

Arab republic of Egypt

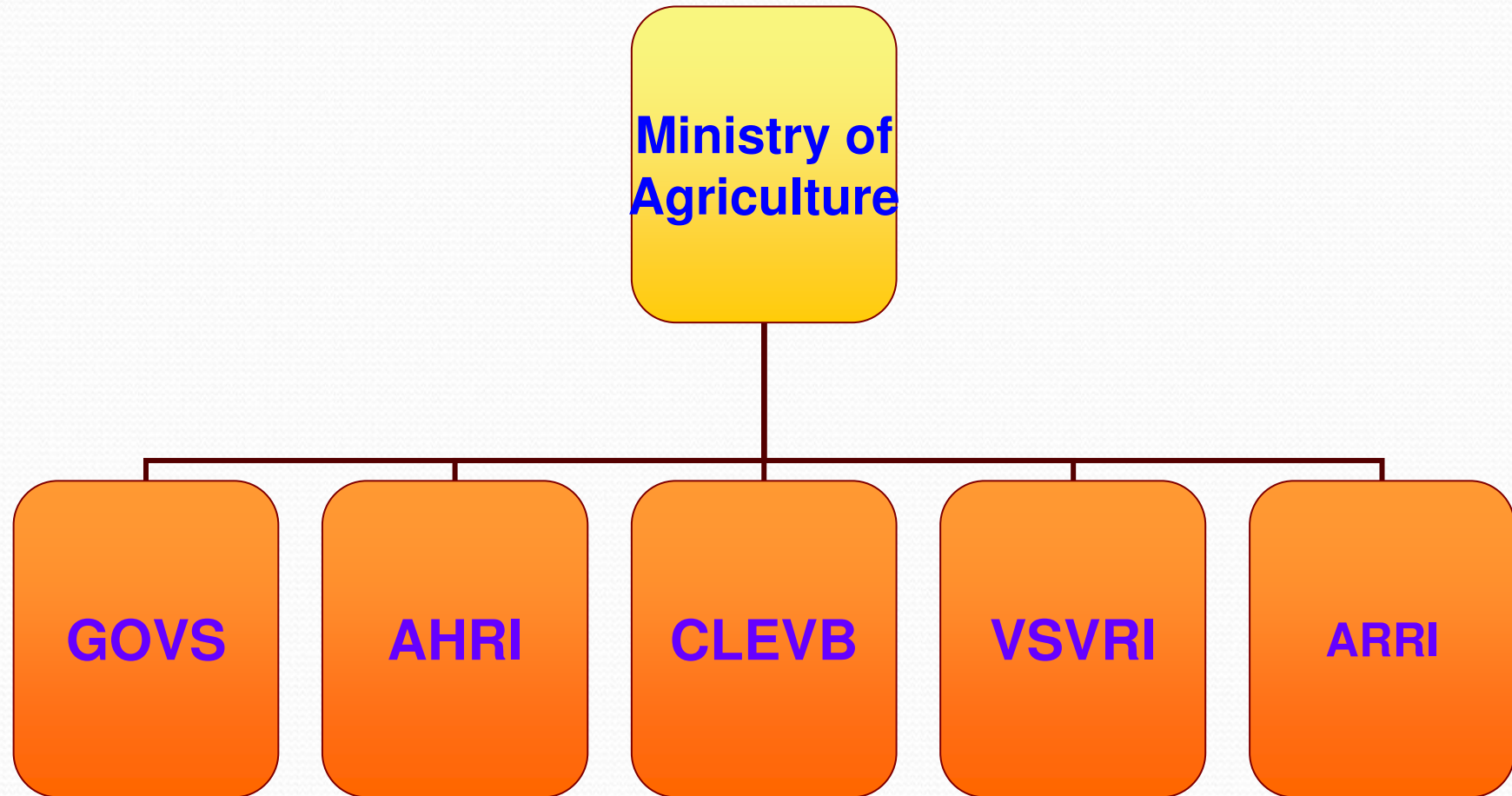
Current situation of Foot and mouth disease IN EGYPT

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Vaccines
CLEVB- ministry of Agriculture -EGYPT

Animal Population in Egypt (2012)

Species	Number
Cattle	2716803
Buffaloes	2024995
Goats	2290614
Sheep	965366

Veterinary Service in Egypt



History Of The Disease in Egypt

- ❑ **Foot and mouth disease (FMD), one of the most wide spread affecting cloven foot animals, it has detrimental effects on meat and milk production.**
- ❑ **FMD was first detected in Egypt in 1950, an outbreak was caused by SAT2 strain, and in 1952, 1956, 1958 outbreaks were caused by strain A.**
- ❑ **Several foci were detected in years 1961, 1962, 1964, 1966,1967, 1968, 1969 and 1970.**
- ❑ **No strains other than O₁ has been detected since 1970 till the appearance of strain (A) in February 2006.**
- ❑ **In March 2012 diagnosed the first cases by SAT2 strain.**

Strain SAT2 of FMDV was isolated and identified from collected samples of infected cases in our national laboratories (Animal Health Research Institute) " AHRI" in 26 febraury and confirmed in Pirbright Lab./ UK (WRL)

Vaccination Numbers applied by GOVS (2006-2011)

Year	Cattle	Buffaloes	Sheep	Goats
2008	4373266	2937185	37922	10166
2009	4847488	3099949	0	0
2010	2023665	1297766	1546279	357096
2011	4978724	3323435	4459660	1383996

Egypt Geography

- ❑ Egypt occupies the northeastern corner of African continent. The total area of Egypt is 1,002,000 Km².
- ❑ It is bounded by the Mediterranean sea in the North, by Sudan in the south, in the East by the Red Sea in the West by Libya.



Recent edimiological situation of FMD SAT2 in the nearest African country to Egypt



130 30.5 0 130 Kilometers

1 centimeter equals 289.837093 kilometers

Causes of FMD in last outbreak

- ❑ It is not known exactly how the new strain has entered the country but it may be due to :
- ❑ International and local trade play a major role in introducing and spreading of infection (Legal and illegal way) since Egypt import live animals from some endemic country with SAT₂ .
- ❑ Animal movement.
- ❑ shipments of infected sheep from Libya came across the lengthy border and come contact with cattle .This may be probably confirmed by the result of WRL which reported that Egypt SAT₂ strain is closely related to Libya SAT₂ strain .

Egypt is divided into 5 regions

1- Upper Egypt region:

Assiut – Sohag – Quena – Luxor –Aswan.

2 – Delta region:

Alexandria – Behaira – Kafr Elshakh – Minoufia –
Gharbia – Qualubia – Sharkia – Dakahlia – Damietta.

3 -Central region:


Cairo – Giza – Fayoum- Benisuef-Menia .

4- Eastern region:

Port Said – Ismailia – Suez -- Red Sea- North Sinai –
South Sinai .

5– Western regions

Motrouh – New Valley.

