

COURSE CODE:	VCH 602
COURSE TITLE:	Organization and Regulation of Veterinary Services
NUMBER OF UNITS:	2 UNITS
COURSE DURATION:	TWO HOURS PER WEEK

COURSE DETAILS:

Course Coordinator:	Dr. O.J. Awoyomi DVM, MVPM
Email:	jojuawoyomi@yahoo.com
Office Location:	COLVET, UNAAB
Other Lecturers:	Prof. M.A. Dipeolu DVM, MVPH, PhD Dr.O.O Kehinde DVM, MVPH Dr.O.O. Adebowale DVM, MVPH

COURSE CONTENT:

Organization of Veterinary Services in Nigeria
Legislations governing Veterinary Practice in Nigeria
Professional and legal responsibilities of Veterinary Surgeons in the control of animal movement and diseases, Disease reporting systems, Regulation of trans-boundary animal trafficking and international trade, Veterinary Extension services

COURSE REQUIREMENTS:

This is a compulsory course for all 600 level students in the college of Veterinary Medicine. In view of this, students are expected to participate in all course activities and have minimum of 70% attendance to be able to write the final examination

LECTURE NOTES

LEGISLATIONS GOVERNING VETERINARY PRACTICE IN NIGERIA VETERINARY JURISPRUDENCE:

JURISPRUDENCE: This is the study of the laws having to do with relationship between one human being and the other.

Veterinary Jurisprudence: Laws that deal with relationship between the vets and the clients, patients and neighbors.

(2) Refers to the knowledge of legal rights, responsibilities and liabilities for practicing veterinarians,

A person is a legal entity on which legal rights, privileges and powers are conferred, liberties are recognized and on whom duties and responsibilities are imposed.

Legal right: A capacity of ascertaining a legally secured interest before judicial and administrative agencies or government e.g. you have the right to practice veterinary medicine in Nigeria if you registered with the Veterinary Council of Nigeria as a qualified Veterinary doctor.

Privileges: are exceptions from duties and liabilities in certain situations and conditions e.g. you may pay tuition fee that is less than what non indigenes pay in a state owned institution if you are from such state.

Power: is a legally conferred or recognized capacity of creating, directing or of altering legal relations e.g. as a vet. Working in an abattoir, you have the power to pass an animal; for slaughtering or otherwise (ante mortem), and you also have the

power to condemn such a carcass that had been passed after post mortem examination.

Duty: A legal duty is a legal obligations and flows from legal rights.

Legal liability is a legally imposed risk of likely to repair injury where the law imposes a risk, where no duty is enjoyed e.g. you can be sued as a vet for wrong diagnosis, leading to castration of a stud.

LAWS GOVERNING VETERINARY PRACTICE IN NIGERIA

- (1) Veterinary Surgeons Acts of 1969
- (2) Veterinary Surgeons Amendment Acts of 1987
- (3) Veterinary Ethics
- (4) Business and Professional Premises Registration Edicts of 1984
- (5) Animal Disease Control Decree of 1995
- (6) Private Veterinary Clinic Registration Edicts of 1981
- (7) Private Practice Prohibition Decree of 1984

Vet. Surgeons Act: this legalizes the practice of the profession in the country. It establishes the vet profession in Nigeria. It used to be called Veterinary Ordinance of 1950. Many sections were re-enacted and called vet surgeons act of 1969.

A Profession is a vocation, especially one involving training and formal qualification that is regulated by a body, and that cannot just be practiced by anyone. The regulating body is backed by law to regulate the number of entrance into and activities of the practice

Quotas by VCN should be effective, and control people within the profession as well as lay a standard which members should follow.

The VCN also disciplines any member that kicks against the principles or ethics of the profession or misbehaves in the society e.g. involvement in fraudulent activity.

Section IC of Vet. Surgeons act: if any body that is not in the Vet. Profession comes out and claims to be a vet., he should be tried and prosecuted.

- Issue of Consultant grade – any vet officer can be referred to as a consultant having practiced for a specified number of years with at least post graduate qualification.
- Business premises or professional premises registration Edict – Every premise used must be registered. It is an offence to put up a premise without registration.
- Animal disease control was promulgated by Ondo State in 1995. Any private vet who intends to set up a practice in the state shall register such practice. Every vet shall also register 3 months before commencement of the practice. After registration a permit is given to practice. A vet. should render quarterly reports/record of vaccination and diseases and outbreak of any disease should be reported.
- Private vet clinic edict of Lagos State, 1991. Anybody setting up a clinic, i.e. a registered vet surgeon can manage a vet. Clinic.
- The private practices regulated prohibition degree of 1984.

Veterinary Surgeons Act of 1969.

This is the law that legalized the practice of Vet as a profession in Nigeria. This was dated back in 1952, when it used to be called “Vet Ordinance: However, the

re enacted/ amended law came out in 1969 and was named Vet Surgeons Act 1969 (Decree No. 37 of 1969 and amended by Decree 40 of 1987).

Profession is a vocation that is regulated and controlled. There is statutory control, a law setting up a body that will control entrance into such a profession.

The syllabus controlling the entrance should be strictly monitored; the setting up body should lay up standards that anyone willing to practice the profession must comply with.

Constant visitations to schools, to update the standard laid and keep it moving; the conduct of those inside is also strictly checked by the body.

N. B. Section 14 of Nigeria vet law states that anybody pretending or proclaiming himself as one of the professionals is a criminal.

The Vet surgeons act established the VCN and also stipulates the membership. The law mandates the director of Nigerian Veterinary Research Institute, Vom to be the President, but this was later amended. The issue of consultant grade was also addressed. The law states that consultancy is a statutory post. Length for consultancy post is equal to 5 years post DVM qualification in addition to a post-graduate qualification.

N.B: Any additional degree obtained should be registered with VCN.

Veterinary Ethics: this spelt out what a registered vet should do. A vet should not stop a client from consulting a second opinion from other vets (among other things)

Business premises Registration edict 1984 came out when government found out that people were just springing up premises. It is an offence to set up a clinic

without registering. This law does not cover the personality but only the premises. You need to be a vet to set up a veterinary clinic.

Animal Disease Control Decree Adoption edicts, 1995 – Promulgated by Ondo State 1995: any private vet who intends to set up a private clinic in Ondo State/Ekiti State after the commencement of the edict should register such practice forthwith. However those already practicing before the commencement of the edicts shall register within 3 months of commencement of the edict. Any vet employed on a farm has statutory regulation of reporting quarterly to the State records of veterinary activities, e.g. vaccination records.

Private Vet Clinic Edicts of Lagos State, 1991: Anybody setting up a clinic should be only a registered Vet surgeon. Anybody managing a vet clinic should be a vet surgeon.

