BRUHAT BANGALORE MAHANAGARA PALIKE

PERFORMANCE AUDIT OF ANIMAL BIRTH CONTROL (ABC) PROGRAMME IN BANGALORE CITY

A REPORT

MAY 2007

DEPARTMENT OF COMMUNITY MEDICINE

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CONTENTS

		PAGE NO
AUD	IT TEAM	i
ACK	NOWLEDGEMENTS	ii
LIST	OF ACRONYMS AND ABBREVIATIONS	iii
LIST	OF TABLES	iv
EXE	CUTIVE SUMMARY	v
BAC	KGROUND	vii
1.	INTRODUCTION	1
	1.1 About BMP and BBMP	1
	1.1.1 Bangalore Mahanagara Palike (BMP)	1
	1.1.2 Bruhat Bangalore Mahanagara Palike (BBMP)	1
	1.2 Stray dogs, dog bites and rabies	2
	1.2.1 Stray dogs	2
	1.2.2 Dog bites and Post Exposure Prophylaxis	3
	1.2.3 Rabies	3
	1.3 Animal Birth Control (ABC) Programme	4
	1.3.1 Animal Birth Control (ABC)	4
	1.3.2 Animal Birth Control (ABC) programme in BMP	5
	1.3.3 BMP Budget norms	7
	1.3.4 BMP Targets for AWOs	8
2.	METHODOLOGY	10
	2.1 Collection of reports	10
	2.2 Facility survey of AWOs	11
	2.3 Community survey	11
	2.4 Analysis of records and reports	12
	2.5 Others- public meetings, media reports, etc.	12
	2.6 Blood/Sera testing of sterilized dogs for rabies antibodies	13
	2.7 Study period	13

3.	RESULTS and OBSERVATIONS	14
	3.1 ABC Programme	14
	3.1.1 Dog catching	14
	3.1.2 Method of identification of dogs	14
	3.1.3 Type of sterilization performed	14
	3.1.4 Dog release	14
	3.1.5 Identification of dogs for revaccination	15
	3.1.6 Vaccination and Revaccination	15
	3.1.7 Rabies antibody titers in sterilized dogs	16
	3.1.8 Recording and Reporting	16
	3.1.9 Monitoring and Supervision	16
	3.2 Performance of Animal Welfare Organizations	17
	3.2.1 Karuna Animal Welfare Association of Karnataka (formerly SPCA)	17
	3.2.2 Compassion Unlimited Plus Action (CUPA)	18
	3.2.3 Animal Rights Fund (ARF)	19
	3.2.4 Krupa Loving Animals	20
	3.2.5 Veterinary Hospital, Cantonment (Dept. of AH and VS)	21
	3.2.6 Overall performance of AWOs	22
	3.3 Facilities for Animal Birth Control at AWOs	23
	3.3.1 Karuna Animal Welfare Association of Karnataka	24
	3.3.2 Compassion Unlimited Plus Action (CUPA)	25
	3.3.3 Animal Rights Fund (ARF)	26
	3.3.4 Krupa Loving Animals	27
	3.3.5 Veterinary Hospital, Cantonment (Dept. of AH and VS)	27
	3.4 Community opinion about stray dogs and ABC Programme	29
	3.4.1 Community survey and its coverage	29
	3.4.2 Community opinion about stray/street dogs	29
	3.4.3 Community opinion about ABC Programme	30
	3.4.4 Trend in opinion of the community about stray	32
	dogs and ABC programme	
	3.5 Incidence of dog bites	33
	3.6 Incidence of rabies in dogs	36

		ВВМ
	3.7 Incidence of rabies in humans	36
	3.8 Financial aspects of ABC Programme	37
	3.9 Pet dog licensing	38
4.	CONCLUSIONS	39
5.	RECOMMENDATIONS	42
ANNE	XURES	
I.	Performance Audit order from BMP	45
II.	ABC (dog) rules, 2001	47
III.	Schedules for assessing ABC performance by AWOs.	51
IV.	Decadal incidence of rabies in dogs - Report from	52
	Dept. of Veterinary Pathology	
V.	Facility survey schedules (2)	53
VI.	Schedules of community survey	56
VII.	ABC Performance reports from 4 AWOs and Dept. of AH and VS	59
VIII.	Year and AWOs wise overall performance of ABC programme	64
IX.	Press collage about dog menace and ABC Programme	66
X.	Photographs (1-4)	67

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LIST OF ACRONYMS AND ABBREVIATIONS

ABC Animal Birth Control

AH Animal Health

AH and VS Animal Husbandry and Veterinary Services

ARF Animal Rights Fund
ARS Anti Rabies Serum
ARV Anti Rabies Vaccine

AWBI Animal Welfare Board of India **AWOs** Animal Welfare Organizations

BBMP Bruhat Bangalore Mahanagara Palike

BMP Bangalore Mahanagara Palike

BT Biological Test

CMC City Municipal Council

CNVR Catch, Neuter, Vaccinate and Release
CUPA Compassion Unlimited Plus Action

EDH Epidemic Diseases HospitalFAT Fluorescent Antibody TestHDCV Human Diploid Cell Vaccine

IAH and VB Institute of Animal Health and Veterinary Biologicals

IDRV Intra Dermal Rabies Vaccination

KIMS Kempegowda Institute of Medical Sciences

NIMHANS National Institute of Mental Health and Neurosciences

NTV Nerve Tissue Vaccine
OPD Out Patient Department

PCECV Purified Chick Embryo Cell Vaccine

PEP Post Exposure Prophylaxis

PFA People for Animals

PURV Public Interest Litigation
PURV Purified Vero Cell Vaccine

RFFIT Rapid Fluorescent Focus Inhibition Test

RIACON Rabies in Asia Conference
RIG Rabies Immuneglobulin

RVNAb Rabies Virus Neutralizing Antibodies

LIST OF TABLES

		Page No
1.	Estimation of stray dog population in Bangalore	2
2.	Details of areas/ packages allotted to AWOs	6
3.	Budget norms for AWOs from April, 2003 onwards	8
4.	Target norms for AWOs from April, 2003 onwards	9
5.	Performance of Karuna	18
6.	Performance of CUPA	19
7.	Performance of Animal Rights Fund	20
8.	Performance of Krupa Loving Animals	21
9.	Performance of Veterinary Hospital, Cantonment (Dept. of AH and VS)	22
10.	Overall performance of AWOs from Oct, 2000- Feb, 2007	23
11.	Details of community survey and its coverage	29
12.	Community opinion about stray/street dogs	30
13.	Community opinion about ABC programme	31
14.	Trend in opinion of the community about stray dogs and ABC programme	33
15.	Dog bites and human ARV usage in BMP in the last decade	34
16.	Dog bites and human ARV usage in Victoria Hospital in the last decade	35
17.	Decadal incidence of human rabies cases admitted at Epidemic Diseases Hospital (EDH), Bangalore.	37
18.	Details of payments made by BMP to AWOs from April 2001-December 2006	38
19.	Pet dog licensing during 2000-2006.	38

EXECUTIVE SUMMARY

In January, 2007 following the mauling to death of a child by a pack of street dogs in Bangalore city, the Bruhat Bangalore Mahanagara Palike entrusted the performance audit of Animal Birth Control programme (for street Dogs) to the Department of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore. A five-member team comprising of a Professor of Community Medicine, Professor of Veterinary Medicine, Public Health Specialist (Medical), Biostatistician and a Medical Neurovirologist conducted the audit from February to April, 2007 over a period of 3 months.

The methodology adopted involved collection of reports from the Department of Health and Animal Husbandry of BBMP, Veterinary college, Animal Welfare Organizations, Epidemic Diseases Hospital, Victoria Hospital and NIMHANS. Besides a community opinion survey about stray dogs and ABC programme and sera testing of sterilized and released dogs for rabies antibodies were undertaken. The audit team attended the various deliberations and public meetings organized by BBMP for the control of stray dog menace. The audit team made visits to AWOs performing the ABC surgeries and evaluated their facilities. The analysis of media reports and the international experts opinion was also elicited.

The results revealed that the ABC programme was implemented during 2000-2006 without a proper plan, strategy, monitoring and supervision particularly at the field level. As there was no proper count/estimate of stray dog population before and during the implementation of ABC programme its impact was not measurable. However, the performance of five AWOs viz. Karuna, CUPA, ARF, Krupa and Dept. of AH and VS was satisfactory as they achieved over 75% coverage of the set targets though these very targets were arbitrary and the actual coverage was not verifiable at the field level. The release of payments to AWOs by BBMP was based on these arbitrary data. There was no method/system of identification of sterilized and released dogs with respect to even their month of sterilization and vaccinations. The method

of vaccination and revaccination was faulty and the resultant immunity status was not satisfactory. The facilities for ABC surgeries and the veterinary manpower were adequate and satisfactory at Karuna and CUPA. The release of sterilized dogs was haphazard. The community opinion about stray dog menace and continuation of ABC programme was not encouraging. The incidence of dog bites and rabies in dogs has almost remained the same during the last decade. However, there is a decline in the incidence of rabies in humans, which is attributable to discontinuation of sheep brain vaccine and introduction of modern rabies vaccines and rabies immuneglobulins. The licensing of pet dogs was not satisfactory.

Based on these, the audit team recommends that ABC programme may be continued in future with proper plan, strategy and targets, continuous supervision and evaluation, strengthening of veterinary section of BBMP and responsible handing over of sterilized dogs as 'guardian dogs' to AWOs and others for adoption. The Catch, Neuter, Vaccinate and Release (CNVR, key hole surgery) method may be introduced on experimental basis. The audit team also recommends establishment of stray dog free zones/lanes and introducing compulsory licensing of pet/guardian dogs by involving more government veterinary institutions and private veterinary practitioners in the city. Besides the AWOs shall be entrusted with the responsibility of establishing dog shelter homes and promote adoption of dogs by the community. The vaccination and revaccination of sterilized dogs shall be more effective by giving two doses of antirabies vaccine at the first instance (with 3 weeks interval) and thereafter one dose every year. The introduction of intra dermal rabies vaccination (IDRV) and increased use of rabies immuneglobulins are recommended to ensure ethical treatment of dog bite victims (humans) in BBMP hospitals. BBMP may also consider appealing to courts for bringing about suitable modifications to ABC rules to prevent indiscriminate release of sterilized dogs on to the streets. It is important that a planned educational campaign be conducted involving print and electronic media for 'dog care and dog bite prevention'. Lastly, citizens of Bangalore be freed from the 'fear of stray dog attacks/menace' and the streets made safe for pedestrians particularly children.

BACKGROUND

On 5th, January, 2007 an 8 year old girl, Sridevi D/o Mr. Shivalingaiah (Construction worker) was mauled to death by a pack of about 15 dogs around 7.30 AM on IX Main, BCC Layout of Chandra Layout. Residents of the area urged the Bangalore Mahanagara Palike (BMP) to remove the stray dogs which are a menace. Both print and electronic media reported many attacks on children by stray dogs in various areas of Bangalore. These incidents led to an intense public outcry and brought pressure on BMP to remove stray dogs. But Bangalore Mahanagara Palike through various Animal Welfare Organizations (Karuna, CUPA, Animal Rights Fund, Krupa and Department of Animal Husbandry and Veterinary Services) has been implementing Animal Birth Control Programme for stray dog control for the last 6 years and each year considerable public funds has been spent on this programme.

Hence, The Commissioner, Bangalore Mahanagara Palike ordered a performance audit of Animal Birth Control Programme vide letter order no DD/AH/PR/201/06-07 dated 23.1.2007 which shall focus on the following aspects (Annexure 1).

- 1. Whether the Programme has been effective?
- 2. Whether this has lead to reduction in the population of dogs?
- 3. Whether Rabies has been controlled?
- 4. Whether the Programme should be continued in future, and
- 5. If, so with what changes?

This was entrusted to Dr M K Sudarshan, Principal and Professor of Community Medicine, Kempegowda Institute of Medical Sciences (KIMS), Bangalore and the report to be submitted within 60 days.

Dr. M K Sudarshan constituted an audit team comprising of Dr. S Yathiraj, Dr. D H Ashwath Narayana, Dr. S N Madhusudana, Dr. Gangaboriah and himself.

