

MADAGASCAR'S ASSETS AND COVID-19

M.V.RAKOTONDRINA¹, V.RASOAMALALA²

¹ *Mirado Vitantsoa RAKOTONDRINA, Lycée PETER PAN, Antananarivo, MADAGASCAR*

² *Vololonirina RASOAMALALA, University of Antananarivo, Antananarivo, MADAGASCAR*

ABSTRACT

Madagascar is a country very rich on natural plants and mineral resources, so Malagasy people have much knowledge on this natural capital. They are often treating and curing many diseases through traditional methods. They use also these plants for increasing antibody. So, everyone thinks that it is the reason why Madagascar is one of country least affected by covid-19. As the results from "Institut Pasteur de Madagascar" until April 2nd, 2020; the total confirmed case affected by covid-19 in Madagascar is 59, for that 47 is asymptomatic case, 12: symptomatic case and no died until this date.

Keyword: Covid-19, Corona virus, Madagascar, antibody, evoka, traditional method, rare earth

1. INTRODUCTION

Covid-19 pandemic is the global health crisis this year. Madagascar is one of country least affected; this paper reviews what are Malagasy people doing to face the COVID-19, what is its assets? As this big island is a country rich on plants, mineral resources.... They use this natural capital for fighting to different diseases, epidemic and pandemic and many of them are cured through this traditional method. The number of Malagasy people affected by this actual pandemic mentioned in this paper is collected until April 2nd2020.

2. METHODS

At the beginning, the Malagasy government thinks that covid-19 in Madagascar is only from the affected passengers from country with this pandemic. But after few times, the states detected that there was already foreign persons with corona virus in Madagascar and transmitted the disease to Malagasy people. For that, government tries to localize the area where these foreign people were visited and the persons had contact with him. After investigation, the state certified that there are some affected people from the contact case.

As anywhere in the world, the President of Madagascar Andry Rajoelina takes some measurements:

- Close the ports and airports,
- Put in quarantine all of passengers from the last flight.
- Apply confinement in Antananarivo and Toamasina where found the first case, and in the same time He orders to test all of these passengers from the last flight with persons who have contact with them.
- Identify the person who have contact with foreign people already with corona virus visited our island.
- The government inspires Malagasy people to apply barrier gesture like all other the world:
 - o Wash hands many times with soap
 - o Sneeze and cough into elbow
 - o Use a single-use handkerchief
 - o Wearing a disposable mask
 - o Social distancing
 - o Confinement

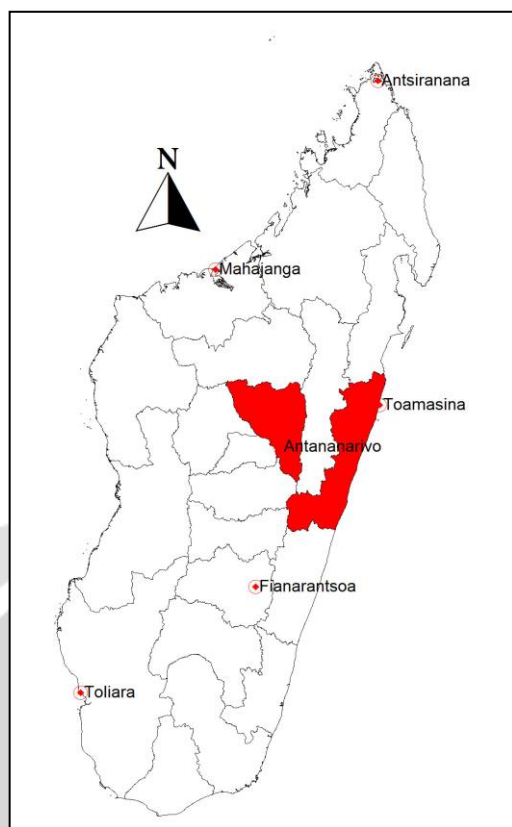


Fig -1: Map showing areas affected by covid-19 in Madagascar

In addition, Malagasy people, each family have their own traditional methods to treat fever, cold and caught. After our experience in daily life, we use “evoka” with some plants for fever, cold and caught. For “evoka:

- 1- We take some leaves of kininina fotsy (*Eucalyptus*), ravintsara (*Ravensara aromatica*), veromanitra (family of Geraniaceae)
- 2- We boil all of these leaves and suck the gas under the blanket
- 3- Then drink one cup of the juice three times a day.



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+



**Put some
water and
boil**

Kininina fotsy (eucalyptus) Ravintsara (Ravensara aromatica)

Veromanitra (F : Geraniaceae)



« Evoka »



4- In addition, for cold, at night, we cut some onions (*Allium cepa*) and put in the bedroom near the bed.