Animal Disease control Decree of 1988: 1st promulgated on Oct. 17, 1961 as Disease of Animal Ordinance but was amended several times. In 1962, it was changed to Disease of Animal Act of 1962. It is the law backing Vet Preventive Medicine activities, preventive medicine can be achieved by persuasive means and cohesive means or approach.

- Prevention of diseases
- In prevention you look at host, agent environment.

N.B. Only Ondo State seems to be implementing this decree effectively. The law has provision for importation and exportation of animal and animal by-products.

- Provision for the country from which the animal comes from
- Provision or the species of the animal to be imported
- Current certificate of the animal being free from disease.

The above regulation on importation is to be confirmed by the Director of Veterinary services.

There is also regulation on exportation.

- (1) The Vet. under this regulation sort of protects the image of the country, i.e. the country will be protected from being blacklisted.
- (2) Permission should be obtained by any one who wishes to export.
- (3) The law has provision on notification of disease, making sure that there are records on prevailing diseases in the country, so as to prevent spread and consequently control of such diseases.

Provision for national Vet. quarantine services; to prevent diseases from coming into or going out of the country.

Quarantine Status: Where suspected animals are sent for inspection, and ultimately such animals may be slaughtered or treated. Also Trade Animals Permit is given under this provision.

- Provision for registration of farms, hatchery and poultry houses:
Before any farm is established, it must be registered and must have evidence of certificate of registration.

N.B. Due to weakness of the above law in terms of penalty imposed, Ondo State made an upward adoption review of the decree.

(8)Laws on meat:

(a) Meat Edict, 1968

Background information: Before independence, only sanitary inspectors had power to inspect meat for human consumption until 1966. In 1962 W.H.O directed that any where in the world vets should be in control of meat inspection and, and such duty to be transferred to vet department. The law on meat inspection was amended. The concept was unanimously adopted by all the states but the implementation of the law took place at different times in different states. In old Bendel State, it started in 1966, in Northern States,1968 and 1978 in Oyo State.

PROVISION OF THE LAW

- (a) Compulsory Registration of any place where animals are to be slaughtered (Abattoir) Vet. department will come to inspect the site and see if it is suitable, look at the plan for drainage waste or refuse disposal, location e.tc.
- (b) Meat inspection in any registered abattoir should be carried out by a Vet Officer (Doctor). Any meat that is not inspected by a vet should be condemned.
- (c) Vets ensure that the abattoir is well maintained, the sanitary condition is also maintained.

Exception – only ceremonial slaughter is exempted.

- It is an offence for anyone to interfere with vets while carrying out his duty.
- Vets should stamp the inspected animal signifying it as fit for human consumption.

Meat edict amendment in Borno

Due to the fact that many pregnant animals were being slaughtered. The law was amended in 1975 to prevent such slaughtering. In 1985 Oyo State made amendment to extend the services of Vet Officer to inspect meat in any place outside the abattoir.

Meat Edict of Lagos State: fish is properly included in Lagos State Meat Edict.

(b) HIDES AND SKIN ACT: 6th OCT 1942 ORDINANCE

It is an enabling law that made provision for hides and skin; Methods of flaying, drying, preservation, marketing, how to handle hides and skin meant for export.

Northern State: In the Dec. 1958 hides and skin regulation, method of slaughtering, specify the type of abattoir than can handle hides and skin for trade, e.g. Kano abattoir.

LAWS ON DOGS

(a) Dogs Act Cap. 35 law of federation

(b) Dogs law

Importation of dogs is covered under Dogs Act as well as disease control.

Dogs Act: enforceable in Southern States.

Dogs Law: enforceable in Northern States.

A dog keeper: Somebody who is in charge of a dog is supposed to ensure that every dog to be handled is vaccinated, duty controlled, should not be set loose to

bite passer-by. Anything outside your yard (fence) is not your house, i.e. if any dog gets loose and bites anybody outside the compound, this is an offence.

‘Beware of dogs’ sign/post cannot work in a premise where you have an article of trade, i.e. a business premise. Dog keeper should ensure that his dog does not constitute a nuisance to the neighbors, e.g. excessive barking.

Responsibilities of vet surgeon under these laws:

- To vaccinate any dog brought to him
- In case of suspected dog for rabies, Vets are supposed to observe and use their expertise to make necessary diagnoses.
- Vets are suppose to quarantine the dog
- Vets may need to euthanize the dog where necessary.

Responsibility of Medical Doctor:

The medical doctor may refer the bitten patients to the vets. Vets suppose to assess the dog for signs of rabies, make enquiries about certificate of vaccination, and probably provide information on the likely cause of the attack. The medical doctors will examine human patients and administer human antirabies vaccine (if need be), based on the vet’s report on the dog. He may also administer Anti Tetanus Vaccine and dress the wound site depending on the extent of the wound.

An area with an outbreak of rabies may be declared as disease area.

Under the dogs act: Ay dog found roaming, straying around will be arrested, taken to a vet, quarantine for examination, and either killed or released (if confirmed free of rabies). A dog without tag or label is regarded as a stray dog.

Dogs Law: This law states that any stray dog should be shot at sight.

Under dogs act, the minimum age for licensing is 3 months. Under dogs law, it is 6 months..

There is correlation between licensing and vaccination in dogs law.

LAWS REGULATING HANDLING OF DRUGS

- (a) Food and drug Acts (NAFDAC Decree)
- (b) Dangerous drug Acts.
- (c) NAFDAC Decree 1993
- (d) Pharmacy Act of 1946

(a) Food and Drugs Acts.

Promulgated as decree No. 35 of 1934. This law defined the word drug.

Drug includes any substance, or mixture of substances, manufactured or sold or advertised for use in the diagnoses, prevention, mitigation or control of any disease, disorder, abnormal physical state or the symptoms thereof in man or animal.

The law regulates the manufacturing and packaging of drugs. Anybody that wishes to manufacture drugs will apply and the premise to be used is inspected examined, and certified suitable for being up to standard and fit for carrying out manufacturing activities.

The law prohibits misleading practices, e.g. outlets, labeling packages, processing, advertising drugs, cosmetics, food or device in a manner that is false. There should be correct labeling e.tc. no person should sell any article or drug which is adulterated or expired.

Law prohibits Adverts: No person should advertise to the public that ‘this drug’ can cure such diseases as diabetes cholera, glaucoma, high B.P. measles, meningitis, syphilis and heart problems.

The law also prohibits indiscriminate importation of drugs. Anybody who wants to import drugs should obtain permission, e. g. Pentobarbitone.

