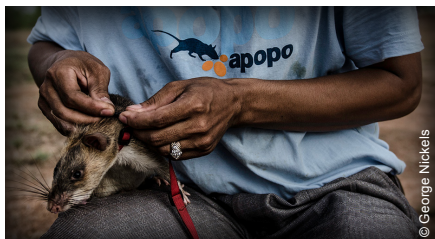


THE JTI FOUNDATION NEWS



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Introduction

Over the summer of 2015, the JTI Foundation began supporting APOPO, a Belgian NGO specialized in training giant African pouched rats in two different but very specialist tasks: detecting landmines and spotting the signs of tuberculosis.

The project we support focuses on demining in areas of Cambodia along the border with Thailand. As a result of over 30 years of conflict that finally drew to a close in the 1990s, Cambodia remains a country heavily affected by landmines and Explosive Remnants of War (ERW). Latest estimates suggest that as much as 2,000 square kilometers of countryside is still contaminated. This presents a continuing humanitarian challenge to those living in mine-affected communities.

What makes APOPO unique compared to other mine clearance organizations is its use of African giant pouched rats, which it trains as Mine Detection Rats (MDR). MDR have an excellent record when it comes to identifying sub-surface mines without harming themselves or their human handlers.

This newsletter explores APOPO's work from several perspectives. From APOPO's training camp in the field, our interview with Gilbert Tekimiti, Head of mine action, reveals how the project is being implemented in practice. Second, we take a look at the life of a typical demining rat – rodents known familiarly to our partners at APOPO as "HeroRATS" for their life saving endeavors. Finally, Nenad Ljubicic, Head of programs at the JTI Foundation, talks about how the program will benefit local Cambodians, and shares his impressions of a recent visit to APOPO's training camp in Tanzania.



APOPO rats have an extraordinarily well developed sense of smell. They can be trained to detect practically anything that has some kind of scent, so long as you can get them close to the source.

A new kind of hero

GILBERT TEKIMITI HEAD OF MINE ACTION, TALKS TO THE JTI FOUNDATION

What does APOPO mean?

Gilbert Tekimiti (GT): APOPO is a Dutch acronym, which stands for Anti-Persoonsmijnen Ontmijnende Product Ontwikkeling. In English it's a little cumbersome, literally translating as Anti-Personnel Landmines Detection Product Development.

When and why did you start working for APOPO?

GT: I'd been working for the UN in the field of mine action for around 13 years when I first came across APOPO and its rats. When I heard about the concept, I thought, 'this is great'. I joined APOPO shortly after, in 2012. It has been a challenge moving from the United Nations, which is a much larger and less personal organization. In contrast, at APOPO, you feel much closer to your colleagues and your work. I'm originally from New Zealand and now based in Laos – but have traveled

widely for APOPO, to places as diverse as Cambodia, many parts of Africa and even to Geneva.

As a mine expert, could you tell us how using rats to detect mines improves over human demining?

GT: This question frequently comes up! Basically, the three main methods for detecting landmines are: people with metal detectors, machines, and animals. The key to effective clearance is to integrate the three types of search. Each has benefits and limitations. The strength of the rats is that they detect the explosive vapor associated with landmines, whereas metal detectors detect metal fragments, which are not necessarily mines themselves. As a result, metal detectors make for really slow going compared with our mine detection rats, as they pick up every piece of metal in the ground. I'd say 99% of the time the signal from the



detector is not a mine, but a small piece of metal. Nonetheless, the deminer has to stop and very carefully investigate the signal, as it could potentially be a mine. In contrast, our rats search for explosive vapor and ignore the metal. As a result, our rats can search an average of 200 to 300 square meters a day. With a metal detector, 20 to 80 square meters a day is more typical. Rats significantly speed up the process: searching and removing landmines is an expensive undertaking, and the longer it takes the more expensive it is.

What is the biggest challenge when working with rats?

