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October, 1962

MILITARY DOG BREEDING CENTER
SAIGON, VIETNAM

SUBJECT: Report as Requested by Classified Message AFCSG-3 68602

THRU: Pacific Air Force PFCSG-V
(Colonel John R. Nettles, Jr.)

TO: Hq USAF (AFCSG-3)

1. This report is filed to record my TASK #19 activities while on TDY with OSD/ARPA, Research and Development Field Unit, APO 143, in accordance with classified message. The basic report is concluded with a Summary and Recommendations. There are three (3) Annexes. Annex No. 1 is the procedure to be followed for establishing a breeding project. Annex No. 2 is information on some canine disease problems in Viet Nam. Annex No. 3 includes, the Management, Medical Care Training and Utilization of War Dogs in Viet Nam.

2. The following information is considered current as of 1 August 1962.

ACTIVITIES FOR TASK #19

I. Breeding Project Concept.

a. The initial concept of the breeding project was to research the feasibility of breeding and training special purpose dogs that would be better adapted to local conditions in Viet Nam and cheaper than dogs imported from the CONUS, Europe and Japan.

b. Included in this group of special dogs would be Track dogs, Scout/Sentry dogs, mine, boobie trap, spike board and hidden weapon detection dogs, killer dogs and some type dog especially adapted for use in the Delta Region. German Shepherds, Doberman Pinschers, and Bloodhounds were chosen for use in Viet Nam. Some thought has also been given to crossing German Shepherds with native Chow Chows and Phu Quacs as well as importing retrievers for use in the Delta Area.

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c. A discussion of each facet of the initial concept for the breeding program brings out some pertinent ideas and criticisms. First we have imported specialized breeds of dogs for special purposes.

(1) The disposition and adaptability of the Doberman makes him especially effective as an attack or killer dog. Whereas these dogs may be used for scouting and patrolling, this type work is not always compatible with the Doberman's highly excitable disposition.

(2) The Bloodhound's only major asset is his keen sense of smell and his inherent tracking ability. However, the odor left by a sweaty and possibly frightened man having recently passed through the jungle with all its humidity and undergrowth can be easily followed by almost any dog, perhaps even quicker and quieter than by a Bloodhound. It may be possible to train Bloodhounds for boobie trap and hidden weapon detection, etc. Most of these objects are metal or have metal components. Metal retains odors well and appears to give off a relatively strong odor of its own. Here again a less specialized breed of dog may be able to do equally well. One thing may be said with certainty; when we depart from a mission that requires an exceptional sense of smell we have departed from any practical use for the Bloodhound.

(3) The German Shepherd is well rounded. He can be trained as a scout, sentry and attack dog all in one. For special purpose use, the Shepherd can trail (i.e., follow a man without necessarily sticking his nose in each footprint), can be trained for mine or hidden weapon detection, or almost any special purpose.

(4) With all three of the dog breeds just discussed, there are the disadvantages of cost, size and feeding. These disadvantages will be felt far more heavily here in Viet Nam than in other areas of the world where we are employing war dogs. With German Shepherds there are the additional problems of low resistance to canine distemper infections and congenital hip dysplasia. These two problems are especially important for their implications in a mass breeding program. The only advantage we can hope to gain by crossing Shepherds with Chow Chows and Phu Quacs is a smaller dog that may be more resistant to local conditions. Certainly the cross will do nothing for the wide range of talents already

inherent in the Shepherd and would most likely retard them, making a dog unfit for use in the dog program as it is currently being conducted. When we think of importing any of the retriever type dogs for use in the Delta area, we must first have a mission where their ability to retrieve is utilized.

(5) At the present time there are only Stateside dogs in the breeding program. We must consider the following thoughts when we assume the offspring from these dogs are better adapted to the local climate, diet, and diseases than imported Stateside dogs. Both groups of dogs are genetically identical. There has not been a long series of generations where the "survival of the fittest" principle applies. We cannot hope to alter this unless, of course, a local breed of dog is introduced. We then reach the conclusion that the dogs we are raising now are essentially no better adapted to this area than imported Stateside dogs that have had thirty to sixty days to acclimatize. In any case, both groups of dogs will have a new set of conditions to adjust to after they leave the breeding and training areas.