(b) NAFDAC DECREE

This was promulgated in 1993. The NAFDAC decree No. 15 dissolved the food and drug administration and control dept in the Federal Ministry of Health and substituted it for NAFDAC.

(c) DRUG AND RELATED DECREE 1993

Says that; anybody that wants to manufacture any drug should register such with NAFDAC. If you are marketing any drug in Nigeria, even if it is imported you must register the drug. Anybody who contravenes this law will pay a fine of N150.00.

(d) PHARMACY ACT 1946

Definition: Drug includes any substance of plant, animal or mineral origin, the mixture that is used for the treatment and control or prevention of disease in humans or animals. The law recognizes those who can sell drugs. This includes druggists, although dispensers may also sell some drugs.

Pharmacy law authorizes certain groups of people to handle and prescribe drugs .e.g. medical doctors, dental and Vet Surgeons. However if any Vet Surgeon is doing that, he should put ‘for animal use’. No other can do this than a Vet, the law has provision for controlling poisons. Poisonous drugs are kept in a separate room

or box. The door of the room/box should be painted red and the word “poisons” written on it or painted white. Keep the drugs under lock and key, e.g. Berenil chlorahydrate, Cyanide, Digitals, Emetin. The list of poisons you are keeping should be well written, with the list of antidote written against each of them: This should be kept attached to the door of the room in which poisonous drugs are kept, or attached to the box. A pharmacist should keep a copy of the list too.

DANGEROUS DRUGS, a.k.a. psychoactive drugs

Drugs that affect the mind, e.g. Indian hemp, cocaine, heroine e.t.c. (that affect the psyche of the person) should be kept out of reach. They are not usually taken. The consumption, handling or exportation of any of these drugs is prohibited by law, because the damage cause to public is enormous. They cause addiction and drug dependence.

Addiction: urge to always take the drug to survive.

Drug tolerance: Is the urge to consume more quantity of certain drug.

Drug dependence: is a state in which any abstinence or withdrawal will lead to visible physical sign (symptoms) seen in the individual, e.g. salivation, sweating, swollen eye, sneezing.

Penalty: In the past, it used to be imprisonment for 10 years without option of fine before 1976. After 1976, it was reduced to 3months. General Buhari changed the penalty to death.

METHOD OF LEGISLATION

Civilian regime:

Executive : President, Country Ministers,

Governor, State Commissioner

Local Government Chairman, Supervisory councilors

Judiciary : Attorney General, Judges

Legislature : Senate, House of Rep.

State House of Assembly

Councilors

Executive makes the law and passes it to the legislature who will debate and send it back for signing and approval. The people too can also make a law and pass to the legislature who will approve and then send it to the executive for signing. Military on the other hand took over the legislature functions. They make law to protect themselves in some cases, they enforce laws that do not exist.

Trespass: Unauthorized access. This has no claim of compensation.

Negligence: Failure or omission to do what a reasonable man will do in that circumstances or doing what a reasonable man will not do in the circumstances.

Nuisance: When you are constituting yourself as a problem to a community, e.g. barking of dog, allowing dog to stray.

PROFESSIONAL AND LEGAL RESPONSIBILITIES OF VETERINARY SURGEONS IN CONTROL OF ANIMAL MOVEMENT AND DISEASES.

Objectives:

At the end of this lecture the students should be able to:

- Understand their professional and legal responsibilities in control of animal movement and diseases.
- Understand the regulations or laws as stated in the sections of the animal disease control act in the Nigeria constitution.
- Reasons for enacting such regulations or laws.

Introduction

Who is a Veterinary Surgeon?

A Veterinary Surgeon is a person who has undergone training in Veterinary Medicine and is registered with the Veterinary council. E.g. Veterinary Council of Nigeria.

A Veterinary Officer is a Surgeon who is employed by the Public service (e.g. in the Ministry or Federal Livestock Department).

Professional and Legal Responsibilities

Every veterinary surgeon has both professional and legal responsibilities to use their scientific knowledge and professional skills to protect animal health, relief animal suffering and to conserve livestock resources. These are in addition to promoting animal production and public health. Veterinary officers are however empowered by the law to carry out some legal responsibilities to enhance enforcement of the existing veterinary laws on behalf of the government.

The extent that a Vet. Surgeon or officer will carry out his/her professional responsibility will depend on individual knowledge, skills and competence.

Control of Animal Movement and diseases

In order to prevent diseases and ensure standards in control of animal movement and diseases in Nigeria, the Animal diseases (control) Decree of 1988 has been enacted. This Decree (Law) gives legal backing to a veterinary surgeon/ officer towards performing his/her professional and legal duty in controlling animal diseases and movement.

Animal diseases control is one of the four distinct subject areas addressed by what is commonly called Veterinary legislation or jurisprudence. Within the last decades, increases in the movement of animals have aided the spread of animal diseases. Trade liberalization is one explanation, as countries have been seeking to benefit from lowered barrier to regional and international trade in animals and animal products. Infrastructure improvement in response to expanding industrial needs have also contributed to the rapid spread of diseases.

The animal disease control decree are laws backing preventive medicine and movement of animals both within the country and outside, disease notification, control of trade animals and quarantine measures.

Animal Diseases (control) Decree (No.10) 1988

This is the oldest law so far. It was first enacted on 25th October, 1917 as disease of animal ordinance. In 1962 it was amended to disease of animal Act 1962. In February 1988 it was re enacted and called Animal Diseases control Decree 10 1988. The purpose of this law is to prevent the introduction and spread of infectious and contagious diseases of animals. This law has 24 sections addressing various aspects of animal disease control and movement.

Importation of Animals, Animal products and biologics.

Sections 1-5 of this decree forbids the importation of any animal, animal products and biologics including hatching eggs or poultry into Nigeria from any country, by land, sea, or air except with the permission of the Director of Federal livestock Department (FLD) (Listed in **Schedules 4 or 5 of the decree**). The conditions under which these products should be imported must be stated. The animal and other products as mentioned above to be imported must come from areas or countries free of diseases, have a genuine reason for importation, must have obtained current certificate of health i.e. records of vaccination.

- An authorized Veterinary Officer has to inspect at any of the quarantine stations or control posts (**Listed in schedule 2 and 3**) any of such imported items to ascertain their condition of health.
- Any animals, animal products and biologics imported into the country without proper permit shall be seized and destroyed by an authorized office. Such seizure or destruction shall be reported without delay to the magistrate having jurisdiction in that area.
- It is the legal responsibility of a Vet. Officer, police or an authorized officer to enter any premises where he suspects any of such animals, animal products, and biologics has been dumped or kept (**Section 7**)

Exportation of Animals, Animal byproducts and Biologics.