However, when the audit work was in progress unfortunately in another incident on 28th February, 2007 a pack of stray dogs mauled a 3 year old boy to death in BEML quarters on Airport Road. Again there was a huge public and media outrage with a PIL filed in High Court of Karnataka to remove stray dogs.

1. INTRODUCTION

1.1 About BMP and BBMP

1.1.1 Bangalore Mahanagara Palike (BMP)

Bangalore, the capital city of Karnataka is one of the fastest growing cities in South-East Asia and known worldwide for its development in Information Technology as Silicon Valley of India and also in Biotechnology. The city is also attracting many businessmen and tourists from abroad. It has 225 sq km of area with a population of about 6.8 million.

The Bangalore Mahanagara Palike (BMP) is the local civic administrative body responsible for health of the people with its wide network of Dispensaries (21), Health Centers (29), Urban Family Welfare Centers (19) Maternity Homes (24) and Referral Hospitals (6). The BMP is also responsible for maintaining environmental sanitation in its 100 wards (each ward has approximately 50,000 population) with 3 Zones Viz East, West and South Zones.

1.1.2 Bruhat Bangalore Mahanagara Palike (BBMP)

The Department of Urban Development, Government of Karnataka issued a gazette notification vide no UDD/92/MNY/2006, dated 2.11.2006 for constitution of Bruhat Bangalore Mahanagara Palike (Greater Bangalore Municipal Body) merging the existing area of Bangalore City Corporation with 8 Urban Local Bodies (ULB) and 111 villages of Bangalore urban district. The 8 Urban Local Bodies/CMC merged in BBMP are Bomanahalli CMC, Byatarayanapura CMC, Dasarahalli CMC, K R Puram CMC, Mahadevapura

CMC, Raja Rajeshwari CMC, Yelahanka CMC and Kengeri CMC. The new BBMP area has now an area of 741 sq kms.

1.2 Stray dogs, dog bites and rabies

1.2.1 Stray dogs

The 16th Live stock census (1997) conducted by Department of Animal Husbandry and Veterinary Services estimated the stray dog population in Bangalore to be about 29,118 and the survey done by People for Animals (PFA) in 2000 estimated the stray dog population to be 70,980. Study done by KIMS, Bangalore in 2001 estimated the stray dog population of about 2,00,000.

The 17th Livestock census (2003) conducted by Department of Animal Husbandry and Veterinary Services estimated the stray dog population to be about 56,154 (Table-1).

Table - 1

Estimation of stray dog population in Bangalore

Agency	Year	Pet dogs	Stray dogs	Total
16 th Live stock censes by AH and VS	1997	46,449	29,118	75,567
People for Animals (PFA)	Oct-Nov 2000		70,980	70,980
KIMS	Sept. 2001	1,25,000 (38.5 %)	2,00,000 (61.5 %)	3,25,000
17 th Live stock censes by AH and VS	2003	55,251	56,154	1,11,405

Source: A report of stray dog control programme, BMP, Bangalore, Feb 2007.

1.2.2 Dog bites and Post Exposure Prophylaxis

The dog bite victims receive modern rabies vaccines at Dispensaries, Health centers and Referral hospitals run by BMP. BMP also provides life saving Rabies Immunoglobulin (RIGs) to severe dog bite victims at BMP referral hospitals from the past 5 years but it is irregular.

The study conducted by M K Sudarshan and et al (2001) in the city of Bangalore revealed that the annual incidence of dog bites was 1.9% and these were mostly from stray dogs (64%). About 86 % of the animal bite victims received anti rabies vaccination and none had received life saving Rabies immunoglobulin.¹

1.2.3 Rabies

Epidemic Diseases Hospital (Isolation Hospital) on Old Madras Road, Bangalore is the sentinel center for human rabies cases and is the referral hospital for many districts surrounding Bangalore including the neighbouring states of Andhra Pradesh and Tamil Nadu. The human rabies cases are explained the prognosis of the disease in out patient clinic and are admitted to rabies cell of the hospital and provided the supportive services. In majority of the instances, attendants take away the patient against medical advice after knowing the bad prognosis.

management in Bangalore city. J of comm. Dis, 2001; 33 (4): 245-251

^{1.} Sudarshan M K, Mahendra B J and Ashwath Narayana D H. A community survey of dog bites, anti-rabies treatment, rabies and dog population

According to the study done by M K Sudarshan et al (2001), the annual incidence of rabies in Bangalore city was 15 and dog rabies 58 with a ratio of 1:4 approximately as rabies contagion index (Page – 3).

1.3 Animal Birth Control (ABC) Programme

1.3.1 Animal Birth Control (ABC)

Animal Birth Control is an activity involving sterilization of stray dogs both Male and female for controlling their population. This is to be performed by Animal Welfare Organizations registered as societies/trust and approved by Animal Welfare Board of India. Following the implementation of ABC (dog) rules, 2001 (under the Prevention of Cruelty to Animals Act-1960) the registered/ approved AWOs based on public complaint with the help of civic authorities catch the street dogs, bring it to their centers. The dogs will be kept for a period of 1-3 days for observation for any concurrent illness and also giving an opportunity to owners of pet dog to take the dog back. Subsequently, healthy dogs both male and female will be sterilized and given postoperative care for 5-7 days. Simultaneously, these dogs are dewormed and administered a dose of anti rabies vaccine. These sterilized dogs will be collared with nylon color around their neck and their left ear at the tip clipped in 'U' shape for identification of sterilized dogs. After postoperative care these dogs will be taken back to places from where they are picked up and released. The sick and rogue dogs will be euthanized humanly using Inj. Sodium Thiopenthol.

The ABC programme can be carried out by participation of animal welfare organizations, private individuals and the local authority. The AWOs

should send weekly and monthly reports in specified time to the civic authorities without fail (Annexure II).

1.3.2 Animal Birth Control (ABC) Programme in BMP

The Bangalore Mahanagara Palike as per Karnataka Municipal Act, Bye-law No. 25 (Prevention of dangerous diseases of animals prevention of rabies under section 367(28) read with section 369 of the city of Bangalore Municipal Corporation Act, 1949 is responsible for control of stray dogs. The BMP through their dog catching squads was catching the sick and rabid dogs in the city and these were electrocuted till 2000-2001.

However, BMP entrusted the responsibility of control of stray dogs to Animal Welfare Organizations (AWOs) from 2001 following implementation of ABC rules, 2001. BMP implemented ABC programme by having a Memorandum of Understanding (MOU) with AWOs.

The AWOs implemented ABC Programme in specified packages (1 package = Approximately 10 wards of BMP). The details of Animal Welfare Organizations (AWOs) involved in implementation of ABC programme in 10 packages from April, 2003 are as follows (Table - 2).

- Karuna Animal Welfare Association of Karnataka (Formerly SPCA, Bangalore).
- 2. Compassionate Unlimited Plus Action (CUPA).
- 3. Animal Rights Fund (ARF).
- 4. Krupa Loving Animals.
- 5. Department of Animal Health and Veterinary Sciences (AH and VS).

Table – 2

Details of areas/packages allotted to AWOs

Package No. and name of the Places		Major places covered in the packages	Assignment of work to
	WEST 2	ZONE	(Organizations)
1	1. HMT, 2. Jalahalli, 3. Yashwanthapura	1.Yeshvanthpura	Karuna Animal
1	4. Mathikere, 5. Kodandaramapura	2. Sanjaynagara	Welfare
	6. Dathatreya Devasthana,	3. Malleshwaram	Association of
	7. Malleshwaram, 100. Sanjay Nagara.	o. Walieshwaram	Karnataka
2	15. Rajaji Nagara 16. Kamala Nagara,	1. Shree RamaMandira	Karuna Animal
7	17. Vrishbhavathi Nagara,	2. Rajajinagara	Welfare
	18. Kamakshipalya, 19. Basaveshwara	2. Rajajinagara	Association of
	Nagara 20. Shivanagara		Karnataka
	21.Kaigarikanagara,		
	22. Sri. RamaMandira		
3	8. Gayathrinagara, 9. Subramanyapura,	1. Mahalakshmipura	Krupa Loving
	10. Mahalaxmipura 11. Peeya industrial	2. Gayithrinagara	Animals,
	area, 12. Nandini Layout,		Girinagara
	13. Geleyarabalga Layout,		
	14. Nagapura, 23. Prakashanagara		
4	24. Bashyamnagara 25.	1. Gandhinagara	Krupa Loving
	Ramachandrapura,	2. Chikkapete	Animals,
	26. Sevashrama 27. Gandhinagara	3. Chamarajapete	Girinagara
	28. Chikkapete, 29. Cottonpete,		
	30. K.R. Market, 46 Chamarajapete,		
	47. Darmaraya Swami Temple,		
	48. Sudhamanagara		
	SOUTH		l
5	31. Binnypete, 32. Kempapura	1. Binnipete	Animal Rights
	Agrahara, 33 Vijayanagara, 34. R.P.C	2. Chandra Layout	Fund,
	Layout 35. Marenahalli,	3. J.J. Nagar	Girinagara
	36. Govindarajanagara,	4. Govindarajanagar	
	37. Amarajyothinagara, 38. Moodalapalya 39. Chandra Layout		
	40. Attiguppe, 41. Galianjaneya Temple		
	42. Bapuji Nagara, 43. Padarayanapura,		
	44. J.J. Nagara 45. Azad Nagara		
6	49. Kempegowdanagara	1. Basavanagudi	Animal Rights
J	50. Vishweshwarapura,	2. Padmanabhanagara	Fund,
	51. Basavanagudi	3. Hanumanthnagara	Girinagara
	52. Hanumanthnagara,		1.8.1
	53. Shree nagara 54. Srinivasanagara,		
	55. Padmanabhanagara,		
	56 GaneshMandir		
7	57. J.P. nagara, 58. Jayanagara, 59.	1. Jayanagar	Dept. of AH and
	Yediyur,	2. HombeGowdaNagar	VS/BMP
	60. Pattabhiramanagara, 61. Mavalli,	3. Madivala	
	62. Hombegowda Nagara 63.		
	Lakkasandra,		
	64. Gurappana palya, 65. B.T.M layout,		
	66. Madivala,		

- Cont'd....

	EAST Z	ONE	
8	67. Koramangala, 68. Egipura, 69. Neelasandra, 70. Shanthinagara, 71. Austin Town, 72. Domlur, 73. Airport, 74. Jeevanbhimanagara, 75. Jogupalya, 76. Richmond town, 83. Sir. C.V. Ramnagar, 84. Bennyganahalli, 88. Banasawadi,	Shanthinagara Koramangala JeevenBheemanagar Banasavadi	Compassion Unlimited Plus Action
9	77. Sampangiramanagara, 78. Vasanth nagara, 79. Shivajinagara, 80. Bharathinagara, 81. Ulsoor, 82. Hoysalanagara, 85. Sarvagnanagara, 86. Maruthisevanagara, 87. Lingarajapura, 89. Kacharkanahalli	Shivajinagara Bharathinagara Sarvagnanagra	Compassion Unlimited Plus Action
10	90. Sagayapuram, 91. Pulakeshinagara, 92. Jaymahal, 93. Devarjeevanahalli, 94. Kadugondanahalli, 95. Kavalabyasandra, 96. Hebbal, 97. Jayachamarajendranagara, 98. Ganganagara, 99. Palacenagara.	Kadagondanahalli Jayamahal Hebbal	Compassion Unlimited Plus Action

Source: Dept. of AH, BMP, Bangalore

1.3.3 BMP Budget norms

The BMP at the start of ABC programme (October 2000) had payment norms with an annual budget paid quarterly to AWOs after submission of reports, bills and vouchers.

However, from April 2003, BMP implemented ABC programme on a tender basis where 4 AWOs participated. As regard to veterinary hospital, cantonment, the BMP released the budget annually to the Dept. of Animal Husbandry and Veterinary Services, Government of Karnataka, which in turn purchased and supplied necessary materials to the Veterinary Hospital (Table - 3).