(6) With the present methods used for importing dogs, it would be cheaper to raise dogs here, if we had adequate facilities, than it would be to import them. However, it would still cost over $1,800 for each pup by the time he reaches twelve months of age and is ready to be trained for field duty. (See Paragraph VI.)

II. Progress. The following information is a brief Progress Report for the breeding project as of 1 August 1962.

a. Puppies.

(1) Since 7 February 1962, 19 puppies have been whelped by three bitches. Eleven of these pups were German Shepherds and the other eight were Doberman Pinschers. Twelve of the original nineteen have died. Of the seven still alive, the four Dobermans are in good health. Two of the three Shepherd pups still living show severe disease damage. They both have soft, poorly formed teeth with nearly all of the enamel missing, one has nutritional bone malformation and abscessation of the bronchial lymph nodes, the other appears clinically to have congenital hip dysplasia. Both should be considered non-effectives for there is little doubt that they can ever be utilized.

(2) The factors responsible for the deaths and probably non-effectives were; lack of distemper vaccine, overcrowding, poorly designed kennels, inadequate support facilities, the necessity of relying on untrained personnel and possibly some congenital disease. At the present time, the vaccine problem is no longer present, and the overcrowding has been relieved. The other conditions still exist.

b. Bitches.

(1) Although two of the seven bitches assigned had complications at whelping time and four of them have not proven they can reproduce, all appear in excellent health at this time. All bitches were supposed to be pregnant at the time of shipment but only two were pregnant upon arrival in Viet Nam and both gave birth to normal puppies. The third bitch to whelp was bred here. Two more have come in season and were bred in early July. The remaining two have shown no signs of estrus as yet. (None of these dogs have received any training since their arrival here.)

c. Males.

(1) The three male dogs (two Dobermans and one Bloodhound) are in good health. The Bloodhound is the only one used for stud so far. As is the case with the bitches, these dogs have received no training. This has been due to overcrowding and loss of training equipment. The overcrowding as previously mentioned, has been relieved. Equipment is being re-requisitioned.

III. The following discussion is intended to guide our future thinking for Project #19, along practical lines that will be compatible with the conditions as they exist in Viet Nam.

a. The primary aim of a breeding program should be to supply a type of dog that has proven useful under existing local conditions. To date, this has not been done. At the present time, we cannot prove that war dogs are worthwhile or well utilized in South Viet Nam. On the contrary, what sketchy evidence is available, indicated that the dogs in the field are not being cared for, supported or utilized. There are about 250 adult Shepherds in the country, less than one-hundred of these are actually in the field as of 1 August 1962. In the last six months, not one piece of information has been received in R&D Section to indicate that a single Viet Cong has been detected or apprehended as a result of the dog program.

b. The support structure of logistics, medicine, training and supervision necessary to care for and evaluate those 250 dogs in the country has not been established as yet. The only hope of salvaging even a portion of this program is to give the support structure of logistics and medicine a chance to catch up and to give the training function a chance to evaluate field results in an effort to discover some way of getting the Vietnamese soldier to utilize and care for the type dog we are giving him.

(1) To do this, shipments of dogs into Viet Nam must be stopped immediately.

(2) To follow this same line of thought, the breeding project, in its present form, must be abandoned.

(3) G. I. Dog Trainers must get into the field and supervise the utilization of the dogs on actual operations.

c. Our Task #19 efforts should be directed toward utilizing various types of dogs, preferably those available locally in an all out effort to find a dog and handler team combination that will be utilized by the Vietnamese soldiers in the field. Depending upon what types of dogs prove satisfactory and how many are available locally, it may be possible to provide replacements without either shipping dogs into Viet Nam or establishing a formal breeding program.

IV. Local Hunting Dogs. Actual field trips to determine what dogs are available locally and what the potential of these dogs may be have not been made as yet. There are, however, certain ideas that come to light, when discussing this program, that should be investigated more completely.

a. Native dogs in Viet Nam are used for hunting buffalo, peacock, tiger, and monkey, to list a few. It appears feasible that these dogs could also be used to hunt people.

