

Area Development Scheme - Objective

Agriculture and allied activities are the backbone of our economic policy which provide for livelihood of 65% of our population. Its contribution towards GDP of state is 23%. Uttar Pradesh is far ahead from other states in the production of milk, fruits and vegetables but lags behind in productivity potential. There are two main reasons for the same – firstly more than required number of people are working in this field and more than 92% farmers are unorganized. Second reason is small and fragmented land holding. This is supplemented by lack of capital, technology and bank finance for these sectors resulting into low productivity and difficulty in marketing of the produce. Keeping in view these factors, Area Development Schemes has been formulated.

Area Development Scheme

Area Development Scheme means marketing of produce of a particular activity in a particular area by a particular group after processing or value addition by utilizing the technology, inputs and required credit. The produce may be of agriculture or allied activities (dairy, poultry, Sheep/goat/piggery, beekeeping, horticulture etc.) Even non-farm sector activities may be included. Under the scheme, branches of one bank or branches of all the banks of the area may provide loan for that particular activity which will help in forward and backward linkage and farmers will be able to realise good price for their produce.

Since the scheme will be implemented in a particular area in a focused way, input cost will decrease because of increase in no. of beneficiaries. Also the availability of technical inputs and other resources to the producers will become easier. Products will be sold in an organised manner which will fetch better price resulting in increase in farmers' income. Implementation in a limited area in a focused way will make monitoring and its implementation better.

For implementation of the scheme, it is required to be adopted by Govt departments, Banks and NGOs. Keeping in view these factors, one block of Mathura district has been chosen for implementation of Area Development Scheme on dairy after discussions with banks on the basis of local profile, availability of input and arrangement of marketing. The scheme will be implemented by all the banks of the area. Banks financing this activity in the area can avail refinance facility from NABARD. The scheme will be monitored at the district as well as block level.

1. Introduction:

Animal husbandry sector has the potential of providing the much needed hedging risk against the crop loss due to natural calamities in Uttar Pradesh. Live Stock Sector plays pivotal role in rural employment. This Sector has also highest potential for rural self-employment generation at the lowest investment per unit possible. Livestock population had increased substantially in Uttar Pradesh (14.01%) as per livestock census 2012. The production of milk has increased to 233.00 lakh ton in 2012-13 as against 189.00 lakh ton in 2007-08. Based on analysis of Primary and Secondary data of different potential agricultural activities in the state dairy sector had been identified as one of the most potential sector for capital formation in agriculture.

Scenario of Dairy Sector in Mathura District :

Mathura lies on the western part of Uttar Pradesh covering an area of 3340 sq.km. The district has a population of 25.47 lakh (as per the census of 2011) and the rural population is 17.91 lakh. The other elements of the district i.e. the demographic profile is its predominantly rural in character, with high level of poverty and low percentage of working population. It is divided into 10 blocks with 880 villages. There are approx 2.59 Lac Farmers in the district out of which Small and Marginal are 1.94 Lac.

Reason for selecting Dairy Development as Area Development Scheme :

There is a scope for increasing or scaling up the milk production in the district through cross breeding programme and also creating awareness among the farmers about the scientific housing, breeding, feeding and health care of animals which will improve the milk production and productivity in the district. Based on the production gap in milk production, banking network, backward & forward linkages potential available in different districts of the state, Mathura district has been identified as potential district for **Dairy Development – Crossbreed Cows** for implementation of Area Development Scheme.

Role of Dairy Sector in the District

Dairy Development has enormous potential in the district at low risk as compared to crop loss due to natural calamities every year. The sector is playing very positive role in providing rural self-employment at a very lost cost of investment.

Land Holdings :

No. of Total Land Holdings	No. of Total Land Holdings	Size of Land Holding	Avg. Size of Land Holding
Total of the District	127264	152251 Ha.	1.96 Ha.
By Marginal Farmers	68139 (53.54%)	30272 Ha. (19.88%)	0.44 Ha.
By Small Farmers	32949 (3.86%)	47780 Ha. (31.38%)	1.45 Ha.
Other Farmers	26176 (20%)	74199 (48.73%)	2.84 Ha.

