

# ANNUAL 20 REPORT 13



# NOW IT'S SAFE TO PLAY

“APOPO CLEARED  
ALL THE MINES”

Children at Milole village, Mozambique

2,227,888



SQUARE METERS OF LAND RELEASED  
OR CANCELLED FOR LOCAL POPULATIONS  
IN MOZAMBIQUE 2013



# ANNUAL REPORT 2013

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APOPO is a social enterprise with a mission to develop detection rats technology to provide solutions for global problems and inspire positive social change.

APOPO is a Belgian NGO, with headquarters in Tanzania and operations in Mozambique, Angola, Thailand, Cambodia, Vietnam and Laos.

Our core values are quality, innovation, social transformation and diversity.

APOPO's strategic goal is to save lives through the deployment of detection rats technology.

Our specific goals are to:

- Deploy cost-efficient mine action solutions in affected countries
- Accelerate TB diagnosis in high burden countries
- Research and develop innovative detection rats technology applications





A man with a somber expression stands in the foreground, wearing a light-colored jacket over a t-shirt with a 'LAS VEGAS' graphic. In the background, several brown and white cows graze in a dry, open field under a blue sky with power lines.

“ IT’S GOOD TO BE BACK  
WORKING OUR LAND.”

Sam Mucaveli, community leader and father,  
Moamba District, Mozambique





# OUR LIVES HAVE BEEN CHANGED

# 92

VILLAGES IN  
MOZAMBIQUE  
CLEARED OR RELEASED  
FROM ALL KNOWN  
LANDMINES IN 2013



## NOW I CAN PLAY SAFELY.”

Isabel Mucaveli, 4 years old

## SAM'S STORY

I am a community leader and cattle farmer in Mozambique. My family lives near power lines that were mined in the civil war to protect them from sabotage. Over the years many livestock and even people have been injured from the mines. One day my friend was killed trying to retrieve his cow. Sometimes I found my children playing there. Then APOPO arrived to clear the mines. At some pylons they found no mines, at others there were many. They were protected by a 'terror' that my children have lived with all their lives.

Less than a year after arriving, APOPO announced an all-clear and a handover ceremony was carried out. Our land is once again ours to farm and our children are safe.

## APOPO CREATES CONDITIONS FOR DEVELOPMENT



Leftover mines and explosive remnants of war almost always adversely affect the lives and livelihoods of communities living in the ex-battle zones long after conflicts have ended. They block access to crucial infrastructure as well as to productive farmland, crops and grazing areas. Mine affected communities that are already impoverished are the most vulnerable as many are solely reliant on the land as their only source of income. These communities desperately need help to mitigate this problem and to rebuild their social capital.

APOPO firmly believes in supporting strong links between development and mine action. After the post-conflict emergency phase where the immediate focus is on saving lives, we arrive to facilitate the socio-economic growth and reduction of poverty for mine affected communities by clearing the explosive material and thus creating the conditions for development. APOPO always coordinates with local authorities to determine their priorities to identify where our assistance is most needed and will result in the highest impact.





**TeKimiti Gilbert**  
Head of Mine Action

## MINE ACTION 2013 SUMMARY

**Abu Chinarine**  
Manual deminer  
Mozambique

# 2013

has been a busy year once again for the APOPO mine action team. In Mozambique APOPO has been instrumental in clearing Gaza Province of landmines and Explosive Remnants of War (ERW) to the point where Gaza has been declared "Impact Free". The teams have since been deployed to other Provinces within the country to continue

their efforts with the aim of assisting Mozambique to achieve full compliance with its Anti-Personal Mine Ban Convention obligations by December 2014.

In Angola, APOPO has partnered with Norwegian People's Aid (NPA) and is providing our unique Mine Detection Rats (MDRs) to assist with their clearance efforts in Malanje Province. Our first batch of rats underwent intense training with their Angolan handlers and were rewarded with an accreditation license from the Angolan National Mine Action Authority that has now allowed them to operate in mined areas.

APOPO was also registered as a mine action NGO in Cambodia and we are seeking to bring our MDR's to Cambodia in 2014. We believe that their exceptional abilities to detect landmines will help to speed up the release of land back to productive use for mine-affected communities.



“

A BUSY YEAR  
ONCE AGAIN FOR  
THE APOPO MINE  
ACTION TEAM.”







Survey  
Thailand



Digger  
Mechanical clearance,  
Mozambique



Mine  
Detection Rat  
Mozambique



## APOPO MINE ACTION OPERATIONAL ASSETS 2013

### 256 MINE ACTION STAFF

INCLUDING:

- 7 SURVEY TEAMS
- 7 MANUAL DEMINING TEAMS
- 8 MDR TEAMS
- 3 MECHANICAL TEAMS
- (65 MINE DETECTION RATS)

### DEMINING MACHINES

- 2 CATERPILLARS
- 1 KOMATSU MACHINE
- 1 CASSPIR
- 1 DIGGER D-3
- 1 MINI MINEWOLF
- 1 ARMoured HITACHI

### VEHICLES

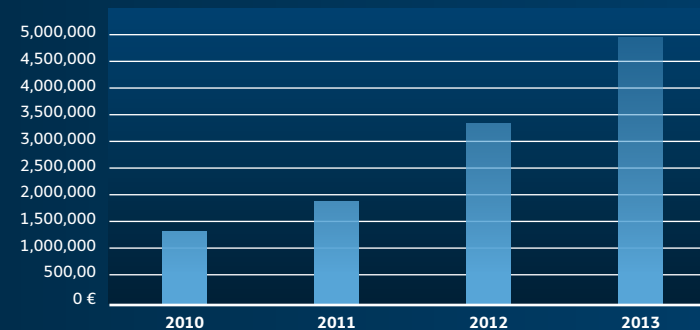
- 6 TRUCKS
- 8 AMBULANCES
- 18 SUPPORT CARS

## LAND RELEASE

As an overall framework for our Mine Action operations, APOPO applies a 'Land Release approach' that fully complies with international standards. Firstly APOPO employs an evidence-based and documented approach to accurately determine the extent of landmine contamination. In many instances suspect land may not be as large an area or as contaminated as previously reported so excluding these less hazardous areas can make savings in time, effort and resources.

