

FIRE AND RESCUE INTERNATIONAL

Integrated fire prevention, detection, management and rescue technology

Volume 1 No 3



International Specialists in
Integrated Fire Management Services

America • Australia • Chile • Europe • Mozambique • Tanzania • Zambia



**WORKING
ON FIRE**
INTERNATIONAL



FFA GROUP OF COMPANIES

FIRST IN INTEGRATED FIRE MANAGEMENT

The company comprises four departments:



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Provides servicing for own and external aircraft

Manager: Rinus Van Raaij

Tel: 013 741 8222



Aircraft Fuel Supply Department

Provides fuel to own and outside aircraft

Manager: Emile Grobbelaar

Tel: 013 741 6400



Dispatch and Coordination Department

Provides a dispatch and coordination function for both aerial and ground fire fighting resources

Manager: Lizette Heine

Tel: 013 741 6451



Aviation Operations Department

Manages the logistics and client interests of the operations

Manager: Mike Assad

Tel: 013 741 8222

26 years of aerial fire fighting experience

Our fleet comprises of:

- 12 Huey UHI helicopters (access to 6 extra Huey helicopters)
- 5 fixed wing water bombers (access to 7 extra bombers)
- 3 spotter aircraft (access to 12 extra spotters)

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Comment

We are proud to present our third issue of **Fire and Rescue International**.

Conference and exhibitions

Fire and Rescue and International attended the recently held Wildfire 2011 conference. The magazine was exceptionally well received by local and international delegates. Welcome to all our new subscribers!

We also attended Nampo 2011 in Bothaville in search of fire fighting technology. See our report back on page 28.

Cover profile

Integrated fire management specialists, Working on Fire International, is our cover profile company of the month. This company has gone from strength to strength and now boasts offices in Africa, Europe, Chile, and Australia. Their dynamic approach to integrated fire management resonates their active involvement in involving local communities in their programmes.

This month's news

This month's news Edition features a number of destructive fires, some of which involved tragic loss of life. Rescue South Africa is also featured prominently after their heroic efforts in Japan.

We also salute the NSRI (National Sea Rescue Institute) in their plight to save people against the might of the sea.

Our case study in this issue focuses on the recent research done in the Kruger National Park to investigate the effect of type of ignition on pyro diversity ie fire patterns.

FRI Images photographic competition

Our first winner of the FRI Images competition is announced this month and won R2 000 cash! See page 3 for details. **CONGRATULATIONS!**

You too could be a winner. Just send in your photographs!



Lee Raath-Brownie

Share your news and views!

The fire fighting, rescue and emergency services fraternity is certainly an active group of people!

We love to hear from you. You're experiences, ideas and suggestions are why **Fire and Rescue International** were initiated. We strive to serve those who serve others.

Keep the emails, photographs and phone calls coming!

We love to hear from you!

**Lee Raath-Brownie
Publisher**

Fire fighter's creed

When I'm called to duty God
wherever flames may rage

give me strength to save a life
whatever be its age

Help me to embrace a little child
before it is too late

or save an older person from
the horror of that fate

Enable me to be alert
to hear the weakest shout

and quickly and efficiently
to put the fire out

I want to fill my calling and
to give the best in me

to guard my neighbour and
protect his property

And if according to your will
I have to lose my life

bless with your protecting hand
my children and my wife

-Author Unknown-

Our first FRI images winner!



Congratulations to Hennie Olivier, senior station officer at Govan Mbeki Municipality

Photo description:
Fire fighters busy with a patient after extricate from a heavy vehicle

Camera:
Samsung digital camera

Hennie Olivier wins this month's prize money of R 2 000!

Well done!

Calling all budding photographers! We want your photographs!

Fire and Rescue International (FRI) has introduced a monthly photographic competition to all its readers. This exciting competition offers you the opportunity of submitting your digital images of fires and fire fighters, any fire, anywhere.

The rules are simple:

- All photographs submitted must be in jpeg format and not bigger than 4 megabytes.
- Photographs must be in high resolution (minimum 1500 pixels on the longest edge @ 300dpi) for publishing purposes
- **Allowed:** cropping, curves, levels, colour saturation, contrast, brightness, sharpening but the faithful representation of a natural form, behaviour or phenomenon must be maintained.
- **Not allowed:** cloning, merging/photo stitching, layering of two photos into one final frame, special effects digital filters.
- Fire and Rescue International (FRI) reserves the right to publish (printed or digitally) submitted photographs with acknowledgement to the photographer.
- Winners will be chosen on the merit of their photograph.
- The judge's decision is final and no correspondence will be entered into afterwards.
- Brief description should accompany photo.

Entries must include:

Name of photographer
Contact details (not for publishing)
Email: (not for publishing)
Name of photograph
Brief description of photograph including type of fire
Camera used
Lens
Settings

All entries must be emailed to lee@fireandrescue.co.za.



>>ENTER NOW!



Working on Fire International — professional fire management

Working on Fire International are leaders in integrated fire management systems, projects and equipment.