Table - 3

Budget norms for AWOs from April 2003 onwards

Name of AWOs	Sterilization of Dog		Revaccination of	Euthanizing a	
	Male	Female	dog	dog	
Karuna	Rs. 400	Rs. 420	Rs. 40	Rs. 60	
CUPA	Rs. 375	Rs. 395	Rs. 40	Rs. 60	
ARF	Rs. 400 Rs. 420		Rs. 40	Rs. 60	
Krupa	Rs. 410	Rs. 430	Rs. 40	Rs. 60	
Dept. of AH and VS					

Source: Dept. of AH, BMP, Bangalore.

1.3.4 BMP targets for AWOs

The BMP launched ABC programme in October 2000 and initially Karuna and CUPA were involved. Later in January 2001 ARF too joined. The BMP initially in 2000-01, had set a target for AWOs like sterilization in the ratio of 60:40 (female: male) for SPCA-300/month, CUPA- 600/month and ARF-500/month. All the AWOs were to vaccinate 160 dogs per month. However, there were no targets set for euthanization.

The BMP from April 2003 (on tender basis), set specific targets for 4 AWOs including Dept. of AH and VS (Table - 4).

Table - 4

Target norms for AWOs from April 2003 onwards

Organization and packages	Sterilization/ month	Revaccination of dog	Euthanization of dog
Karuna (1 and 2)	600	600	200
CUPA (8, 9 and 10)	900	900	300
ARF (5 and 6)	600	600	200
Krupa (3 and 4)	300	300	100
Dept. of AH and VS (7)	3000 / year		750 / year

Source: Dept. of AH, BMP, Bangalore.

2. METHODOLOGY

After the receipt of the office order from Commissioner, BMP, the audit team adopted the following approaches and methods.

2.1 Collection of reports

- a) Details of performance of ABC programme was collected on a predesigned proforma from all the 4 Animal Welfare Organizations including the Veterinary Hospital, Cantonment (Dept. of Animal Husbandry and Veterinary Services) covering all aspects of ABC programme (Annexure-III).
- b) The information on number of dog brain samples submitted with suspicion of rabies, number of dog brain samples positive for rabies in the last decade was obtained from the Department of Veterinary Pathology, Government Veterinary College, Hebbal, Bangalore (Annexure-IV).
- c) Decadal incidence of human rabies cases due to dog bites was obtained from Epidemic Diseases Hospital (EDH), Bangalore.
- d) Details about number of dog bites, antirabies and rabies immunoglobulin usage in the BMP in the last decade was obtained from Bangalore Mahanagara Palike and also from Victoria Hospital, a tertiary referral hospital in Bangalore.
- e) Details of release of payments to AWOs for implementing ABC programme, number of pet licenses issued and their renewals were obtained from ABC programme officer, BMP.

2.2 Facility survey of AWOs

The audit team consisting of one public health specialist and a Professor of Veterinary Medicine visited the facilities of AWOs along with the programme officer of BMP. The audit team inspected various facilities like dog kennels, inpatient wards, Operation Theater, isolation ward, etc and recorded the findings on a pre-designed proforma. The records and reports maintained at these facilities were also scrutinized and findings recorded (Annexure-V).

The audit team held detailed discussions with the representatives of AWOs regarding staff position, availability of veterinarians, maintenance of complaint register, dog capture and dog release register, method of dog catching and release, method of identification of dog at kennels and in the field, method of euthanizing and disposal of carcass and methods adopted for revaccination of sterilized dogs in the field.

2.3 Community survey

The opinion of the community regarding the dog menace, awareness of ABC programme, about continuation of ABC programme, etc were assessed by a community survey done during 19-24th February 2007. The survey was done using 30 cluster random sampling technique. The trained medical investigators interviewed 10 households randomly in each cluster using a pre-structured partly open ended interview schedule and thus covered 300 households with a population of 1497 persons. Besides 30 public places (markets, parks, places of worship, etc) and 29 meat (mutton/chicken/fish) shops were covered in the survey by a 20 member team from the Department of Community Medicine, KIMS, Bangalore (Annexure - VI).

2.4 Analysis of records and reports

All the reports and records obtained from Animal Welfare Organizations and Veterinary Hospital, Cantonment were compiled, analyzed for performance against targets set by BMP, compared against payments made and also checked for accuracy of data.

The reports from veterinary college, EDH, Victoria Hospital and BMP were perused for assessing the effectiveness and impact of ABC programme in Bangalore city. The BMP data was also used for assessing the availability and utilization of antirabies vaccines.

2.5 Others - public meetings, media reports etc.

- The audit team members regularly attended the series of meetings convened by the BMP for control of stray dog menace during Feb-March, 2007 and made note of opinions/observations of AWOs, Resident Welfare Associations, BMP officials, etc. and made recommendations whenever needed.
- 2. The media reporting of various incidents of dog bites and related issues including vaccine non-availability were also investigated by the audit team.
- 3. An international expert opinion on the problem of dog menace in Bangalore was elicited during the international conference on Rabies (RIACON-2007) held on 3rd and 4th March, 2007 in Bangalore following the 2nd incident of mauling of a boy by a pack of stray dogs.

2.6 Blood/Sera testing of sterilized dogs for rabies antibodies

As per ABC rules, the sterilized dogs are to receive one dose of rabies vaccine before their release and subsequently get one booster dose every year at the community level. To assess the rabies neutralizing antibodies in the vaccinated stray dogs, 5 mL of venous blood was collected from each dog, sera separated and sent to Dept. of Neurovirology, NIMHANS, Bangalore for estimation of RVNAb by RFFIT test. A total of 30 dog sera samples were collected [@ 6 dogs x 5 AWOs] and at the field level the blood sample from the dogs was collected by a veterinarian with the help of the local AWO.

2.7 Study period

The ABC performance audit was done from February to April 2007 over a 3 months period.

3. RESULTS AND OBSERVATIONS

3.1 ABC programme

3.1.1 Dog catching

AWOs have not done pre capture survey in their packages/areas before starting of ABC programme. The BMP without a proper estimate of stray dog population set targets to AWO without any rational.

3.1.2 Method of Identification of Dogs

Dogs that were brought to base hospitals from the field were streaked by paint on the back. The dogs were coloured differently on different days of catch in a week (also different for different packages) and were put in the kennels. This paint did not last long during the period of stay (5 or 7 days) in their kennels.

3.1.3 Type of sterilization performed

There were almost equal numbers (1:1) of sterilizations performed among male and female dogs. The ABC rule stipulates AWOs to do more of female sterilization than male sterilization. Sterilization of female dogs requires more man-hours. There was marginal difference of money paid for sterilization of male and female dogs (Table - 3).

3.1.4 Dog release

The dogs after spaying or neutering were to be released into the same street/area from where they were caught. But, there was no mention of the exact street/area from where they were caught and released in the registers that were maintained at the AWOs. The AWOs mainly depended on the logbook maintained by the vehicle driver or in some cases on driver's memory. This lead to dogs being released in to other areas for various reasons viz. drivers' convenience, time of release, etc.

3.1.5 Identification of dogs for revaccination

The stray dogs that are sterilized, vaccinated and dewormed were released into the area from where they were brought after clipping their left ear in "U" shape as an indication of sterilization under ABC programme. Subsequently for revaccination every year, there is no system or method of identification of these sterilized dogs (year wise, atleast) in the field.

3.1.6 Vaccination and revaccination

Under the ABC programme the sterilized dogs receive one dose of modern rabies vaccine before their release and subsequently are to get one booster dose every year at the community level. The AWOs purchase the vaccines from private pharmaceuticals and these include Inj. Rabisin, Raksharab, Rabvac 3, Nobivac R and Rabigen. The Veterinary hospital, Cantonment (Dept. of AH and VS) used Inj. Anirab, a tissue culture vaccine manufactured by Institute of Animal Health and Veterinary Biologicals (IAH and VB), Govt. of Karnataka. The same vaccines are used for revaccination in the field. However, for package 7, the sterilization and vaccination was done at Veterinary hospital, cantonment (Dept. of AH and VS) which is located very far (> 10 kms) from its allotted area. The responsibility of dog catching and release was done by BMP with no revaccination programme in the area. The target set by BMP for AWOs for

revaccination was very low from 2nd year onwards as they required to do annual revaccination of all sterilized dogs.

3.1.7 Rabies antibody titers in sterilized dogs

The presence of a rabies antibody titers of ≥ 0.5 IU/mL of sera in a vaccinated dog indicates that it is adequately protected against rabies. Out of 30 sera samples (one sample contaminated) tested by RFFIT at NIMHANS, Bangalore, only 11 (38 %) were found to have adequate titer, which shows that the vaccination and revaccination was not effective in majority of dogs.

3.1.8 Recording and reporting

There was a faulty system of recording of data in the registers maintained at the AWO hospitals (dog capture and release register, sterilization and revaccination register), which led to faulty reporting of data to BMP, which was used for release of payment.

3.1.9 Monitoring and supervision

When ABC programme was started there was no veterinarian responsible for monitoring and supervision. A senior veterinarian from the Department of Animal Husbandry and Veterinary Services was posted as Deputy Director (Animal Health), BMP from Oct 2002 and the present incumbent officer took charge of the ABC programme from January 2005. However, the officer posted for such huge activity was unable to supervise and monitor effectively.

3.2 Performance of Animal Welfare Organizations

The performance reports of 4 AWOs and Dept. of AH and VS against the targets set by BMP related to number of dogs caught, number of sterilizations (male and female dogs), number of dogs vaccinated and revaccinated and the number of dogs euthanized were compared to the set targets. For performance evaluation, percentage achieved is calculated for the number of months. (Tables 5 - 10), [Annexure-VII).

The targets set by BMP during Oct 2000 to March 2003 to AWOs were very low for sterilization and vaccination. Hence, there is a very high performance level by AWOs when compared to set targets by BMP which were arbitrary.

3.2.1 Karuna Animal Welfare Association of Karnataka (formerly SPCA)

The ABC performance of Karuna from Oct 2000 - Jan 2007 shows 66.0% of stray dogs were sterilized and vaccinated against rabies and 20.0% were euthanized. A total of 30,424 dogs were revaccinated out of which 22,756 (75.0%) dogs were vaccinated during ARV camps/drives. The performance of Karuna when compared to targets set by BMP for the last 6 years 4 months (76 months) shows an achievement of 88.0% for sterilization, 85.0% for euthanization and 94% for revaccination (Table - 5).

Table - 5
Performance of Karuna

	Sterilizations		Euthanization		Revaccination	
Year	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
2000*	1966	109.0	165	No targets***	2506	261.0
2001	4033	112.0	805	No targets***	2937	153.0
2002	3933	109.0	921	No targets***	1989	104.0
2003	3854	54.0	1199	50.0	3750	52.0
2004	6163	86.0	2371	99.0	6685	93.0
2005	6915	96.0	2476	103.0	7371	102.0
2006**	5349	89.0	1789	90.0	5186	86.0
Total	32,213	88.0	9,726	85.0	30,424	94.0

Note:

- * ABC activities was started from Oct 2000. The data presented is from April to March every year.
- ** Data presented is from April, 2006 to Jan 2007 (10 months).

3.2.2 Compassion Unlimited Plus Action (CUPA)

The ABC performance of CUPA from 2000 - Feb 2007 shows 76% of stray dogs were sterilized, 78.0% vaccinated against rabies, 40.0% euthanized and 44,277 dogs revaccinated in the field. The performance of CUPA when compared to targets set by BMP for the last 7 years 2 months (86 months) shows an achievement of 97.0% for sterilization, 149% for euthanization and 94% for revaccination (Table - 6).

^{***} No targets were set by BMP prior to April, 2003. Performance for euthanization is calculated from April, 2003.

Table – 6
Performance of CUPA

	Sterili	zation	Euthanization		Revaccination	
Year	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
2000*	1074	60.0	120	No targets**		
2001	6528	91.0	2537	No targets**	420	22.0
2002	7022	98.0	5597	No targets**	631	33.0
2003	9903	100.0	4391	122.0	8574	100.0
2004	10945	101.0	5344	148.0	11452	106.0
2005	10771	100.0	5584	155.0	11117	103.0
2006	11269	104.0	5967	166.0	10932	101.0
2007+	755	42.0	762	127.0	1151	64.0
Total	58,267	97.0	30,302	149.0	44,277	94.0

Note: * ABC activities was started from October 2000. The data presented is from January to December every year.