Using faster and more economical survey methods ensures that as much land as possible is safely handed back to the community. Only the parts with a proven mine contamination are cleared, using valuable clearance resources such as equipment, manpower and rat detection technology.

### APOPO's Global Mine Action Budget (€)





Tesfazghi Tewelde  
Program Manager  
Mine Action Mozambique

## MINE ACTION MOZAMBIQUE

APOPO Mine Action Mozambique has emerged as a reliable and trusted partner to Mozambique's National Demining Institute consistently meeting expectations for helping to resolve Mozambique's landmine problem by the end of 2014. In 2013 APOPO expanded its capacity to tasks across the four provinces of Maputo, Manica, Sofala, and Tete to clear/release a total of 2,227,888 square meters of land and safely destroy 578 landmines, 54 items of unexploded ordnance and 294 small arms and ammunitions (SAA). The Program also concluded a Mine Free District Evaluation in Moatize District, Tete Province, visiting every village in the district to confirm the land is 'mine free' for local communities to use.

These results are due to APOPO's efficient land release framework and signature integrated tri-system approach to landmine clearance. This balances the use of manual demining teams with embedded survey officers, mechanical demining and mine detection rats. This approach to land release ensures the strengths and flexibility of each methodology are maximized to safely release land saving time, effort and expense.

2013's accomplishments were executed in the face of significant challenges such as a protracted rainy season, lacking information and access for select tasks, and safety and security risks resulting from political unrest. There were also operational complications like high levels of metal contamination, minimum metal mines, spoil soil and environmental factors limiting the performance of metal detectors. Such challenges increase pressure on demining teams and demand utmost vigilance to avoid a landmine accident or uncontrolled explosion. Accordingly, APOPO Mine Action Mozambique is proud to report another year free from minefield accidents owed to enhanced and frequently reinforced safety standards and strong internal quality assurance. Indeed, the capable team in Mozambique has matured and visibly demonstrates excellent continuity, confidence, leadership and morale tirelessly day in and day out.



“THE PYLONS WERE  
OFF LIMITS BEFORE  
APOPO ARRIVED TO  
CLEAR THE MINES.”

Gloria Tiki *Grandmother*

Mozambique's National Demining Institute (IND) tasked APOPO to work on two separate power line tasks in 2013, whereby each pylon tower was considered as an individual minefield. The program cleared a total of 75 pylons across the two sites in Manica and Maputo Provinces respectively.

The Maputo power line serves as the main power supply for Maputo city and Southern Mozambique and also affects neighboring South Africa. It is of critical importance to livelihood, business and development. Central Mozambique, including the busy port city of Beira, relies on the Beira power line for its energy.

Both power lines pose real and substantial humanitarian threats to local communities as there are dozens families and households living around and even under the power lines. Farmers often cross mined areas to graze their cattle, schools are located in nearby areas, and women and children collect water and firewood on land suspected as hazardous and with known landmine accidents claiming life, limb, and livestock.





## CASUALTY EVACUATION DRILL



"A selected deminer simulates being the 'casualty' of an accident, shouting for help, and an emergency whistle is sounded by the Team Leader. The deminers are in the middle of a live minefield and are trained to pause, collect themselves and follow instruction. When the go-ahead is given, selected deminers verify a safe path to the casualty with their metal detectors, place him/her on a stretcher, and carry the victim away from the minefield to a prearranged safe medical post where a trained medic is on standby. Vital signs are checked, injuries assessed and emergency first aid is administered. Once the casualty is stabilized the victim is carried to the ambulance and swiftly driven away to the nearest hospital."

In my first few weeks near a minefield I was always expecting the emergency whistle to sound. But as time wore on, I saw how APOPO works, with its high quality training standards and safety procedures, and its efficient, controlled work ethic. I realized that an accident would be very unlikely indeed."

**Tarcisio Muchanga** Field Medic, APOPO Mozambique

### RESULTS 2013

FULL CLEARANCE	TECHNICAL SURVEY	NON TECHNICAL SURVEY	BATTLE AREA CLEARANCE	TOTAL LAND RELEASED M <sup>2</sup>	MINES	UXO	SAA
568,340	148,869	1,402,094	108,585	2,227,888	578	54	294

### TOTAL PROGRAM PRODUCTIVITY TO DATE

FULL CLEARANCE	TECHNICAL SURVEY	NON TECHNICAL SURVEY	BATTLE AREA CLEARANCE	TOTAL LAND RELEASED M <sup>2</sup>	MINES	UXO	SAA
3,229,667	770,671	4,521,326	129,585	8,651,249	2,987	1,046	13,319







# BUILDING CAPACITY

**95% OF APOPO'S GLOBAL  
STAFF OF 432 PEOPLE  
ARE NATIONALS RECRUITED  
FROM THE COUNTRIES  
IN WHICH WE OPERATE.**





## AS A SINGLE MOTHER APOPO HAS ENABLED ME TO SUPPORT MY FAMILY AS WELL AS MY MOTHER'S VEGETABLE BUSINESS."

Margarida Luis Siteo, Manual deminer, Mozambique

By choosing to base its headquarters, all of its operations and most of its management in developing countries, APOPO is better placed to build local capacity by experiencing the exact needs and challenges of employees, beneficiaries and national populations.