Training Serengeti National Park staff

This international company provides complete solutions for the development of environmental fire management challenges which are environmentally sustainable, economically feasible and socially acceptable.

Its pool of environmental scientists and technical specialists place it in a position to offer practical, implementable solutions to environmental and fire management issues and challenges.

The company's extensive range of scope includes wildfire risk management; aerial fire fighting; all aspects of fire management training to international standards; wildfire investigations including determining cause and origin; fire spread modelling; large scale, cost effective understorey burning; the management of wildfires threatening power line infrastructure and fire related climate change products.

Fire management consultants

Working on Fire International with partners and associates from the international fire research community provide for the development of extensive fire management

plans. They deliver integrated fire management plans respecting all local influencing factors.

Aerial fire fighting

Working on Fire International has been involved in providing aerial fire fighting services to customers for 20 years.

Its primary mission is to support the ground fire fighter through a variety of means including aerial fire fighting, fire fighter and cargo transport, aerial reconnaissance and fire intelligence gathering.

The aerial fire fighting service can be provided globally.

Wildfire risk management

Working on Fire International supplies a unique approach to assessing, quantifying and determining risk on transmission power lines, railway servitudes and oil pipeline servitudes. Specific management plans are developed and activities are recommended for the mitigation of these threats.

Climate change

Working of Fire International has established a partnership with the

Cirrus Group to identify, develop and implement landscape-scale avoided deforestation and forest rehabilitation activities.

Complementing Working on Fire International's substantial experience in fire and forest management, the Cirrus Group focuses on the development of climate change response strategies for entities ranging from Governments, to NGO and private sector companies and individual farmers. In particular, the Cirrus Group has strong experience in developing avoided deforestation and carbon sequestration ventures located in sub-Saharan forest and rangeland systems. Current clients of the Cirrus Group include Conservation International, WWF, the Wildlands Conservation Trust and the South African Fruit and Wine Industry.

Wildfire investigation

Working on Fire International provides international standard wildfire investigations including determining cause and origin.

This high quality service offered includes the compilation of expert reports, including scene diagrams, ►

► interviews, photographic and video records. It also extends to the provision of expert opinion in legal consultation and litigation. The company has access to an internationally accredited laboratory for the analysis of fire debris samples to determine the possible presence of ignitable liquid residues.

The investigators hold Forensic Science Society Diplomas in Fire Investigation and are certified fire investigators with the International Association of Arson Investigators.

Fire spread modelling

In fire prone ecosystems, unplanned and unmanaged fires can have devastating effects, taking people's lives, destroying livestock and ruining businesses and property. The identification of who is legally responsible for the start of a fire and the damage of property or loss of life can be extremely confusing when there are multiple fire origins to essentially one large fire. Working on Fire International has developed a program for the determination of the origin of the fire through fire spread modelling.

This product can be used to develop detailed fire management plans for fire suppression and has also been successfully used during litigation and court proceedings.

Fire management training

All courses offered are to international standards and cover the full spectrum of integrated fire management. All training courses in fire management are internationally accredited and are provided in English, Spanish, Portuguese and French. Courses are available year-round and are tailor made to fit local conditions and are provided globally to governments and private entities.

Understorey burning through aerial ignition

Fuel loads in plantations worldwide have reached unacceptable levels to the point that most wild fires are becoming uncontrollable. Fire fighting crews and communities are placed at huge risk, whilst the timber industry is facing massive financial losses. Understorey burning is the most cost effective method to reduce high fuel loads in plantations.

Climatic conditions limit the possible time spent on prescribed understorey burning, making the window of opportunity a priority in all plantation fire management schedules. Working within strict meteorological margins and utilising an aerial ignition system, ten times the amount of hectares may be burnt, using the same amount of people as in a conventional manual ignition understorey burn.

Current aerial ignition techniques can be separated into two categories: delayed aerial ignition devices and the Helitorch (aerial drip torch).

Fire fighting equipment

Working on Fire International offers a complete range of fire mitigation and fighting equipment including skid units, safety gear, fire barrier curtains, drip torches, water pumps, nozzles, hoses and couplings.

Key projects

Various key projects have earned Working on Fire International its accolades. Some of these key projects are:

Botswana

The Okavango Delta is considered one of the world's largest remaining inland wetland ecosystems and is protected under the Ramsar Convention. This fascinating and beautiful wetland is home to a myriad of bird species and vast numbers of wildlife. Concern was expressed by the tourism sector, local residents and tourists alike that the widespread occurrence of intense and uncontrolled wildfires was devastating the Delta ecosystem.

Working on Fire International interviewed local rural communities living in and around the Delta, plus various other stakeholders from the commercial sector including tourism operators to gain insight into the problems and functioning of the Delta.

After ecological assessments were conducted a fire management plan was developed that encompassed both prescribed burning according to ecological guidelines and fire suppression. The Delta is a functioning ecosystem that needs periodic fires and has the ability to recover from perturbations such as wildfires.