- ✓ Gross Cropped Area – 4054871 Ha.
- ✓ Net Sown Area – 268509 Ha.
- ✓ Gross Irrigated Area – 333579 Ha.
- ✓ Major Crops Cultivated – Paddy, Wheat, Maize, Jwar, Bajra

Livestock population/Production and Productivity (As per LS Census 2012)

(No. in lac)											
Crossbreed Cow (0.25)			Indigenous Cow (2.01)			Bufallows (7.82)			Total Dairy Animal (10.08)		
Male	Female	Milch – 60% of Female	Male	Female	Milch – 60% of Female	Male	Female	Milch – 60% of Female	Male	Female	Milch – 60% of Female
0.02	0.24	0.14	0.26	1.75	1.05	1.48	6.34	3.80	1.95	8.33	4.99
Productivity per Day		5.0 Liter			2.5 Liter			4.4 Liter			3.45
Production per Day		0.70 Lac Liter			2.62 Lac Liter			16.72 Lac Liter			17.21 Lac Liter

2. Forward and backward linkages:

Milk Production

Out of the total population of 10.28 lakh of cattle (Cows & buffalos) in the district, the population of milch animal is about 4.99 lakh. The total milk production of the district is around 6282 lakh litres per annum.

Infrastructure for veterinary services:

There are 36 Veterinary Hospitals, 45 Livestock External Anatomy Centres and 51 Artificial Insemination Centres, in the district. Animal Husbandry department is providing Free of Cost vaccination of cattle and buffaloes against foot & mouth and H.S. Diseases. Sales tax exemption on sale of cattle feed has been in vogue to ensure availability of good quality feed at economical rate.

This will be a supplementary measure to the long term planned programmes of AH Department of opening new centers and up gradation of existing centers. AI centers involving diploma holders/Paravets could also be promoted by imparting training through any suitable agency. In the district many self-help groups are also involved in dairying.

Feed and fodder

Cultivation of fodder as a commercial activity is not in practice in the district. Further, it has been observed that the preservation of green fodder in the form of silage or hay is not generally practiced by the farmers. The AH Department is distributing fodder mini kits to the farmers. The fodder mini kits mainly comprise of the improved fodder seeds of Maize, Makchari, Sorghum (M P Chari), Berseem etc. Concentrate cattle feed is available through private agents in the districts and farmers also prepare concentrate mixture by purchasing the ingredients locally. Cultivation and preservation of fodder can be promoted among the farmers in district.

Marketing infrastructure - Milk societies, Milk routes, Milk procurement, Supply, etc.

All the 10 blocks in the district have been covered by approximately 109 milk societies in the district. There is a scope for increasing or scaling up the milk production in the district through cross breeding programme and also creating awareness among the farmers about the scientific housing, breeding, feeding and health care of animals which will improve the milk production and productivity in the district.

Sources for animals

Availability of good quality animals is one of the major constraints affecting credit support for dairy development in the district. The milch animals therefore can be purchased from other parts of the Uttar Pradesh and also from other States viz., Punjab & Haryana, Rajsathan etc. Sahson in Allahabad, Muratganj in Kaushambi are the notable livestock markets nearby for procurement of animals.

Desi Cow, CB cows, Jersey and HF crossbred cows are more common in the district and HF crossbred has well acclimatized to the local conditions. Among buffaloes, Murrah/Graded Murrah are the most preferred by farmers. In the proposed ADS buffalo farming has not been adopted due to short lactation period however bankers are free to finance buffalo units in place of Crossbreed Cow units as per the preference of borrowers.

Marketing of Milk:

As such the present system of marketing of milk is very much unorganized, majority of milk produced in the district is handled privately by the farmers/through agents. It is reported that that some of private dairies are supplying milk from outside the district.

The milk union may identify potential areas along milk routes and may try to cover the farmers to be covered under the Area Development Scheme. Thus the capacity utilization of the Milk union may also be increased. The bank may also encourage the private entrepreneurs for setting up AMCU's / BMCUs for procurement of milk.

Cost of Animals: The cost of Cross Breed Cow HF, Jersey etc. yielding 08 to 10 l/p/d has been considered at Rs.40000/- to 45000/- after ascertaining the cost from various stakeholders. The cost may go even higher in certain seasons.