Exportation of any animals, animal products and biologics including hatching eggs or poultry from Nigeria except under a permit from the director of FLD is prohibited by the law. This is to ensure that animals exported to other countries do not become a threat to them.

Disease reporting -- Section 8

- Any person having under his charge or control, an animal infected or suspected to be infected shall keep such animal separate from others not so infected and then report to a Vet. Surgeon or the prescribed officer in the Local government area.
- A Vet. Officer is expected to enforce the regulation of isolation and non movement of infected animals and report to the nearest magistrate or police officer.
- A Vet officer shall administer Veterinary vaccine or biologics or issue such orders or directions or prohibitions as he may deem necessary or advisable, to prevent spread of the diseases and may cause such animal to be slaughtered.
- All Veterinary vaccines shall be handled, sold or administered only by a Vet. Surgeon or a prescribed officer.
- A Vet Officer may for the purpose of examining diseased animal, and after identifying himself, go into any premises and may for the purpose of diagnosing diseases take blood smear or apply any test.
- May seize and detain animals in relation to which breach, non-compliance or contravention has been committed, such seizure must be reported without delay to the magistrate or police in the area.

- Where any animal dies of a disease or slaughtered and the carcass is in the opinion of the Vet as infected with disease such carcass should be disposed by burning or in such manner as the Veterinary officer directs.

PENALTY: (Section 10) A fine of N 250 or 3 months imprisonment or forfeiture of the animal.

COMPENSATION: (Section 11) Compensation may be paid to the owner of the slaughtered animal or any part of animal that has been destroyed under this decree.

Control of trade animals (sections 12-17)

Movement of animals from one part of the country to another for the purpose of trade requires that the trader obtains permit and annual license before he can participate. The control of trade animals prescribed under this decree is exercised by the director of federal livestock department or the chief veterinary officer as the case may be. Any person in charge of trade animals entering from any place outside Nigeria into any part of the country shall move all the animals by the most direct route to the nearest control post.

- Concernment of trade animals shall be examined at every **control post** (see **Schedule 3** to this decree) by Vet. Officer.
- **NOTE: Control posts** mean an established area along trade cattle routes at international and inter-state borders or within the states with facilities for inspection, examination, vaccination and treatment of trade animals.
- A veterinary officer under this section shall inspect any trade animal brought to any control posts.
- A Vet. Officer may put identification mark on sick animal or may for the purpose of treatment or prevention of any disease, detain such animals to allow for proper observation and therapy.

- Animals traveling for more than 12 hours by rail or road shall be rested, watered and fed every 12 hours.
- Loading and unloading ramps shall be provided for trade animals being carried on a vehicle.
- Loading and unloading permit shall be obtained: Before loading, a Vet. Officer shall examine the animals and the loading permit, while movement permit is issued at every control post following compliance with conditions stated for movement of trade animals in the decree (**section 13**).

National Veterinary quarantine Services

NVQS is a Division under Federal Department of Livestock and Pest Control Services, Federal Ministry of Agriculture and Rural Development. Its main objective is to prevent the introduction, establishment and spread of animal and zoonotic diseases into and out of Nigeria in course of Animal / Animal commodities trade and movement.

In accordance with the Animal Disease (Control) Decree act No. 10 of 1988, the NVQS has the following responsibilities :Issuance of Import / Export permits by the Office of the Director, Federal Department of Livestock and Pest Control Services for the Importation / Exportation of Animals / Animal products, Day old chicks, eggs, Vaccines and Biologics.

- Certification of all import / Export permits including Animal Health certificates that accompany Animal / Animal products on import / exports.
- Inspect / Assess the Animal / Animal products, Day old chicks, Eggs, Vaccines and Biologics to ensure they are healthy and of good quality.
- Effect quarantine of Animal / Animal products, Vaccines or Biologics where disease is suspected or it is of poor quality or of low standard at the expense of the owner.

- Treat the disease animals and may sanction the owner and destroy as the case may be.
- Issuance of Import / Export permit for Wildlife subject to the acquisition of CITES permit from the Federal Ministry of Environment.

NVQS has 19 service points in the country where it performs a 24 hour service for disease surveillance. On August 8, 2006, Mr. President gave approval for the presence of NVQS at the International Airports and Seaports on a continuous basis and membership of the Joint Intelligent Board. The Designated Veterinary Quarantine Service points include:

International Veterinary Quarantine Stations:

- Murtala Moh'd International Airport, Lagos.
- Nnamdi Azikiwe International Airport, Abuja.
- Mallam Aminu Kano International Airport, Kano.
- Port Harcourt International Airport, P.H.
- Apapa Wharf Seaport, Lagos.
- Tincan Island Seaport, Lagos.
- Port Harcourt Seaport, Port Harcourt

Interstate Veterinary Control Posts:

- Jebba in Niger State
- Makurdi in Benue State
- Lokoja in Kogi State

International Veterinary Control Post:

- Seme border in Lagos State
- Imeko in Ogun State
- Jibia in Katsina State
- Illela in Sokoto State
- Maigatari in Jigawa State
- Gamboru / Ngala in Borno State
- Mubi in Adamawa State
- Ikom in Cross River State
- Idiroko in Ogun State

Importable / Exportable items:

The following items can be imported /exported subject to Veterinary permit in accordance with O. I. E. regulation.

- Live animals: Dogs, cats, horses, cattle sheep and goats.
- Animal products: Tallow, horns, hooves, hides/skin and blood/bone meal.
- Animal commodities: Cheese, butter, processed milk, corn-beef, pet food and animal food.
- Biologics: Vaccines, sera, infectious agents, semen etc.

Banned items for importation: Due to the outbreak of Avian Influenza, the following items have been banned for importation: Chicks, Eggs, Avian Influenza vaccines, and Rinderpest Vaccine

Applications for Import / Export permit: The permit can only be obtained from the office of the Director, Federal Department of Livestock and Pest Control Services,

Federal Ministry of Agriculture and Water Resources, PMB 135, Area 11 Garki,
Abuja.

All applications must be accompanied by the following information:

- i. Name of the animal
- ii. Age
- iii. Sex
- iv. Colour
- v. Breed of animal
- vi. Identification mark
- vii. Description of animal product or biologic
- viii. Quantity / specification
- ix. Date of proposed import /export
- x. Port of embarkation
- xi. Port of disembarkation
- xii. Method of transportation
- xiii. International Veterinary Certificate and Vaccination Certificate
(where applicable) issued by a registered Veterinary Surgeon at
the country of origin of the animal / animal product.
- xiv. CITES Permit from the federal Ministry of Environment in
respect of wildlife.