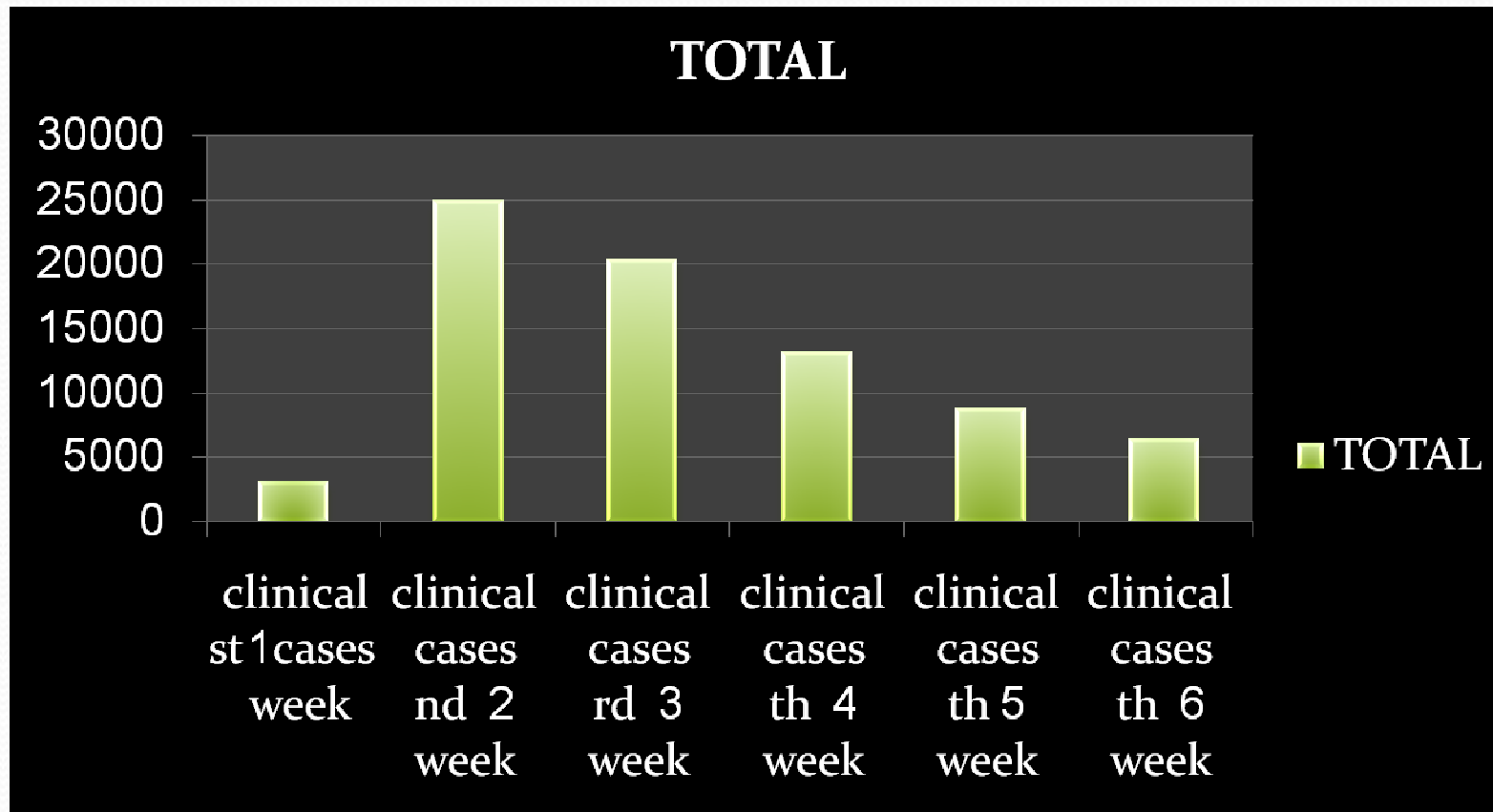


**No. Of morbidity and mortality
during outbreaks of (2012)**

NOTIFICATION OF CLINICAL CASES OF FMD DIVIDED INTO WEEKS FROM 26-2 TILL 11-4-2012

Clinical cases 6 th week	Clinical cases 5 th week	Clinical cases 4 th week	Clinical cases 3 rd week	Clinical cases 2 nd week	Clinical cases 1 st week	Governorates
112	164	686	234	169	19	cairo
91	128	278	277	1463	223	Alex
31	53	122	77	41	239	Port said
200	741	2660	847	980	2	Suez
644	1037	633	409	748	67	Domitta
1554	1684	1810	3002	3318	165	Dakahlia
31	67	100	82	165	49	Sharkia
16	64	58	168	340	657	Quliobia
357	336	309	397	459	93	Kafrelshik
1094	1501	2788	9622	11149	448	Gharbia
285	311	326	333	768	79	Menofia
230	584	953	1254	1407	122	Behira
512	315	101	27	64	0	Ismailia
208	319	483	650	1007	127	Giza
185	307	282	674	374	10	Benisuef
0	18	68	229	406	55	Fayoum
15	129	473	501	801	54	Menia
232	270	342	320	410	93	Assuit
180	258	255	334	260	313	Sohag
186	242	240	473	196	166	Quina
20	21	37	96	65	32	Asswan
85	120	112	247	306	47	Luxor
66	12	0	0	0	0	Red sea
67	58	61	79	37	0	New valley
5	51	23	20	5	11	Matroh
0	0	1	0	0	0	North sinia
0	0	0	0	0	0	South sinia
6406	8790	13201	20352	24938	3071	TOTAL