Across the whole organization of over 400 people, nationals make up 95% of staff making a significant impact on local employment. APOPO builds local capacity by training nationals to management positions and improving staff skills through regular trainings and working experience. Several staff who began their APOPO careers as unskilled workers are now thriving in responsible positions with international exposure.

Many employees will start secondary businesses such as tuck shops, tailoring or vegetable production, run by their relatives. This means that in locations where APOPO's work has a finite goal, such as mine clearance, APOPO staff will be better skilled and financially placed once the programs are finished.

Through experiencing local cultures and traditions first hand APOPO is also able to provide opportunities to people of all walks of life and redress balances. Women are present in all APOPO positions from manual deminers, rat trainers, researchers and senior managers.



WITH MY SALARY I WAS ABLE TO START UP MY WIFE IN A TUCK SHOP BUSINESS.

Abu, Manual deminer, Mozambique



I HAVE A MASTERS IN BIOTECHNOLOGY AND I SEE AN INTERESTING FUTURE IN DETECTION RATS TECHNOLOGY."

Nuelma Muhate, TB Technician, Mozambique

# INDISCRIMINATE KILLERS

Every year, landmines maim or kill thousands of people globally - mostly innocent and defenseless civilians, including many women and children. These insidious weapons also obstruct economic development and reconstruction, inhibit the repatriation of refugees and internally displaced people, and have other severe consequences that last for years after emplacement. Detection of landmines is complicated, dangerous, costly, and time-consuming and many developing countries lack the resources to properly commit to the task. Meanwhile the affected communities have little choice but to live on or nearby landmine contaminated land.

The UN Mine Ban Convention (also known as the Ottawa Convention) of 1997 is determined to put an end to the suffering and casualties caused by anti-personnel mines. APOPO is proud to be a part of these efforts and we work closely with all stakeholders to achieve this goal. Ridding the world from the threat of landmines and explosive remnants of war requires concentrated efforts in close coordination with affected communities, national authorities and other mine action operators.

Of course none of this would be possible without the generous support provided by our donors who over the years have shown support via financial backing and donations as well as supporting our research and development. Together with our donors and stakeholders we are aiming at saving many more lives in 2014.

## 9,500

### PEOPLE EDUCATED IN THE MINE AFFECTED COMMUNITIES ABOUT THE RISK OF LANDMINES



Community mine risk education by APOPO/PRO, Thailand



Much of the financial support for our work in Thailand for the past two years has been from generous donations from the **German Government** and **Stichting Doen**. APOPO has finalized its tasks in Thailand, but remains committed to South East Asia. We have acquired registration as a mine action NGO in Cambodia in November 2013. We intend to build upon our excellent results from Thailand and Mozambique and apply a similar integrated approach. This includes utilizing the strengths of manual demining, machines and our mine detection rats combined with our land release methodology.

At the end of 2013, the German Foreign Federal Office approached APOPO to take over the management of ongoing projects that assist Vietnam, Laos and Cambodia to build capacities for the clearance of landmines, UXO and cluster munitions.

APOPO therefore looks forward to working with new partners across South East Asia.

# SOUTH EAST ASIA



## MINE ACTION THAILAND

Since 2011, APOPO with partner Peace Roads Organization has been conducting Non Technical Survey (NTS) to map mine fields along the Thailand Cambodian border. The NTS teams conducted a systematic, evidence based survey of suspected mined areas in order to gather evidence and confirm the presence of mines and/or cancel areas of previously suspected land due to a lack of evidence. The cancelled land is particularly important as this now means that this land will not need to undergo expensive technical survey or clearance activity and will result in a significant saving in terms of time, effort and funding resources. Identified hazardous areas have also been categorized into various levels of threat dependent on available evidence.

The main result of this project is that APOPO has assisted the Government of Thailand towards accurately defining the mine threat along its borders as well as the resulting impact so that modern Land Release methods can be applied. Locally recruited deminers and survey teams have collected information about communities, needs, assessed the impact of local mine-fields, educated the community about the risk of mines, and explained how the land release and/or cancelled land process will proceed. APOPO's survey has meant better-targeted land release and better value for money. The identification and the subsequent removal of mines and other Explosive Remnants of War is a life-saving activity.

APOPO ceased working in Thailand at the end of 2013. In addition to lack of funding for a follow-on project it was further considered that the challenges of mines can now be adequately addressed by a sustainable national capacity.



31,634,640

SQUARE METERS OF LAND  
SURVEYED IN 2013

6,293,878

SQUARE METERS OF LAND  
IDENTIFIED AS FREE OF MINES  
AND OTHER THREATS







Francisco Gregorio  
Program Manager,  
MA Angola

## MINE ACTION ANGOLA



## PROGRAM UPDATE

Over 2013, the APOPO-NPA partnership strengthened the necessary infrastructure to begin the implementation of the Angola Mine Action project. Additional operational equipment was purchased and support facilities built to ensure adequate operation and management of the project. The construction of the mine detection rat (MDR) kennel was completed and the MDR training area expanded.

The initial training of the MDR handlers was completed and regular refresher training has continued in order to reinforce and build upon the initial 2-week intensive course. The team is now supported by additional trainers from APOPO in Mozambique and Tanzania to assist with training and to ensure all handlers were ready for accreditation.

In order to limit the use of metal detectors as much as possible in areas where little or no mines have been found, APOPO has fine-tuned its operational approach in close collaboration with NPA. This allows an efficient integration of the MDR capacity with the other demining assets.

In October the Angolan National Demining Commission (CNIDAH) tested the MDR capacity in Quessua in order to assess the suitability of HeroRATs for mine clearance operation. In total 22 rats were accredited and additional rats are under training expected to join the team shortly.