(1) A description of how a team of four buffalo dogs worked is quite interesting. As the hunting party moves forward, one dog goes out to the front, circles to the left side and comes back up behind the hunting party. The next dog does the same thing only circles to the right. These dogs work in relays so spaced, one behind the other, that as soon as one dog returns to the hunting party he starts a new

circuit. If we change the terminology in this description, we see a patrol moving through the jungle accompanied by a native dog handler and the patrol dogs worked off leash. The patrol has dogs scouting to the front, both sides and the rear at all times. The patrol should be able to move quite rapidly without being ambushed.

(2) Another type dog that has been described in Viet Nam is a small native type dog that goes up a jungle trail ahead of a patrol. If he contacts strange humans by scent, sight or sound, he alerts by simply returning to the patrol. This dog is said to have been used on a limited scale by the Viet Cong.

b. There are certain distinct advantages to this type program and these advantages will be listed.

(1) This is a product available locally.

(2) The dog owner can be contracted to raise, train, and work the dogs and will in turn be paid for his efforts.

(3) Local dogs would be cheap. Some highlanders are said to prefer receiving salt to receiving money.

(4) These type dogs would be expendable and probably readily available in large numbers.

(5) No special medical care or hospitals involved.

(6) No special dietary problems.

(7) Dogs are well adapted to the area.

(8) Offers employed with adequate pay for country villagers.

c. There are many things that come to mind concerning a program of this nature and some of these items should be investigated.

(1) If breeding, raising, training and utilizing these dogs can be contracted to certain native villagers, what are the possibilities of sending a mobile veterinary team consisting of a veterinarian and a dog trainer into these villages once every two weeks for the purpose of immunizing and worming puppies, advising and assisting in any way possible to increase production.

(2) What steps are necessary to insure that payments are made directly from the contracting officer to the dog owner, for raising, training and working these dogs with patrols.

(3) Would Vietnamese soldiers be willing to employ a Montagnard for instance as a dog handler and scout on patrols. The Vietnamese have a certain amount of contempt for Montagnards and appear also to look upon close association with dogs as a degrading profession. Reaction thus far from the Vietnamese has been favorable.

(4) How vulnerable would these dog raising and training activities, in the country villages, be to Viet Cong sabotage.

(5) How would the loss of one or more dogs from a team of four dogs affect the performance of those remaining. If the handler were wounded or killed, would the dogs work for anyone else.

V. There are certain governing factors that must be understood and adhered to before any attempt is made to breed and raise dogs in Viet Nam. The following background information is presented in this light.

a. The United States military does not operate a dog breeding project anywhere in the world. This does not mean that dogs cannot be raised in Viet Nam, but is an indication of the many complexities that may be encountered. The idea of raising our own war dogs is not new. It has received much thought and discussion from time to time in both the United States and Japan but has always been rejected.

b. Vietnam is a different problem for the following two reasons. Both of these reasons are used to justify a breeding program here.

(1) The Stateside breeds of dogs which we have chosen to use in Viet Nam are not available in adequate numbers locally.

(2) There is great expense in purchasing and importing these dogs to Viet Nam.

c. These are valid reasons but it is possible that the type of dogs we have chosen to use may not be the best dogs for use here. We must also remember that Viet Nam is an under-developed country with few qualified dog trainers, retarded animal husbandry concepts, poor support capabilities, no adequate existing facilities and no qualified veterinarians.

d. All these things will have to be corrected in varying degrees before we could hope to establish a well founded breeding program. Education and training are the answers, of course, but take the case of the veterinarian, for instance.

(1) The individuals receive only three years training.

(2) The medical technology is twenty years behind. A minimum of two years internship in a Stateside veterinary college would be required to give them even basic knowledge of veterinary medicine.

(3) The proper approach would be to send promising high school graduates to the States for the minimal six years course required of Stateside veterinarians.

e. Facilities and sanitation are of critical importance to a breeding program. Puppies are babies and are much more susceptible to diseases and illnesses than mature dogs. In a tropical area such as this disease control and parasitism are compounded by temperature and humidity. There is no doubt that any attempt at breeding and raising dogs in an area such as Viet Nam without first having adequate facilities will be plagued by loss of puppies through deaths and disease damage. Medical expenses will be excessive. Anything less than adequate facilities, that is, an area not free of overcrowding without roomy and sanitary kennels, and without adequate medical facilities, will jeopardize the success of this endeavor by placing it in the position of constantly operating under the threat of calculated risk.

f. The entire facility must be designed to handle dogs from birth to maturity. "Sick" kennels and whelping kennels would be needed, as well as kenneling to hold bitches and their puppies until weaning. The puppies require large kennels and runs plus adequate exercise and basic training compounds.