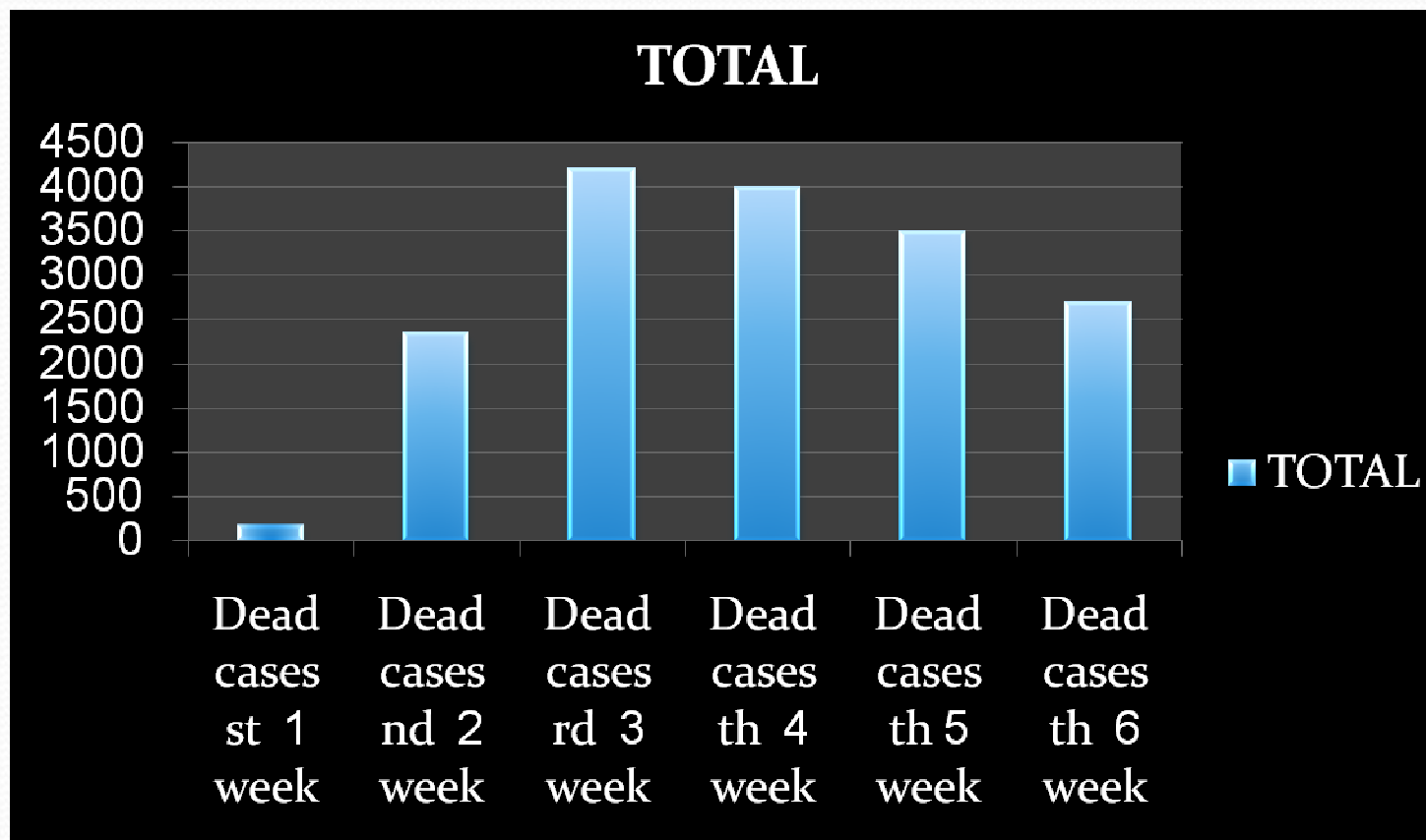
EPICURVE OF CLINICAL CASES OF FMD DIVIDED INTO WEEKS FROM 26-2 TILL 11-4-2012



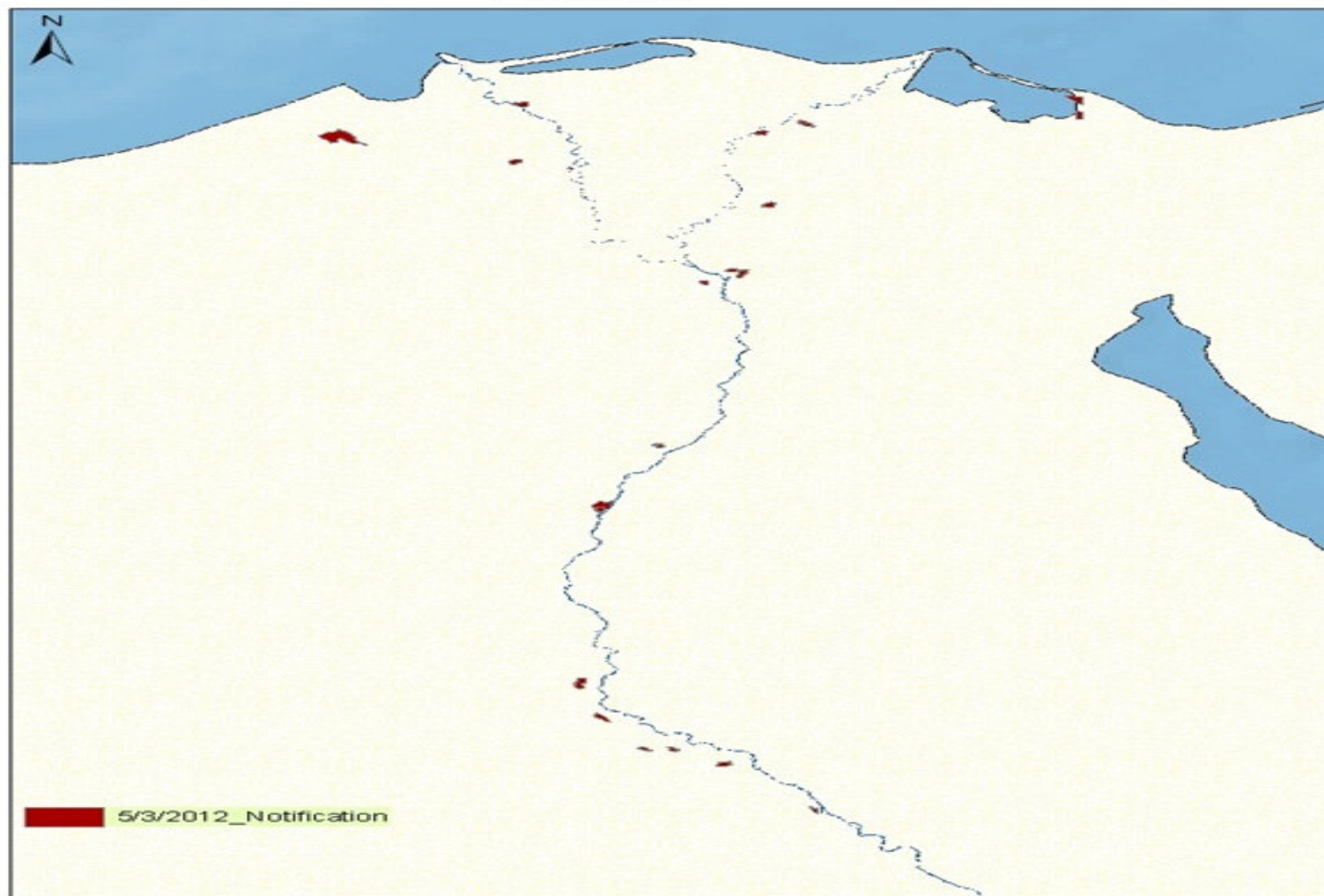
NOTIFICATION OF DEAD CASES OF FMD DIVIDED INTO WEEKS FROM 26-2 TILL 11-4-2012

Governorates	Dead cases 1 st week	Dead cases 2 nd week	Dead cases 3 rd week	Dead cases 4 th week	Dead cases 5 th week	Dead cases 6 th week
cairo	2	3	3	16	11	10
Alex	12	61	123	116	92	47
Port said	20	26	68	66	21	14
Suez	0	157	94	56	32	16
Domitta	7	116	264	263	343	331
Dakahlia	2	193	505	553	530	446
Sharkia	0	16	9	13	15	20
Quliobia	2	59	67	61	50	19
Kafrelshik	10	146	377	454	274	214
Gharbia	73	1009	1411	777	569	424
Menofia	1	147	258	271	317	333
Behira	0	110	333	421	216	141
Ismailia	0	3	5	12	8	0
Giza	2	41	39	31	24	24
Benisuef	0	57	125	215	226	253
Fayoum	3	39	87	169	246	153
Menia	0	72	132	258	218	53
Assuit	18	63	47	48	59	63
Sohag	25	0	147	47	112	55
Quina	3	13	41	71	83	38
Asswan	0	11	20	25	11	4
Luxor	3	17	41	23	28	34
Red sea	0	0	0	0	0	0
New valley	0	0	7	27	6	3
Matroh	0	0	7	4	4	0
North sinia	0	0	0	0	0	0
South sinia	0	0	0	0	0	0
TOTAL	183	2359	4210	3997	3495	2695

EPICURVE OF DEADCASES OF FMD DIVIDED INTO WEEKS FROM 26-2 TILL 11-4-2012



Villages reporting suspected Foot and mouth disease 2012/3/5

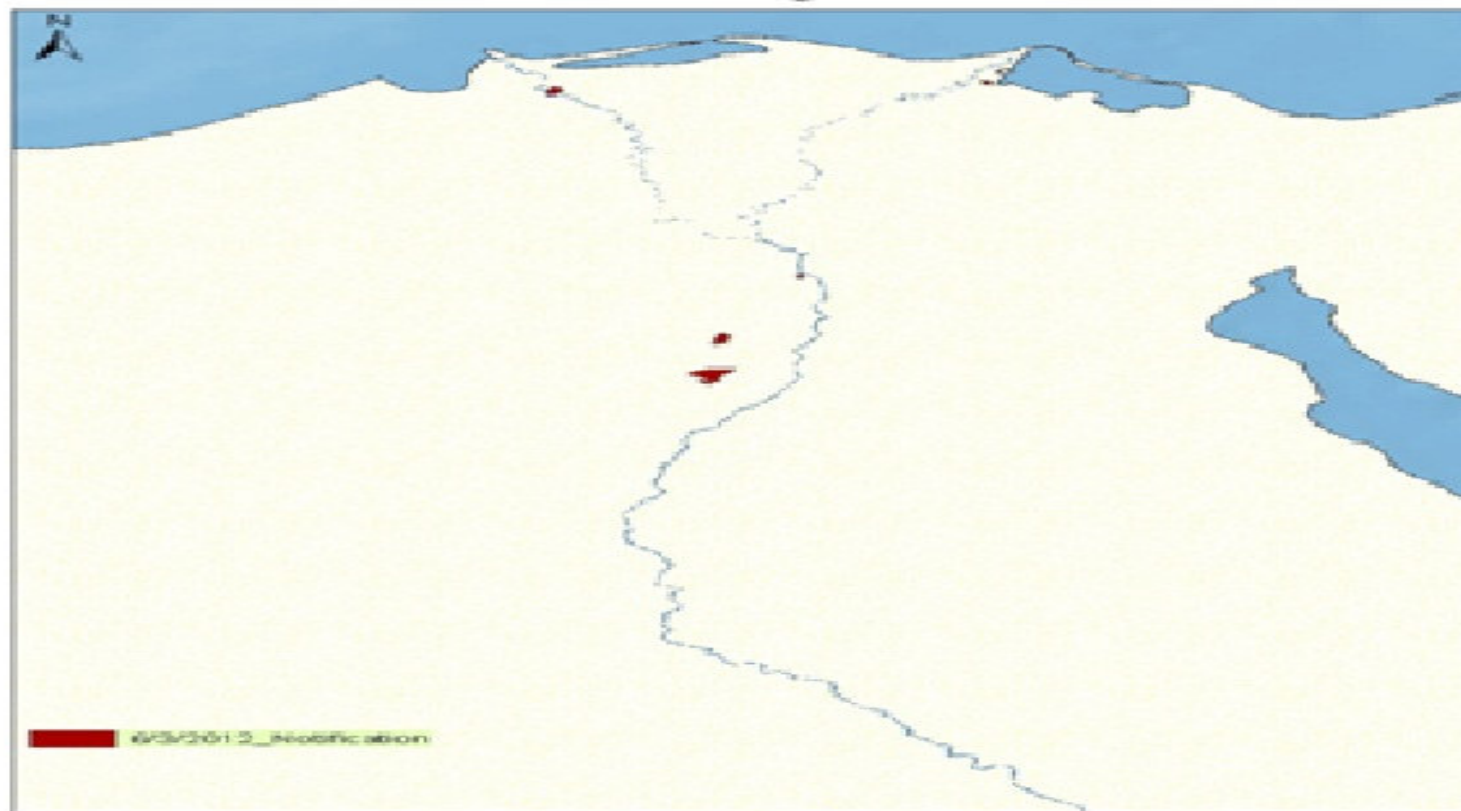


20 35 0 20 Kilometers
1 centimeter equals 26.463996 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

Villages reporting suspected Foot and mouth disease

2012/3/6



0 10 20 30 Kilometers
1 centimeter equals 26.453006 kilometers

مركز المعلومات الوطني للأمن وإدارة الأزمات
القطرية العامة للأمن الإلكتروني

Villages reporting suspected Foot and mouth disease 2012/3/7

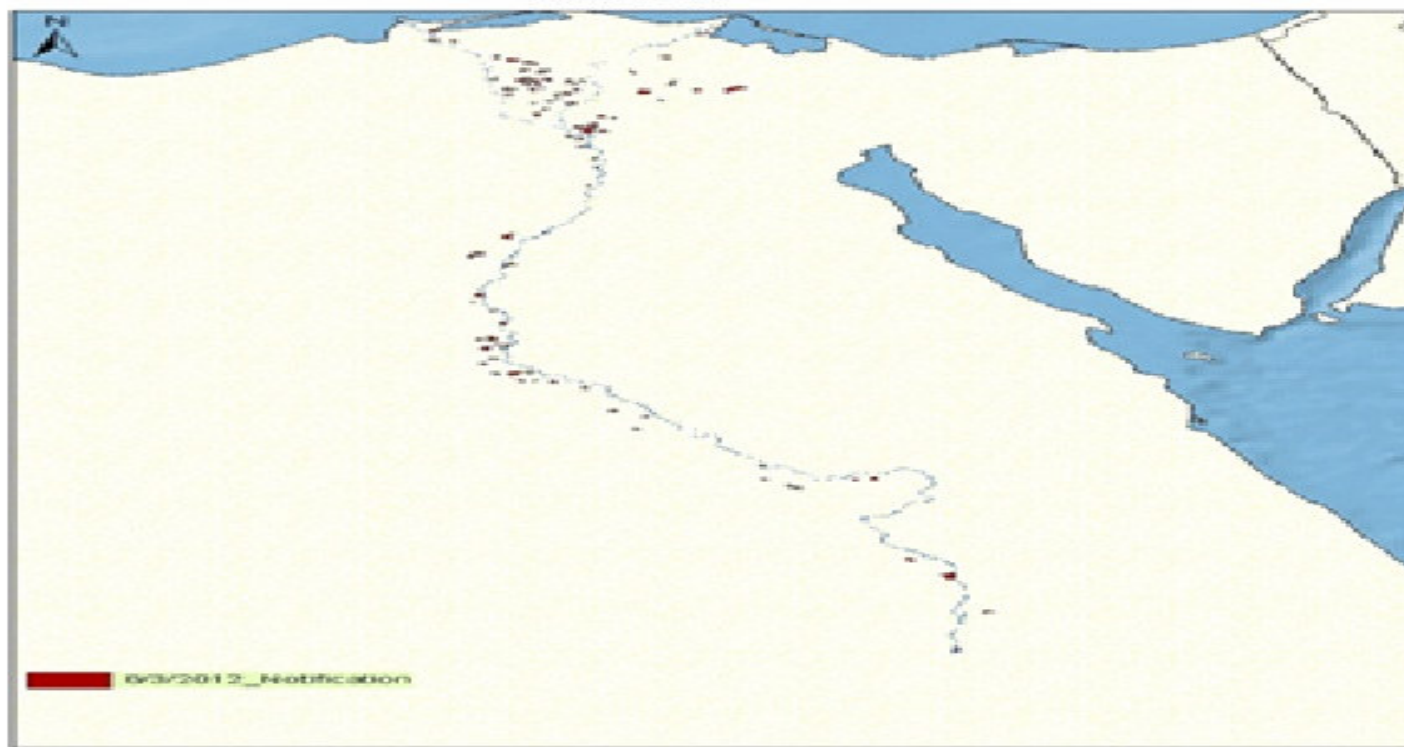


125 62.5 0 125 Kilometers
1 centimeter equals 49.250698 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