Conclusion:

It is the responsibility of every veterinarian to ensure that animals, animal products and biologics are imported into or exported from the country only after necessary permit has been obtained. Also, in order to ensure control of animal diseases and safety of public health, Veterinary Surgeons and Officers must be

awake to their professional and legal responsibilities. There is however a need for review of the penalty stipulated in the decree for defaulters.

NOTE: the following terms.

- **Control posts** mean an established area along trade cattle routes at international and inter state borders or within the states with facilities for inspection, examination, vaccination and treatment of trade animals.
- **Quarantine station** means a designated place where animals' with their boxes, rugs, kennels which have come from infected or suspected to be infected countries are detained.

DISEASE REPORTING SYSTEM

Definition of terms

Disease reporting system- This is diseases accounting system in a population. It entails how diseases records and information should be kept, stored, transmitted and utilized.

Disease prevention- : Measures taken to protect our environment from invasion. These are measures taken so that clean population is not affected.

Disease control – This is carried out in affected population to stop the spread of a disease.

Disease eradication- This is stamping out of disease in a population e.g. eradication of small pox and rinderpest.

Pattern of disease occurrence

Endemic /Enzootic diseases – The constant presence of a disease or infectious agent in the population

Pandemic /panzootic disease-: Greater epidemic disease spreading faster. Outbreak of a disease throughout the world/part of the world for example Influenza.

Sporadic –: No specific pattern of occurrence of a disease in a particular population.

If a disease occurs only occasionally, rarely or without regularity in a population-
Anthrax

Epidemic: Occurrence of a disease in a given area clearly in excess of normal expected frequency. It can either be a point epidemic or propagative epidemic:

Frequency of Diseases Occurrence

Incidence: This represents the rate of occurrence of new cases of a disease or event in a population at risk during a specified period of time

Prevalence: This represents the number of existing cases of disease at a given point in time.

Diseases outbreak: An increase in occurrence of a disease in a particular population–

Incubation period: Time of entrance of an infectious agent to the first signs of disease.

IMPORTANCE OF DISEASE REPORTING

- (i) It can help the govt in planning and budgeting
- (ii) Determination of location of livestock project
- (iii) Vaccine production and distribution
- (iv) In case of an outbreak the report will arrive early, this enables planning a better control system for early arrest of the disease
- (v) For assessment of losses
- (vi) Planning of research project: Where to collect data and type of research to carry out
- (vii) Syllabuses is based on this reporting in colleges because emphasis are placed on the disease that are prevalent
- (viii) International benefits- Importing from disease free countries, business with other countries become easier

HISTORY OF ANIMAL DISEASE REPORTING IN NIGERIA

First attempt at livestock disease reporting in Nigeria was around 1914 after the establishment of the veterinary department. The Disease of Animal Ordinance of 1917 allocated the report of 17 diseases to provisional veterinary officers until the period between 1967 and 1974 when central collation was stopped. In 1975 the national livestock development council redefined and updated the previous reporting procedure. About 113 animal diseases were divided into five categories. Out of these 30 diseases were made compulsorily reportable in case of occurrence or suspected to occur at any location in the country. Animal disease Act of 1988 CAP 54, Laws of the federation backs them up.

- The disease reporting system was designed by Dr. Lang who came from England and was mandated to recommend diseases reporting system in Nigeria. Under the system, diseases are to be classified into two major groups.

Group I	A	5 diseases – Rinderpest CBPP FMD Rabies, NCD
	B	29 not reported in Nigeria except ASF and avian influenza
Group II	C	18 diseases
	D	10 diseases
	E	51
Total		113 diseases

Group A – These are transmissible diseases which have the potential for very serious and rapid spread, which are of serious socio-economic or public health consequence. Also this disease can kill 100% of the affected animals (High mortality).

Group 1B – The diseases under this category cause high mortality, great economic losses but have not been reported in Nigeria. Group 1b has been as enlisted for actions to be taken. The disease should be reported even in suspected outbreak to veterinary authority by the fastest means to the monitoring officer of the state once the veterinary officer diagnose for example any of this disease, he will order Ring Vaccination 10km radius to the centre of the site of diseases outbreak, or order a restricted movement of animals in and out of such area.

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Gumboro, PPR, blue tongue, Bovine brucellosis, lumpy skin disease, sheep pox and mareks. All the diseases are very important outbreak should be reported as they occur – documented and reported.

Group D- 10 diseases – Anthrax, backleg, Strangles, Epizootic, lymphagitis, Ulcerative lymphagitis, Erysipelas, Fowlpox- outbreaks of this disease are to be reported on monthly basis. These diseases can easily be managed.

E- There are 51 diseases in this group. The outbreak is reported quarterly e.g Actinobacillosis, trypanosomosis, babesiosis, fowl cholera, footrot, Actinomycosis, Anaplasmosis, Coccidiosis

Evolving database systems used in the health Surveillance and disease reporting

From the early passive surveillance evolved the present NADIS active surveillance reporting platform which is a hybrid software database which was developed by the Nigerian Federal Epidemiology unit using characteristics of PACE and WAHIS

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FACTORS LIMITING THE EFFICIENCY OF NADIS

(1) Insufficient fund-

- For sending samples to Laboratories

- Making telephone calls

(2) Limited field transportation

(3) Ill trained – SA. SA are para-vet. They can make mistakes in taking, preparing and sending samples

(4) Weak enforcement of Vet regulation

(5) Lack of knowledge of regulating laws and regulations

(6) Outdated regulations

(7) Ineffective Quarantine stations in impounding illegally transported animals

(8) Ill financed VTH

(9)- Electricity problem

(10) Weak knowledge of regulatory laws.

Efficacy of National Reporting System

Efficacy of NDRS can be measured by various parameters such as

- (i) Number of reports submitted /1000head of livestock/district/month
- (ii) No of individual livestock inspections /staff member/month
- (iii) Percentages of observed disease incidents for which laboratory samples were submitted
- (iv) Percentage of suspected cases actually confirmed for any particular disease
- (v) Time lag from sample submission to final laboratory diagnosis

Towards improving – NDRS in Nigeria

- (1) Development of manpower
- (2) Provision of adequate fund
- (3) Retraining of existing SA and other staff members
- (4) Putting in place a feed back delivery system which is to be run by a system manager who perform the following task
 - (i) Monitor data flow in the system
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Why International Disease Reporting?

- The world has become a global village. Diseases can easily spread from one country to another.

- Awareness on risk involved in importation of animals.
- Making diseases communication possible

DISEASE REPORTING SYSTEM

Definition of terms

Disease reporting system- This is diseases accounting system in a population. It entails how diseases records and information should be kept, stored, transmitted and utilized.