The project was up and running by late 2013. We are now looking forward to ramping up the overall speed of our NPA partnered land release and mine clearance activities.

22  
MINE  
DETECTION RATS  
ACCREDITED  
IN 2013



“ANIMAL  
WELFARE  
IS A TOP  
PRIORITY  
FOR US AT  
APOPO.”

Albert Carol, Laboratory Attendant, Tanzania



A

s soon as I arrive at work I make sure the rats have everything they need. I start checking the cages, provide fresh water and make sure all rats are in good health. If I notice anything unusual, I contact the head of trainers or a vet.

Routine care includes daily observations of individual animals, weekly health inspection and reports and regular prevention treatments for parasites. Every two weeks a vet visits the training and breeding facility to check on the animals. The rats eat a well-balanced diet and we make sure that they have plenty of time to rest and play in between the training and work sessions.

Some people are frightened of rats and think they are stupid and dirty animals, but in fact they are sociable, clean and intelligent and it is very satisfying to see how they respond to our training methods. When we treat them well and with respect, they reward us with hard work on their way to becoming fully operational lifesaving HeroRATs.”



## QUALITY OF TRAINING

The managers and supervisors at APOPO recognize that high quality training is the key to high performance. In 2013, APOPO appointed an experienced team member to serve as Quality Control Officer, a new position specifically dedicated to ensuring that the quality of training, operations, and outcomes are above standard.

APOPO conducts ongoing training and monthly “in-service” refresher training for all rat trainers, reviewing important fundamental topics and introducing new training strategies. Many supervisors and trainers have been on the APOPO team training rats and teaching animal training methods to other staff for over 15 years and have become highly skilled animal trainers, teachers, and supervisors. Therefore, all team members are encouraged to take an active part in developing standard training procedures and finding creative solutions to difficult problems, and they were indeed largely responsible for bringing APOPO to the level of excellence it achieved in 2013.

Rat performance and behavior is monitored from a very early age. At each training stage they are strictly tested along the way to being internally credited and becoming fully operational. During operations, their performance continues to be logged and evaluated on a daily basis to ensure their detection rates remain accurate.

Pendo Msegu,  
rat trainer and  
data logger



# TRAINING CENTRE TANZANIA





## IN 2013

APOPO EMPLOYED 432 STAFF,  
OF WHICH 428 OR OVER 99% WERE WORKING  
IN DEVELOPING COUNTRIES.

APOPO PROVIDED THE EQUIVALENT OF OVER  
4,057 MAN DAYS IN ORGANIZED STAFF TRAINING  
AND CAPACITY BUILDING ACROSS ITS WORKFORCE.

**8,521,766**

SQUARE METERS OF  
LAND RELEASED OR  
CANCELLED FOR THE  
LOCAL POPULATIONS

**914,452**

PEOPLE FREED  
FROM THE THREAT  
OF LANDMINES

**33,862,528**

SQUARE METERS  
OF LAND COVERED  
BY SURVEY AND  
CLEARANCE ACTIVITIES

**65**

TOTAL NUMBER OF  
ACCREDITED MINE  
DETECTION RATS UNDER  
INTERNATIONAL MINE  
ACTION STANDARDS



**324**

TOTAL NUMBER OF  
ALL APOPO RATS IN  
VARIOUS STAGES OF  
TRAINING, BREEDING  
AND OPERATIONS

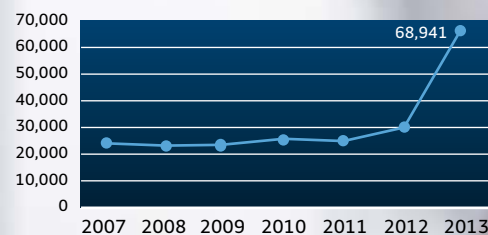




# TUBERCULOSIS



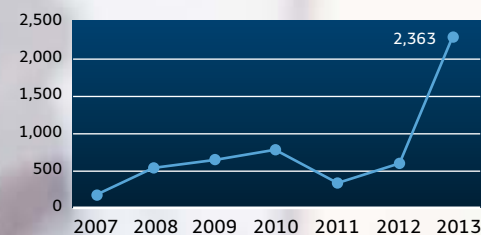
**NUMBER OF SPUTUM SAMPLES  
SCREENED BY YEAR**



**222,602**

TOTAL NUMBER OF  
SAMPLES SCREENED  
BY RATS TO END 2013

**NUMBER OF ADDITIONAL TB PATIENTS  
DETECTED BY RATS BY YEAR**



**5,318**

TOTAL NUMBER OF TB  
PATIENTS IDENTIFIED  
BY RATS TO END 2013

**37**

TOTAL NUMBER OF RATS  
OPERATIONAL IN TB  
DETECTION IN 2013

# GLOBAL HEALTH

## TUBERCULOSIS GLOBAL ISSUE

To date, tuberculosis (TB) remains a global public health problem in low and middle-income countries. In 2012, 8.6 million people developed TB and 1.3 million died due to the disease. More than 80% of the global TB burden and TB-related deaths were reported from 22 high-burden countries. With the current modest annual decline in TB incidence (2%), many countries will be unable to achieve the Stop TB Partnership goal of halving TB incidence by 2015 compared with a baseline of 1990. The spread of multidrug resistant TB, the detrimental convergence with HIV infection and the unavailability of rapid diagnostic tools have contributed to the failure of global TB control.

To accelerate progress towards the 2015 target, the World Health Organization advocates the rapid uptake of innovations in order to ensure that all people who developed TB are diagnosed and get the right treatment and care. In 2008 APOPO pioneered a fast and accurate TB diagnostic method based on the olfactory capacity (ability to smell) of Giant African Pouched rats. Since then our programs in Dar es Salaam and Maputo have resulted in an increase of over 40% extra case detections.