Villages reporting suspected Foot and mouth disease

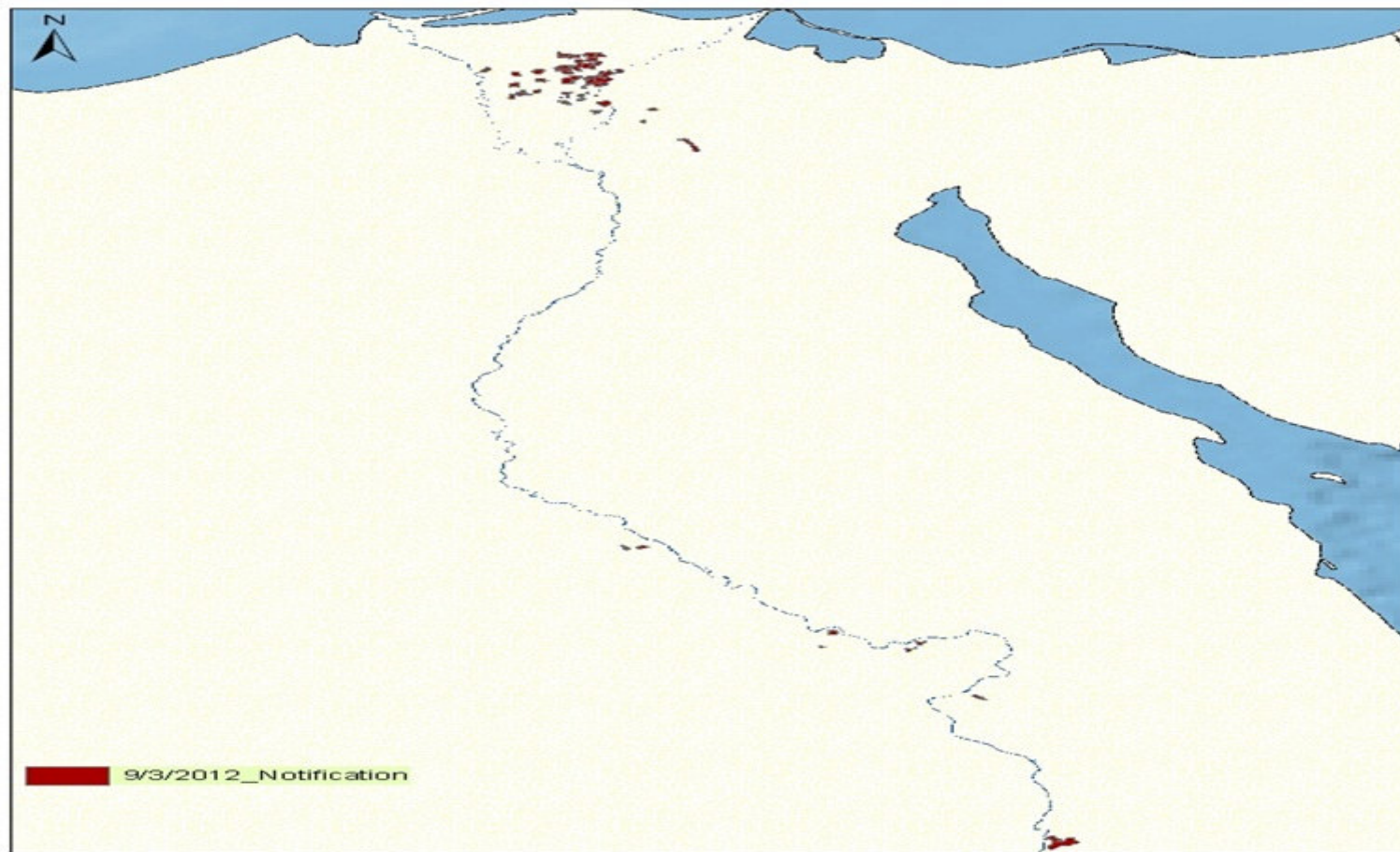
2012/3/8



0 100 200 300 400 500 METERS
1 centimeter equals 41.500000 kilometers

مركز غزة الصحية والإستراتيجيات
الهيئية الفلسطينية للتصديقات الوبائية

**Villages reporting suspected Foot and mouth disease
2012/3/9**

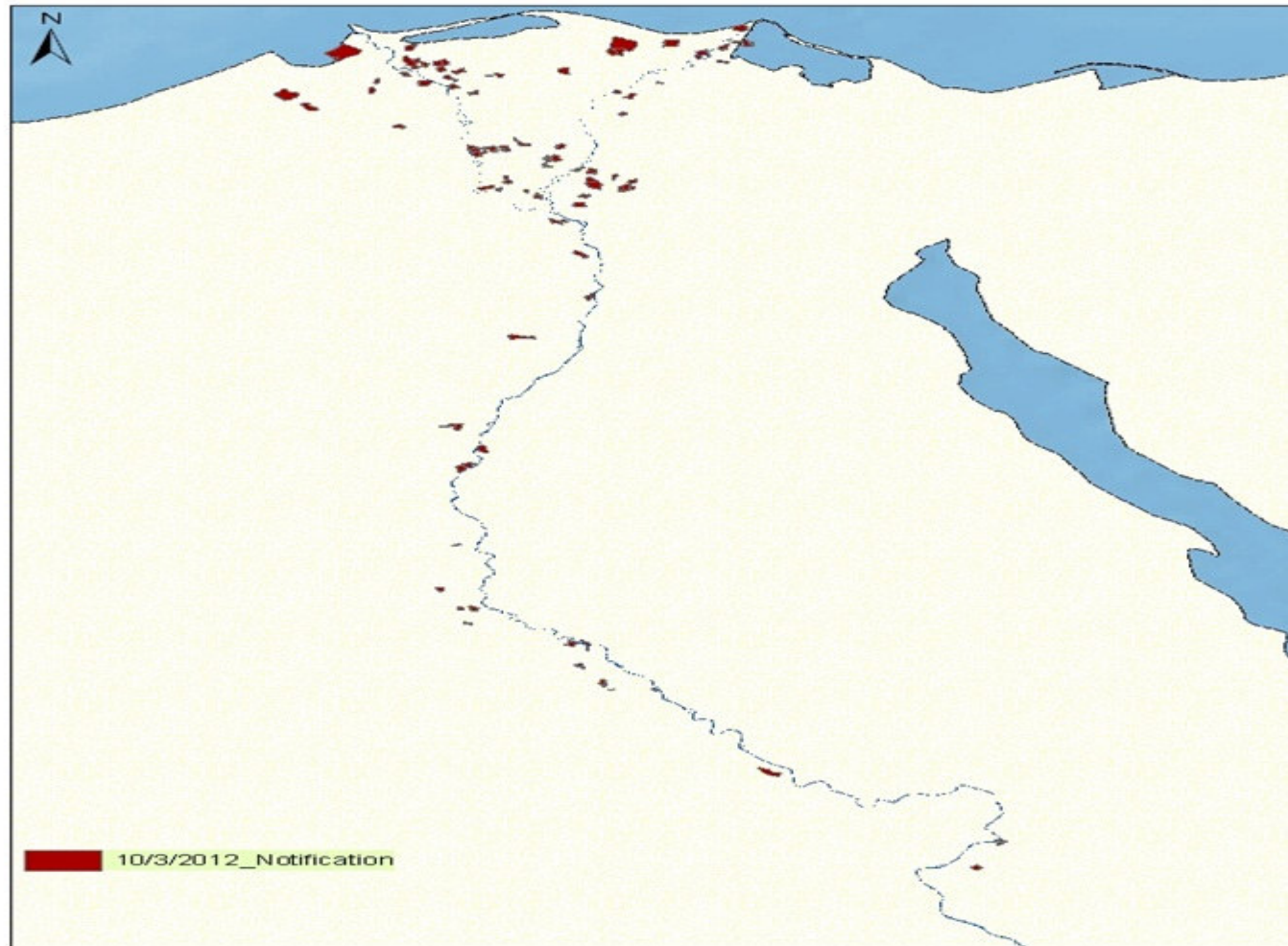


90 45 0 90 Kilometers
1 centimeter equals 34.774641 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