Disease prevention- : Measures taken to protect our environment from invasion. These are measures taken so that clean population is not affected.

Disease control – This is carried out in affected population to stop the spread of a disease.

Disease eradication- This is stamping out of disease in a population e.g. eradication of small pox and rinderpest.

Pattern of disease occurrence

Endemic /Enzootic diseases – The constant presence of a disease or infectious agent in the population

Pandemic /panzootic disease-: Greater epidemic disease spreading faster. Outbreak of a disease throughout the world/part of the world for example Influenza.

Sporadic –: No specific pattern of occurrence of a disease in a particular population.

If a disease occurs only occasionally, rarely or without regularity in a population-
Anthrax

Epidemic: Occurrence of a disease in a given area clearly in excess of normal expected frequency. It can either be a point epidemic or propagative epidemic:

Frequency of Diseases Occurrence

Incidence: This represents the rate of occurrence of new cases of a disease or event in a population at risk during a specified period of time

Prevalence: This represents the number of existing cases of disease at a given point in time.

Diseases outbreak: An increase in occurrence of a disease in a particular population–

Incubation period: Time of entrance of an infectious agent to the first signs of disease.

IMPORTANCE OF DISEASE REPORTING

- It can help the govt in planning and budgeting
- Determination of location of livestock project
- Vaccine production and distribution
- In case of an outbreak the report will arrive early, this enables planning a better control system for early arrest of the disease
- For assessment of losses
- Planning of research project: Where to collect data and type of research to carry out
- Syllabuses is based on this reporting in colleges because emphasis are placed on the disease that are prevalent
- International benefits- Importing from disease free countries, business with other countries become easier

HISTORY OF ANIMAL DISEASE REPORTING IN NIGERIA

First attempt at livestock disease reporting in Nigeria was around 1914 after the establishment of the veterinary department. The Disease of Animal Ordinance of 1917 allocated the report of 17 diseases to provisional veterinary officers until the period between 1967 and 1974 when central collation was stopped. In 1975 the national livestock development council redefined and updated the previous reporting procedure. About 113 animal diseases were divided into five categories. Out of these 30 diseases were made compulsorily reportable in case of occurrence or suspected to occur at any location in the country. Animal disease Act of 1988 CAP 54, Laws of the federation backs them up.

- The disease reporting system was designed by Dr. Lang who came from England and was mandated to recommend diseases reporting system in Nigeria. Under the system, diseases are to be classified into two major groups.

Group I	A	5 diseases – Rinderpest CBPP FMD Rabies, NCD
	B	29 not reported in Nigeria except ASF and avian influenza
Group II	C	18 diseases
	D	10 diseases
	E	51
Total		113 diseases

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VETERINARY EXTENSION SERVICES

Definition of Terms

Extension services

Methods of spreading knowledge from the university to the great mass of people outside its walls – it involves communication of useful information to people, then helping them to learn how-to use it to build a better life for themselves, their families and their communities.

Veterinary medicine extension is the outreach arm of the veterinary medicine that develops and disseminates to the people in the community new knowledge about animal health and human health relative to animals product. Where adequate knowledge is not available to characterize or solve a particular problem, veterinary extension speculation bring, fact concerning the issue to you campus and foster research necessary to address the problem.

- Target veterinary medicine extension customers include the general public, public policy agencies, animal related industries, food produce, and commodity groups' consumers of animal products and the animal themselves.

Elements of Veterinary Medicine Extension

1. The knowledge to be extended
2. The people to be served
3. A central extension organization
4. The extension agent or contact person.

More definition of Extension:- service or system which extends the educational advantages of an institution to persons able to avail themselves of them in a normal manner.

Extension is an information educational process directed towards the rural population. This process offers advice information to help them solve their problems

- It aims to increase the efficiency of the family farm, increase production and generally increase the standard of living of the farm family.
- To change farmers outlook towards the difficulties. It is concerned with development of the rural people themselves
- to improve the likelihoods of rural people i.e. helping farmers to improve the productivities of their farms and also develop their abilities to direct their own future development.
- Extension is an educational process which occurs over a period of time, which works with the rural people, supports them and prepare them to confront their problems more successfully.

Principle of Extension

The following principles guide extension services:

- Extension works with people, not for them
- Rural people themselves can make decisions about the way they will live or rear their animals. The extension agents cannot force anything on them. Proper guidance is only what is needed from the extension agent to make an informed choice. By making decisions by themselves, they gain more confidence and become more involved.
- Extension is accountable to its clients. The extension services agents have two masters. One is their senior officers and government, and the others are in the clientele i.e. the rural people they are suppose to serve.
- Extension co-operates with other rural development organization. Rural development is improving living standards of the mass of the low income

population residing in rural areas and making the process of their development self sustaining. Since veterinary medicine extension is just one of the institutions seeking to change the farmers for the better in the rural area, it is therefore expedience for the agents to work closely with other organization that provide essential service to farmers and their families. such institutions include:

1. Political institution
2. Support organization (credit facilities, marketing services)
3. Health services
4. Educational service- Nomadic education, adult literary classes etc
5. Community development service- town hall, sport festivals, cultural centre etc
6. Extension work with various target group aim by the extension work determines methodology and tactics to use. These targets group vary- big, medium and small farmers, part- time or full time farmers etc.

Functions of Extension

The major 3 tasks of extension are:

- i. Disseminating useful information
- ii. Applying it to the analysis of practical problems
- iii. Helping people to use the information to help themselves

Extension education has three important functions:

1) To persuade the farmer of the value of change. Most farmers are very traditionally conservation, unless they are fully persuade that any newly introduce technology is better and not risky, they will not accept it, thus the extension agent need to persuade and convince farmers about the new technology.

2) Transmission of results of research to the farmers at the same time transmits the problems of the farmers to the research. There is need for effective communication between the agent and the farmers for this to be accomplish

3) Helping farmers to make wise decision in farm management. The farmer must be taught not just to be stereotyped in making decisions, but to follow the present trend of changes on production processes taking place.

Problems limiting progress of Veterinary Extension Service in Nigeria:

1. staff training and turn over
2. lack of coordination with the universities and research centre
3. inadequacy of service amenities e.g. vehicle, equipment for demonstration
4. lack of National extension service: Extension service in each state is coordinated by MANR, this has lead to different rates of performance
5. lack of financial support for extension work- grossly inadequate budgetary allocation each year.
6. lack of credit facilities
7. lack of subject matters specialist –Most agents are generalists without in-depth knowledge.
8. Lack of evaluation techniques give room to recurrent mistakes in methodology adopted on teaching the farmers. No matter how good a technique is rate of adoption will continue to decline if found it is impossible to utilize early.