- ** No targets were set by BMP prior to April, 2003.Performance for euthanization is calculated from April, 2003.
- + January and February (2 months only)

3.2.3 Animal Rights Fund (ARF)

The ABC performance of Animal Rights Fund (ARF) from January 2001-February 2007 shows 85.0% of stray dogs were sterilized and vaccinated against rabies, 13.0% euthanized and 33,863 dogs revaccinated. The performance of ARF when compared to targets set by BMP for the last 6 years 2 months (74 months) shows an achievement of 113.0% for sterilization, 48.0% for euthanization and 104.0% for revaccination (Table - 7).

Table - 7

Performance of Animal Rights Fund

	Sterili	zations	Euth	anization	Revaccination	
Year	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
2001*	6560	109.0	1101	No targets**	1987	103.0
2002	5678	95.0	1507	No targets**	2220	116.0
2003	6952	101.0	1264	53.0	1672	28.0
2004	8136	113.0	976	41.0	7555	105.0
2005	10644	148.0	1000	42.0	10902	151.0
2006	8344	116.0	1073	45.0	8850	123.0
2007 +	1013	84.0	523	131.0	677	56.0
Total	47,327	113.0	7,444	48.0	33,863	104.0

Note:

- * ABC activities was started from January 2001. The data presented is from January to December every year.
- ** No targets were set by BMP prior to April 2003. Performance for euthanization is calculated from April, 2003.
- + January and February (2 months only).

3.2.4 Krupa Loving Animals

The ABC performance of Krupa Loving Animals from April 2003 - February 2007 shows 85.0% of stray dogs were sterilized and vaccinated against rabies, 14.0% were euthanized and 12,289 dogs were revaccinated. The performance of Krupa when compared to targets set by BMP for the last 4 years 2 months (50 months) shows an achievement of 95.0% for sterilization, 46.0% for euthanization and 87.0% for revaccination (Table - 8).

Table – 8

Performance of Krupa Loving Animals

Year	Sterilizations		Eutha	nization	Revaccination	
	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
2003*	1756	65.0	292	32.0	120	4.0
2004	3031	84.0	458	38.0	2885	80.0
2005	3490	97.0	579	48.0	3628	101.0
2006	4343	121.0	679	57.0	5342	148.0
2007+	1013	169.0	153	77.0	314	52.0
Total	13,421	95.0	2,161	46.0	12,289	87.0

Note: * ABC activities was started from April 2003. The data presented is from January to December very year.

+ January and February (2 months only).

3.2.5 Veterinary Hospital, Cantonment (Dept. of AH and VS)

The ABC performance of Dept. of AH and VS from April 2003 – February 2007 shows 88.0% of stray dogs were sterilized and 85.0% vaccinated against rabies and 12.0% euthanized. There was no revaccination of sterilized dogs in package no. 7 managed by Dept. of AH and VS/BMP. The performance of Dept. of AH and VS when compared to targets set by BMP for the last 4 years and 2 months (50 months) shows an achievement of 76.0% for sterilization, 43.0% for euthanization and nil for revaccination (Table - 9).

Table – 9

Performance of Veterinary Hospital, Cantonment (Dept. of AH and VS)

Year	Sterilization		Euthan	ization	Revaccination	
	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
2003*	351	16.0	65	12.0	-ND-	
2004	2687	90.0	308	41.0	-ND-	
2005	3072	102.0	480	64.0	-ND-	
2006	2488	83.0	233	31.0	-ND-	
2007+	330	66.0	175	140.0	-ND-	
Total	8,928	76.0	1,261	43.0	-ND-	

Note: ND = Not done

- * ABC activities was started from April 2003. The data presented is from January to December every year.
- + January and February (2 months only).

3.2.6 Overall performance of AWOs

The overall performance of AWOs against the targets set by BMP from October 2000- February 2007 shows 97% achievement for sterilization, 91% achievement for euthanization and 96% for revaccination (Table -10), Annexure-VIII).

Table – 10

Overall performance of AWOs from October 2000- February 2007

AWOs	Sterilization		Euthanization*		Revaccination	
	Number done	% Achieved	Number done	% Achieved	Number done	% Achieved
Karuna	32,213	88.0	9726	85.0	30,424	94.0
CUPA	58,267	97.0	30,302	149.0	44,277	94.0
ARF	47,327	113.0	7444	48.0	33, 863	104.0
Krupa	13,421	95.0	2161	46.0	12,289	87.0
Dept. of AH and VS	8928	76.0	1261	43.0	-ND-	NIL
Total	1,60,156	97.0	36,727	91.0	1,20,853	96.0

Note: ND = Not done

3.3 Facilities for Animal Birth Control at AWOs

The audit team primarily examined the compliance of AWOs to ABC rules/norms and for the clinical facilities for ABC surgeries.

^{*} Overall performance of AWOs with respect to euthanization is calculated from April 2003.

3.3.1 Karuna Animal Welfare Association of Karnataka

The two members from the audit team visited the facility of Karuna at Hebbal on 18.3.07.

The key observations are

- The Karuna is registered under Societies Act in October 1916 and recognized by Animal Welfare Board of India and being renewed annually.
- 2. There were no pre-capture surveys done in their allotted package areas.
- 3. There were no identification tags or number given to the dogs that are brought in, leading on to confusion in data sheets.
- 4. Number of puppies caught was not noted separately in the dog catch register but they are kept separately.
- 5. The dogs were caught by Lassoing.
- 6. There was no public address system on the dog catching vehicle.
- 7. Time of release not mentioned in the release register.
- 8. There was no tallying of entries made in dog catch and release register.
- 9. Dog kennels were partly overcrowded.
- 10. The Karuna representatives submitted the following grievances to the visiting audit team-lack of adequate space for implementing ABC programme for a large number of stray dogs, difficulty in identifying dogs for revaccination, non release of payments due from last 6 months. However, they suggested that the ABC programme should be properly funded with a definite time frame and setting up of 4 dog pounds in 4 corners of city on the outskirts.

3.3.2 Compassion Unlimited Plus Action (CUPA)

The two members from the audit team along with the ABC programme officer of BMP visited the facility of CUPA shelter at Koramangala on 11.3.07.

The key observations are

- 1. The CUPA is registered under Trust Act in October, 1991 and recognized by Animal Welfare Board of India. The AWBI registration certificate and trust deed was not available.
- 2. There were no pre-capture surveys done in their allotted package areas.
- 3. There were no identification tags or number given to the dogs that are brought in, leading on to confusion in data sheets.
- 4. Number of puppies caught was not noted separately in the dog catch register.
- 5. The dogs were caught by Lassoing.
- 6. Of the three vehicles one is under repair and there was no public address system on the dog catching vehicle.
- 7. Hebbal shelter is being used for revaccination campaign.
- 8. Time of release not mentioned in the release register.
- 9. There was no tallying of entries made in dog catch and release register.
- 10. Dog kennels were partly overcrowded and kennels need upkeep and renovation.
- 11. The CUPA resubmitted the corrected report, which was initially defective.
- 12. The CUPA submitted the following grievances provision of only two dog catching vans by BMP for covering 33 wards; lack of cooperation by public during dog catching; non-release of payments due from last 6 months. However, they suggested to follow multi-pronged approach of sterilization and vaccination, euthanization of unfit dogs and adoption to control dog population; removal of garbage and slaughter waste will deplete stray dog population and need to start ABC programme even in BBMP area.

3.3.3 Animal Right Fund (ARF)

The three members of the audit team along with the ABC programme officer of BMP visited the facility of ARF shelter at Girinagar on 10.3.07.

The key observations are

- 1. The facilities of ARF were shared with Krupa viz. 5 rooms and dog kennels.
- 2. The ARF is registered under Trust Act and recognized by Animal Welfare Board of India (The trust deed was not available during the visit).
- 3. There were no pre-capture surveys done in their allotted package areas.
- 4. There were no identification tags or number given to the dogs that are brought in, leading on to confusion in data sheets.
- 5. Number of puppies caught was not noted separately in the dog catch register.
- 6. The dogs were caught by Lassoing.
- 7. There was no public address system on the dog catching vehicle.
- 8. Time of release not mentioned in the release register.
- 9. There was no tallying of entries made in dog catch and release register.
- 10. Dog kennels were overcrowded (due to BMP drive) and kennels need upkeep and renovation.
- 11. In Sucol used for euthanasia, not approved by AWBI.
- 12. The ARF resubmitted the corrected report, which was initially defective.
- 13. The ARF and Krupa representatives have vent the following grievances to the visiting audit team irregular BMP payments; poor public awareness about ABC programme; unlicensed meat shops and unregulatory waste disposal responsible for dog attacks, periodic updates not provided to AWOs and public on dog control.

3.3.4 Krupa loving animals

- 1. Krupa Loving Animals was sharing the clinical facilities with ARF.
- On behalf of BMP, Krupa Loving Animals is running a 24 hour help line for dog bite victims and dog care at Dasappa Maternity Home complex from February 2001.
- 3. Krupa loving animals resubmitted the corrected report which was initially defective.

3.3.5 Veterinary Hospital, Cantonment (Dept. of AH and VS)

The two members from the audit team visited ABC center, Veterinary Hospital, Queens Road, Cantonment on 29.3.07.

The key general observations are

- 1. The ABC Center, Veterinary Hospital, Queens Road, Cantonment is handling package number 7 with the help of BMP. The dog catching and their release is done by dog catching squad of BMP.
- 2. There were no pre-capture surveys done in their allotted package areas.
- 3. There were no identification tags or number given to the dogs that are brought in, leading on to confusion in data sheets.
- 4. Number of puppies caught was not noted separately in the dog catch register.
- 5. The dogs were caught by Lassoing.
- 6. There was no public address system on the dog catching vehicle.
- 7. Dog capture and release register is maintained by BMP at its office on J. C. Road. The driver of vehicle has only logbook where he notes the area of operation on that particular day.

- 8. Dog kennels were supplied by BMP recently. The BMP has funded the construction of new ABC center at this center.
- 9. The veterinary hospital is not involved in revaccination of dogs that are released.
- 10. The veterinary officer in charge of hospital has requested for better OT facilities, with incentives for surgeons and assistants involved in ABC work.

The facilities for ABC surgeries when specifically assessed by the veterinarian revealed following:

- 1. Space and facilities available in some organizations (ARF and Krupa) are inadequate.
- 2. Dog catching and release operations need much more emphasis in terms of release of dogs.
- 3. Records relating to complications after surgery, mortality (deaths) and revaccination needs modification.
- 4. Carcass disposal has to be done everyday.
- Revaccination procedure needs modification in terms of identification of dogs.
- 6. During first year of vaccination of dogs against rabies, they have to receive two doses (21 days apart) and not single vaccination as is being practiced now.

3.4 Community opinion about stray dogs and ABC programme

3.4.1 Community survey and its coverage

A community survey was done to elicit the opinion about stray dogs and ABC programme in Bangalore city. The details of the coverage of this survey is as follows (Table - 11).

Table - 11

Details of community survey and its coverage

S1 No.	Details of survey	Coverage		
1	Dates and duration of survey (Feb 19-24, 2007) (20 member team)	6 days, 235 man hours		
2	Clusters (population units) surveyed	30		
3	Households surveyed	300		
4	Population	1497		
5	Public places covered (markets, parks, places of worship, etc.)	30 (150 persons interviewed)		
6	Meat (mutton/chicken/fish) shops	29 (145 persons interviewed)		

3.4.2 Community opinion about stray/street dogs

The majority (> 90%) informed about the presence of stray dogs around households, public places and meat shops. Similarly majority (> 70%) did not approve the presence of stray dogs in their neighbourhood. Over 40% complained of aggression and biting by stray dogs and an increase in their population in the last 3 years (Table - 12).