Villages reporting suspected Foot and mouth disease

2012/3/10

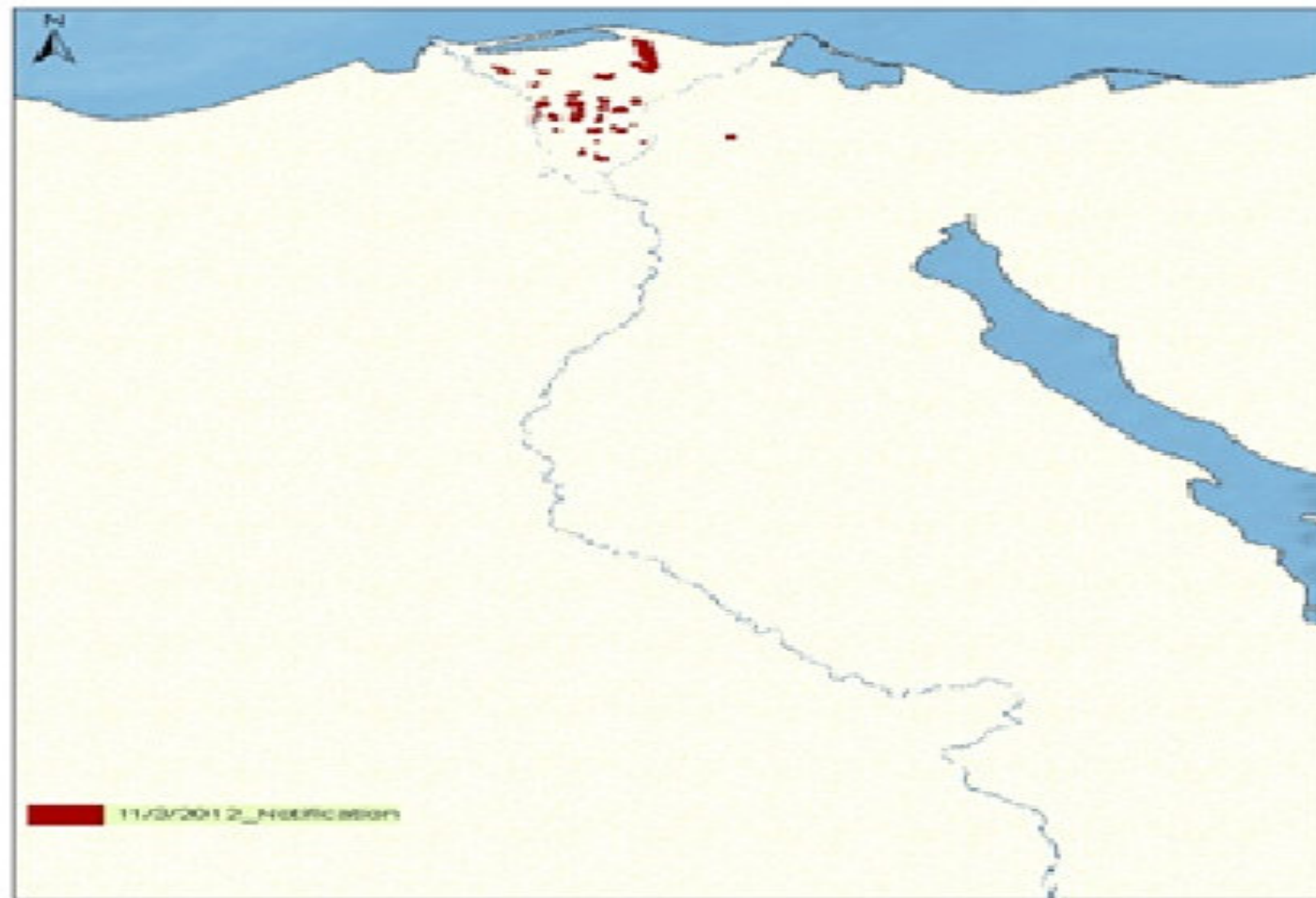


20 40 0 20 Kilometers
1 centimeter equals 31.490227 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

Villages reporting suspected Foot and mouth disease

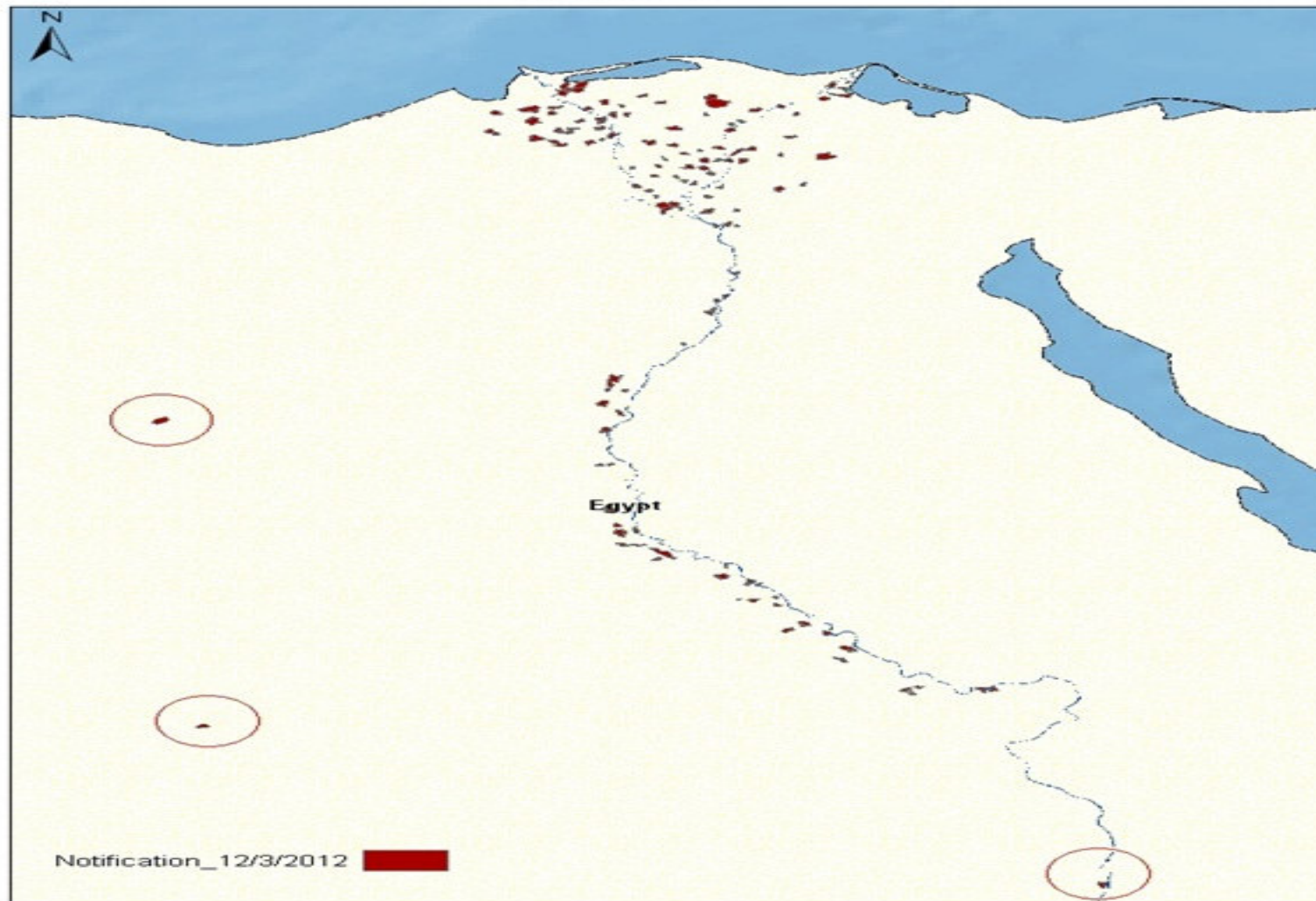
2012/3/11



0 50 100 150 Kilometers
1 centimeter equals 35.312264 kilometers

وزارة الزراعة والثروة الحيوانية
الهيئة العامة للغذاء والدواء العراقية

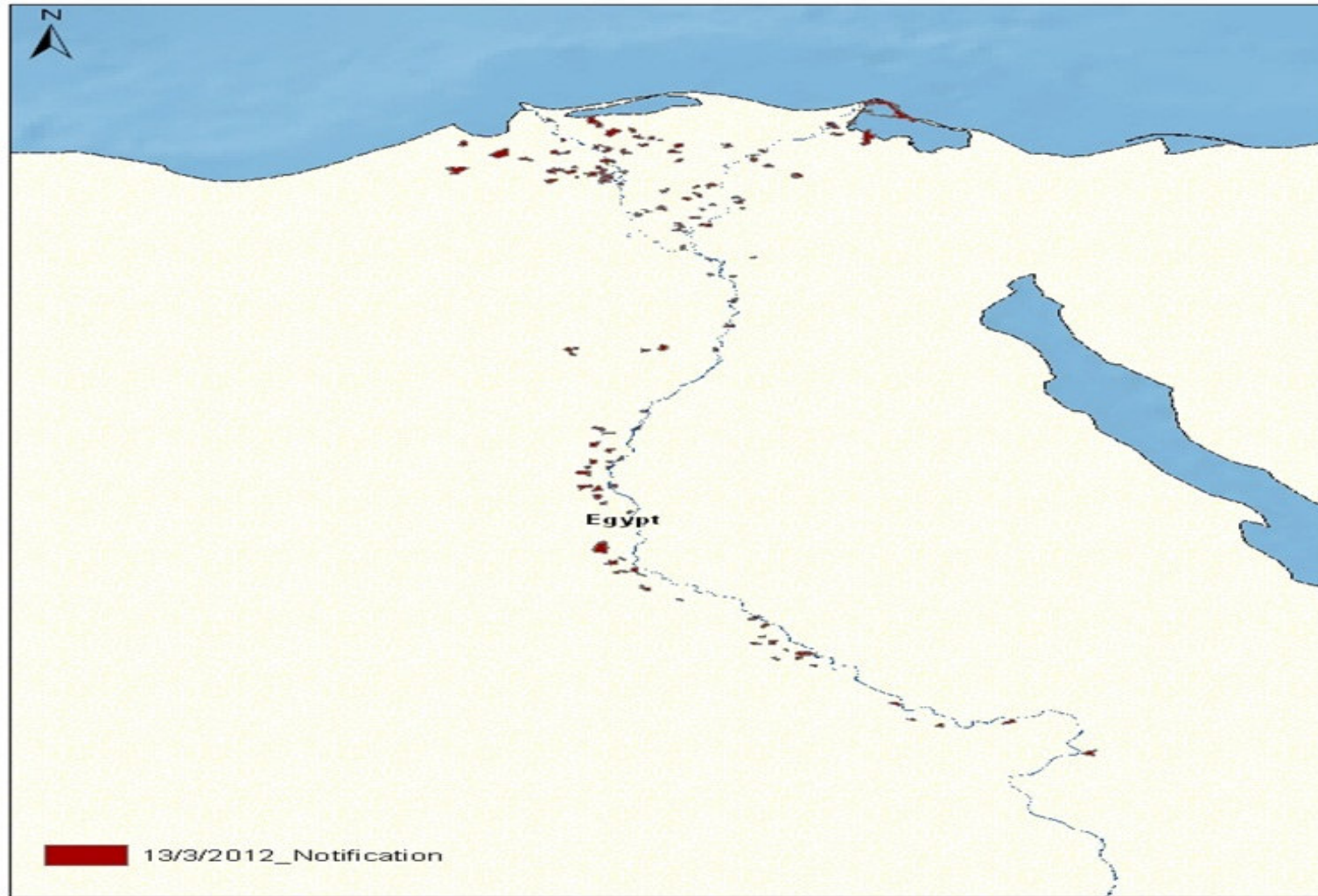
Villages reporting suspected Foot and mouth disease 2012/3/12