Government involvement in extension services

1. Training of extension agents subject matter specialists
2. Salary paid by government

3. Distribution of incentives
4. Printing of extension materials
5. Communication facilities

Extension Research Liaison Service

This is an institution to digest research output, before the information can be useful to farmers

Forms of extension services practice in Nigeria:

1. Autonomous extension approach
 2. Training and visit
 3. Community development approach
1. Autonomous extension approach:- this is based on the fact that there is no personal contact between the officers and the target. The officers know the target.
 - a) Mass method:- this involves the use of the mass media like the extension programme used of radio, television extension guide, extension leaflets and posters
 - b) Group method: - this is a little bit different from mass method. There are two forms
 - Result and method demonstration:- this is employed to show superiority of improve practice. The improved practice is set up along side with the traditional practice to allow for direct comparison. E.g. model farm- Artificial insemination centre
 - Radio fan forum: this is the use of the north. A television set is brought to the place and the people come in to watch

2. Training and visit approach: This method is aimed at a particular individual/livestock producer, who received the undivided attention of the extension agent.

This system was pioneered by Dr. Daniel Benor of the World Bank. It had been adopted by 40 countries. In this approach certain features are prominent

- (1) subject- matter specialists
- (2) Extension agents

Subject matter specialists are graduates of various disciplines – Animal scientists, veterinarians, foresters etc. the subject matter specialists have the techniques but do not know how to deliver extension messages.

Extension agent: these are people with ordinary national diploma; they have limited education but have potential and ability to deliver the extension message. Majorly extroverts are used for this purpose because they can cultivate relationship.

Extension agents are assembled and trained in different aspects of agriculture-livestock production, animal health and husbandry by the subject matter specialist for a period of time. After the training the agents are given common identity and sent to farmers to help them. These agents visit the farmers regularly if there is problem he cannot solve; he goes back to the subject matter specialists.

Community development approach

The community focused development system of extension is a participatory self-help system. It is a broad spectrum approach whereby the scope of extension agent is broadened to encompass responsibilities other than those focused on agriculture alone.

The main objectives of community extension are:

- i. To improve community life especially at the grass root level,
- ii. Reduce poverty
- iii. To foster social development by improving the general standard of living in the rural areas by using their own human and materials resource
- iv. To spread useful and practical information to farmers and their families on subject relating to education and health

This form of extension is democratic and co-operative

- i. Pilot project- here the extension institutions will select a community in which extension activity will be concentrated e.g. Elere community- in pilot projection the area of need and interesting of the community is ascertained after which the members are taught on how to improve on their production. Through the approach a community can be transformed overnight.

Self-help project: this is a kind of extension whereby particular problem with the people is identified and necessary assistance is made available to solve the same. i.e. The problem is solved with the effort of the people and that of the extension workers. Self help is to overcome some resistance which can be settled before the project is embarked upon.

Animation rurale: this is an extension system practiced in the francophone region of Africa. This approach involves the participation of small scale farmers and specialist working together to develop special test and technology that will be appropriate to their rural development efforts.

The major objectives of *animation rurale* include:

- 1) To persuade people that, by their own efforts they can do much to improve their living condition through effective utilization of their resources.
 - 2) To develop culture needs ,social welfare and direct productive services.
 - 3) To encourage every member of the community to participate in community affairs.
- Animation rurale involves recruitment if individual natural leaders that are inquisitive and extrovert, who will be trained in the modern method of animal husbandry and Agric production. After training , the government appoints them as animation. These are then sent back to the community to organize the community, identify the interest of the community and then promote village co-operation. The *animateurs* serve as intermediary for government. Animation was conceived as a natural movement. Calculated to implement broad national goals and plans. The approach was practiced in Morocco then transmitted to Senegal.

Rural Sociology

This is scientific study of social relation of people in their group. Before embarking on any meaningful extension programme it is important to understand the target in relation to their specific/ unique problem that needed special consideration.

Also in order to help people to solve their problem one must understand the problem within the context of the conditions the people are living how they view

their condition, what they feel can be done to improve their situations and what they have so far been able to do.

People are social beings and tend to solve their social problems collectively. By studying the people and their local ways, ideas and experiences. In short it is expedient to see their problem through their eyes.

COMMUNICATION TECHNIQUE IN EXTENSION WORK.

Communication is the bedrock of an effective and efficient extension service. It is a conscious attempt to share information and idea to other. It can also be said to a process by which people exchange ideas, facts feelings or impression so be each gains a common understanding of the meaning, intent and use of message.

Good communication consist of giving information that is timely, accurate and clear

- Such communication must create understanding, impart knowledge and help people gain and clear meaning of the knowledge of the subject matter under discussion
- Communication techniques- method/ means by which people influence the thinking, actions and feeling of others

Characteristics of Communication in Extension

- 1) It must be a two way process
- 2) Vital and relevant ideas and information must be communicated to the farmers at all times
- 3) Effective communication must be organized
- 4) Audience/ receiver must co-operate

- 5) The extension communication must be able to understand social – culture standard of the receiver

Elements in communication

- The communicator- this is the initiator of communication – Among all one must possess the following:
 1. Interested in his audience and their welfare
 2. Fully prepared carefully using appropriate materials and devices to elicit interest and ensure successful receipts of the message.
 3. Ability to speak clearly and use terms and language his audience will understand.
 4. Time conscious
- 1. Message/ Subject matter + package – this is information a communicator want his audience to receive, understand, accept and act upon.
 - The message must be in line with the needs and interest of the audience.
 - It must be valid, factual, latest, accurate applicable and timely
 - Give in understandable terms and in the unit the receives mental, social economical and physical ability.
 - Taught from known to unknown.
- 2. Message Treatment – this is an act of encode the message. This act is influenced by the sender's education, experience, attitude, feelings opinions and cognition.
- 3. Audience/ Receiver- this is the end user of the message.
- 4. Channels/ extension method.

What do you need to understand in the rural settlements?

- 1) The knowledge of the socio-cultural element of the people. This is enable the extension agent work with the people in a socially acceptable manner to identify potential source of resistance to innovation
- 2) The knowledge of the way by which societies maintain social order through socialization
- 3) Understanding of social stratification system are:
 - (1) poor human
 - (2) tenant farmers or other resource – poor producers
 - (3) poorly paid, unskilled or semi skilled labourers
 - (4) Ethnic minorities
 - (5) Pastoralists or other nomadic people

The status of these groups may be an important determinant of the willingness or ability to participate in development programme. To ensure their ability to participate in and benefit from development programme, such socially deprived groups may need to be specifically targeted.