Tanzania

The Serengeti National Park, one of the last natural ecosystems in Africa, covers an area of 14 763 square kilometres and forms a major component of the Serengeti-Mara ecosystem on the border of Tanzania and Kenya. The annual migration of two million wildebeest accompanied by 200 000 zebras and 440 000 Thompson's and Grant's gazelle makes it one of the greatest wildlife spectacles in the world.

The Serengeti National Park was designated as a World Heritage Site by UNESCO in 1972 and as a Biosphere Reserve in 1981. Preservation of this amazing African landscape with its typical flat crowned thorn trees along wandering stream beds dissecting the endless plains and phenomenal animal numbers is a high priority.

Poachers from the bigger centres however, who make a profit from poaching, are well organised and ►



Working on Fire International in Zambia on an assessment



Prescribed burns done for Eskom

- ▶ often set fire to the grasslands of the Serengeti to distract the National Park staff who are occupied fighting these fires so that they can poach unhindered in other areas. Poacher lit fires originating from outside the park, and set with unfailing regularity, also disrupt the wildebeest migration and are regarded as being undesirable because as they are perceived to result in considerable short-term and long-term modifications.

Working on Fire International developed an ecologically based fire management plan detailing protection of sensitive habitats and logistics for wildfire prevention. National Park staff received training on prescribed burning and fire suppression.

Zambia

The Sioma Ngwezi National Park, portions of the West Zambezi Game Management Area and the Masese Forests in the Sesheke District of south western Zambia is an isolated, rural area with minimal opportunities for income generation. Trading carbon credits on the international market was viewed as a potential source of income to assist with socio-economic development of the region.

This necessitated addressing the challenges of climate change to protect and re-afforest potentially valuable resources. The control of wildfires in the National Park would also contribute to improved habitats for game animals and increased

tourism potential. The area is 1,5 million hectares in extent and is bounded by the Zambezi and Kwando rivers. For the development of an integrated fire management plan that would be of value to the whole community, it was important to gather knowledge, especially traditional knowledge, and stakeholder uses of fire and the threats they experienced.

Traditionally local communities ignited late season intense fires. The vegetation and potential carbon stocks were assessed and recommendations made for a paradigm shift in current communal burning practices. Colonial regimes and foresters enforced the practice of early season cool fires for the preservation of the indigenous forests. Logistics of prescribed burning, fire control and suppression, equipping and training of local communities as fire fighters and the implementation of an integrated fire management plan, was detailed so that maximum benefit would accrue to the rural communities.

Mozambique

The Gile National Reserve in north eastern Zambia Province in Mozambique protects 24 000 hectares of mature deciduous miombo woodlands and savannah.

Due to tsetse fly prevalence in the area local communities could not keep livestock, particularly cattle and had to rely mainly on chickens and small mammals for protein. The majority of wildfires in the region

were of anthropogenic origin caused by hunters using fire to kill small mammals and tortoises and to attract antelopes to the burnt regrowth in order to snare them for "bush meat". Fish traders on bicycles traversing the Reserve to and from the coast leave fires lit for warmth and protection unattended causing accidental fires.

After thorough investigation it was concluded that controlled burning was an essential and desirable management practice to maintain the vegetation in its



Under canopy burning in Chile

current productive and ecologically desirable condition and a controlled burning program, in the form of an Integrated Fire Management System (IFMS), was recommended. Working on Fire International, in addition to developing fire management plans, trained and equipped the management and field staff of Ngorongoro National Park on fire management. ▶

► **Namibia**

A technical review of the integrated forest fire management component of the Namibia-Finland Forestry Program, was motivated by the perception at local level that excessive burning is having a highly significant negative effect on the woodland ecosystems in the northern areas of Namibia, particularly in the east Caprivi region.

As a result of the rapidly increasing human population, fire is being used more extensively for converting wooded areas into croplands, maintaining grazing lands and for facilitating activities like hunting and robbing wild bee hives for honey collection. Investigations concluded that this was causing serious ecological damage as indicated by a decline in the biodiversity of these areas.

Excessive burning was also resulting in considerable economic losses through damage to valuable timber and non-timber resources, loss of grazing and consequent increased livestock mortalities, all of which were to the detriment of the local human population.



CEO of Working on Fire International, Chris de Bruno Austin, in Zambia

controlling indiscriminate wildfires would have a beneficial effect on the condition of the grass sward and the woody vegetation.

Recommendations were that the IFFM component of the NFFP should also actively include the implementation of controlled burning based on regular assessments of the condition of the vegetation using the techniques that were developed for use in the Caprivi region of Namibia.

kept for commercial purposes but the primary income of the conservancy is from ecotourism as Lewa is regarded as one of the leading wildlife destinations for international tourists in this region of Africa.

A fire and range management plan was developed for the conservancy based on several years' research on the effects of type and intensity of fire on savannah vegetation in the central highlands of Kenya.

Concern was voiced that the introduction of prescribed burning would reduce the browse available for black rhino. Controlled burns applied as low intensity fires of less than 1 000 kJ/s/m in the late afternoon when the air temperature is <20 0C and the relative humidity is >50% would have minimal impact on the woody vegetation. Prescribed burning also improved range condition on the plains and provided good nutritional grazing for the beautiful pin-striped Grevy's zebra, wildebeest, Thompson's gazelle and other species of game.