Table – 12

Community opinion about stray/street dogs

S1 No.	Community opinion	Households (n=300*/ 1497**)	Public places (n=30*/ 150**)	Meat shops (n=29*/ 145**)	Total (n=359*/ 1792**)
1	Presence of stray/street dogs in neighbourhood (Yes)	94.6	90.0	97.9	94.3
2	Non-acceptance/non- approval of stray/street dogs in neighbourhood	71.7	73.3	72.4	72.3
3	Complaint of aggression and biting by stray/street dogs (Yes)	46.4	56.3	42.9	48.0
4	Increase in stray/street dog population in neighbourhood in last 3 years (Yes)	44.0	44.7	47.6	45.0

Note: 1. All the figures are in percentages

2.* No of units surveyed; ** No of people interviewed

3.4.3 Community opinion about ABC programme

About 40% of the community were aware of ABC programme and their source of information was mostly BMP and media. However, about 20-26% opined that ABC programme has reduced stray dog population and about 32-37% wanted ABC programme to continue. A few suggested (8-10%) that the sterilized dogs should not be released back and some suggested that dogs be provided food and shelter elsewhere (3-8%) (Table - 13).

Table – 13

Community opinion about ABC programme

S1 No.	Opinion about ABC programme	Households (n=300*/ 1497**)	Public places (n=30*/ 150**)	Meat shops (n=29*/ 145**)	Total (n=359*/ 1792**)
1	Awareness about ABC programme (yes)	43.7	42.7	37.9	42.0
2	Source of information about ABC programme • BMP • News paper • Relatives/Friends/ Neighbours • Television	18.7 13.0 7.3 2.0	27.3 6.6 0.6	17.9 5.5 3.4 0.6	20.6 9.5 4.7 1.1
3	ABC programme has reduced stray dog population (Yes)	20.6	26.0	22.7	22.5
4	Approving continuation of ABC programme (yes)	36.0	37.3	32.4	35.4
5	Suggestions to improve ABC programme Not to put back ABC dogs Provide food and shelter to ABC dogs elsewhere	8.3 8.3	10.9	10.9 3.6	9.6 5.2

Note: 1. All the figures are in percentages

^{*} No of units surveyed; ** No of people interviewed

3.4.4 Trend in opinion of the community about stray dogs and ABC programme

During 2001-2007 period, the presence of stray/street dogs in the neighbourhood of houses and in public places has remained almost the same (>90%). The community opines that there is a decrease in aggressive dogs in their neighbourhood at household level, whereas there is a marginal increase at the public places.

The general acceptance of stray dogs in their neighbourhood both at household (12% to 28%) and at public places (6% to 27%) showed marginal increase. This community opinion survey indicates that even in 2007, only 1/3rd of the population accept stray dogs in their neighbourhood.

The awareness about ABC programme has marginally increased among respondents in households (34% in 2001 to 43% in 2007). However, the awareness level has increased from 30% to 60% among respondents in public places. This community opinion survey shows low public awareness about ABC programme even after 6 years of implementation of ABC programme.

Regarding continuation of ABC programme, there was marginal improvement (20% to 36%) among household respondents and 20% to 52% among respondents in public places. Paradoxically, this community survey revealed improvement in generally approving the continuation of ABC programme (Table - 14).

Table - 14 Trend in opinion of the community about stray dogs and ABC programme

S1 No.	Opinions about stray/street dogs and ABC programme	2001	2007
1	Reporting presence of stray/street dogs in neighbourhood	95.7	94.6
	 Households Public places *	100.0	93.8
2	Reporting stray/street dog viz, aggressive and biting • Households • Public places*	59.2 63.3	46.4 70.2
3	Acceptance/approval of stray dogs in neighbourhood Households Public places *	12.8 6.3	28.3 27.2
4	Awareness about ABC programme • Households • Public places *	34.3 30.0	43.7 61.0
5	Approving continuation of ABC programme • Households • Public places *	20.0 20.0	36.0 52.8

- **Note:** 1. All figures are in percentages.
 - 2. * includes markets, parks and meat shops

3.5 Incidence of dog bites

It is evident from the number of dog bite cases reported at BMP hospitals and Victoria Hospital, the incidence of dog bite has remained the same over years. The number of doses of anti rabies vaccines procured has increased over a period of time, as there is a great demand for modern anti rabies vaccine.

The BMP started procuring modern rabies vaccine from 2001 and an effort was made to use rabies immunoglobulin from 2000. However, anti rabies vaccines are in short supply at BMP health centers and more importantly there are periods of 'stock outs' even at main BMP store itself. The BMP has purchased the life saving RIGs only on two occasions (Table - 15).

Table – 15

Dog bites and human ARV usage in BMP in the last decade

Year	No of Dog bites	No of Anti Rabies Vaccine vials used	No of vials of ARS used	No stock of ARV
1995-96	Not available	Not available	Nil	-
1996-97	Not available	11,736 (3,52,090 mL)	Nil	-
1997-98	Not available	12,289	Nil	-
1998-99	Not available	10,097 (3,02,900 mL)	Nil	-
1999-00	Not available	10,388 (3,11,640 mL)	Nil	-
2000-01	Not available	10,788 (3,23,640 mL)	100 (500 mL)	-
2001-02	22,905	9,414 (2,82,410 mL) + 1560 (PVRV)	NA	-
2002-03	18,884	6,037 (1,81,110 mL) + 14,715 (PVRV)	NA	-
2003-04	22,940	54,520 (PVRV)	NA	-
2004-05	32,967	7,480 (PVRV) + 60,279 (PCEC)	NA	-
2005-06	27,657	48,984 (PCEC)	1,650	27.4.05 – 15.5.05 (19 days)
2006-07	17,798	18,640 (PCEC) + 12,000 (PVRV-I)	NA	16 + 12+ 11 = 39 days

Source: Department of AH, BMP, Bangalore.

Note: NA – Not available

Victoria Hospital, a tertiary referral government hospital, situated in the center of city caters to very large numbers of poor people. The Victoria Hospital had inadequate supply of anti rabies vaccines as compared to large number of dog bite cases attending OPD. Moreover, it was surprising that the hospital had not procured and used life saving RIGs (Table - 16).

Table 16

Dog bites and human ARV usage in Victoria Hospital in the last decade

Year	Dog		ARV	4	ARS
	Bites	Used	Type(s)	Used	Type(s)
1997	4265	3850 vials	NTV – 30 mL vials		
1998	4896	3280	NTV – 30 mL vials		
1999	4455	4340	NTV – 30 mL vials		
2000	4256	4300	NTV – 30 mL vials		
2001	5126	3650	NTV – 30 mL vials		
2002	4415	3540	NTV – 30 mL vials		
2003	3567	4150	NTV – 30 mL vials		
2004	4210	3730 1200	NTV – 30 mL vials PCEC vaccine		
2005	6620	12,000	PCEC vaccine		
2006	7201	16,000	PCEC vaccine		
Total	49,011				

Source: Victoria Hospital, Bangalore.

3.6 Incidence of rabies in dogs

In the last decade (1997-2007), a total of 887 dog brain samples were examined at Department of Veterinary Pathology, Veterinary College, Hebbal, Bangalore for the presence of Negri bodies and 559 (63%) were positive with a range of 46% to 73%.

Out of 245 dog brain samples submitted by AWOs over the last decade, 175 (71%) were positive for Negri bodies. This shows the presence of rabies in dogs in Bangalore city with high positivity rate among the suspect rabid dogs.

3.7 Incidence of rabies in humans

Rabies is 100% fatal and endemic in India but still it is not a notifiable disease. Dog is the major reservoir of rabies (96%). The recording and reporting of human rabies cases depends on admission of the patient in a hospital. Invariably patients are sent home by the doctors or attending staff after explaining the bad prognosis of the disease. Hence, all human rabies cases that occur in Bangalore doesn't get reflected in the statistics. However, inspite of presence of dog rabies, the incidence of human rabies has shown a declining trend. This is largely due to discontinuation of NTV and improved availability and use of modern rabies vaccines and RIGs (Table - 17).

Table 17

Decadal incidence of human rabies cases admitted at

Epidemic Diseases Hospital (EDH), Bangalore

Year	Human rabies cases admitted at EDH	Human rabies cases from BMP area
1997	73	-NR
1998	68	-NR
1999	47	-NR
2000	52	20
2001	50	11
2002	45	03
2003	37	01
2004	43	02
2005	44	-
2006	33	-
Total	492	37

Source: Department of AH, BMP and EDH, Bangalore.

Note: NR=Not recorded

3.8 Financial aspects of ABC programme

An amount of Rs 6,40,78,908 was spent by BMP from April 2001 to December 2006 towards funding of ABC programme. The funds provided to 5 AWOs during this period is given in Table-18. However, as the AWOs not able to account/identify-sterilized dogs on street, the method of releasing funds based on number of sterilizations given by AWOs is faulty. This came for lot of criticism from public and the matter was taken up to Lokayukta (Table-18).

Table 18

Details of payments made by BMP to AWOs from

April 2001- December 2006

Year	Karuna	CUPA	ARF	Krupa	AH and VS	AST	Total
2001-02	10,92,000	16,82,800	23,58,600				51,33,400
2002-03	21,84,000	29,78,825	27,51,700				79,14,525
2003-04	18,86,000	41,96,983	27,65,960	11,04,600	10,00,000	13,60,510	1,23,14,053
2004-05	30,42,680	47,17,795	39,27,910	24,26,070	08,00,000		1,49,14,455
2005-06	32,32,880	47,02,310	40,48,670	15,70,710			1,35,54,570
2006-07	22,18,900	35,16,765	24,86,530	17,25,710	03,00,000		1,02,47,905
Total (Rs.)	1,36,56,460	2,17,95,478	1,83,39,370	68,27,090	21,00,000	13,60,510	6,40,78,908

Source: Department of AH, BMP, Bangalore

3.9 Pet dog licensing

In 2000, the licensing of pet dogs was introduced by BMP after much publicity through media. In these last seven years 12,519 (23%) new and 770 (6%) renewal licenses were issued which is grossly inadequate as the estimated pet dog population is about 1.25 lakhs (KIMS, 2001) and 55,251 (17th live stock census, 2003) (Table - 19)

Table - 19
Pet dog licensing during 2000-2006

Zones	New	Renewal		
East	4825	-NA-		
West	4188	196		
South	3506	574		
Total	12,519	770		

Note: NA=Not available

4. **CONCLUSIONS**

- 1. A valid and reliable estimate of stray dog population in BMP area was not available for the ABC programme. There were no precapture surveys done by the AWOs in their allotted areas. Consequently the AWOs and BMP largely depended upon the 16th (1997) and 17th (2003) Live stock census figures, which do not correlate with the ABC programme. However, a serial community opinion survey done by KIMS during 2001 and 2007 shows that the presence and menace of stray dogs in BMP area has remained the same.
- 2. The ABC programme was implemented without a proper plan, strategy, monitoring and supervision particularly at the field level. A single veterinary officer is responsible for the programme, which is a stupendous task. Consequently, there was no cross check/verification of reports of AWOs at the field level leading to various doubts about the credibility of the activity itself. As there has been no proper count/estimate of stray dog population before and during the implementation of ABC programme its impact on stray dog population is not measurable.
- 3. The performance of five AWOs viz. Karuna, CUPA, ARF, Krupa and the Department of AH and VS is satisfactory as they achieved over 75% coverage of the set targets. However, the targets set were arbitrary and the coverage cannot be verifiable at the field level.