Sale price of Milk:

The sale price of milk has been assumed at Rs.30/- litre (on conservative side) for cow milk having 4% fat and 9% Solid Not Fat after ascertaining the same from the PCDF, Mathura. The financial viability has been worked out considering these rates. The major risk variables for this project will be milk yield and sale price of milk. Hence the bank may need to take adequate measures such as training of farmers on care and maintenance of high yielding cows and buffaloes and also enter into agreement with the cooperative/private milk

processing agencies for marketing of milk produced.

3. Selection of Area :

Baldeo Block of the district is proposed for the implementation of the Scheme, The block is having 106 villages and total 30159 households in the block. Baldeo Block is also having a good no. of matured WSHGs involved in dairy activity.

4. Selection of the beneficiaries :

(i) The women farmers of both the projects viz., NRLM and Spl WSHGs may be given priority by the bankers for financing. Implementing bank have the sole discretion for selection of borrowers as per their norms, however to facilitate the process of financing the units Animal Husbandry Department may help identifying the list of the perspective borrowers to concerned Branch Manager implementing ADS.

(ii) Unit Size:

Unit size of 2, 4, 6 may be adopted in the project, however bankers are free to finance units of other sizes also as per the technical feasibility and financial viability of the project.

5. Capacity building of the beneficiaries

The AH department and Dairy department / Milk Union in district are offering training to the farmers on various aspects of AH and Dairy farming. Otherwise

- ✓ By granting EDPs to RSETI by NABARD/DRDA/NRLM
- ✓ By sanctioning MEDPs to Anchor Agency of the district
- ✓ Sponsoring programmes to KVK by NABARD from its promotional funds.

6. Techno economic assumptions:

	Economic Assumptions	Suggested Assumptions
(i)	Type of milch animals proposed	Cross Breed Cows, Body Weight - 400 Kgs.
(ii)	Average per day milk yield	08 to 10 liter per day
(iii)	Lactation yield per animal	10 liter per day x 290 days = 2900 Liter
(iv)	Average cost of animals	Rs.40000/- to Rs.45000/-
(v)	In which productive stage animals will be purchased	Freshly Calved or Second Calving
(vi)	Purchase of animals in batches	The animals have to be purchased in two batches with an interval of 3 - 4 months between each batch.
(vii)	Number of Lactation days	290 days
(viii)	Number of Dry days	90 days
(ix)	Insemination	After calving -(preferably in second heat)
(x)	Economic life of the animal	About 05 to 06 Lactations
(xi)	Lactation Chart	As indicated below separately
(xii)	Feeding schedule & Cost of feeding	As indicated below separately
(xiii)	Arrangements for insurance and the cost of insurance	With Oriental Insurance Co. Apprx Rs.1000/- per year / per cow
(xiv)	Cost of vaccination and disease management/control	Free of Cost from A.H. Deptt.
(xv)	Cost of labour (small dairy units up to 4-6 animals will be managed by family labour. Larger dry units require one labourer for every 10 animals)	Rs.300/- per day (small dairy units up to 4-6 animals will be managed by family labour. Larger dry units require one labour for every 10 animals)
(xvi)	Marketing of milk and sale price of the milk	Rs.27/- to Rs.30/- per liter (Apprx) (i) Bulk milk sale to collection centre (ii) Retail sale to villagehoods

		(iii) Direct sale to Hotels/Dhaba
(xvii)	Marketing of the manure and sale price of the manure/Gunny Bags	Almost negligible. Maximum Rs.3000/- each from Sale of manure and gunny bags.

Lactation Chart - Cross Breed Cows :

Sr. No.	Particulars	Years					
		I	II	III	IV	V	VI
1	Lactation Days						
a)	First batch	290	290	290	290	290	290
b)	Second batch	200	290	290	290	290	290
	Total	490	580	580	580	580	580
2	Dry Days						
a)	First batch	90	90	90	90	90	90
b)	Second batch	-	90	90	90	90	90
	Total	90	180	180	180	180	180

Feeding schedule and cost of feeding :