Training on fire management and the provision of fire equipment by Working on Fire International has taken place in Ghana and Uganda and is an on-going program where required in Africa.

Working on Fire International is committed to the development of ecologically based fire and range management plans that sustain ecosystem services, maintain and/or improve habitats and that address biodiversity issues and the challenges of climate change. ▲



Assessing fire risk on Transnet pipe line servitudes

The international concern was that large scale burning is contributing directly to the anthropogenic greenhouse effect and thereby influencing global climatic change. An assessment of the condition of the vegetation showed that generally east Caprivi has been subjected to too frequent, indiscriminate wildfires that have been ignited for apparently no valid ecological reasons. Therefore

Kenya

The Lewa Wildlife Conservancy is located immediately north of the equator on the northern slopes of Mount Kenya. The Conservancy comprises 24 600 hectares and is used primarily for nature conservation. It has become one of the leading sanctuaries for conserving black and white rhinoceros in East Africa. Limited numbers of domestic livestock are also

EMS head suspended on full pay

Allegations of misuse of state funds, poor management and mistreatment of staff have resulted in the suspension of Johannesburg's Emergency Management Services (EMS) head, Dr Audrey Gule, The Star newspaper reported recently.

Gule, who was the focus of an exposé on Carte Blanche in May 2011, has been on sick leave for almost a month. She will continue to be paid her salary, reported to be more than R100 000 a month.

In May 2011, rumours of the suspension of the city's first woman head of emergency services, were dismissed by the city's mayoral committee. However, in June, city spokesman Gabu Tugwana, confirmed that Gule was formally suspended and will be on paid suspension until the allegations against her are settled at the Commission for Conciliation, Mediation and Arbitration. "She is

innocent until proven guilty, and labour (laws) would not allow us to suspend her pay until the matter is dealt with," he said.

In an interview with Talk Radio 702, Tugwana also said city manager Mavela Dlamini would be unable to comment on the allegations because he was part of the investigation, too.

DA spokesman for safety, Darren Bergman, told The Star that an investigation of the allegations against Gule, conducted by auditing firm PwC, had been going on since the middle of last year. According to Bergman, along with the financial problems at EMS, numerous allegations of racism and mistreatment by management were also under investigation. Bergman said he had been applying for a copy of the report on the investigation for the past six months, but there had been obstacles at every turn.

On May 15, ex-employees of EMS spoke out against Gule on Carte Blanche. But the only person willing to be publicly identified was her previous deputy director of finance, Rob Wiebosch. He had previously been employed by the City of Johannesburg for 35 years, and spoke of Gule's alleged looting of the city's coffers.

A trip to the US, costing R208 000 had already raised eyebrows, with Gule officially stating that she had repaid the massive amount to the city. However, according to Wiebosch, city bookkeepers could find no trace of such a deposit. Gule was also accused of signing off on other needless expenses, such as a trip to the UK for a group of secretaries that set taxpayers back R380 000.

Taking over from Gule is acting EMS director of operations Tshepo Makola. ▲

Tshwane under fire from its paramedics and fire fighters

Tshwane paramedics have recently told Eyewitness News of the dismal conditions they are working under, saying they are even forced to buy their own dish-washing liquid to clean ambulances because there is no money for disinfectant, reports Barry Bateman.

Municipal emergency workers and their colleagues in the fire service have revealed poor working conditions and mismanagement in the city.

The revelations mirror the damning claims made by their counterparts in Johannesburg following the suspension of Emergency Services Head, Audrey Gule.

A source said Tshwane employs only one advanced life support paramedic but she is currently on maternity leave. He said the municipal emergency services have only four working ECG machines.

But the expertise and equipment would only be useful if the paramedics can get to emergencies. They say vehicles are often standing in garages waiting to be serviced but there is no money for this to happen.

Fire fighters say they are in the same boat. At the height of the dry season in Gauteng, almost half of the specialised veld-fire fighting vehicles are in the shop.

The municipality failed to respond to questions of Eyewitness News. It was understood that senior managers were at a Legkotla at the time of this report.



Source: Eyewitness News

Yacht capsized in gale force storm

photo courtesy of NSRI



NSRI Witsand's Quinten Dienten, Attie Gunter and Leon Pretorius.

On Wednesday, 15th June 2011 at 19h22, NSRI Witsand volunteers were activated following reports of a yacht in unknown difficulties off Cape Infanta with four crewmen on board.

The wife of the skipper Greg West, reported to an NSRI Knysna volunteer, that the yacht Gulliver with skipper Greg West, and his crew Frans Strung, Mike Morck and Shaun Kennedy were sailing in the region of Mossel Bay and had lost cell phone contact since lunchtime that day. All efforts to raise the yacht had failed.

Maritime Radio Services had been trying to get into contact with the yacht by VHF Radio and the NSRI Knysna volunteer alerted NSRI Mossel Bay.