- 4. The maintenance of records pertaining to dog catching, sterilization and release at the AWO level was faulty and defective. The release of payments by BMP was made on these data/records. Importantly, there is no method/system of identification of ABC dogs in the community after their release with respect to even the month of sterilization and vaccination status.
- 5. The facilities and manpower (veterinary) was found to be deficient at Animal Rights Fund and Krupa Loving Animals and consequently the quality of surgeries done is doubtful. Besides ARF and Krupa share the common facilities for ABC surgeries. The dogs neutered and released from veterinary hospital, Department of AH and VS did not have any programme for revaccination.
- 6. There has been unplanned and haphazard release of dogs after sterilization and this was an act of irresponsibility with no care and concern for public safety and life, particularly for the children, elderly and the poor who walk on the streets.
- 7. Following the recent instances where two children were mauled to death by packs of stray dogs, there is an heightened public fear and agitation, large-scale media attention and serious governmental concern for the stray dog menace in Bangalore city. There were mixed opinions about the performance and continuation of the ABC programme.
- 8. The incidence of dog bites has almost remained the same during the last decade and with an increasing trend in the last two years. Besides there

- is formation of packs of stray dogs and subsequent attacks on children on the streets.
- 9. There is a continuous shortage of antirabies vaccines for dog bite victims (human) in BMP hospitals and the availability and use of rabies immuneglobulins is scarce and limited. The fact that under ABC programme the dogs are released back into the community by BMP/AWO and subsequently not providing free and adequate supply of antirabies vaccine by BMP shows the lopsided priority for animal welfare at the expense of human welfare.
- 10. The incidence of rabies in dogs in Bangalore has almost remained constant/stable during the last decade (1997-2007) as is evident from the reports of veterinary college and NIMHANS.
- 11. The antirables vaccination and revaccination of sterilized dogs was not effective in majority of dogs.
- 12. There is a decline in the incidence of rabies in humans, which is attributable to replacement of sheep brain vaccine by modern vaccines and an increasing use of rabies immuneglobulins thus providing better rabies prophylaxis.
- 13. The pet dog licensing has not received the necessary thrust from the BMP.

5. **RECOMMENDATIONS**

- 1. The ABC programme may be continued under the following conditions/modifications.
 - a. A proper plan and strategy must be evolved with a time frame and target for reduction/elimination of stray dog population.
 - b. More AWOs, Veterinary College, Dept. of Animal Husbandry and Veterinary Services and Private Veterinary practitioners must be involved.
 - c. Three more veterinarians one for each zone shall be posted for better monitoring, supervision and coordination and for other animal welfare activities. Even retired veterinarians can be considered. The monitoring veterinarian of BMP shall be of the rank of Joint Director and above.
 - d. A technical advisory group consisting of a senior veterinarian from the Department of Animal Husbandry and Veterinary Services, Professors of Veterinary Medicine and Surgery, Veterinary College and a public health specialist (Medical) shall support the existing Monitoring and Evaluation Committee.
 - e. The stray dogs after neutering shall be released as "guardian dogs" by handing them over to AWOs, Resident Welfare Associations or individuals who shall adopt and take care of them. These dogs

- shall be collared or implanted with microchip and they shall be recognizable and countable in an area.
- f. The anti rabies vaccination after sterilization shall consists of giving two doses (3 weeks apart) at the first instance and thereafter one dose of vaccine every year.
- g. A system of proper record maintaince, regular supervision and monitoring of ABC/ guardian dogs in the community must be established. This shall bring visibility and credibility to the ABC programme.
- h. The Catch, Neuter, Vaccinate and Release (CNVR, key hole surgery) method may be introduced on experimental basis wherever "certified surgeons" certified by Department of Surgery, Veterinary College, Hebbal are available.
- 2. BMP should create "stray dog free zones/lanes" viz. at Vidhana Soudha, High Court, Airport, Major bus stands, Railway Station, Parks, Tourist spots, Commercial Street, Brigade Road, MG Road and other important places.
- 3. BMP should introduce cost effective intradermal rabies vaccination (IDRV) for dog bite victims (humans) in BMP Hospitals after obtaining approval from Drug Controller General of India, New Delhi. Besides rabies immuneglobulins shall be provided in all referral hospitals for better rabies post exposure prophylaxis in humans.

- 4. BMP should enforce strict and compulsory licensing of pet/guardian dogs and their annual renewal by involving government veterinary institutions and private veterinary practitioners.
- 5. BMP may consider appealing to court to bring about suitable changes/amendments to ABC rules in the interest of public safety and to protect the lives of people who walk on the streets. This is particularly needed to stop the indiscriminate release of dogs after sterilization under ABC programme.
- 6. The AWOs and other agencies shall be encouraged to establish more dog shelter homes and promote adoption of dogs by the community.
- 7. A regular, systemic and planned educational campaign about "dog care and dog bite prevention" is needed involving print and electronic media.

It is important that citizens of Bangalore be freed from the 'fears of stray dog attacks/menace' and the streets made safe for pedestrians particularly children.

ANNEXURE – I

PERFORMANCE AUDIT ORDER FROM BMP

23 Jan 07 12:15

BANGALORE MAHANAGARA PALIKE

No:DD/AH/PR/2016-07

Ofice of the

Deputy Director (AH) Bangalore Mahanagara Palike

Dated: 23.01.2007

To,
The Professor and Head of the Dept.
Dept of Community Medicine
KIMS
Bangalore.

Sir.

Sub: Performance audit of the Animal Birth control Programme reg.

Ref: ION/PR/365/06-07, Dated: 10/1/2007.

Animal Birth Control Programme has been implemented for the last nearly six years in Bangalore Mahanagara Palike. Each year considerable amount has been spent and various NGO's are given the task of animal birth control.

In the meeting held on 09-01-2007 the Commissioner felt the need to conduct a performance audit of the ABC by your reputed organization KIMS with a focus on following parameters.

- a) Whether the Programme has been effective
- b) Whether this has lead to reduction in the population of dogs.
- c) Whether Rabies have been controlled.
- d) Whether the programme should be continued in future, and
- e) If so, with what changes?

The copy to the commissioner's inter office note, dated : 10-01/2007 is enclosed for your Rind perusal & necessary action.

Please let us know your acceptance and an early reply in the matter is anticipated.

Draft Approved by Deptuy Commissioner (Health) Deputy Director (AH)
Ballations Melanguage P

ಬೆಂಗಳೂರು ಮಹಾನಗರ ಜಾಲಿಕ ಟೆಂಗಳೂರು -560 002,

Your faithfully

23 Jan 07 12:15



ಆಯುಕ್ತರು, ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ COMMISSIONER, BANGALORE MAHANAGARA PALIKE

To, Dy.Commissioner(Health)
Copy to Zonal HOs
DD(Animal Husbandry)

INTER-OFFICE NOTE ION/PR/ 36.5/06-07 10-1-2007

IMMEDIATE

Review of ABC

- Animal Birth Control Programme has been implemented for nearly six years.
 Each year considerable amount of money has been spent and various NGOs are given the task on birth control.
- We need to conduct a performance audit of the ABC by a reputed organization. The audit must focus;
- (a) whether the programme has been effective
- (b) whether this has lead to reduction in the population of dogs.
- (c) Whether Rabies have been controlled.
- (d) Whether the programme should be continued in future, and
- (e) if so, with what changes?
- You may contact Dr. Sudarshan of Kempegowda Institute of Medical Sciences (KIMS). Bangalore, and finalise the performance audit. The audit should be ready within 60 days i.e. by March 31, 2007.

Please treat this as very important.

(K.JAIRAJ) Commissioner



ANIMAL BIRTH CONTROL (DOGS) RULES, 2001

"Animal Welfare Organisation" means and includes the Society for Prevention of Cruelty to Animals and any other welfare organization for animals which is registered under the Societies Registration Act of 1860 (21 of 1860) or any other corresponding law for the time being in force and which is recognized by the Animal Welfare Board of India

S.O. 1256 (E) - Whereas the draft Animal Birth Control (Dogs) Rules, 2001 were published, as required under the sub-section (1) of section 38 of the Prevention of Cruelty to Animals Act, 1960 (59 of 1960), vide Ministry of Culture notification number G.S.R.816(E) dated November 2, 2001 in the Gazette of India, Extraordinary, Part II, Section 3, sub-section (i) dated November 2, 2001 and whereas objections and suggestions from all persons likely to be affected thereby were invited before the expiry of 30 days from the date on which copies of the gazette containing the said notification have been made available to the public;

And whereas copies of the said Gazette were made available to the public on November 2, 2001;

And whereas the objections/suggestions received from the public have been incorporated in the rules.

Now, therefore, in exercise of the powers conferred by the sub-sections (1) (2) of section 38 of the Prevention of Cruelty to Animals Act, 1960 (59 of 1960), the Central Government hereby makes the following rules, namely:

- Short title and commencement: (1) These rules may be called the Animal Birth Control (Dogs) Rules, 2001.
 - (2) They shall come into force on the date of their final publication in the Official Gazette.
- 2. Definition: In these rules, unless the context otherwise requires, -
 - (a) "Act" means the Prevention of Cruelty to Animals Act, 1960.
 - (b) "Animal Welfare Organisation" means and includes the Society for Prevention of Cruelty to Animals and any other welfare organization for animals which is registered under the Societies Registration Act of 1860 (21 of 1860) or any other corresponding law for the time being in force and which is recognized by the Animal Welfare Board of India.
 - (c) "Board" means the Animal Welfare Board of India, established under section 4 and as reconstituted under Section 5A of the Act;
 - (d) "Committee" means a committee appointed under these rules
 - (e) "local authority" means a municipal committee, district board or other authority for the time being invested by law with the control and administration of any matters within a specified local area;

- "owner" means the owner of an animal and includes any other person in possession (f) or custody of such animal whether with or without the consent of the owner;
- "Veterinary doctor" means a person who holds a degree of a recognized veterinary (g) college and is registered with the Indian Veterinary Council.
- Classification of dogs and their Sterilization: (1) All dogs shall be classified in one of 3 the following two categories (i) pet dogs, (ii) street dogs.
 - The owner of pet dogs shall be responsible for the controlled breeding, immunization, sterlization and licensing in accordance with these rules and the law for the time being in force within a specified local area.
 - The street dogs shall be sterilized and immunized by participation of animal welfare (3)organizations, private individuals and the local authority.
- Formation of Committee: A monitoring committee consisting of the following persons 4 shall be constituted by the local authority namely :
 - Commissioner/Chief of the local authority, who shall be the ex-officio Chairman of the Committee.
 - A representative of the Public Health Department of the local authority. (b)
 - A representative of the Animal Welfare Department if any of the local authority.
 - (d) A veterinary doctor
 - (e) A representative of the district Society for Prevention of Cruelty to Animals (SPCA)
 - At least two represen-tatives from the Animal Welfare Organizations operating (f) within the said local authority.
- Functions of the Committee: The committee constituted under rule 4 shall be responsible 5. for planning and management of dog control programme in accordance with these rules. The committee may:
 - issue instructions for catching, transportation, sheltering, sterilisation, vaccination, (a) treatment and release of sterilized vaccinated or treated dogs.
 - authorize veterinary doctor to decide on case to case basis the need to put to sleep critically ill or fatally injured or rabid dogs in a painless method by using sodium pentathol. Any other method is strictly prohibited.
 - create public awareness, solicit co-operation and funding. (c)
 - provide guidelines to pet dog owners and commercial breeders from time to time. (d)
 - get a survey done of the number of street dogs by an independent agency. (e)
 - take such steps for monitoring the dog bite cases to ascertain the reasons of dog (f) bite, the area where it took place and whether it was from a stray or a pet dog.
 - Keep a watch on the national and international development in the field of research (g)pertaining to street dogs' control and management, development of vaccines and cost effective methods of sterilization, vaccination, etc.
- 6. Obligations of the local authority:
 - The local authority shall provide for
 - establishment of a sufficient number of dogs pounds including animal kennels/ shelters which may be managed by animal welfare organizations;
 - requisite number of dog vans with ramps for the capture and transportation (b) of street dogs:
 - one driver and two trained dog catchers to be provided for each dog van;
 - an ambulance cum clinical van to be provided as mobile center for sterilisation (d) and immunization;
 - incinerators to be installed by the local authority for disposal of carcasses. (e)
 - periodic repair of shelter or pound.
 - If the Municipal Corporation or the local authority thinks it expedient to control street dog population, it shall be incumbent upon them to sterilize and immunize street Dogs with the participation of animal welfare organizations, private individuals and the local authority.
 - The animal welfare organizations shall be reimbursed the expenses of sterilization/ (3)immunization at a rate to be fixed by the Committee on fortnightly basis based on the number of sterilization/immunization done.