90 45 0 90 Kilometers
1 centimeter equals 37.376532 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

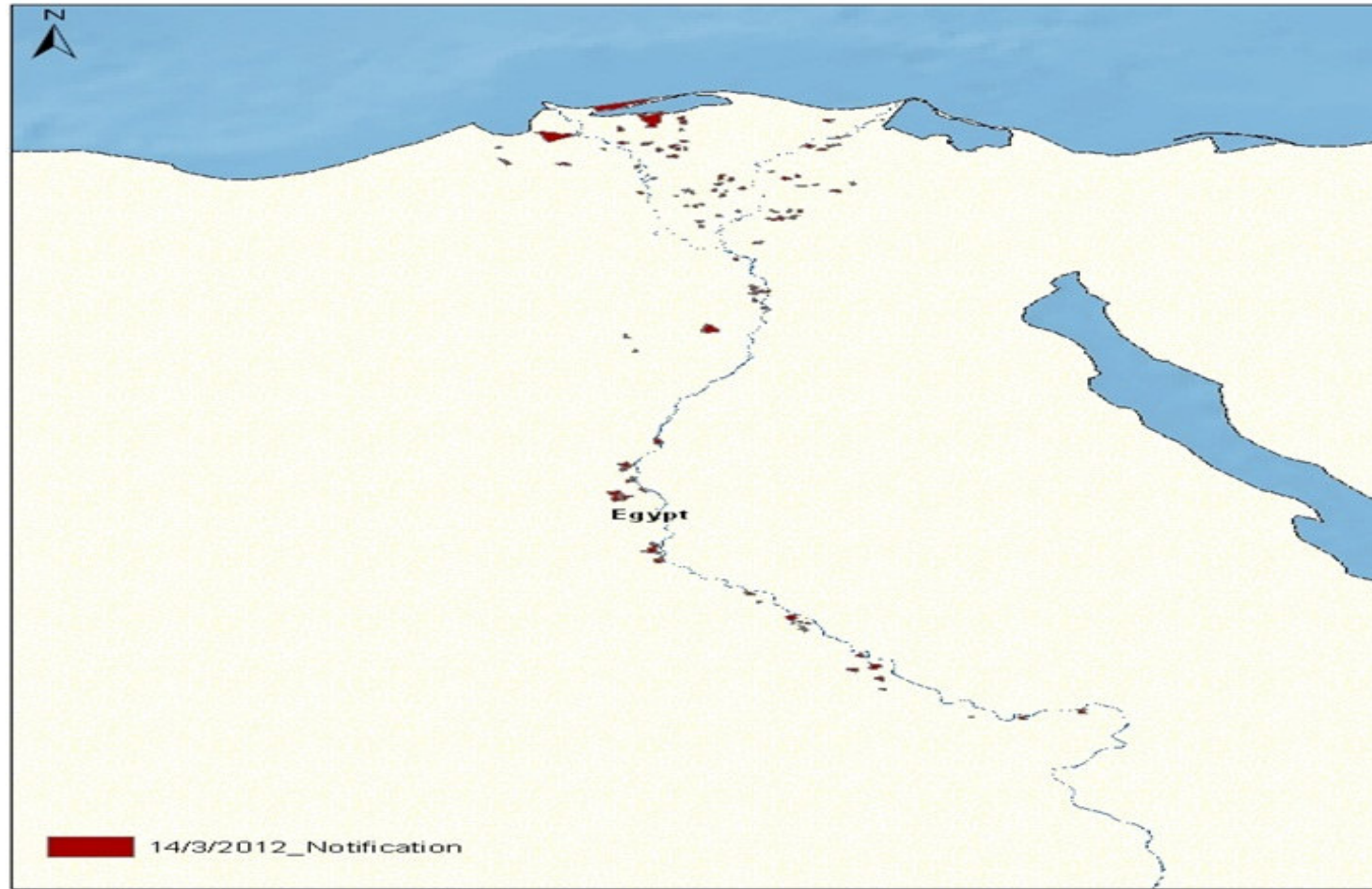
**Villages reporting suspected Foot and mouth disease
2012/3/13**



00 45 0 90 Kilometers
1 centimeter equals 37.376532 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

**Villages reporting suspected Foot and mouth disease
2012/3/14**



90 45 0 90 Kilometers
1 centimeter equals 37.376532 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

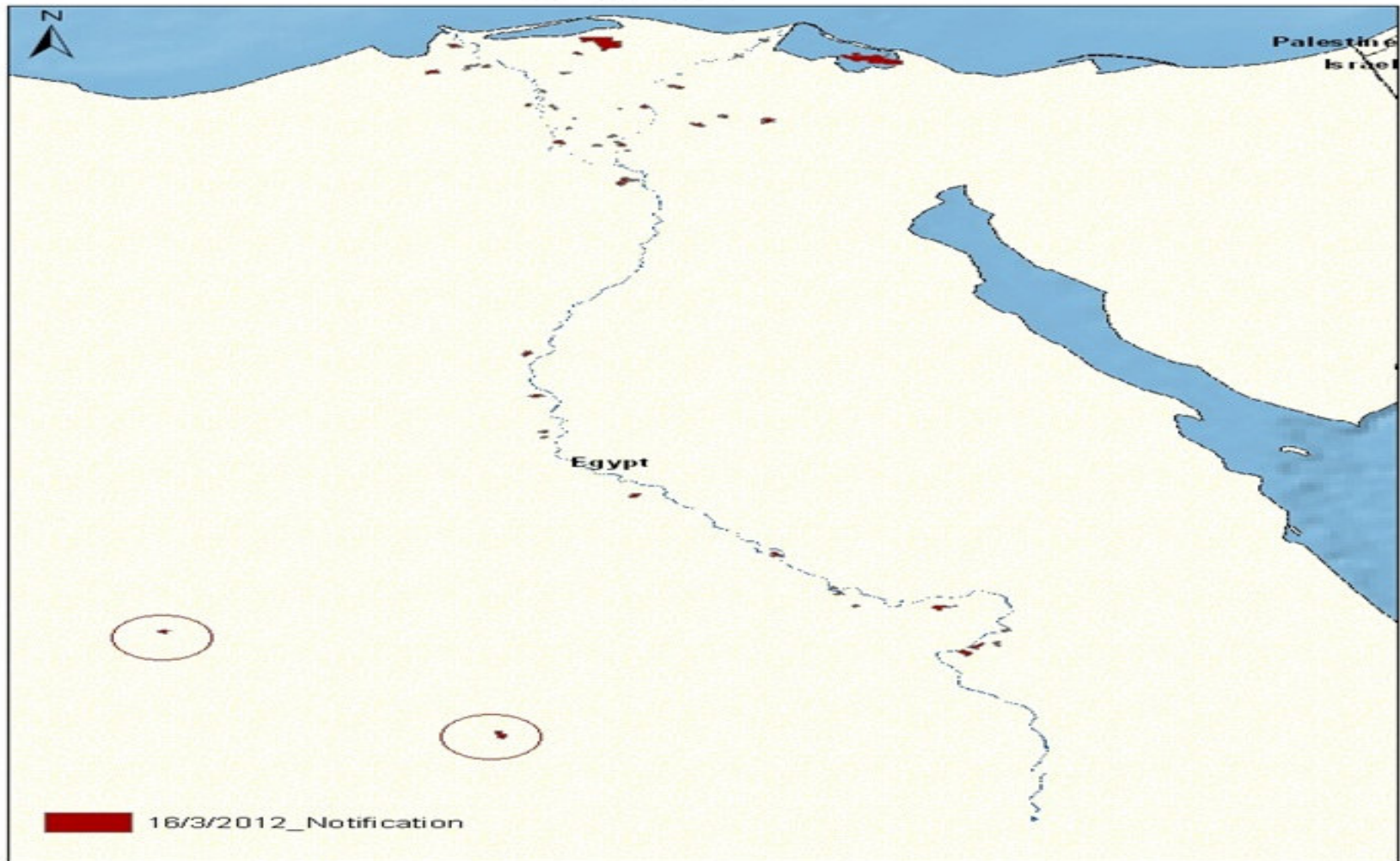
Villages reporting suspected Foot and mouth disease 2012/3/15



1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
المهنية العامة للتخطيط والمعلومات الجغرافية