**8,5 MILLION\***

NEW TB CASES IN 2012



**TUBERCULOSIS\***

WORLD'S SECOND LEADING  
CAUSE OF DEATH FROM  
INFECTIOUS DISEASE AFTER AIDS

**1,3 MILLION\***

DIED FROM TB IN 2012

**3 MILLION\*\***

PEOPLE LEFT UNDIAGNOSED  
EVERY YEAR...

Sources:

\* Most recent figures from WHO global Tuberculosis report 2013

\*\* Stop TB partnership 2014





Dr. Emilio Valverde  
Program Manager

## TB MOZAMBIQUE

**A**ccording to the 2012 national TB Program of Mozambique annual report, more than 5,000 diagnosed cases of TB were expected in Maputo, which has a population of approximately 1.5 million people. These figures show that Maputo has a higher TB prevalence than the national average and thus it became the target for APOPO's TB program.

In partnership with the Eduardo Mondlane University the project started operations in January 2013. APOPO collaborates with eight health centers in Maputo from where it collects the sputum samples of suspected TB patients. The official inauguration of the APOPO laboratory took place on June 28th, attended by Dr. Orlando Quilambo, Chancellor of Eduardo Mondlane University.

By the end of 2013, APOPO had successfully attained an increase in TB detection rates of 44% in addition to the cases which were already identified by microscopy.

In early 2014, APOPO expects to enter the second phase of the project, which aims at expansion to more clinics in Maputo and coverage of nearly all TB suspected individuals in the city, and eventually in the whole province.

An important goal in phase two is the reduction of the time needed to deliver TB positive results found by the APOPO lab to those patients. This will allow the National Health System in Mozambique to more efficiently track patients and place them on treatment, thus helping to reduce the burden of TB in Maputo.

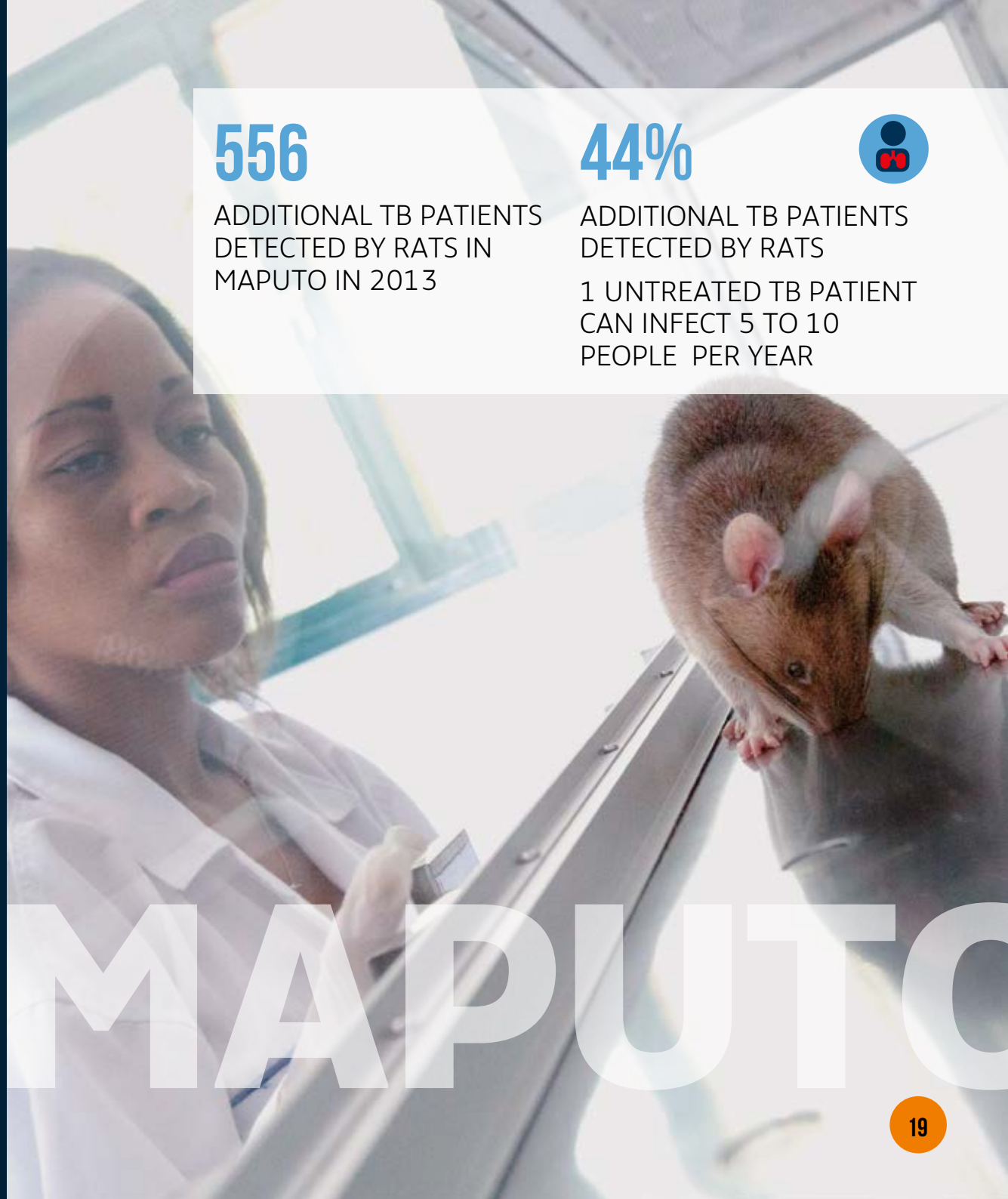
# 556

ADDITIONAL TB PATIENTS  
DETECTED BY RATS IN  
MAPUTO IN 2013

# 44%

ADDITIONAL TB PATIENTS  
DETECTED BY RATS

1 UNTREATED TB PATIENT  
CAN INFECT 5 TO 10  
PEOPLE PER YEAR





“

IF THE  
HERORATS  
HAD NOT  
DIAGNOSED  
MY TB, I THINK  
I WOULD  
BE DEAD  
BY NOW.”