In the meantime NSRI Still Bay, NSRI Witsand and NSRI Agulhas were all placed on high alert.

It was then confirmed that an EPIRB (an Emergency Distress Radio Beacon) was intercepted by an international monitoring Maritime Search and Rescue agency and they had alerted South African Maritime Search and Rescue informing that the emergency distress beacon belonging to the Knysna yacht Gulliver was emitting the Emergency Distress Signal some 12 nautical miles off-shore of Cape Infanta.

It was suspected at this stage that the yacht had either capsized or sustained severe damage and the fate of the four crewmen was not known.

On learning of the EPIRB activation it was decided that NSRI Witsand (the closest sea rescue station) would launch a 5,5 meter, rigid Inflatable rescue craft Queenie Paine to respond to the position of the EPIRB while NSRI Still Bay would send a relief crew to our rescue base in Witsand as back-up.

Metro EMS and the SA Police Service were activated to respond to the rescue base in Witsand to stand-by. NSRI Witsand launched the sea rescue craft Queenie Paine with three rescue crew on board and negotiated up to five meter rough sea swells and a gusting up to 60 knot wind in very dark conditions.

The set off an illuminating flare and noticed a small flickering light just over one nautical mile away from us and we motored towards the light. On reaching the flickering light (at around 23h00), they found the upturned (capsized) hull of the yacht, a 40 foot catamaran. All four crewmen were found in a life-raft which they had tied to the capsized hull of their yacht.

The men told us that their yacht had been capsized by a sudden, extremely strong wind squall at around 13h30 while they were motor sailing and they had manually set off their EPIRB which had required Shaun Kennedy to swim under the yacht to release the EPIRB.

They had also all been huddled on the upturned hull of the yacht before releasing the life-raft later in the day, which again required swimming under the yacht.

They explained that the life-raft had suddenly been caught in the strong winds and it began to be blown away from the upturned hull of the yacht but one of the men managed to swim after the life-raft catching up with it and swimming it back to the capsized yacht.

The four men were suffering hypothermia and shock (only one of the men was seriously hypothermic) and they were taken onto the sea rescue craft.

NSRI Agulhas were called to assist and they launched their 8,5 meter, rigid inflatable sea rescue craft Vodacom Rescuer VII. Two fishing trawlers that were in the area were requested to be on the lookout for the sea rescue craft which was limping back towards shore in terribly rough sea conditions with a very overloaded sea rescue craft managing to just make headway.

At around 01h00 am they limped into Witsand aboard Queenie Paine and all four men were transported to hospital by Metro EMS ambulance for treatment for hypothermia. The crew of Gulliver, skipper Greg West, 60, his crew Frans Sprung, 76, Shaun Kennedy, 34, of St Francis Bay and Mike Morek, of Knysna, have been released from hospital.

They had been sailing from Langebaan to Knysna and were attempting to outrun the weather, trying to reach Mossel Bay, when a wind squall capsized their yacht at approximately 13h30 off Cape Infanta.

A Maritime navigational warning of the upturned hull of the yacht floating and adrift some 12 nautical miles off-shore of Cape Infanta is broadcast and the fate of the capsized yacht is not known. The NSRI suspect the owners will attempt salvage efforts. The South African Maritime Safety Authority (SAMSA) will investigate the incident as per standard procedure. ▲

Russian plane crash carnage

A Russian airliner crashed in heavy fog and burst into flames just short of a runway in northwestern Russia, killing 44 people, officials said. Eight people survived, dragged from the burning wreckage by locals.



44 people were killed in the carnage

The RusAir Tu-134 plane had taken off from Moscow and was moments from landing at the Petrozavodsk airport when it slammed into a nearby highway just before midnight, Emergencies Ministry spokeswoman Oksana Semyonova stated.

Russia's top investigative agency said bad weather, human error or a technical malfunction might have contributed to the crash. There were no suspicions of a foul play.

The plane's approach was too low, so it clipped a tree and then hit a high-power line — causing the airport's runway lights to go off for 10 seconds — before slamming into the ground, Sergei Izvolsky, said a spokesman for the Russian air transport agency.

Petrozavodsk is in Karelia province near the Finnish border, about 640 kilometres northwest of Moscow. The plane crashed about 100 meters from a small village, but no casualties were reported on the ground.

The Russian federal air transport agency chief, Alexander Neradko, speaking from the crash site, said that preliminary information indicated the plane appeared to be intact when hit a 15-meter pine tree. "There is no sign of a fire or explosion on board the plane before the impact," he said.

Sergei Shmatkov, an air traffic controller who oversaw the plane's approach, was quoted by the

lifeneews.ru online newspaper as saying the visibility near the airport was close to the minimum admissible level at the time of the crash, but the pilot still decided to land.

"The crew continued their descent at a moment when they already should have begun a second run," he was quoted as saying. Shmatkov said he ordered the crew to abort the landing the moment the runway lights went off, but it already was too late.

RusAir said the plane was in good working order. The Tu-134, along with its larger sibling the Tu-154, has been the workhorse of Soviet and Russian civil aviation since the 1960s with more than 800 planes built. The model that crashed was built in 1980.