Villages reporting suspected Foot and mouth disease 2012/3/16

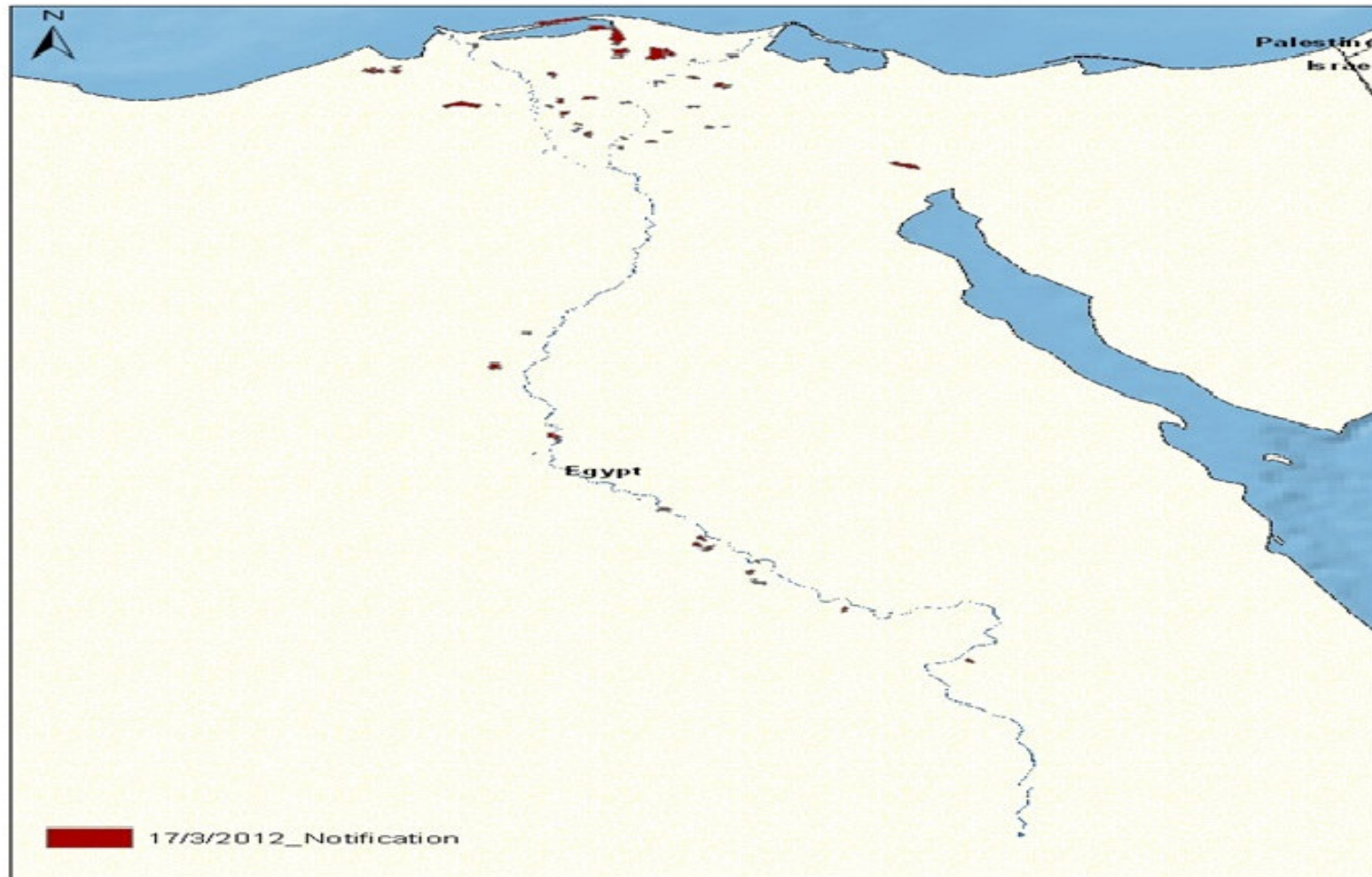


00 45 0 00 Kilometers
1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

Villages reporting suspected Foot and mouth disease

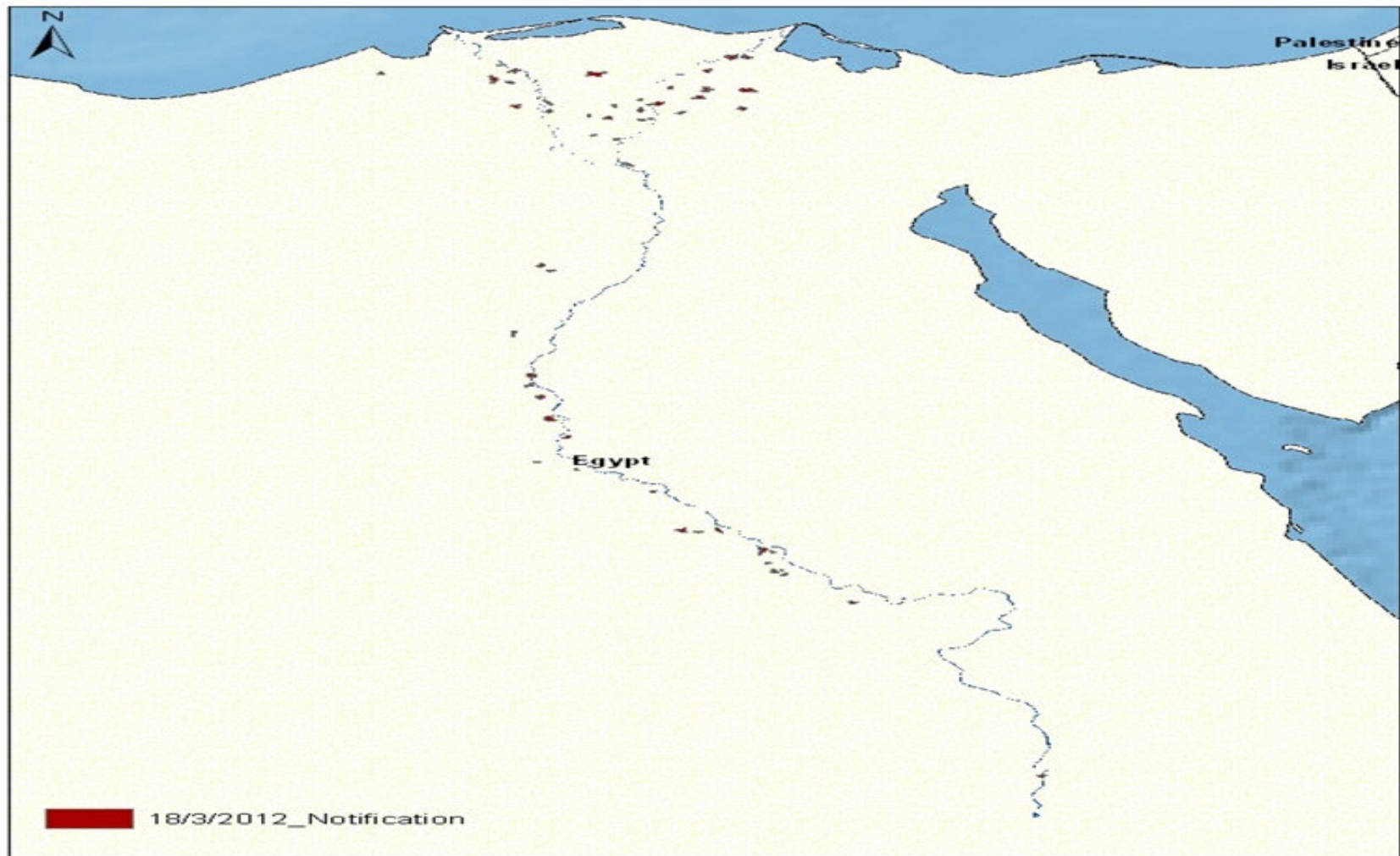
2012/3/17



00 45 0 90 Kilometers
1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

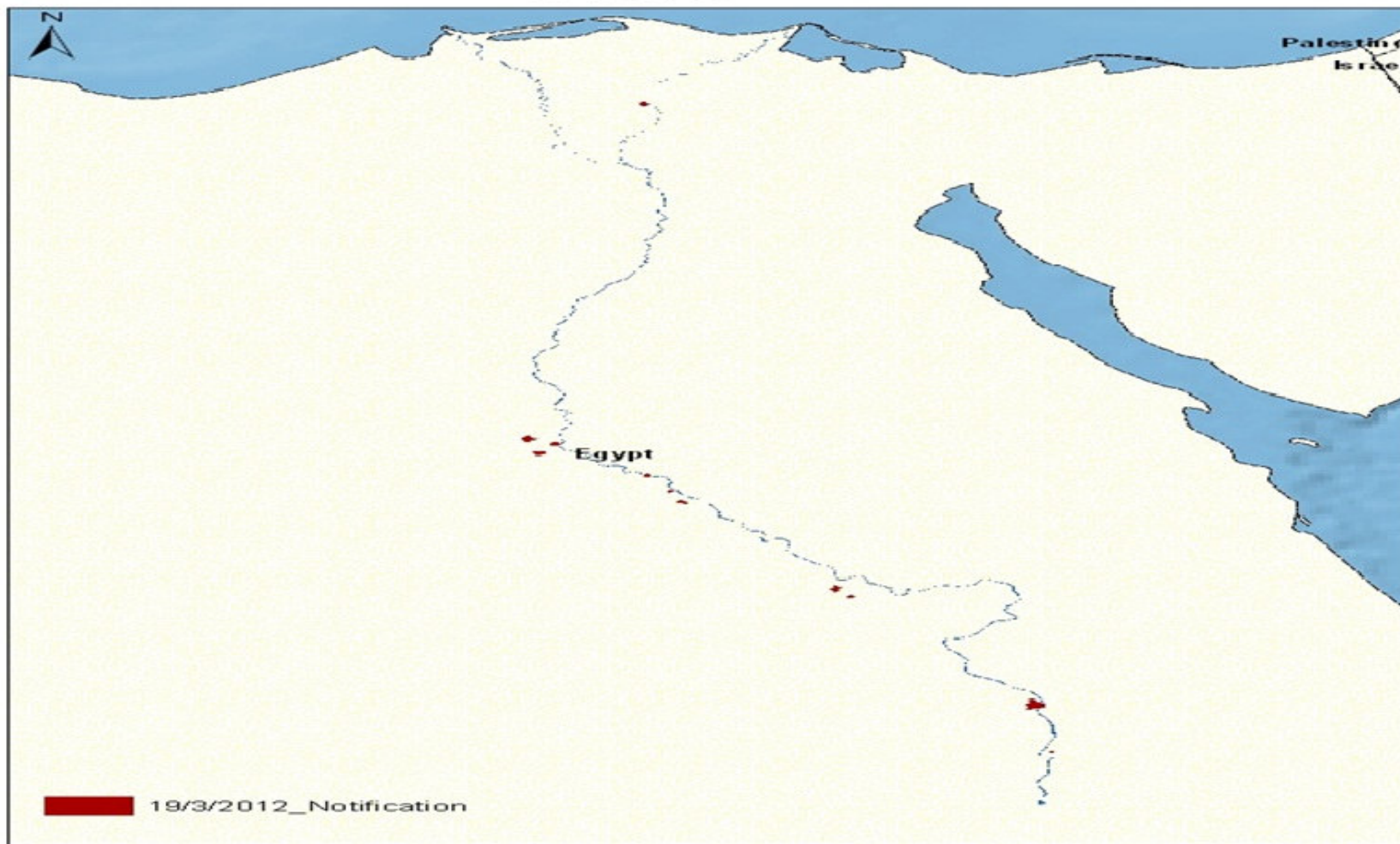
Villages reporting suspected Foot and mouth disease 2012/3/18