GT: The main limitation is that they are not machines. They are living creatures, they need to be well taken care of – with appropriate shelter, food, medical care and so on. Moving them between countries can be difficult. The recent Ebola outbreak meant delays bringing them into Cambodia – there was a certain amount of apprehension because we were importing rats from Africa. Then, our rats are nocturnal animals, most active at night. They don't like it when it gets too hot – but obviously we need to work during the day. As a result, we start very early and finish by 10 am. There are also cultural considerations. In Cambodia eating rats is a longstanding tradition. However, once the community sees the rats in action, they view them as what you might call 'special rats.' Finally, it's worth stressing that our rats are not wild: all they really know is human contact.

Are the same rats detecting both tuberculosis and mines?

GT: Our rats have an extraordinarily well developed sense of smell. They can be trained to detect practically anything that has some kind of scent, so long as you can get them close to the source. However they specialize, so once they have learned a specific scent, teaching

them another would only make them 'jacks of all trades and masters of none'. APOPO has looked at other applications – for example, searching for people in collapsed buildings after earthquakes. While we started researching this, funding stopped before the completion of the research. I believe rats can definitely be trained for many different applications, however, sustainable funding is the major obstacle for us.

How do your staff get on with the rats?

GT: In our experience, staff employed to train the animals – mostly Tanzanians – have picked up the job quickly, despite their initial reluctance to handling such big creatures. There have been no cases of sustained fear among the trainers, nor cases of mistreatment. Indeed, many trainers end up with favorites, causing a few tears when the time comes for deployment to another country. That said, rats are not like dogs, you cannot bond with them. The motivation for dogs is attention from the handler; getting praise and reward, therefore you need a strong and close relationship. The motivation for the rats is food. They are not interested in people really, all they are looking for is the reward: the food. This is actually a big advantage, because you don't need to have that 'emotional' connection – and can easily move rats between different handlers. That wouldn't really work with mine detection dogs.

How long will it take to clear Cambodia's minefields?

GT: Cambodia is committed under the Ottawa Treaty to clearing all landmines by 2020. Signatories to the convention are obliged to clear all known landmines from their country, and are not permitted to stockpile, transfer or sell them to other countries. About 1,900 square kilometers in total are contaminated by landmines – but nobody knows precisely how many mines are involved.



An APOPO rat's diet is composed primarily of bananas and peanuts.

So theoretically, Cambodia has until 2020 – but judging by the area left to clear, it may have to apply for an extension – possibly to run for another next ten years.

Do you have many casualties?

How come your rats don't get injured?

GT: Clearly, demining is a dangerous job and sadly human deminers are sometimes injured or killed. The rats have a significant advantage here – in that a pressure-activated antipersonnel landmine typically requires about five kilograms of pressure for activation. Our heaviest male rats do not exceed 1.5 kilograms, and are in no danger of activating this type of landmine. However, working around landmines is dangerous work for anyone involved. Fortunately, to date none of our rats has died, either as a result of their mine detection work, or detecting tuberculosis.