IMPACT



“MY GRANDFATHER COULDN'T  
WORK SO HE COULDN'T PAY  
FOR MY SCHOOL FEES.”

Agnes Maduma





Maritina Emil  
Tanzania

“

THE CLINICS  
COULD NOT  
FIND MY  
HUSBAND'S  
ILLNESS.”

William Magaga  
Tanzania

## WILLIAM'S STORY

I work at a dairy farm to support my family and pay for my kids' school fees. My family became very concerned because I was so sick. Even after 3 visits to the clinic my illness was not diagnosed. My workmates were worried about TB infection because we work so closely together. My sample was then sent to APOPO where the HeroRATs immediately diagnosed me as TB positive and the clinic then informed me. Rats! We can hardly believe it. My family is very relieved. If the HeroRATs had not found the TB I think I would be dead by now.



Dr. Negussie Beyene,  
Program Manager, TB Tanzania

## TANZANIA PROGRAM

1,020



PEOPLE LIKE WILLIAM  
TRACKED BY MKUTA IN 2013

APOPO's enhanced case detection operation in Tanzania has continued to grow and become more effective at fighting TB, achieving a 43% increase in case detection over the TB clinics. More clinics were added to the program, bringing the total number of participating diagnostic centers to 21 from 17 in 2012. Over 2013 APOPO built partnerships with two military hospitals, a prison dispensary, a local NGO helping HIV positive TB suspects (PASADA) and a former TB patients' association (MKUTA). The latter two significantly increased patient follow-up rates and dramatically reduced the time it takes for clients to get started on treatment, which in turn reduces the likelihood that they pass the disease on to other people.

APOPO completed its preparation to conduct a high quality accuracy study in 2014 by comparing the performance of the rats with gold standard culture, both liquid and solid, GeneXpert and standard microscopy. This data will also be utilized to complete an ongoing cost-effectiveness study and is part of a multi year validation study aiming at WHO endorsement.

## PARTNERSHIP FOR PATIENT TRACKING WITH MKUTA

Initially APOPO was relying on the Tanzanian health system to initiate treatment for the additional cases found. However, the health centers lacked the capacity to track back the patients that they had sent home before the rats had identified them as TB positive.

In November 2012, APOPO established a partnership with MKUTA, a group made up of ex-TB patients. Increases in the tracking rate were achieved through stigma reducing testimonials and education sessions, as well as better contact detail acquisition. The activity ran throughout 2013 and resulted in a much higher number of patients being tracked and getting on treatment. In 2014, APOPO has committed itself to strengthening the capacity of MKUTA even further through more support and trainings.





## TUBERCULOSIS DIAGNOSTICS



**Dr. Stewart Reid MD, FRCP (C), MPH, Centre for Infectious Disease Research in Zambia (CIDRZ) Institute for Global Health & Infectious Diseases University of North Carolina at Chapel Hill**

**T**he APOPO TB Project addresses the problem of diagnosis of TB which is a leading cause of death from an infectious disease worldwide, second only to AIDS. The global public health and social impact of TB is significant since it affects mainly young adults in their most productive years.

New diagnostics are a key component to tackling the epidemic and recently a number of new diagnostic technologies have been implemented. But significant limitations still exist, including lack of the ability to screen large numbers of individuals accurately, rapidly, inexpensively, and sustainably over the long-term. The APOPO Project technology is a novel 'African' TB diagnostic tool that, if proven sensitive, cost-effective and scalable may have significant advantages over other known and future technologies, and thus has the potential to make a significant contribution to reducing the global burden of TB.

APOPO has made great strides to date and now needs to focus its efforts on completing a number of key studies leading to a submission to the World Health Organization Strategic and Technical Advisory Group for Tuberculosis. These studies need to be completed expeditiously with international standards of laboratory and clinical trials practice, and employing external monitoring bodies. Providing a TB diagnostic tool that is specific, cost-effective, sustainable, and has high throughput suitable for resource-limited settings where the TB burden is the greatest, is one of the highest priorities for global health institutions, researchers and clinicians. TB detection rat technology has the potential to fulfill these requirements.

## SOKOINE UNIVERSITY OF AGRICULTURE

**Almost fifteen years have passed since the establishment of the SUA-APOPO project at the Sokoine University of Agriculture. The project arrived with the novel idea to train rats for landmine detection, which expanded to detecting tuberculosis a few years later.**

Today, at SUA we are encouraged to see that this research has directly saved and impacted many lives, not only in Tanzania, but also in neighboring countries affected by landmines and TB and more recently in South East Asia.

With some pride we can say that this pioneering technology bears the stamp "made in Tanzania", and we hope we can continue this fruitful collaboration for many years to come whilst together we search for new applications where the giant rats can create even more positive humanitarian impact in the places that need it most.



**Prof. Gerald Monella, Vice Chancellor, Sokoine University of Agriculture**

Dr. Stewart Reid was leading the UBSOF evaluation mission of apopo's TB program in Mozambique and Tanzania, November 2013.



## CAMERATS

In 2013, APOPO continued to develop the training procedures and equipment required to conduct urban search and rescue operations with the HeroRATs. APOPO set up a simulated disaster environment filled with rubble and various objects to mimic a complex search environment. An experiment investigating the ability of the rats to locate human targets compared to nonhuman control targets was also conducted. The findings clearly demonstrated that the rats quickly locate victims and remain near them long enough to capture video footage, which may then be used to guide rescue operations.