90 45 0 90 Kilometers
1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

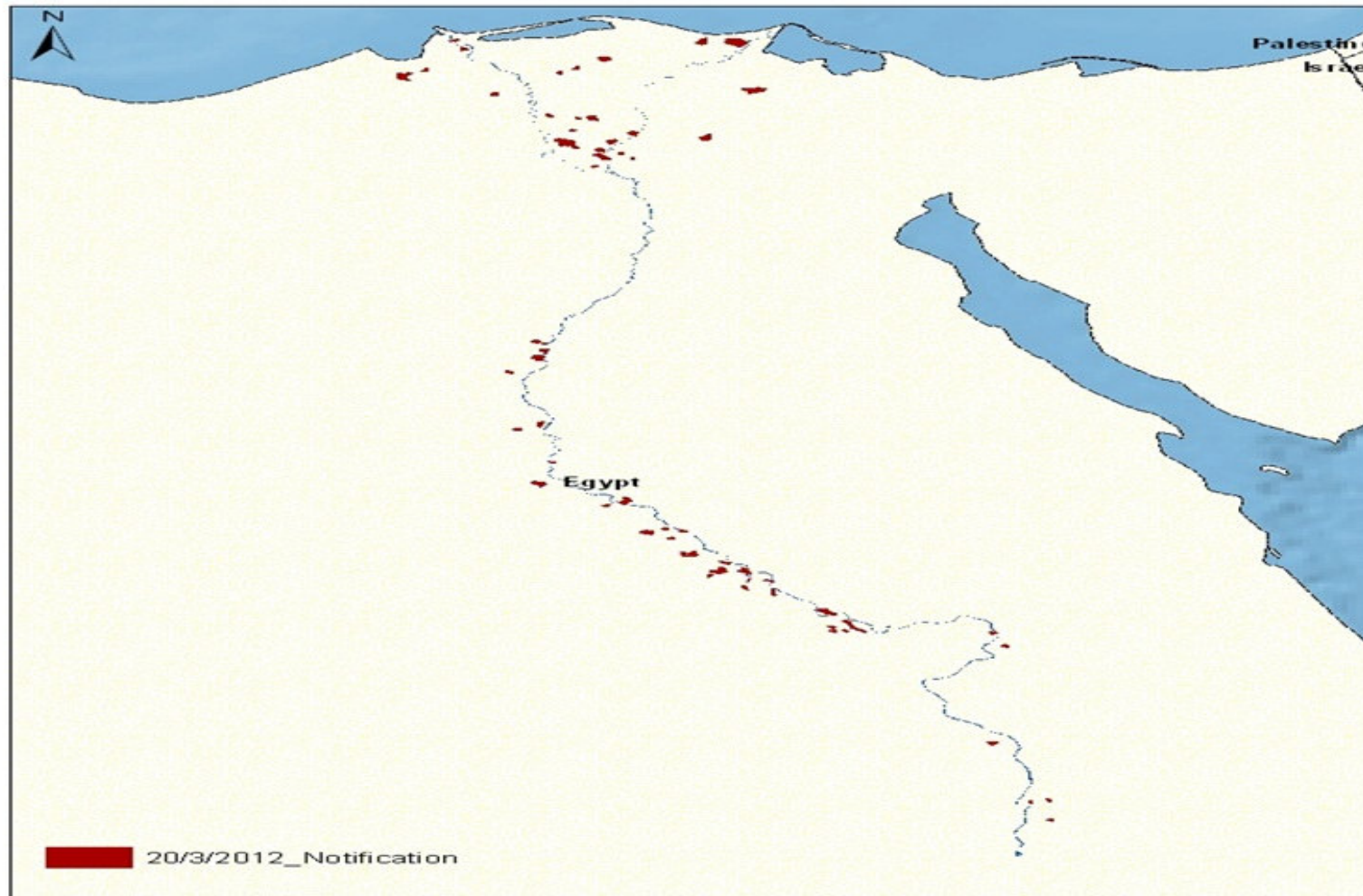
Villages reporting suspected Foot and mouth disease 2012/3/19



00 45 0 90 1:30m = 1/31
1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة للخدمات البيطرية

**Villages reporting suspected Foot and mouth disease
2012/3/20**



90 45 0 90 Kilometers
1 centimeter equals 38.574007 kilometers

وزارة الزراعة واستصلاح الأراضي
الهيئة العامة لخدمات البيطرية
إدارة الإيسدمبولجى

FMD is the most economically devastating livestock disease in the world in the last outbreak in Egypt it causes :


- Death in young animals
- Loss in weight and milk production
- Losses in Trade
- Expenses of Control policy (Vaccination and control measures)



Control Measures


1-Immediate applied measurements

- ❑ Immediate notification to OIE
- ❑ Prevent the transportation of live cattle between governorates and closing all live cattle markets on a temporary basis.
- ❑ separation of infected cattle from sound cattle, prevent suckling calves from contact with infected mothers .
- ❑ The number of the field supervision committees from GOVS and veterinary directorates were significantly increased to provide the preventive measures against FMD

- 
- ❑ **Increasing awareness of the owners about the necessities of the vaccination campaigns , moreover extension seminars were held to aware the people on the characteristics of FMD and the measures to be taken in case of suspicion of infection.**
 - ❑ **The therapeutic and preventive measures which implemented by the GOVS in collaboration with the veterinary directorates had been a fundamental aspect in the minimization of the FMD incidence in most of the infected governorates as well as recovery of the majority of diseased cases**
 - ❑ **However, the lack of awareness among farmers and small-scale breeders (many are not reporting their infected animals while others are throwing the bodies of the dead animals in the streets and in the small canals), the unavailability of appropriate vaccines, and the current windy climatic conditions (FMD is windborne) will hinder the government's efforts to control the outbreak.**

2-Vaccination Strategy Control of FMD in Egypt

- Vaccination is the main method of control of FMD in Egypt.
- FMD was controlled since year 2006 in Egypt by initiate massive mandatory free charge vaccination programs applied every 4 months for dairy flocks and every 6 months for fattening animals using bivalent locally produced inactivated FMD vaccine (A&O) .
- The policy of vaccination against FMD in Egypt is still implemented , but from April 2012 we started to vaccinate monovalent SAT2 locally produced from VSVRI and VACSERA.



❑ Great efforts done to manufacture trivalent vaccine (A, O & SAT₂) by national laboratories.

❑ Manufacture and evaluation of the produced vaccine in Egypt become more complicated due to it must contain three serotypes and four subtypes of FMD strains up till now .

❑ Most of dairy farms vaccinate their flocks using polyvalent vaccine which is imported by private sector during this out break and under supervision of GOVS .

3 - The Quarantine measures

- ❑ Importation of live animals or their products are in accordance with the OIE recommendations to prevent the introduction of the disease to Egypt.
- ❑ The imported animals are kept under quarantine for 33 days before released and during this period they are vaccinated against FMD .

4- Sanitary measures

- Hygienic disposal of carcasses and disinfection of all premises.
- Disinfection of all farm utensils and equipments.
- Hygienic disposal of animal wastes and contaminated rations.

5-Surveillance

A-passive surveillance:

- ❑ It is continuously adopted by official veterinarians distributed countrywide, working in different situations as in veterinary clinics, animal farms, animal markets slaughterhouses, quarantine stations, artificial insemination (A.I) centers and during different vaccination campaigns give a good opportunity for detection and notification about suspicion of infectious and contagious diseases all the year.
- ❑ Passive surveillance is most ordinary surveillance routinely carried out.
- ❑ It is regular and perhaps infrequent visits to an area by vet. Staff to assess the local animal situation and determine livestock population. It would include voluntary disease reporting by farmers, traders and perhaps other individuals such as private veterinarians.

B-Active surveillance

- ❑ Notification received from an owner of a stock , citizen or Veterinarians
- ❑ After receiving the notification of any animal health abnormalities, GOVS immediately direct a bipartite diagnostic team (GOVS – AHRI) to investigate and provide an expert opinion and collect the necessary lab. Samples.
- ❑ Active surveillance entails frequent and intensive efforts to establish the presence of disease in an area.

C-Serosurveillance

serosurveillance can be used for proving absence of infection) while serosurveillance is used for past vaccination antibody detection.

Serosurveillance includes:

a-Field collection of serum samples, preparation, lab-dispatch.

b-Laboratory analysis

Serosurveillance is done for evaluation of:

Immune status of animals against specific disease (protective or non protective) (herd immunity)

Health surveillance Response for vaccine following vaccination campaigns.

Existence or non existence of virus activity.

6-Reporting system

The district vet. Office **report weekly** to governorate head quarter which sends weekly and monthly to GOVS head quarter about the situation of infectious and contagious diseases and may be ad-hoc in case of notification about animal health abnormalities.



Thanks for your attention