Sr. No.	Particulars	Avg. per day inclusive of both Lactation & Dry Period		
		Feed Quantity (Kg)	Rate/kg (Rs.)	Cost/day (Rs.)
(i)	Concentrate Feed	2.00	20.00	40.00
(ii)	Green Fodder	10.00	02.00	20.00
(iii)	Dry Fodder	5.00	05.00	25.00
	Total for 01 cow/day			85.00
	Total for 01 cow for 365 days			31025.00
	Total for 02 cows for 365 days			62050.00

7. Project cost for 01 dairy unit of 02 CB Cows :

Sr. No.	Particulars	Cost (Rs.)
A.	Capital Cost	
i.	Cost of CB Cows (2 CB Cows @ 45000/- each)	90,000/-
ii.	Erection of Shed for 100 Sq.ft. @Rs.50/- / sq.ft.	5,000/-
iii.	Transportation	5,000/-
iv.	Other equipment @660/- per animal	1,320/-
	Misc. Items	680/-
	Sub Total	1,02,000/-
B.	Working Capital	
i.	Feed Cost (considered for one year)	62,000/-
ii.	Insurance (considered for one year)	2,000/-
iii.	Misc. Expn.	1,000/-
	Sub total	65,000/-
	Total Outlay	1,67,000/-
	Promoters Margin (10%)	16,700/-
	Bank Loan	1,50,300/-

8. Banking network & Trends in credit flow :

The Lead Bank of the district is Syndicate Bank. As on 31 March 2017, there are 281 branches of Commercial Banks, Grameen Bank og Aryavart, Cooperative Bank, UPSGVB and Pvt. Banks, in the district. The total deposits as on 31.03.17 were Rs.11732 crore and advances Rs.7060 crore .

9. Financing Agencies:

- i) Names of the Implementing Bank – All 16 branches of 08 Banks in the Baldeo Block
- ii) Branch network of implementing block involved in implementation of the ADS

Allahabad Bank	- 01
Bank of Baroda	- 01
Gramin Bank of Aryavart	- 01
Indian Overseas Bank	- 02
Mathura Zia Sahkari Bank	- 01
State Bank of India	- 04
Syndicate Bank	- 04
Union Bank of India	- 02

10. Physical and financial programme:

(Amt. in lac)

Blocks	Name of the Bank	Unit Cost	No. of Units	TFO	Bank Loan (90%)	Margin (10%)
Baldeo	Allahabad Bank	1.67	18	30.06	27.05	3.00
	BoB	1.67	18	30.06	27.05	3.00
	GBA	1.67	18	30.06	27.05	3.00
	IOB	1.67	36	60.12	54.11	6.01
	MZSB	1.67	18	30.06	27.05	3.00
	SBI	1.67	72	120.24	108.22	1.20
	Syndicate Bank	1.67	72	120.24	108.22	1.20
	UBI	1.67	36	60.12	54.11	6.01
Total			288	480.96	432.86	26.42

*Financing of 18 units per bank per branch.

11. Project Profitability:

(Amt. in lac)

Sr. No.	Particulars/Years	I	II	III	IV	V	VI
I.	Income (Rs.)						
i	From sale of milk	1.74	1.74	1.74	1.74	1.74	1.74
ii	From sale of manure	0.03	0.03	0.03	0.03	0.03	0.03
iii	Income from gunny bags	0.03	0.03	0.03	0.03	0.03	0.03
	Total Income	1.80	1.80	1.80	1.80	1.80	1.80
II	Expenditure (Rs.)						
i	Concentrate Feed	0.30	0.30	0.30	0.30	0.30	0.30
ii	Green Fodder (Rs.10000/- per unit)	0.14	0.14	0.14	0.14	0.14	0.14
iii	Dry Fodder	0.18	0.18	0.18	0.18	0.18	0.18
iv	Veterinary Aid	0.00	0.00	0.00	0.00	0.00	0.00
v	Insurance	0.02	0.02	0.02	0.02	0.02	0.02
vi	Misc.exp. (Water/Elect.)	0.01	0.01	0.01	0.01	0.01	0.01
	Total Expenditure	0.65	0.65	0.65	0.65	0.65	0.65
	Gross Surplus	1.15	1.15	1.15	1.15	1.15	1.15