- 7. Capturing/sterilization/immunization/release: (1) Capturing of dogs shall be based on:
 - (a) Specific complaints (for which the local authority in consultation with the Monitoring Committee shall set up a dog control cell to receive complaints about dog nuisance, dog bites and information about rabid dogs) and
 - (b) General
 - (i) On receipt of specific complaint about nuisance or dog bite the same shall be attended on priority basis, irrespective of the area from which the complaint comes. On receipt of such complaint the details such as name of the complainant, his complete address, date and time of complaint, nature of complaint etc. shall be recorded in a register to be maintained for permanent record.
 - (ii) Capturing for general purpose will be on such dates and time to be specified by the Committee.
 - 2. The dog capturing squad shall consist of :
 - (i) The driver of the dog van
 - (ii) Two or more trained employees of the local authority who are trained in capturing of dogs.
 - (iii) One representative of any of the animal welfare organization

Each member of the dog squad shall carry, a valid identity card issued by the local authority. The dog capturing squad will be accompanied by a representative of an Animal Welfare Organisation nominated for the purpose.

- (3) On receipt of specific complaint or for capturing dogs in normal course the dog squad will visit the concerned area, capture the dogs identified by the complaint in case of complaint oriented capturing and other dogs in case of general capturing. All the dogs caught will be tagged for identification purposes and to ensure that the dogs are released in the same area after sterilization and vaccination. Only stipulated number of dogs, according to the Animal Birth Control Program target, shall be caught by the van. A record of dogs captured shall be maintained in a register, mentioning therein the name of the area/locality, date and time of capture, names of persons in the dogs squad on that particular day and details about dogs captured such as number of male dogs, number of female dogs, number of puppies etc.
- (4) The dogs shall be captured by using humane methods such as lassoing or soft-loop animal catchers such as those prescribed under the provisions of Prevention of Cruelty (Capture of Animals) Rules, 1979.
- While the dogs are being captured in any locality the representative of the local authority or of the animal welfare organization accompanying the dog squad will make announcements on a public address system that dogs are being captured from the area for the purpose of sterilization and immunization and will be released in the same area after sterilization and immunization. The announcement may also briefly educate the residents of the area about the dog control programme and solicit the support of all the residents reassuring them that the local authority is taking adequate steps for their safety.
- (6) The captured dogs shall be brought to the dog kennels/dog pounds managed by the Animal Welfare Organisations (AWOs). On reaching the dog pounds all the dogs shall be examined by the veterinarians and healthy and sick dogs should be segregated. Sick dogs should be given proper treatment in the hospitals run by Society for Prevention of Cruelty to Animals (SPCA)/other institutions and only after they are treated they should be sterilized and vaccinated. The dogs will be sterilized/vaccinated under the supervision of the veterinarians of the hospital run by the Society for Prevention of Cruelty to Animals (SPCA), Animal Welfare Organization or other dog shelters. After necessary period of follow up, the dogs shall be released at the same place or locality from where they were captured and the date, time and place of their release shall be recorded. The representative of Animal Welfare Organisations (AWOs) shall accompany the dog squad at the time of release also.
- (7) At a time only one lot of dogs shall be brought for sterilization, immunization at one dog kennel or dog pound and these dogs shall be from one locality. Two lots from different areas or localities shall not be mixed at the same dog pound or dog kennel.

- (8) The dog kennel must have sufficient space for proper housing and free movement of dogs. The place should have proper ventilation and natural lighting and must be kept clean. Adults and puppies must be housed separately and amongst the adults the males and females also should be housed separately. Adequate arrangement for drinking water and food shall be made for dogs while in captivity.
- (9) Female dogs found to be pregnant shall not undergo abortion (irrespective of stage of pregnancy) and sterilization and should be released till they have litter.
- 8. Identification and Recording: Sterilized dogs shall be vaccinated before release and the ears of these dogs should either be clipped and/or tatooed for being identified as sterilized or immunised dogs. In addition, the dogs may be given token or nylon collars for identification and detailed records of such dogs shall be maintained. Branding of dogs would not be permitted.
- 9. Euthanasia of Street Dogs: Incurably ill and mortally wounded dogs as diagnosed by a qualified veterinarian appointed by the committee shall be euthanised during specified hours in a humane manner by administering sodium pentathol for adult dogs and Thiopental Introperitoneal for puppies by a qualified veterinarian or euthanised in any other humane manner approved by Animal Welfare Board of India. No dog shall be euthanised in the presence of another dog. The person responsible for euthanising shall make sure that the animal is dead, before disposal.
- 10. Furious or dumb rabid dogs: (1) On the receipt of complaints from the public to the Dog Control Cell of the Local Authority or on its own, the dog squad of the Local Authority would catch such dogs, suspected to be rabid.
 - (2) The caught dog would then be taken to the pound where it would be isolated in an isolation ward.
 - (3) The suspected rabid dog would then be subjected to inspection by a panel of two persons i.e.
 - (i) a veterinary surgeon appointed by the Local Authority and
 - (ii) a representative from an Animal Welfare Organisation
 - (4) If the dog is found to have a high probability of having rabies it would be isolated till it dies a natural death. Death normally occurs within 10 days of contracting rabies. Premature killings of suspected rabid dogs therefore prevents the true incidence of rabies from being known and appropriate action being taken.
 - (5) If the dog is found not to have rabies but some other disease it would be handed over to the AWOs who will take the necessary action to cure and rehabilitate the dog.
- 11. Disposal of Carcasses: The carcasses of such euthanised dogs shall be disposed of in an incinerator to be provided by the local authority.
- 12. Guidelines for breeders
 - A breeder must be registered with Animal Welfare Board of India.
 - Breeder must maintain full record of the number of pups born/died from individual bitches.
 - (iii) Breeder must maintain record of the person buying the pups. He should ensure that the buyer has the required knowledge for the upkeep of the pups.
- 13. Application of rules where local bye-laws etc., exist If there is in force in any area to which these rules extend, any Act , rule, regulation or bye-law made under any law for the time being in force by the State or the Local Authority in respect of any of the matters for which provision is made in these rules, such rule, regulation or bye-law shall to the extent to which
 - (a) it contains provisions less irksome to the animal than those contained in these rules, shall prevail;
 - (b) it contains provisions more irksome to the animal than those contained in these rules, be of no effect.

(No.F 1-4/2001-AWD) K.N.SHRIVASTAVA, *Jt. Secry.*

SOURCE: THE GAZETTE OF INDIA; EXTRAORDINARY; PART II - SECTION 3 - SUB-SECTION (ii); PUBLISHED BY AUTHORITY; No. 929 NEW DELHI, MONDAY, DECEMBER 24, 2001 PAUSA 3, 1923; MINISTRY OF CULTURE; NOTIFICATION; New Delhi, the 24th December, 2001)

SCHEDULES FOR ASSESSING ABC PERFORMANCE BY AWOS

-----ESTD.YEAR-----

AWO:----

		* ANNU	AL STAT	FISTICS	ŵ					
DETAILS	YEAR(S)									
	2001	2002	2003	2004	2005	2006	2007	Tota		
1. AREAS										
2. STRAY DOG POPN. ENUMERATED										
3. NO.OF DOGS CAUGHT										
MALE										
FEMALE										
TOTAL										
4. ABC DONE										
MALE										
VACC.										
STER.										
FEMALE			THE PERSON NAMED IN COLUMN							
VACC.										
STER.										
TOTAL										
VACC.								1		
STER.										
5. VACCINES USED										
6. EUTHANIZED										
7. RE-VACCINATED										
8. METHOD(S) OF IDENTIFICATION	- 10									
9. ANY OTHER INFO.										
NOTE: Use additi	onal she	ets if need	ded.		L					
Date:				Sign	nature:					
Seal				Nar	ne :					

ANNEXURE - IV

DECADAL INCIDENCE OF RABIES IN DOGS- REPORT FROM DEPT. OF VETERINARY PATHOLOGY

Year	No. of dog	g brain sam (N=887	ived	No of brain samples tested positive (N=559)				Laboratory method used (N=559)			
	Dept. of Vet. Medicine	Private	CUPA	SPCA	Dept. of Vet. Medicine	Private	CUPA	SPCA	Impression smear Examination	FAT	вт
1997	43	55	01	03	27	34	-	01	58	-	04
1998	44	39	01	05	31	24	01	02	56	-	02
1999	47	33	14	03	19	17	09	-	40	-	05
2000	58	20	14	08	36	09	10	09	47	15	02
2001	55	18	12	09	38	09	08	04	40	19	_
2002	33	16	33	03	22	09	24	03	46	12	_
2003	38	10	74	03	22	06	60	03	72	19	_
2004	46	07	54	01	31	06	37	-	55	19	_
2005	39	05	02	01	22	01	02	-	20	05	-
2006	33	03	02	02	19	02	01	01	16	07	-
Total	436	206	207	38	267	117	152	23	450	96	13

Source: Department of Veterinary Pathology, Veterinary College, KVAFSU, Hebbal, Bangalore.

ANNEXURE- V

FACILITY SURVEY SCHEDULES

AWO				ate	
Auditors:	1)	2)		3)	
AWO Repi	resentatives:1)_ Designation)		2)		
		1	AUDIT		
1.AWO:					
1.1	Societies Regr	n. certificate : Yes	/No Validity:		
1.2	AWBI recogn	ition certificate: \	Yes/No Validity:		-
1.3	Others (if any)	:			
2. Capture	e/Sterilise/Imn	nn/release:			
2.1	Precapture su	rveys:			
2.2	Complaint reg	gister:			
2.3	AWO Rep wi	th ID card:			
2.4	Dog ID tag:				
2.5	Dog capture i	egister:			
	Area		Squad names	Dogs Capture M/F/P	Remarks
2.6	Methods: Las				
2.7	Type of vehice	ele used:			
2.8	PAS over vel	nicle top:			
2.9	Vaccination:				
2.1	0 Sterilization				
2.1	1 Others:				
3. Dog ke	ennel/pound:				
3.1	Sick dog:				
3.3	Female dog:		Puppi	es	
3.4	Space/Ventil	ation/light:			
3.5	Food & wate	r :			
3.6	Others:				

4. <u>ID</u>	& 1	release:				
	4.1	Dog release regis	ster:			
		Area	Dt & Time		M/F/P	Remarks
	4.2	ID- tokens/ nylon	n collar/ Ear cl			
	4.3	Others:				
5. <u>Eu</u>						
	5.1	Drug :				
		Disposal :				
	5.3	Rabid dog (10da	ys isolation) co	ell:		
	5.4	Carcass disposal	:			
	5.5	Others:				
6. <u>Fo</u>	llow	up:				
	6.1	. Frequency:				
	6.2	. Method of ID:_				
	6.3	. Vaccination : _				
7. A]	BC st	tatistics: Month		Year	r	
	7.1	. No of dogs caug	ght			
	7.2	. No of dogs steri	lized: Male_	Femal	eT	otal
	7.3	. No of dogs vaco	cinated: Total _			
		a) ARV with A	ABC	b) ARV	without ABC	
	7.4	. No of dogs Euth	anized			
	7.5	Others (if any):_				
8. <u>G</u>	rieva	nces:				
	8.1			8.4		
	8.2	2		8.5		
	8.3			8.6		
Signa	ature	of: 1. Auditor		2. Audite	or	
		3. Auditor				

Staff Position:			
Veterinarian:	Name 1)	Qualification	
	2)		
	3)		
Supporting stat	ff:		
Any training aff	ter joining:		
	riod prior to surgery:		
Time taken for			
Inpatient wards	: Number		
Type of anaesth	esia:		
How many open	rated in a month		
Complications			
No. died during	surgery		
Revaccination for	ollowed: Yes/No		
Out of total ope	rations: How many pet dogs:		
	How many street dog	ss:	
No. brought from	m BMP:		
No. brought by o	owners/volunteers:		
Deworming:			
How many doses	of vaccines used prior to re	elease:	
AWO's co-opera	tion for catching dogs for bl	lood collection in order to evaluat	e the titre:

ANNEXURE - VI

SCHEDULES OF COMMUNITY SURVEY

- 1. Introduce yourself and explain the objectives of the survey.
- 2. Interview a responsive adult (> 18 years).
- 3. Read out the questions and clarify, if required.
- 4. Record the response after each question carefully.