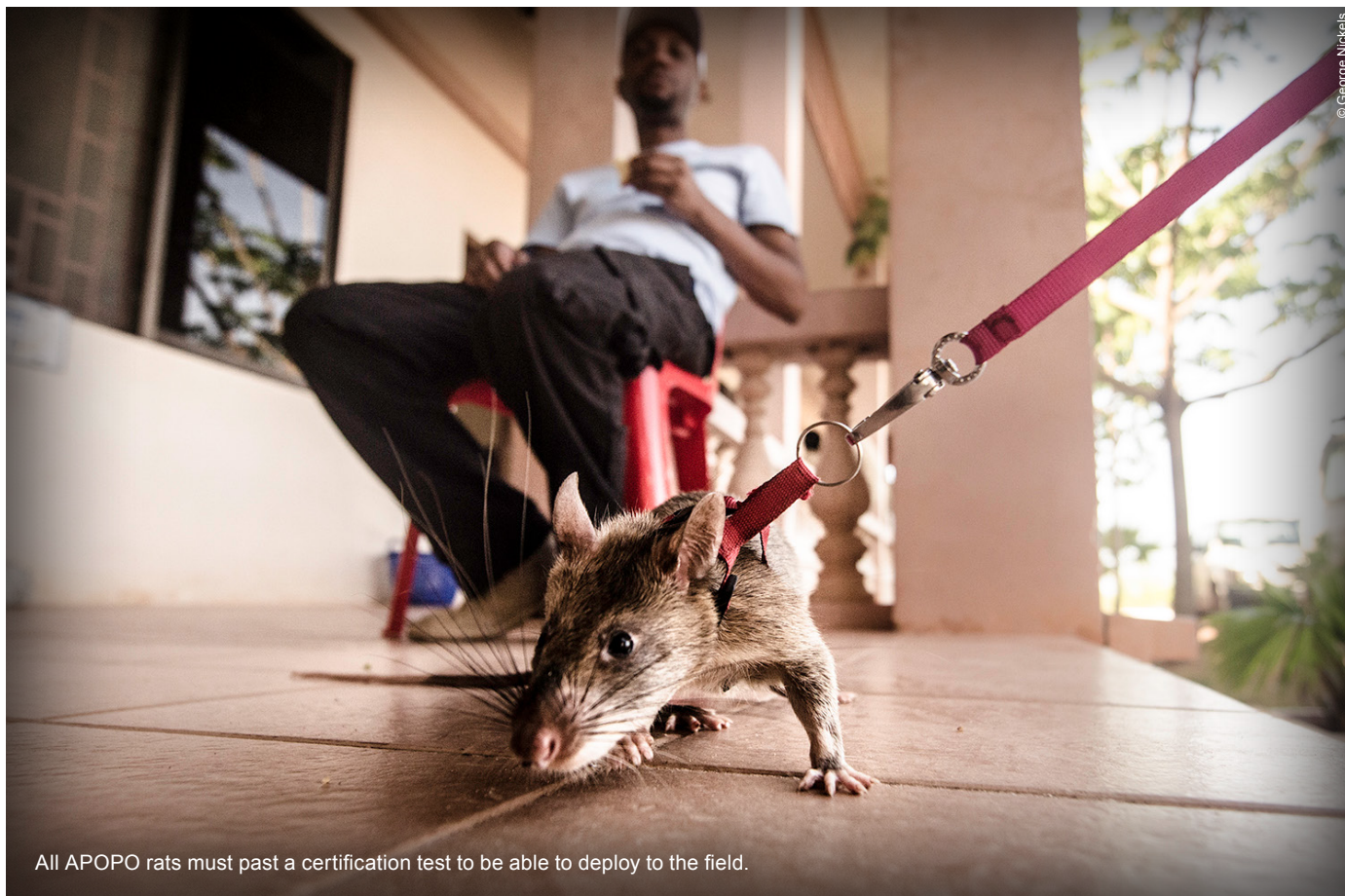
It is possible to support or sponsor a rat?

GT: Yes absolutely! You can sponsor the "HeroRATs" through a virtual adoption program that gives you the opportunity to experience how our "HeroRATs" evolve from birth to operational deployment. At present we estimate that €5 per month will cover basic nutrition, housing and healthcare for one rat. Our [website](#) allows you to make a monthly or annual payment.



Staff employed to train the animals – mostly Tanzanians – have picked up the job quickly, despite their initial reluctance to handling such big creatures.