12. Financial Analysis:

Sr. No.	Particulars	Year				
		I	II	III	IV	V
1	COST					
1a	Capital cost	1.02	0.00	0.00	0.00	0.00
1b	Recurring cost	0.65	0.65	0.65	0.65	0.65
1c	Total cost	1.67	0.65	0.65	0.65	0.65
2	Income	1.15	1.15	1.15	1.15	1.15
3	Gross Surplus (available for repayment of loan)	0.50	0.50	0.50	0.50	0.50
4	Net Benefit	-0.52	0.50	0.50	0.50	0.50
5	DF @ 15%	0.870	0.756	0.658	0.572	0.497
6	PWC at 15%	1.4529	0.4914	0.4277	0.3718	0.32305
7	PWB at 15%	1.0005	0.8694	0.7567	0.6578	0.57155
8#	NPV	0.79				
9\$	BCR	1.257				
10 @	IRR	88.55%				

13. Sensitivity Analysis & SWOT analysis:

(I) Sensitivity analysis

By assuming 5% increase in cost and 5% decrease in benefits, NPV, BCR and IRR to be worked out and should be presented in a tabular form

(Rs. Lakh)

Sr. No.	Particulars	Year				
		I	II	III	IV	V
I	Total cost (5% increase from S.N. 1c in above table)	1.7535	0.6825	0.6825	0.6825	0.6825
II	Income (5% decrease from S.N. 2 in above table)	1.0925	1.0925	1.0925	1.0925	1.0925
III	Gross Surplus/ Benefit	-0.661	0.41	0.41	0.41	0.41
IV	DF @ 15%	0.870	0.756	0.658	0.572	0.497
V	PWC at 15%	1.525545	0.51597	0.449085	0.39039	0.3392025
VI	PWB at 15%	0.950475	0.82593	0.718865	0.62491	0.5429725
VII	NPV	0.44				
VIII	BCR	1.138				
IX	IRR	49.66%				

(II) SWOT analysis

a. Strengths:

- i. Good supplementary activity in the scheme area for doubling the farmers income
- ii. Adequate availability of forward and backward linkages in the scheme area

b. Weaknesses:

- i. Limited green fodder availability in the scheme area
- ii. Inadequate awareness among the farmers on scientific dairy farming

c. Opportunities:

- i. Growing demand for milk from consumers in the area due to increasing in income level
- ii. Proximity to demand centres/markets

d. Threats:

- i. Weak monsoons adversely affect the milk production and thereby milk procurement.

14. Repayment Period:

(Rs.in Lac)

Year	Bank Loan* Beginning	Outstanding End	Gross Surplus	Payment of interest	Repayment of principal	Total repayment	Net Surplus
a	b	c	d	e	f	g	h
1	0.82	0.65	0.50	0.10	0.16	0.26	0.24
2	0.65	0.49	0.50	0.08	0.16	0.24	0.26
3	0.49	0.33	0.50	0.06	0.16	0.22	0.28
4	0.33	0.16	0.50	0.04	0.16	0.20	0.30
5	0.16	0.00	0.50	0.02	0.16	0.18	0.32

* Bank Loan presumed at 80% of capital cost and rate of interest on term loan @ 12% p.a.

15. Implementation and Monitoring

- i. Initial approval at the DCC level
- ii. Branch-wise allocation at BLBC meetings
- iii. Review of the implementation in DCC and BLBC meetings
- iv. Involvement of stakeholders' agencies in review meetings for ensuring the extension of support services committed by them.
- v. The progress should be monitoring regularly in DCC/DLRC as an compulsory Agenda
- vi. A Sub-Committee of DCC/DLRC headed by LDM, DDM, CVO, Local Heads of all the participating Banks, Expert from KVK and concerned Branch Managers, may be formed and would be meeting quarterly to review and monitor the progress.

16. Conclusion

- i. The Area Development Scheme on Dairy Development Sector, will discuss and facilitate the implementation of perspective plan of the State Govt. , infrastructure gaps, available incentives/schemes from both Central and State Govt., fiscal incentives (taxes, subsidies etc.) available/being proposed for development of the Sector, support mechanism available/needed for procurement and marketing from State and Central Govt., and identify scope for convergence of efforts and areas for financing in the entire value chain of the sector. And this is how ADS is going to benefit the farmers in doubling their income, increase in milk availability, increase in capital formation, etc.