## RESEARCH AND DEVELOPMENT

**A**POPO's team of scientists and scientific advisors are dedicated to optimizing scent detection training and operations, exploring novel applications, and advancing the state of the field with the goal of improving lives and engendering social change. In 2013, APOPO conducted a variety of experiments investigating the effects of potential improvements to training and operational procedures. APOPO has 25 publications in peer-reviewed journals, which have been cited more than 150 times.

At APOPO's TB center, a method of screening individuals from high-risk populations was explored with promising results. The TB rats' performance under conditions of "no reward" was examined, which provided valuable information for the development of screening methodology. For the mine detection rats, APOPO developed and tested a method of rewarding correct indications at the operational site by contaminating spots on the minefield with the scent of TNT. The findings from this research have improved APOPO's ability to test and train operational mine detection rats. APOPO's researchers also investigated the influences of early exposure to the target scent on the performance of the mine detection rats and tested new early training methods involving training the rats on miniature, tabletop minefields, resulting in further optimization of the training process.

APOPO's exploratory research involved an initial investigation into the rats' ability to detect salmonella, demonstrating that the rats can reliably detect the presence of these bacteria. The research team also investigated the ability of the rats to detect contraband using remote scent tracing procedures in which filter material is contaminated with odor from locations of interest and evaluated by the rats in the laboratory; this technology has potential for use in a wide array of scent detection applications.

**For our publications, visit:**

<http://www.apopo.org/en/about-apopo/press/publications>







**“ OUR SOCIAL  
MEDIA CHANNELS  
DIRECTLY REACH  
THE PEOPLE WHO  
ARE INTERESTED  
IN WHAT WE DO  
IN A MORE  
PERSONAL WAY.”**

**James Pursey, Communications manager**

## SOCIAL MEDIA 2013

**A**s more traditional channels of communication such as TV, radio and even websites themselves wane in popularity and reach, the relatively recent rise of social media has more than filled the gap. In 2013 APOPO capitalised on this with better targeted sharing of knowledge and experiences that directly reaches the people more likely to be interested in what we do, and in a more personal way. It has paid dividends, with our reach vastly improving and our engagement factor showing that APOPO's followers really want to be more involved.

However Social Media is an ever-changing platform. What is popular online today may not even exist in a year's time. So in 2014 we are looking at developing our Social Media by further expanding our channels to include Instagram, providing more visually based stories about our beneficiaries and our own people, and exploring other initiatives such as regular Q&As to make sure that online, we stay well ahead of the game.

### A PICK OF OUR MEDIA EXPOSURE IN 2013

THE WALL  
STREET  
JOURNAL

ReliefWeb

The  
Economist

WIRED

BBC

THE LANCET

ALJAZEERA

DW Deutsche  
Welle

2,704

FOLLOWERS



@HERORATS

6,176,000

POTENTIAL  
IMPRESSIONS

WWW.APOPO.ORG



58,070

UNIQUE VISITORS

219,376

PAGE VIEWS

10,472

FACEBOOK  
FOLLOWERS



APOPO'S  
HERORATS

2,141,000

TOTAL REACH





Christophe Cox  
CEO

## LOOKING FORWARD

Game changing innovations normally pop up in unexpected places and are rarely the result of the structured approach of scientific methodology and strategic planning. Innovations are a product of unconventional viewpoints, intuition and the need for new solutions in a volatile and unequal world.

This is the core of how APOPO came into existence.

APOPO continues to foster innovation in its current realm where structure, strategy and scientific method are essential ingredients. We constantly need to reinvent ourselves to keep up with formidable challenges of controlled growth, for complying with the rigorous scientific standards of TB diagnosis, for ensuring efficiency and safety in mine action on a larger scale, and, most importantly, for continuing to provide quality service and transparency toward our beneficiaries, stakeholders and donors.

Innovation therefore remains a core value for APOPO, which sparks new life and ideas into our strategies, research, operations and administration. And likewise, new insights from people with different cultures and walks of life continue to inspire APOPO and keep it an interesting and diverse place to be.

## MYAPOPO.ORG

APOPO brought a new experience to its Hero-RAT adopters in 2013. myapopo.org, invites you to support our life saving work by adopting a rat for yourself or as a gift to your friends and family. Through regular updates from the field, you will be able to follow its growth, training achievements and operational impact, and share it through your social media.

APOPO sends thanks to all its adopters and individual donors across the world who make a big difference to our work.

# INNOVATION



MAKE  
AN  
IMPACT



SAVE LIVES

ADOPT GROW  
LEARN CHOOSE



TION

271,372 €

RECEIVED FROM OUR INDIVIDUAL DONORS  
AND HERORAT ADOPTIONS IN 2013

2,247

ADOPTIONS  
IN 2013





## HONORARY PRESIDENT

“

The last few years have been very important to me in the global fight against land-mines. In 2008 I became Honorary President of APOPO and in 2011 I travelled to the actual minefields to see the remarkable HerRATs and the rest of the APOPO demining teams in action.

Since then I have been involved in the work of APOPO as we release land in Mozambique and Thailand, and expand to new territories such as Cambodia and Angola.

The land mine problem affects people right across the globe and nearly all of these are innocent men, women and children who have no association to the original conflicts except to be unfortunate enough to live there. There is no doubt that land-mines form a structural barrier to development as well as causing untold pain and suffering due to the inevitable accidents that occur.

That's why in 2013, I accepted the invitation to become a Special Envoy to the Ottawa Convention in order to advocate more strongly against these treacherous weapons.”