(1) These requirements are essential to keep from raising kennel shy dogs and to raise properly developed dogs.

(2) Puppies should be kept in the breeding center until they are one year old, and should receive basic obedience training while they are at the breeding center.

g. Selection of breeding stock is not easy.

(1) Out of the seven bitches we have now, one had a uterine infection (metritis) and may never be successfully whelped.

(2) One had a mammary gland infection (mastitis) and lost four puppies shortly after whelping and will probably have some problems each time she whelps.

(3) A third bitch has whelped puppies that appear to have hip dysplasia. If this is the case this bitch may need to be eliminated from the program.

(4) A fourth bitch had an abnormal delivery and two of her puppies were born dead.

(5) The three remaining bitches appear normal in all respects but have not whelped yet. Two of them have not come in season. This information is current as of 1 August 1962, and is given to emphasize a few of the clinical problems encountered in selecting and maintaining breeding bitches.

(6) Our selection should also be based on temperament, type, trainability, and the ability to reproduce offsprings that are readily trainable.

h. The time element becomes a very important factor. After adequate facilities have been constructed, a minimum of three years would be required to establish a well founded and adequately documented breeding program. This program must be approached in terms of long-range planning.

(1) We have discussed the needs of extensive and detailed training for Vietnamese personnel.

(2) There is also a need for complete evaluation of breed dogs and special purpose dogs under field conditions.

(3) Cost computations for a well-founded breeding program as compared to costs for importing dogs must be established.

(4) Still, thinking in long-range terms, we must depreciate our initial construction costs out over a ten year period (more or less) so that each dog raised over this period of time is charged with an equal portion of initial costs.

i. The last and one of the most important points to be made here is, that if R&D wishes to continue a breeding program, the money that is spent to provide adequate facilities for this program must be used to build a facility that can be easily converted into a full scale breeding program by the simple expedient of adding kennels and personnel as needed.

VI. Outside of field evaluation, the cost involved in our present concept of a war dog program for Viet Nam is probably the most important thing to consider at this time. The following information is a cost estimate for importing dogs as opposed to breeding dogs. In each instance, a cost breakdown is given. The figures used are not exact but are thought to be reasonable estimates. The entire discussion on cost is concluded with a listing of seven different factors that could alter, and, in some instances, drastically reduce these costs.

a. The price for importing a dog from Germany is estimated at $2,600 each. This figure is derived from the following data based on a shipment of twenty-five dogs.

(1)	Cost of flying a C-124 from Germany to the States	$15,000.00
(2)	Cost of flying a C-124 from the States to Saigon	37,000.00
(3)	Purchase price of dogs to include man hours, transportation, etc.	2,500.00
(4)	Initial medication after purchase	250.00
(5)	Escorting dogs to Saigon. An A1C in the Air Force working in a primary duty zone costs the Government a total of $15,000 annually. This includes all support and fringe benefit costs. From this figure, the three men travelling with the dogs in the grade of staff sergeant for 20 days each is estimated at	3,000.00
	Plus per diem and travel @ $9 per day	540.00

(6)	Ground support to include veterinary support, medicine loading and unloading at each stop, $60 per stop times 6 stops	$ 360.00
(7)	Twenty-one day quarantine in Viet Nam:	
	(a) Food	136.50
	(b) Manpower - one veterinarian and one veterinary technician for 21 days based on annual cost of $20,000 each	2,310.00
	(c) Vietnamese handlers and medical types, figures at $1,000 each per year for 35 men	2,500.00
	(d) One G.I. dog handler primary duty zone type figured at $18,000 annually	1,029.00
(8)	Increased medical expense - double the $10 usually given for annual medication per dog for the first 60 days in Viet Nam	500.00
(9)	Total cost of one shipment of 25 dogs from Germany to Saigon until these dogs enter training and have adapted to local conditions	65,125.00
(10)	Cost per each	2,605.00

b. The price for raising dogs in Viet Nam from birth to one year of age, including maintaining bitches and all support facilities and activities is $1,814 each. This figure is based on the facility and Unit Manning Document submitted in this report, both of which are considered minimal.