This traditional method is an efficient method for my family to fight to these diseases.

The manifestation of paludisme (malaria) is similar of manifestation of corona virus (high temperature, cold, stiffness...). So, Malagasy people use this method with medicine from the doctor for curing this disease. Not only for treatment but in daily life, as we know it needs also to increase antibody.

At the University of Antananarivo, the biggest University in Madagascar, Researchers (Biochemist, pharmacologist....) tries to improve this traditional method at the laboratory for defining the dose. For corona virus, we need in one hand to increase antibody, and in another hand to search product to fight to virus in the body.

Now, the result of some research shown that the juice of leave of “voaroy hazo”(Morus) can increase human antibody (Researcher at University of Antananarivo).



Voaroy hazo (Morus)

Another researcher produce essential oil from “ravintsara” (*Ravensara aromatica*) and the doctor use this oil for curing person affected by some diseases like additional medicine for treatment.

Finally, in Madagascar, Kinina fotsy (*Eucalyptus*) is famous plant help to protect the lungs. As corona virus attack respiratory system especially lungs, this paper inspires researchers to do a deep study for this plant for fighting covid-19.

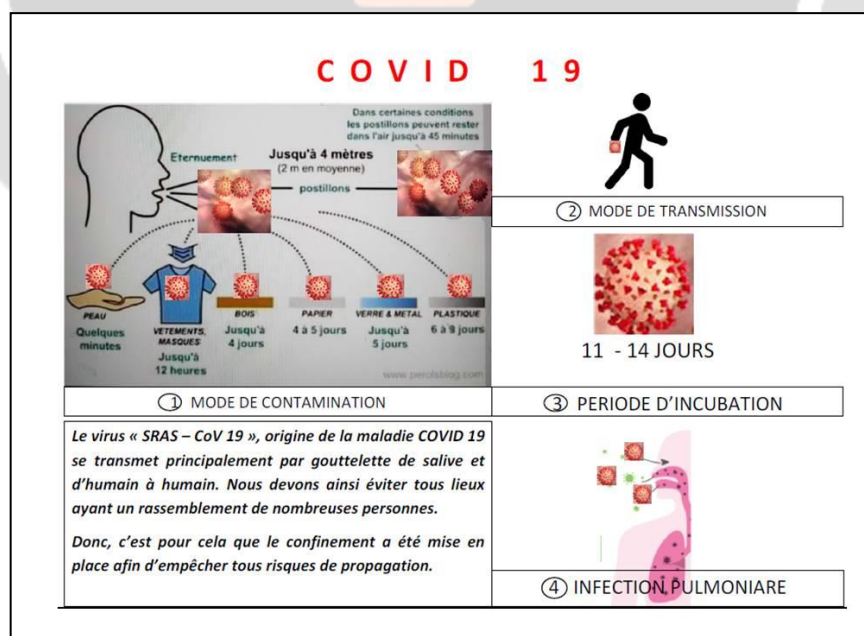


Fig -2: Corona virus transmission and its impacts in human body [1]

Concerning world needs on mineral resources and covid-19, on March 20th, 2020, for covid-19 pandemic, Singapore uses geolocation system to stop or limit the expansion of this trouble and start up a new mobile

application called “Trace together”. This application served to locate persons affected by corona virus with the person who has contact with them through mobile phone.

Many countries want to apply this system for this covid-19 pandemic now. For that, the need of rare earth in the world increase as the main raw material for cell phone manufacturing.

Now, at the beginning of March “China restarts rare earth capacity after closures” [3]

In 1983, the Malagasy organization “Office Militaire National des Industries Stratégiques” (OMNIS) in partnership with the Bundesanstalt Geowissenschaften und Rohstoffe (BGR) (German Federal Geological Survey) evaluated the economic potential of two REE-Thorium deposits in the central part of Madagascar: the Ankazohambo and Marovoalavo deposits. In 1991, OMNIS, in partnership with the Soviet company Obidinenie Zarubezh Geologia, estimated at 34 million tons of ore and 629.000 tons of monazite and bastnaesite the reserves of the Ankazohambo, Marovoalavo and Nord-Ifasina prospects. Solicited by the Madagascar Mining Investment Company, these estimates were revised to lower values (12.5 million tons of ore, 272.5 thousand tons of monazite and bastnaesite)[4].