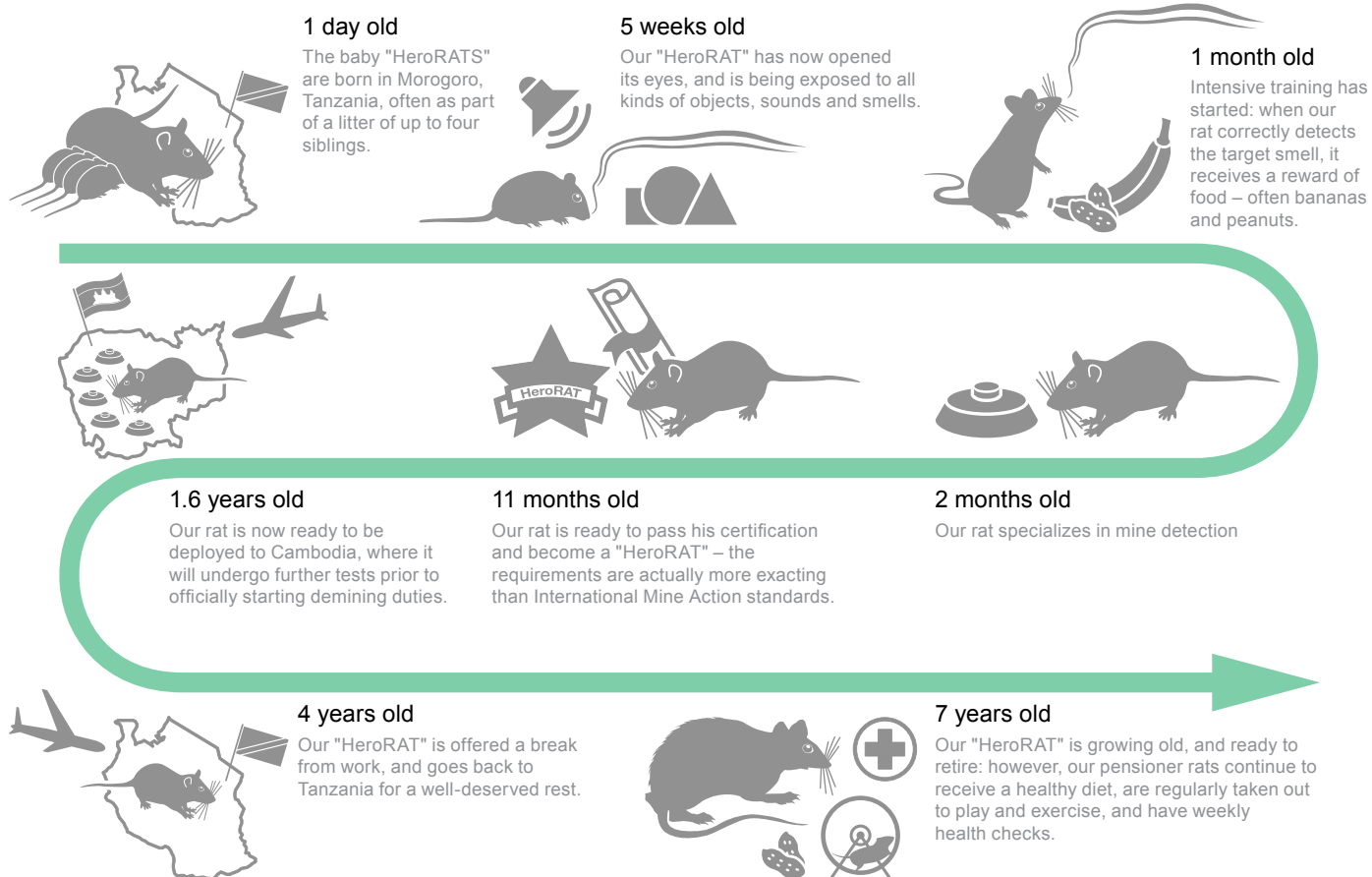
The life of a "HeroRAT"