(1)	Facility for R&D	
	(a) Clinic Building construction	10,000.00
	(b) Latrine and Warehouse construction	3,500.00
	(c) Kitchen and Food Warehouse construction	3,500.00

(d)	Plumbing and wiring for these three buildings	$ 7,000.00
(e)	10 Sick and Whelping Kennels at $250 each	2,500.00
(f)	34 kennels (will house 10 bitches and 48 pups) at $450 each	15,200.00
(g)	Basic utilities, sewage system, water system, and electrical source	25,000.00
(h)	Kitchen equipment	3,000.00
(i)	Medical equipment	15,000.00
(j)	Total cost of 10 bitch facilities that can be expanded	84,000.00

(2) Operational Facility Expansion Costs.

(a)	101 additional puppy kennels and 30 bitch kennels	60,000.00
(b)	30 additional sick and whelping kennels	5,000.00
(c)	15,000 square feet of billets and classrooms	50,000.00
(d)	Total expansion costs	$115,000.00
(e)	Total facility cost for a 250 pup, 40 bitch operation with facilities to hold pups up to one year of age and to house all personnel in this operation	199,700.00

(3) Additional costs for operating are figured for one year as follows:

(a)	Food at $0.60 per day per dog	64,000.00
(b)	Basic medication	3,000.00
(c)	Additional medication for pups	2,500.00

(d)	9 US personnel at $18,000 each per annum	$162,000.00
(e)	Upkeep, repairs and utilities	10,000.00
(f)	Vietnamese personnel - 200 at $1,000 per year	200,000.00
(g)	Total Operating Cost Per Year	429,500.00

To get the total yearly cost for operating a breeding project we must divide the original construction cost of $199,700 by a ten-year period. This figure of $20,000 is then added to the yearly operating cost of $429,500, giving a total annual cost of $453,500. Divide this total by the 250 dogs raised to one year of age and we get a total cost per dog of $1,814.

c. The comparison as seen here, that is, $2,600 for each dog imported as opposed to $1,800 for each dog raised can be altered by many factors. Some of them are given as follows.

(1) By loading 50 dogs on each C-124 instead of 25, the total importing cost would drop by $1,300 each. Fifty dogs have frequently been loaded on one C-124 for shipment from Japan to other points in the Far East and could probably be done for shipping from Germany to Saigon.

(2) Surface transportation is probably cheaper than air but would have some disadvantages.

(3) Some dogs are either non-effective due to medical reasons or are not trainable after they have been shipped to Viet Nam. For example; ten dogs have died before completing training or are medically unfit, and one is untrainable out of the initial 150 dogs shipped from Germany. This increases the cost of each dog that can eventually be utilized by about $206.

(4) We do not have adequate experience factors at the present time to predict what percentage of in-country raised dogs will be trainable. We have estimated about six trainable pups per year per bitch. This appears high; however, through selection of breeding stock and proper puppy management we may meet this goal after several years operation, although this is extremely doubtful.

(5) The actual number of replacements that will be needed per year is not known but on age alone we will have 12.5 per cent annual replacement. This is based on eight years utilization per

dog. In addition to this, we have deaths by disease, enemy action, accident and a certain number of non-effectives develop each year through mishandling that cannot be effectively retrained. Considering all these factors, an annual replacement figure of twenty-five per cent is used.

(6) Shipping dogs from some place closer than Germany would help reduce costs. Japan has been discussed, however, three years' personal experience purchasing local Shepherds in Japan revealed the following: 500 dogs were purchased over a three-year period. This so drastically reduced the supply of acceptable Shepherds throughout the three main Japanese Islands that replacements for the Far East are now being shipped from the States.

(7) Another major factor to alter all these cost figures would be a re-planning and alteration of the "one-thousand trained dogs in the field" goal we now have. This figure is difficult to conceive if we remember that in 1960 there were only a total of 480 military dogs used in the field by the Army, Air Force, Navy, and Marine Corps, combined in Japan and Okinawa, and in the Air Force in the Philippines and Korea all combined.