A respected aviation expert and veteran pilot said pilot error appeared to be the likely cause.

The inter-state air commission (MAK), which investigates air accidents in the ex-USSR, said it was premature to draw conclusions.

The plane was carrying 52 people, including nine crew members, according to the Emergencies Ministry. The official list of victims included a Swedish citizen, a Dutch citizen, two Ukrainians and Russian Premier League soccer referee Vladimir Pettay. The German Foreign Ministry said one victim had dual Russian-German citizenship, but didn't identify him.

Russian President Dmitry Medvedev, who has swapped his Tupolev for a French-made executive jet, in April criticised flaws in domestically built planes and the nation's poor safety record.

The spokesman of the Russian Investigative Committee Vladimir Markin said a criminal probe was being opened into neglect of air transport rules.

The plane's flight data recorders have been recovered.

In recent years, Russia and the other former Soviet republics have had some of the world's worst air traffic safety records, according to official statistics. Experts blame the poor safety record on the age of aircraft used, weak government controls, poor pilot training and a cost-cutting mentality.

Polish President Lech Kaczynski was among 96 people killed when his Tu-154 crashed in heavy fog while trying to land near the western Russian city of Smolensk in April 2010.

In 2006, three crashes — two in Russia and one in Ukraine — killed more than 400 people.

The International Air Transport Association noted that Russia has recently made progress on air safety, with none of Russia's 13 largest air carriers suffering a deadly accident over the past three years. ▲

New equipment for Johannesburg's emergency services

City manager Mavela Dlamini recently told Mandy Wiener of Eyewitness News that new equipment and uniforms have been ordered and that new fire trucks will be procured as part of an attempt to turn Johannesburg's Emergency Management Services (EMS) around.

Dlamini also decided to commence an administrative assessment to determine how badly EMS was being impeded by old equipment and a lack of diligence.

Earlier this month, fire chief Audrey Gule was suspended after senior officials in her office said the service was crippled by poor infrastructure, maladministration and a deteriorating culture.

Speaking at a mayoral breakfast, Dlamini said it was his responsibility to ensure that Johannesburg EMS is turned around, in order to perform optimally for the city's residents.

Dlamini also assured Johannesburg Mayor Parks Tau that everything was being done. Meanwhile, Tau confirmed that the disciplinary process against Gule was also moving on.

"The issue that the city manager is working on, is to give Dr Gule a fair hearing," Mayor Tau stated. "Of course it's a process, but it's not a negotiable. We must satisfy ourselves and the residents of the city..."

Mayor Tau furthermore confirmed that he received a letter from Gule appealing her suspension.

Dozens displaced by Nigerian floods

Nigeria's fire service reported that at least six people have died after torrential rains flooded a highly populated area in northern Nigeria.

Kano state fire service chief, Kassim Musa, said that the wet season's early rains flooded a neighbourhood in the city of Kano because of poor drainage.

He said about 150 people have been displaced and at least 27 houses destroyed.

Authorities said that flooding last year displaced about 500 000 people across Nigeria. Most of them lived in the country's northwest region.

Nigeria's National Emergency Management Agency recently warned state governments in the area to take preventive measures against floods after weather forecasts showed that rains would be even heavier this year, SAPA reports.

The wet season loosely lasts from June to September, with July and August as the rainiest months. ▲



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Arizona Wallow fire largest in state history; climate change projections suggest far worse in pipeline



The recent fires in Arizona has been declared the largest wildfire in the states history

Fire fighters in Arizona reported that the Wallow fire, which has burned over 210 445 hectares, is the most extensive fire in that state on record, surpassing the Rodeo Chediski fire of 2002.

Experts project numerous factors have contributed to the fire's severity, ranging from forest management practices to this year's drought. Perhaps more troubling, a report from the National Academy of Sciences (NAS) indicates a modest climate warming may lead to startling increases in wildfire impacts in the West.

The NAS report, *Climate Stabilisation Targets: Emissions Concentrations, and Impacts over Decades to Millennia*, presents an analysis finding the area burned each year in the western United States from 1°C warming may increase 73 percent to over 600 percent compared to recent levels.

From NAS report: "Map of changes in area burned for a 1°C increase in global average temperature, shown as the percentage change relative to the median annual area

burned during 1950-2003. Results are aggregated to eco-provinces (Bailey, 1995) of the West." (Figure from Rob Norheim in *Climate Stabilisation Targets: Emissions Concentrations, and Impacts over Decades to Millennia*) Overall, the amount of area burned each year could more than triple for the mere 1 degree rise the report states.

If you consider the most conservative future global warming projections published in scientific assessments exceed 1°C over the next century and as much as 6°C under more aggressive greenhouse gas emissions scenarios, the risk of more severe wildfires appears clear and present.

Fire caused power outages

Hundreds of fire fighters fought to control the several dangerous blazes in Arizona, fighting to make progress even as expanded evacuations and power outages signalled that the battle was far from over.