4. Knowledge of settlement pattern- this can either be nucleated or dispersed

CHANNELS OR EXTENSION METHODS

These are the pathway through which the message travels between the source and the receiver. It links the source to the receiver.

Extension teaching methods are:

(1) Individual contact

- Farm & Home visit
- Office calls

- Telephone calls
- Personal letter
- Result demonstration
- Method demonstration

(2) Group method

Group method includes:

- Demonstration
- Field day
- Field trips
- Group discussion
- Extension
- Role play/ drama sketches
- Question & answer session

(3) Mass Media Method

- a) Print techniques
- b) Broadcast techniques
- c) Audiovisuals support techniques

PLANNING AN EXTENSION PROGRAMME

Extension programme is based on need. There are two basic types of need:

- (1) felt need
- (2) unfelt need

Felt need is visibly seen, observed needs, absolute necessity

- Unfelt need is needs the community does not regard as needs.
- To identify a felt need extension agent get a list and the community get a list and comparison is made. Need identification is important so as help in stating the objectives of any extension programme.

Programme planning in extension is a conscious effort to use resources and organization abilities to achieve the best possible result in helping to improve agriculture, animal health and husbandry and its farmers.

Extension programme is a written statement which contain four major elements:

- (i) Objectives
- (ii) Means of achieving
- (iii) Resource needed to fulfill the programme
- (iv) a work plan indicating the schedule of extension activities

The importance of understanding Rural Sociology for Veterinary Extension Service are as follows:

- Anyone that come into the rural settlement will be viewed as an (stranger, but by demonstrating respect for the local culture, one will easily accept by the people, win their confidence and co-operation.
- Understanding the social environment of the clientele will make an extension worker more sensitive to the needs of and aspiration of the targeted beneficiaries as and diligently work to meet their specific needs
- It is through understanding of local ways and conditions that development workers can come up will programme that are locally acceptable and sustainable
- Programmes can be implemented in a flexible and more effective manner with an understanding of local conditions and a sensitivity to changes in

those conditions that may lead to the fulfillment of the programme statement.

Advantages of Extension Programme Planning are as follows:

1. it makes the farmer to know what to expect when, how and why
2. it forms the basis for planning for the extension agent.
3. it reveals the resource needed
4. it an instrument to use in justifying requests for resources.
5. it will enhance continuity.
6. it form the basis for evaluation.
7. it serves as a link for early co-ordination.

Stages in programme planning:

(1) Identification of problem. (situation analysis)

(2) state programme objective:-

-The objectives should be SMART-

(3) Programme execution (method)

- Setup a plan of work
- calendar of activities (time)
- schedule of activities (who)
- division of responsibility
- select teaching methods
- plan assistance needed from people extension agent, researches,

Collaboration agents etc.

4 Evaluation – this is a continuous process of assessing the extension programme.

5 Reconsideration – this is to help to make necessary adjustment in the programme for best result. – it may lead to establishment of new direction or re-plan of extension and research.

Involvement of farmers in planning extension programme

This means making beneficiaries of programme part and parcel of it from the programme identification stages to evaluation involvement is very important became

- (1) It will ensure sustainability of the programme
- (2) It determines workability of the programme
- (3) It helps in felt need identification.
- (4) It will ensure logical progression of the programme.
 - Types of participation/ involvement by farmers
 - Passive participation
 - Participation in information

Evaluation and Monitoring process in Extension

Evaluation means finding or judging value of an object, event or activity; therefore in extension evaluation means determining of value of teaching or activity. It also denotes determining the strength and weakness or value of programme and their outcomes.

Evaluation in extension is the process of determining the extent to which educational objectives of a programme have been reached at the end of a particular educational activity.

Monitoring is the timely gathering of information of project inputs, impact and effort and complimentary activities that are effort and complimentary activities that are critical to the achievement of the objectives of the project (Assessment of ongoing project)

Appraisal – this is pre-implementation project analysis

Why Evaluate?

- (1) it helps to identify the effectiveness of educational programmes and extension teaching by finding out their weak areas
- (2) it helps to determine progress of an extension programme or lack of it
- (3) it affords extension agent an opportunity to make a report to the public about his activities or the value of programme
- (4) evaluation assesses the effectiveness of the administrative, organizational and supervisory procedures used
- (5) it provides a feeling of satisfaction in extension work, especially of programmes more in the desired direction
- (6) it provides a basis for adjusting and improving the extension programme

Types of Evaluation

1. concept evaluation
 2. impact evaluation
 3. adaptation rate evaluation
- Concept evaluation – this is an assessment of objective based on social-culture setting and national interest
 - Impact evaluation – here you talk of production target. Is it having a desired impact on production or not. If this is not accomplished it may be due to inadequate input and un-conducive weather.

Adoption rate evaluation: here expected adoption rate is compared with actual adoption rate.

$$\text{Adoption rate} = \frac{\text{No of adopter}}{\text{Target population}} \times 100$$

- Adoption process – this describes the decision making stages a farmer goes through from awareness of an innovation through it adoption and use.

Stage of Adoption:

1. Awareness – getting to know about the innovation
2. Interest stage – showing intents seek more information
3. Evaluation – considers the advantages
4. Trial stage - adoption of innovation on small scale
5. Adoption – adoption of innovation in full scale and incorporate it into existing farm system

Types of adopter

1. Innovators- these are usually the first few to accept one innovation in traditional societies. They are highly inquisitive adventures with large holding than average holdings, greater wealth and better education.

- They are able to take risk

2. Early adopters- these are quick to see value of an innovation and will try it, if there is likelihood of succeeding. Young adult with higher education fall into this category

3. Early majority- these adopt innovation after the early adopters have accepted it

4. Late majority- these are more conservative less wealthy and adopt innovation only when it is generally accepted by other farmers in the community

5. Late adopters/ laggards- the aged who are conservative fall into this category. They have low or no education.

Factor influencing adoption rate of innovation process:

- 1) farm size
- 2) personal characteristics
- 3) sociology
- 4) personal values
- 5) contact with extension service/ personnel
- 6) cost of economic feasibility of practice
- 7) leadership structure in the community
- 8) complexity of innovation

Diffusion of innovation is the flow of innovation message among member of a given community attribute of innovation that facilitate or impede adoption/ diffusion process

- cost
- complexity
- visibility
- divisibility
- compatibility
- utility

Monitoring can be achieved by:

- 1) use of case study approach
- 2) Empirical survey of extension activities
- 3) routine or day today monitoring by the use of extension plan and calendar of work
- 4) use of quarterly monitoring tables