VII. Summary.

a. A discussion of the initial concepts of Task #19 listing the various breeds of dogs considered for different special purpose duties and some criticisms of these concepts and dogs are given.

b. A Progress Report through 1 August 1962, is given and lists the status of the program as of that date, giving some of the broader obstacles encountered.

c. A need exists for re-evaluating Task #19 objectives. The type dogs being raised have not thus far proven effective in Viet Nam. The dogs in the field are apparently not being utilized. Training and medical support lag far behind dog imports. Needs exist to stop dog imports immediately, place trainers in the field with the dogs to supervise their utilization on actual operations. To stop breeding dogs effective immediately, and to divert our research and development effort to finding some type dog effective in the current Viet Nam situation.

d. There are hunting dogs in Viet Nam that may prove of considerable value as war dogs if properly trained and handled. The investigation of this possibility should be a major R&D objective.

e. The problems that may be encountered in breeding in Viet Nam are discussed along with background information that applies for any breeding project any where in the world. Cost figures are given and are $1,800 for each dog raised in Viet Nam to one year of age as compared to $2,600 for each dog imported from Germany. Factors that may alter, and in one case reduce, the cost of importing by $1,300 per dog are listed.

f. Annex No. 1 includes a minimal kennel design and lay-out for a breeding center in Viet Nam. Some design features that may be criticized and defended. Equipment, supply and personnel requirements are given and are the basis for setting up a TO&E for this type program.

g. Annex No. 2 includes a discussion of some diseases encountered, with analysis of these conditions based on four months' observation.

h. Annex No. 3 includes some observations and a discussion of management, medical care, training and utilization of the current War Dog Program in Viet Nam.

VIII. If recommendations are requested they will be as follows.

a. Recommend breeding of dogs be discontinued immediately.

b. Recommend R&D efforts be directed toward investigating the possibility of using certain local dogs in the counter insurgency effort.

c. Recommend shipments of dogs into Viet Nam be discontinued immediately. If this is not done, recommend placing fifty dogs on each C-124.

d. Recommend dog trainers be placed in the field with the dogs already deployed to supervise utilization in an attempt to salvage the current program.

e. Recommend that graduate Vietnamese veterinarians be sent to the States for two years internship in a Stateside veterinary school, and that select Vietnamese students be sent to the States for the full six-year veterinary curriculum in an attempt to give the Vietnamese the medical capability of handling this program.

f. Recommend that, if a breeding program does continue, it be conducted and established as set forth in Annex No. 1 of this report.

g. Recommend a program be established whereby qualified United States personnel teach all prospective Vietnamese officers the proper utilization and care of dogs before these men are commissioned and placed in the field. This recom - mendation is based on Paragraph 3 of Annex No. 3.

ALVIN W. SMITH
Capt, USAF, VC

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1. Annex #1, Procedures for establishing a breeding project for either R&D or operational purposes
2. Disease research, Annex #2
3. Annex #3, Management, medical care, training & utilization.

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ANNEX #1

PROCEDURES FOR ESTABLISHING A BREEDING PROJECT
FOR
MILITARY OR COMMERCIAL PURPOSES

I. Steps. The following steps must be accomplished in the order they are given if a breeding project is to be set up with any hope of surviving and being productive.

a. A site for construction must be picked, preferably in the Saigon area. This site must be either well drained naturally or capable of being well drained. This area should also be relatively free of outside disturbance. The bomb dump area at Tan Sonnhut would be acceptable. The area required will be 600 feet by 400 feet.

b. Utilities must be provided. Either electric cables must be run into the area and must supply the power needed to work all equipment listed, or our power source must be self-contained. Water and sewage systems must be provided either by running adequate mains into the area or by developing self-contained systems. The water system must be capable of delivering a minimum of ten-thousand gallons of pure water daily. The sewage system will necessarily have to be geared to handle this volume of water plus whatever else is involved as run off water from storms and the waste from three-hundred dogs.

c. We must construct the basic facilities required. For the MD Project this would be ten bitch kennels, ten sick and whelping kennels, twenty-four duplex puppy kennels, the clinic, the kitchen and food warehouse building and the latrine and general purpose warehouse building. Walkways and proper fencing would then be required.

d. We must equip and supply this facility as needed.

e. Personnel must be picked and assigned as outlined in the Unit Manning Document structure, and these people should be started on basic classes in dog handling and medical techniques.