The Monument fire was deemed by US Forest Service Chief Tom Tidwell, as the nation's "number one priority," putting it first in line for any air, ground or other resources.

The weather has hardly been cooperating in the fight, with humidity at 7% and temperatures topping 36° Celsius. "The conditions that we're dealing with here are as bad as we can get," Tidwell said. "It just can't get any worse."

Thanks to dry, windy conditions, the fire broke through four different contingency lines, including going over to the other side of the highway, said fire spokesman Bill Paxton, part of the national Interagency Incident Management Team.

"Everything is aligned for a massive push," he said. "It's really hard on the community here."

The county sheriff's office broadened the evacuation zone soon thereafter east to the San Pedro River, reports InciWeb, an online interagency database that tracks fires, floods and other disasters.

The Monument fire, a 901 km² fire that was the first contained, has burned through almost an entire forest atop south eastern Arizona's Chiricahua mountains. The forest supports a huge diversity of plants ►



The Wallow fire in Arizona. This image was taken by the Moderate Resolution Imaging Spectroradiometer (MODIS) on the Aqua satellite on 8 June 2011 by NASA.

control, "everything is starting to look pretty good."

Some 3 600 people continue to battle the blaze, in the face of winds measuring 35-50 km/h, he said.

Tidwell said that he was "very optimistic" that damage from future wildfires could be minimised by thinning forests and clearing out biomass -- which did occur, to some extent, in parts of eastern Arizona. He confirmed that 1 295 040 hectares were "treated" nationwide last year. Senator John Kyl, R-Arizona, noted that the estimated \$64,1 million price for the Wallow fire would more than double after the costs of mitigation efforts to prevent mudslides from the summer monsoons.

"Just think that what we could have done using those funds to treat those forests in advance," Kyl said. ▲

What role does climate change play in these megafires?

- ▶ and animals and is a world-renowned bird watching area.

The fire was tamed because it basically had burned across the whole mountain range, said Mary Christensen, a spokeswoman for the team that has battled the huge blaze since it broke out May 8. The Chiricahua is one of the state's so-called "sky island" mountain ranges, which rise from the surrounding desert and grasslands and aren't connected to other ranges. It is part of the Coronado National Forest.

The website also detailed that more than 1 000 personnel -- as well as 100 fire engines and nine helicopters -- were battling the blaze, which had burned 44 homes and 18 other structures.

People living in Sierra Vista were ordered to leave while fire fighters conducted burn-out operations in an attempt to stop the fire moving that way, CNN's Thelma Gutierrez reported from the area.

About 10 000 people were evacuated at one time in the battle against the largest fire which has charred a vast area in eastern Arizona.

Some of the evacuated residents were allowed to return to their homes as the Arizona wildfire fire fighting authorities determined that the fire no longer posed any immediate risks to them. The returning evacuees were warned though that lingering smoke and soot in the air posed serious health risks for children and people with health problems.

Fire officials in New Mexico reported that an estimated 3 900 structures, homes and non-residential buildings combined, were still under a fire threat. Currently, there are some 4 300 personnel assigned to ground crews to battle this blaze, with about half on the New Mexico side of the border, working to clear fire breaks around Luna and other populated areas.

Nationwide, wildfires have burned almost as many acres in the first half of 2011 as were recorded by the National Interagency Fire Centre for all of 2010.

But fire public information officer, Rich Szlauko, had some good news, telling CNN that in terms of bringing the Wallow fire under



A fire fighter after the fire at the Struisbult care centre

Fire kills 12 at home for elderly

Twelve people died after a fire broke out at around midnight in Section A of the Struisbult care centre for elderly and mentally disabled people in Springs.

Sello Mokoena, spokesman for the provincial health department, said 27 people were injured in the fire. He spoke as fire fighters surveyed the charred wreckage of the early morning fire.

He says the cause of the blaze was not yet clear.

It is suspected that the fire was caused by an electrical fault in the power distribution box near the dining room.

The Beeld newspaper reported that some of the residents of the Struisbult care centre on the East Rand jumped out of windows and had to be caught.

Others who had been rescued from the burning building turned around in a daze and walked back into the building, Howell Davies, one of the heroes of the disaster, said.

Heroes

The Beeld newspaper reported of three unlikely heroes who rose to the

occasion to help rescue inmates from the blazing frail care centre. Davies and his son, Wesley, live a few houses away from the care centre.

"Wesley phoned me and said the old-age home is on fire and he can hear people screaming. Wesley used bolt cutters to open the security door at the end of the corridor and broke the lock and we could at least get some of the people out of there that way.

"The women were in their nightclothes and sopping wet. Inside, the water was hot from the glowing corrugated iron roof, but as soon as we got some of the people out, they just turned around and walk back inside again.

"We then wrapped them in blankets and made them sit up against the fence. Some of them were jumping out of the windows and we had to catch them and stop them from falling."

Flames behind them

Another man who got stuck in and helped save the sick, aged and mentally disturbed people was

Karel Croucamp, 27, who worked as a guard at the centre until a few months ago.