**Her Royal Highness  
Princess Astrid of Belgium**



**Bart Weetjens**  
Founder and Head of Corporate Affairs

## PARTNERSHIPS

Driven by our values of quality and innovation, diversity and social transformation, we foster a culture of empowerment of the most vulnerable communities on the planet. Thanks to you, our donors and partners, who make this change possible.

The impact of APOPO's detection rats technology is not merely the lives saved by clearing landmines, the return of safe land to rural communities, or the increased productivity of individuals placed on treatment through our TB case finding program. Our impact goes well beyond: we inspire social change by means of building peace and security, by preventing diseases of poverty, and by empowering the poorest of the poor economically. Hand in hand with our beloved HeroRATs we address the most challenging humanitarian issues, and by doing so, break down barriers in order to tackle the root causes of poverty and instability.

Looking at the fast growth that APOPO is experiencing, we feel endorsed by you, our donors and partners, to further scale our disruptive detection rats technology, and in the process create the necessary conditions for the most vulnerable on the planet to develop their lives in dignity.

Without you, all this would not have been possible. Therefore I would like to use this opportunity to express our heartfelt **THANKS!** in the name of the communities we serve.

TOTAL NUMBER OF	LOCAL INSTITUTIONAL PARTNERS	INSTITUTIONAL DONORS	INDIVIDUAL SUPPORTERS
	46	31	2917

## OUR PARTNERS AND DONORS





## FINANCIAL UPDATE BALANCE SHEET (€)

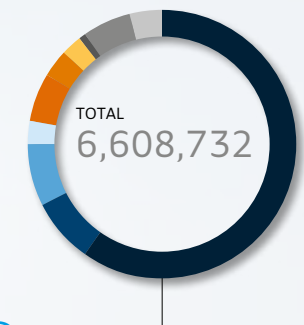
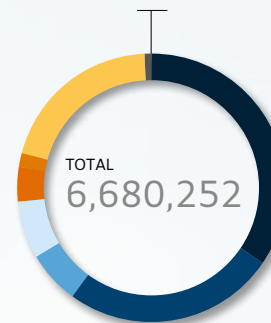
ASSETS	2013	2012
<b>Fixed Assets</b>	<b>2,466,880</b>	<b>1,869,763</b>
Land and buildings under partnerships	274,077	277,746
Furniture, vehicles and equipment APOPO	1,777,292	1,252,952
Furniture, vehicles and equipment under partnerships	415,510	339,065
<b>Current assets</b>	<b>967,685</b>	<b>1,452,870</b>
Current receivables	129,945	542,874
Other assets	1,670	•
Cash and equivalents	836,071	909,996
<b>TOTAL ASSETS</b>	<b>3,434,565</b>	<b>3,322,633</b>
<b>LIABILITIES</b>		
<b>Net capital</b>	<b>931,909</b>	<b>1,082,782</b>
Funds of the organization	328,046	328,046
Other reserves	140,644	203,584
Retained Earnings	463,218	551,152
<b>Long term liabilities</b>	<b>2,502,272</b>	<b>2,222,123</b>
Deferred Income (Grants)	2,502,272	2,222,123
<b>Current liabilities</b>	<b>383</b>	<b>17,728</b>
Current payables	383	17,728
<b>TOTAL LIABILITIES</b>	<b>3,434,565</b>	<b>3,322,633</b>

## PROFIT & LOSS STATEMENT (€)

	2013	2012
Total Income	5,842,895	4,117,914
Total Operational Expenses	2,198,994	1,662,577
Total Personnel Expenses	2,847,634	1,881,329
Depreciation	906,793	577,378
Other costs	13,000	7,516
<b>Operating Result</b>	<b>-123,527</b>	<b>-10,886</b>
Financial Result	-28,602	-7,782
Extraordinary Result	64,195	150,734
<b>Net Income</b>	<b>-87,933</b>	<b>132,067</b>

## DONATIONS & SUBSIDIES 2013 IN EURO\*

● Government grants .....	2,310,082
● UNDP .....	1,701,217
● Foundations .....	429,887
● Research grants .....	468,489
● HeroRAT public campaign .....	271,327
● Other unrestricted income .....	115,798
● Corporate support .....	1,337,189
● In kind donations .....	46,263



## EXPENSES AND INVESTMENTS 2013 PER ACTIVITY IN EURO\*

● Mine Action Mozambique .....	3,963,705
● Mine Action Thailand .....	510,818
● Mine Action Angola .....	484,301
● Training Mine Detection Rats .....	187,058
● TB program Tanzania .....	385,527
● TB program Mozambique .....	223,582
● Research and Development .....	165,533
● CameRATs, .....	61,911
● Management of communications, finances, fundraising and administration, Tanzania headquarters.....	380,211
● Management of Human Resources and corporate affairs, Belgium office .....	246,086

\* CASH BASED

“

THROUGH THE KIND SUPPORT OF  
OUR DONORS, APOPO HAS POSITIVELY  
AFFECTED THE LIVES AND FUTURE OF  
SO MANY PEOPLE WORLDWIDE”

Margarida Luis Siteo, Deminer, Mozambique



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**Contact:** Liesbet Van Wijk  
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Maarten Boersema (3, 23),  
Joao Gomes (12,13),  
Briana Marie Forgie (16,17,26)  
Lieve Blancquaert (28)

## SUPPORT OUR WORK

### HeroRAT Adoption Program

For 5€ per month or more you can contribute to APOPO's life saving mission and receive updates of your own HeroRAT  
**www.myapopo.org**  
**herorats@apopo.org**

You can also make a donation at:  
**www.apopo.org/donate**

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**Christophe Cox**, CEO

**Bart Weetjens**, Head of Corporate affairs

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