KEY QUESTIONS (1-8)

About stray /street dogs

1. Are there stray/street o ನಿಮ್ಮ ಮನೆಯ ರಸ್ತೆ	logs in your neighborho , ಮತ್ತು ಸುತ್ತ ಮುತ್ತ	od? ್ತ ಬೀದಿ ನಾಯಿಗಳಿವೆಯೇ?	
Yes ()	No ()	Don't know ()	×
2. Are they aggressive ar ಅವುಗಳಿಗೆ ಆಕ್ರಮಣ	nd biting? ಮಾಡಿ ಕಚ್ಚುವ ಸೃಭಾ	ವವಿದೆಯೇ?	
Yes ()	No ()	Don't know ()	
neighbourhood? ಕಳೆದ ಮೂರು ವಷ್ಟ		reet/stray dogs population in your ರು ರಸ್ತೆ ಮತ್ತು ಸುತ್ತಮುತ್ತ ಬೀ ತೆಯೇ?	?ದಿನಾಯಿಗಳ
Increasing () Decreasing ()	No change () Don't know ()
4. Do you approve/accep ನಿಮ್ಮ ಮನೆಯ ರಸ್ತೆ ಒಪ್ಪಿಗೆಯೇ/ಸಮ್ಮತಾ	ಮತ್ತು ಸುತ್ತಮುತ್ತ	ur neighbourhood? ಬೀಡಿ ನಾಯಿಗಳಿರುವುದು ನಿಮಗೆ	
Yes ()	No ()	Don't know/ Can't say ()	

About ABC Programme

5. Are you aware of ABC programme for stray/street dogs in Bangalore? ಬೀದಿ ನಾಯಿಗಳ ಸಂತಾನಹರಣ ಚಿಕಿತ್ಸಾ ಕಾರ್ಯಕ್ರಮದ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?
Yes () No ()
If yes, Source of information
ಹೌದಾದರೆ, ಮೂಲ :
6. Has it helped to reduce the stray/street dogs population in your area?
ಈ ಕಾರ್ಯಕ್ರಮದಿಂದಾಗಿ ನಿಮ್ಮ ರಸ್ತೆ ಮತ್ತು ಸುತ್ತಮುತ್ತ ಬೀದಿನಾಯಿಗಳ ಸಂಖ್ಯೆಯಲ್ಲೇನಾದರೂ ಇಳಿಮುಖವಾಗಿದೆಯೇ?
Yes () No () Don't know ()
7. Should ABC programme be continued? ಬೀದಿ ನಾಯಿಗಳ ಸಂತಾನಹರಣ ಚಿಕಿತ್ಸಾ ಕಾರ್ಯಕ್ರಮ ಮುಂದುವರಿಯಬೇಕೆ?
Yes () No () Don't know ()
8. Do you suggest any changes to ABC programme ಬೀದಿ ನಾಯಿಗಳ ಸಂತಾನಹರಣ ಚಿಕಿತ್ಸಾ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಬದಲಾವಣೆ ಮಾಡುವುದು ಬಗ್ಗೆ ನಿಮ್ಮ ಸಲಹೆ ಏನಾದರೂ ಇದೆಯೇ?
1. No ()

BMP & KIMS: STUDY OF DOG POPULATION & RABIES – 2007 RAPID SURVEY QUESTIONNAIRE

Details of Sl.		Nam				+ Size			ddress		Phone No.
No.							+				
1							-				
2											
3					,		-				
4					-		-				
5.					-		+				
7					-		1.				
8					-						
9					-						6
10											
				Total			+	House	ehold s	urvey	
Informant	S	1	2	3		4	5	6	7	8	
1											
2											
3									3		
4											
5											
6	1										
7											
8											
0											
9						-			-	C	
				I						Summary:	
9	Y			D	-						
9 10 Total	Y	-			1	1		1	1		
9				N		-		-	-	+	

Encl: Standard questionnaire

ANNEXURES - VII

ABC PERFORMANCE REPORTS FROM 4 AWOs AND DEPARTMENT OF AH AND VS

1. ABC Performance of Karuna from 2000-2006

VEAD	No. of	Dogs cau	ght	No. o	f ABC's d	one	No. of do	ogs vaccin	ated	No of Dogs	No of Dogs
YEAR	Male	Female	Total+	Male	Female	Total	Male	Female	Total	Re-vaccinated	Euthanized
2000*	1130	984	2311	918	1048	1966	918	1048	1966	2506	165
2001	2869	3098	6216	1992	2041	4033	1992	2041	4033	2937	805
2002	2420	2881	6888	1904	2029	3933	1904	2029	3933	1989	921
2003	2920	3211	6131	1994	1860	3854	1994	1860	3854	3750	1199
2004	4824	4864	9688	3297	2866	6163	3297	2866	6163	6685	2371
2005	5055	4978	10033	3641	3274	6915	3641	3274	6915	7371	2476
2006**	3798	3448	7246	2936	2413	5349	2936	2413	5349	5186	1789
Total	23,016	23,464	48,513	16,682	15,531	32,213	16,682	15,531	32,213	30,424	9,726

Source: ABC performance report by Karuna (formerly SPCA) Bangalore.

Note: + 2033 pups included. * ABC activities were started from October 2000 ** Data presented is from April 2006 to January 2007.

2. ABC Performance of Compassion Unlimited Plus Action (CUPA) from 2000-2007

YEAR		of Dogs ca			of ABC's d			of dogs vac		No of Dogs	No of Dogs
	Male	Female	e Total	Male	Female	Total	Male	Female	Total	Re-vaccinated	Euthanized
2000*	-	-	1043	489	585	1074	-	-	1134	-	120
2001	-	ı	8464	2887	3641	6528	ı	1	7798	420	2537
2002	-	ı	9561	3149	3873	7022	1	1	8041	631	5597
2003	-	1	12326	4798	5105	9903	ı	ı	10320	8574	4391
2004	7072	7426	14498	5345	5600	10945	ı	ı	10686	11452	5344
2005	7826	7246	15072	5148	5623	10771	ı	-	10356	11117	5584
2006	7228	7127	14355	5311	5958	11269	ı	ı	10702	10932	5967
2007**	640	675	1315	368	387	755	ı	ı	695	1151	762
Total	-	ı	76,634	27,495	30,772	58,267	ı	-	59,732	44,277	30,302

Source: ABC performance report by CUPA, Bangalore.

Note: * ABC activities were started from October 2000 ** January and February (2 months only).

3. ABC Performance of Animal Rights Fund (ARF) from 2001-2007

YEAR	No. c	of Dogs ca Female		No.	of ABC's d		No. of	dogs vacc	inated Total	No of dogs re- vaccinated	No of Dogs Euthanized
2001*	3274	4385	7659	2736	3824	6560	2736	3824	6560	1987	1101
2002	3233	4137	7370	2337	3341	5678	2337	3341	5678	2220	1507
2003	4239	3988	8227	3524	3428	6952	3524	3428	6952	1672	1264
2004	5386	3916	9302	4766	3370	8136	4766	3370	8136	7555	976
2005	6421	5334	11755	5825	4819	10644	5825	4819	10644	10902	1000
2006	4971	4549	9520	4376	3968	8344	4376	3968	8344	8850	1073
2007 **	874	739	1613	530	483	1013	530	483	1013	677	523
Total	28,398	27,048	55,446	24,094	23,233	47,327	24,094	23,233	47,327	33,863	7,444

Source: ABC performance report by Animal Rights Fund (ARF), Bangalore.

Note: * ABC activities were started from January 2001 ** January and February (2 months only).

4. ABC Performance of Krupa Loving Animals from 2003-2007

YEAR	No. of Dogs caught Male Female Total			No. of ABC's done Male Female Total			No. of dogs vaccinated Male Female Total			No of Dogs	No of Dogs
			- Total	Maic		10001	William		10001	- To vaccinated	<u> </u>
2003*	1154	917	2071	977	779	1756	977	779	1756	120	292
2004	2014	1567	3581	1687	1344	3031	1687	1344	3031	2885	458
2005	2193	1898	4091	1852	1638	3490	1852	1638	3490	3628	579
2006	2643	2425	5068	2257	2086	4343	2257	2086	4343	5342	679
2007**	486	482	968	394	407	801	394	407	801	314	153
Total	8,490	7,289	15,779	7,167	6,254	13,421	7,167	6,254	13,421	12,289	2,161

Source: ABC performance report by Krupa Loving animals, Bangalore

Note: * ABC activities were started from April 2003 ** January and February (2 months only).

5. ABC Performance of Veterinary Hospital, Cantonment (Dept. of AH and VS) from 2003-2007

YEAR	No. o	of Dogs ca		No. of ABC's done Male Female Total		No. of dogs vaccinated Male Female Total		No of dogs Re-vaccinated	No of Dogs Euthanized		
2003*	231	200	431	190	161	351	174	147	321	Not done	65
2004	1487	1493	2980	1327	1360	2687	1343	1374	2717	Not done	308
2005	1734	1838	3572	1486	1586	3072	1460	1562	3022	Not done	480
2006	1335	1366	2701	1229	1259	2488	1154	1176	2330	Not done	233
2007**	267	238	505	180	150	330	173	147	320	Not done	175
Total	5,054	5,135	10,189	4,412	4,516	8,928	4,304	4,406	8,710		1,261

Source: ABC performance report by Dept. of AH and VS, Bangalore.

Note: * ABC activities were started from April 2003 ** January and February (2 months only).

ANNEXURES – VIII

YEAR AND AWOS WISE OVERALL PERFORMANCE OF ABC PROGRAMME

1. Year wise overall performance of ABC programme

Year	No. of Dogs caught	No. of ABC's of			No. of dogs Euthanized	No. of dogs Vaccinated	No. of dogs Re-vaccinated
2000	3354	1407	1633	3040	285	3100	2506
2001	22339	7615	9506	17121	4443	18391	5344
2002	23819	7390	9243	16633	8025	17652	4840
2003	29186	11483	11333	22816	7211	23203	14116
2004	40049	16422	14540	30962	9457	30733	28577
2005	44523	17952	16940	34892	10119	34427	33018
2006	38890	16109	15684	31793	9741	31068	30310
2007	4401	1472	1427	2899	1613	2829	2142
Total	2,06,561	79,850	80,306	1,60,156	50,894	1,61,403	1,20,853

Source: ABC performance report submitted by 4 AWOs and Veterinary Hospital, Cantonment (Dept. of AH and VS).

2. AWOs wise overall performance of ABC programme

AWOs	Year	No. Male	of Dogs ca	ught Total	No Male	No. of ABC done Male Female Total		No of Dogs Euthanized	No of Dogs Vaccinated	No of Dogs Re- vaccinated
KARUNA	2000-06	23016	23464	48513+	16682	15531	32213	9726	32213	30424
CUPA	2000-07	*	*	76634	27495	30772	58267	30302	59732	44277
ARF	2001–07	28398	27048	55446	24094	23233	47327	7444	47327	33863
KRUPA	2003-07	8490	7289	15779	7167	6254	13421	2161	13421	12289
Dept. of AH and VS	2003-07	5054	5135	10189	4412	4516	8928	1261	8710	-Not done-
тота	AL	-	-	2,06,561	79,850	80,306	1,60,156	50,894	1,61,403	1,20,853

Source: ABC performance report submitted by 4 AWOs and Veterinary Hospital, Cantonment (Dept. of AH and VS)

Note: + It includes 2033 pups in the total * CUPA has not provided separate details of Male and Female from 2000-2003.

ANNEXURE – IX

PRESS COLLAGE ABOUT DOG MENACE AND ABC PROGRAMME



ANNEXURE - X

PHOTOGRAPHS



Photo 1: Discussions with trustees at CUPA. Dr M K Sudarshan (First from left) and Dr Prakash Reddy (third from left, sitting) and others are seen.



Photo 2: ABC audit in progress at ARF and Krupa. Dr M K Sudarshan (seen from behind) and Dr D H Ashwath Narayana (second from left) and others are seen.



Photo 3: Dr S Yathiraj (first from left), Professor of Veterinary Medicine along with Karuna staff at their OT.



Photo 4: Dr S Yathiraj (first from left), Professor of Veterinary Medicine and Dr D H Ashwath Narayana (second from left), along with staff of Veterinary Hospital, Cantonment at their OT.