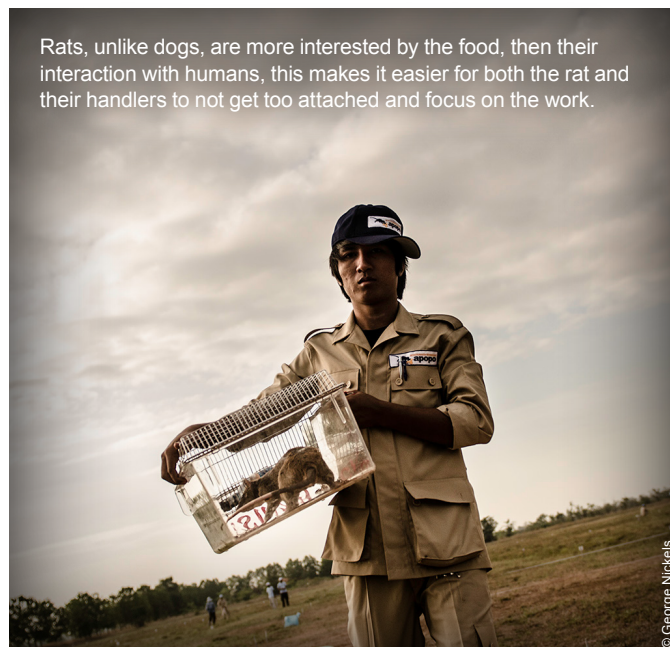
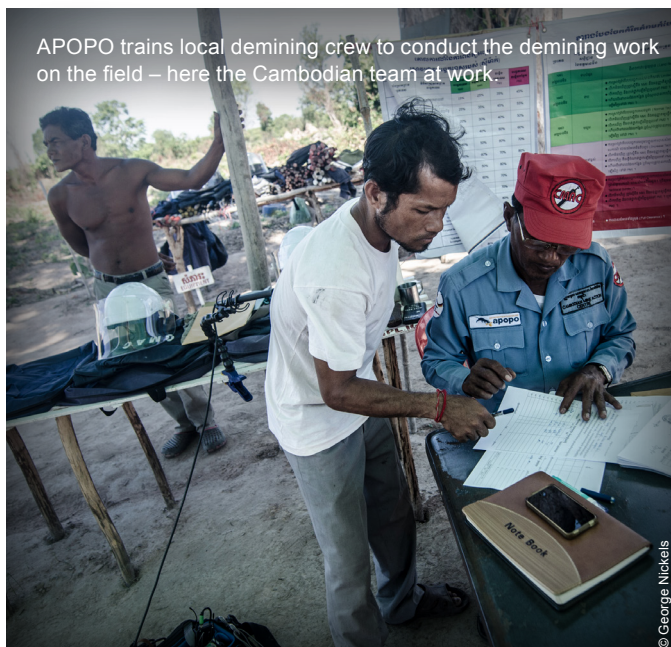


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All APOPO rats must pass a certification test to be able to deploy to the field.

Discover the life of an APOPO "HeroRAT"





NENAD LJUBICIC HEAD OF PROGRAMS JTI FOUNDATION



How did you get to know APOPO?

Nenad Ljubicic (NL): I first read about APOPO in a newspaper. I then heard more through our network of corporate foundations, and organizations such as Swissfoundations and the European Foundation Centre – the JTI Foundation is a member of both.

What did you like about them as an organization?

NL: I am a fan of the rats! It is a relatively young organization, and I liked the idea, the approach and the enthusiasm. After learning more about the success of their initial operations, I liked them even more – rats are a very effective way of demining compared to traditional techniques.

Could you briefly summarize the program we are supporting?

NL: We are currently supporting the Mine Detection Rat (MDR) element of their in Cambodia. Specifically, we're supporting the importation and adaptation to the field of 14 mine detection rats, and training for the local implementing partner The Cambodian Mine Action Centre (CMAC) – including nine rat handlers who will receive accreditation from The Cambodian Mine Action Authority. In addition,

we're supporting operational capacities – for example, helping APOPO to buy a specialized vehicle and other equipment. For the JTI Foundation, this is a one-year pilot program – which we could extend for a longer period if all goes well.

Who benefits from the program, and how?

NL: Around 1,000 beneficiaries will be able to use demined land for agriculture – in turn increasing crop production and raising incomes and food security. Then, for the community as a whole, there's improved access to infrastructure, public services such as health and education, and of course – reductions in injuries and fatalities. The program targets 42 communities in the two Cambodian provinces of Odder Meanchey and Siem Reap. We expect the two MDR teams to have cleared around 1.25 square kilometers by the summer of 2016.

How do you assess the effectiveness of the partner organization?

NL: I recently visited Cambodia for a short evaluation of the project, and to assess the potential for extending program activities, a visit that showed me how successfully the program is being implemented. APOPO presented at this year's Foundation board meeting. Board members were very positive about APOPO.

You've also visited APOPO's training center in Morogoro, Tanzania – what was your overall impression?

NL: I was really impressed by the way they were organized. Their approach to training the rats is very methodical

and comprehensive. From an early age, they are socializing the rats which shows the commitment of the organization to train the best mine detection rats. The training center is part of the Sokoine University of Agriculture (SUA) in Morogoro, and APOPO works in close collaboration with their researchers. The university land is also used as a training site – indeed, it is one of the biggest demining training sites in the world. The rats are very well socialized, and used to being around people. The rats also love posing for pictures with visitors.



Nenad Ljubicic Head of programs
JTI Foundation.

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