3. RESULTS

After the test from Institut Pasteur de Madagascar, since March 20th until April 2nd, 2020 this is the summary of persons affected by corona virus pandemic:

Confirmed case: 59 classified below:

- Asymptomatic case: 47,
- Symptomatic case: 12,
- Dead : 0

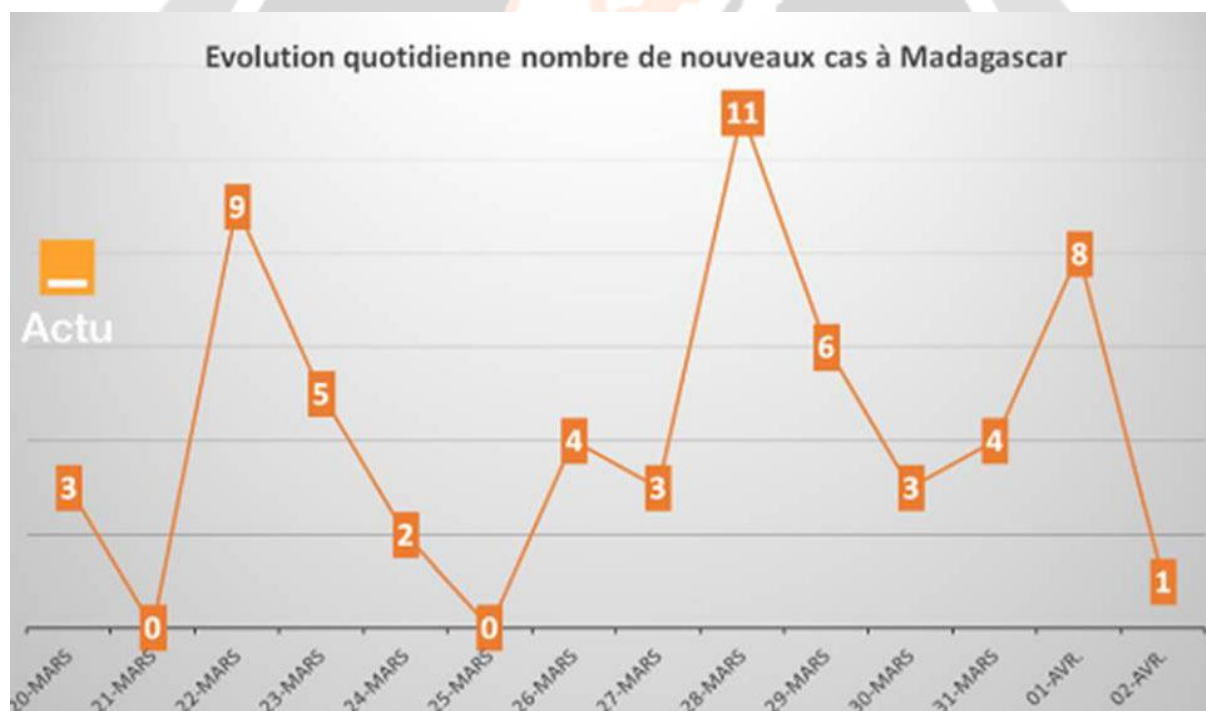


Fig -3: Daily evolution of number of new case infected by corona virus in Madagascar
Since March 20th to April 2nd [2]

After this statistic, any persons died until April 2nd, 2020 in Madagascar. After different treatment, traditional method, the healths of these symptomatic cases improve day by day.

4. CONCLUSIONS

After the measurement taken by Malagasy government, the statistic of new positive case until April 2nd decrease. So I expect that corona virus will be disappearing in Madagascar if Malagasy people will respect the instruction from the President.

I motivate that the result of deep research about the natural capital of Madagascar will help the world for fighting covid-19.

- 1- “voaroy hazo” is one of plant can help healthy persons for their antibody,
- 2- kinina fotsy (Variety of eucalyptus) and/or “ravintsara” are plants may help lungs of persons affected by corona virus.
- 3- Onions for cold.

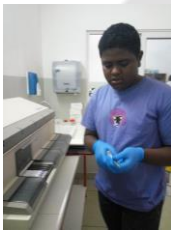

In general, for daily life, health depends on antibody. In fact, scientific research has to advice everyone to: take nutritious food, explain the nutritious intake for each food (vegetable, fruit, meat, fish....), provide some product contain many elements for body needs.

So they have to provide some natural product to increase antibody and also to inspire everyone to vaccinate.

5. REFERENCES

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BIOGRAPHY

	<p>High school, Second year student at Lycée PETER PAN, Manarintsoa, Lohanosy, Ambohijanaka, Antananarivo – MADAGASCAR /Agency for French education abroad (Agence pour l’Enseignement Français à l’Etranger (AEFE)) Major of the class with very good appreciation on “Brevet” Ministry of National Education – Reunion island academy Registered on certificate of excellence at first year student – High school</p>
	<p>Lecturer at Department of Earth and Sciences – University of Antananarivo - MADAGASCAR Has a PhD degree in Gitology - Metallogeny from University of Toulouse and University of Antananarivo cooperation in 2009. Participating as Madagascar speaker on Geology and Mineral Resources of Madagascar on international event.</p>