorganised market should be converted into organised market linkages
- Removal of technological gap in nutrition, management and housing of poultry birds

Fishery

- Ensuring ready supply of quality fingerling in the district.
- Aquaculture based integrated farming modules to be implemented in all the excavated pond under MGNREGA scheme
- Entrepreneurship development in the area of fingerling production.
- Capacity building of fish farmers for improved techniques of fish production, including pond management, feed management, stocking species and density, multiple tire carp

farming etc.
- Efficient marketing chain development through feasible cold chain establishment
- Entrepreneurship development in ornamental fish culture.
- Exploiting potential for fishery development in canals, enclosed large water bodies etc.

Agricultural marketing
- Partnership farming
- SHG/JLG/CIG mediated marketing strategy
- Infrastructural support for SHG/JLG/CIGs involved in production and marketing of agricultural produce

Sericulture
- Development of silvi-pastoral models with required plantation
- Ensure availability of seed
- Ensured availability of market

Credit & Cooperation
- Storage system for vegetables, followers etc. - Veg. godown & multipurpose godown is needed.
- Efficient linkage to be established between produced crops and marketing mainly for non-conventional crops.
- Farmers' club, adequate training, using modern – scientific technique for production of crops is needed.
- All the S.K.U.S.s should have well metal road connection for fertiliser business & other various purposed.
- Agro processing unit to form by Joint venture with S.K.U.S.s – if possible.
- PACS in the district should be promoted for all kinds of agricultural based activities, including production of seeds, distribution of fertilisers etc
- Credit linkages should be increased for the farmers so that they can market their products and a handsome amount

Irrigation
- Increase in minor as well as micro irrigation
- Construction of rain water harvesting structures
- Renovation of sub-canals
- Use of open cast pits in the lateritic zone

6.3. District plan

6.3.1 Agriculture

Under agriculture and allied sectors, crop husbandry accounts for the largest share of allocation over the plan periods as the contribution of agriculture is much more than the animal

husbandry and fishery. Various activities are proposed to be taken up to meet the production target and improving the infrastructural facilities prevailing in the district with a total plan outlay of 34631.98 as detailed in Chapter IV.

6.3.2 Horticulture

Production and supply of planting materials, micro irrigation and extension of area under fruit crops, commercial floriculture, promotion of organic farming, hitech horticulture, storage of onion and technology transfer are major interventions that have been suggested for development of the sub-sector. The fund required in this plan, as detailed in Chapter V, is Rs 1548.50 lakh..

6.3.3 Animal Resource Development

Thrust has been given on dairy development, infrastructure development, technology transfer, storage, animal health and poultry development. Rs 2242.52 lakh has been proposed for investment in this sector during XIIth plan as detailed in Chapter V.

6.3.4 Fishery

Thrust has been given on development of fish farms, technology transfer, inland fishery, capture fishery and assistance for low cost housing to fishermen. Proposed outlay of Rs. 2474.33 lakh during XIIth plan have been suggested for this sub-sector as detailed in Chapter V.

6.3.5 Sericulture

Sericulture provides livelihood opportunities for women, disadvantaged and landless people of the district. The progress so far made is in right direction. Currently sericulture has been confined to lateritic zones of the districts comprised of Salanpur, Jamuria, Andal, Kulti, Barabani, Pandaveswar and Faridpur- Durgapur blocks etc. There
are TRCS units operating in these blocks with Tassar host plant. The district has a great scope for tassar and mulberry silk production. Realising the potential of the district for sericulture, development thrust has been given on key interventions with proposed outlay of Rs. 2280.00 lakh during XIIth plan as shown in details in Chapter V.

6.3.6 Cooperation

There are 2162 cooperatives, Primary Agricultural Credit Cooperative Societies, Non-Agricultural Credit cooperative Societies and one central cooperative bank in the district. The Proposed investment for Cooperation Department is Rs 614.50 lakh during XIIth planThe details have been given in Chapter V.

6.3.7 Agril. Marketing
Proposed investment for Agril. Marketing Department is Rs 1059.00 lakh during XIIth planThe details have been given in Chapter V.

Table 6. 1. Estimated outlay for district plan during XIIth pan

Sector	Proposed broad activities	2014-15	2015-16	2016-17	Total outlay (in lakh)
Agriculture	Reclamation and Development of acid soil	1813.00	3625.00	3625.00	9063.00
	Training Facilities infrastructure	120.00	204.00	200.00	524.00
	Capacity building of farmers	361.02	486.66	1068.36	1916.04
	Organic input production	10.00	20.00	25.10	55.10
	IPM Demonstrations	59.80	74.52	100.92	235.24
	INM Demonstrations	51.42	54.04	76.78	182.24
	Varietal Demonstration	583.00	700.00	769.00	2052.00
	Farmers' Field School	544.00	544.00	2336.00	3424.00
	Additional activities for production growth	107.50	3345.80	3402.80	6856.10
	Additional activities for infrastructure and assets	50.50	1883.00	1261.50	3195.00
	Innovative programme	200.00	750.00	308.40	1258.40
	Agri Irrigation	1000.00	4500.00	1845.00	7345.00
	Soil conservation	145.45	145.75	149.16	440.36
	Strengthening of Krishi Vigyan Kendra, Bud Bud	97.87	94.12	18.45	210.44
	Sub Total	**5143.56**	**5143.56**	**16426.89**	**15186.47**
Allied sectors	Horticulture	565.00	456.00	527.50	1548.50
	Animal husbandry	978.36	682.59	581.57	2242.52
	Fisheries	748.33	840.04	885.96	2474.33

	Agri Cooperation	240.50	249.00	125.00	614.50
	Agricultural Marketing	353.00	353.00	353.00	1059.00
	Sericulture	760.00	760.00	760.00	2280.00
	Sub Total	**3645.188**	**3645.19**	**3340.63**	**3233.03**
	Grand Total	**8788.748**	**8788.75**	**19767.52**	**18419.50**