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f. Last come the initial ten breeding bitches. These items should be assigned and brought in only after the previous steps have been completed.

g. To go operational steps 3 (construction), 4 (equipment) and 5 (personnel) must be completed for the larger scale operation before assigning additional dogs.

h. Task #19 experience has proven the necessity of accomplishing these steps in the order they are given. If this is not done we can expect to experience the problems we are now operating under, with the same end results; i.e. seven living puppies out of nineteen born, only five of them are in good shape.

11. The kennel layout included in this report is capable of handling forty bitches and 250 puppies up to one year of age. Those structures outlined in red are needed for a ten bitch WAD Project. Initially CI and Vietnamese billets would not be required as the extra warehouse and clinic building space could be utilized for this purpose. As soon as the project went operational, billets would have to be built for the increased personnel. In a tropical area where the sun passes almost directly overhead, as in Saigon, the duplex kennels should be turned with the partition splitting the prevailing wind. If the wind direction is not constant then turn the partition East and West. Elsewhere, farther to either side of the equator a duplex kennel should be constructed with the partition extending North and South.

a. The plan shown will be criticized severely on the following points.

(1) Size of kennels. Three-hundred square feet for the bitches and 150 square feet for each pup after weaning.

(2) General spread out design increasing total space requirements and construction costs.

(3) Enclosing each kennel with wire mesh as opposed to chaining the dogs to the center post and thereby cutting kennel construction costs.

(4) Apparent lack of adequate shelter for the individual dogs.

(5) Extra training and exercise compounds.

(6) Lack of utilization for facility were a breeding project to be started and later abandoned.

b. In answer to these questions the following points are brought out and are considered paramount, not only to the justification of this type construction, but also to the actual success of the program.

(1) The bitches will be housed in these kennels with a litter of one to ten puppies from the time she leaves a whelping kennel until the puppies are weaned. In addition, large kennels are provided because these dogs will not receive a great deal of exercise such as is involved in field training. The puppy kennels are large to allow proper development of the dogs and to preclude in part the kennel shyness seen in closely confined dogs.

(2) The individual design of each kennel and the space between kennels is provided so that in actuality each kennel is an "isolation ward." This is of utmost importance when concentrating a large number of dogs and especially dogs of such wide age ranges into a small area.

(3) When enclosing the kennels in this manner we must remember that we are dealing with all ages of dogs. It is not only impractical to chain puppies but is considered to be damaging to their development.

(4) The design submitted must be and will be thoroughly tested before being adopted but is thought to be excellent for these reasons. Shade and air circulation are extremely important in a tropical area such as this. Shelter from the rain is considered adequate for even in a driving rain the dogs' feet are about all that should get wet. The concrete slab is sloped for fast drainage and quick drying. Sanitation appears ideal. We are not hampered by cold and here again the design must be such that it applies to all sizes (i.e., any age) dog.

(5) Puppies should stay in the breeding center until they are one year old. While they are at the center they must be given the opportunity to get out of their kennels and they must also be given basic obedience training starting at a fairly early age. This is essential to develop an easily controlled and obedient dog, to enhance the dog/human relationship

necessary for later duty in the field, to greatly reduce the actual training time required to put the pup in the field after being transferred to the training center and, last as a general conclusion, increase the percentage of trainables and effectives out of the total number of puppies raised.

(6) Our basic premise is that a dog program in Viet Nam is desirable. Our major task is to find out what type of program will work, and to develop this program. A breeding center, once it were constructed, holds many potentials for going into various specialized dog training tasks. In addition, if the breeding does not prove worthwhile and we must continue to import dogs, here is a facility ready made for the initial thirty days quarantine, breakdown and treatment of new arrivals. A further thought is that basically this is a medical facility and could be easily utilized in animal disease research work. It is possible that this center, if built as designed, could serve in any one of the functions listed, not only to support our efforts in Viet Nam but possibly the whole of Southeast Asia.

(See attached blue print.)