"When I got there the people were standing in front of the windows screaming, with the flames behind and above them. I smashed some of the windows with a fire extinguisher and pulled the people out.

"It was difficult to get them out: you had to lift them up and through the windows," he said.

An assistant nurse, Thoso Malase, said they battled to get the people out of the burning building.

"I have never seen people burning before. They are old and weak and we had to pull and drag them like animals to get them out of there. And the whole time they were screaming. We couldn't do any more," she said with tears in her eyes.

Babalwa Ngalo, the nurse on duty, said she was walking through the dining room of Section A shortly before midnight when the distribution ►



Fire could have been prevented



Mayor Mondli Gungubele

If standards were met at Struisbult care centre, the fire might not have occurred or people might have been saved, Ekurhuleni Mayor Mondli Gungubele said.

Gungubele was speaking in Springs at the memorial service of 12 women who were killed during a fire at the Struisbult centre recently.

"The worst thing is, when people who need our help rely on us and we fail. Imagine the people who couldn't walk or move seeing the fire approaching and not being able to do anything", he noted.

Gungubele said that on May 28 the Struisbult care centre was told to comply with health and safety regulations, but did not comply.

Lawrence Mooketsi, chairperson of the board at Struisbult, said the incident had brought out the centre's flaws.

"In winter, when the grass and veld is dry, there are often many fires. It is only then that we see the snakes and other animals that were hiding inside," Mooketsi said.

Gungubele said the cause of the fire had not yet been determined. ▲

The Struisbult care centre after the recent fire

- ▶ box suddenly gave off sparks and burst into flames.

We're burning

"I ran out and called the security guard. He fetched a fire extinguisher and we tried to put the fire out, but there was too much smoke."

Maria Diali, 60, said she opened her eyes when she heard the shouts out in the corridor. "I shouted to my roommate, 'Susan, we're burning, the house is full of smoke'," Diali said.

Susan Seaward, 56, helped her into her wheelchair and pushed her past the blazing rooms and out into the open.

Amanda Marais, 58, said she lost all her possessions in the blaze.

"But I suppose it's better still to be alive."

According to Malase only four nurses were on duty on Monday morning to look after 155 residents. She said the supervisor on duty had not arrived for work.

No fire alarm

Not enough staff, no phone line, no fire alarm and no smoke detector at the fire-ravaged Struisbult care centre possibly to blame for deaths.

According to reports, the Struisbult Care Centre did not have a fire alarm or smoke detector to warn staff of a fire in one of the centre's buildings, which killed 12 people.

Assistant nurse Thuso Mabaso says that there were also only four nurses on duty - one less than usual - to care for the 155 patients at the centre.

She adds that the phone line was dead and the panic buttons did not work. The sole security guard on duty called the emergency services and reported the fire.

Josephine Phofu, assistant manager at Pholosong Hospital, which operates the care centre, says the fire started in the TV room when an electric box exploded. She denies the allegations that there were only four nurses at the centre, saying there was six nurses, a guard and kitchen helper. ▲



Aerial fire fighting pilots are often submitted to extreme weather conditions

They are often submitted to working in thick smoke, high winds and inhospitable terrain.

The certificate of operation from the South African Civil Aviation Authority is annually renewable and has moved FFA Aviation from an emergency service, operating on an aviation "exemption" certificate, to a fully compliant aviation company.

Johan Heine, co-managing director of the FFA Group of Companies and an experienced pilot, is now writing new safety legislation on aerial fire fighting that will be incorporated into the country's existing aviation legislation. FFA Aviation is also about to become the first accredited aerial fire fighting training initiative on the continent. Louw said the company already offered continuous training and development to its pilots who attended refresher courses in aerial fire fighting ahead of every fire season. "The aerial fire fighters are experienced commercial pilots working under very dangerous circumstances but on-going training is part of FFA Aviation's overall safety protocol," said Louw.

The dispatchers and co-ordinators of the Working on Fire Programme, who dispatch aircraft for FFA Aviation in emergency situations, have all qualified with radio competency certificates enabling them to legally talk on a VHF (Very High Frequency) radio and communicate with aerial fire fighters as well as ground units. "This training is now going to be rolled out to our helicopter safety leaders and helicopter safety vehicle drivers," said Louw. He confirmed that the Independent Communications Authority of South Africa (ICASA) had approved three aerial fire fighting frequencies for use in aerial fire attacks namely 123.55; 123.35 and 123.15.

"We now also have a national RTF (Radio Telephony Frequency) call sign for FFA Aviation which is 'Firewise' and a three-letter designator for flight planning namely 'WOF'." ▲

Local aerial fire fighting company achieves firsts in SA aviation industry

By Carol Campbell

South African aviation history is being rewritten by FFA Aviation, the leading aerial fire fighting initiative, to meet all requirements of the South African Civil Aviation Authorities' stringent safety regulations - now for the third consecutive year.



Charel Louw, FFA board member and director of logistics and legal compliance

Charel Louw, FFA board member and director of logistics and legal compliance, said that SACAA had issued certificates for fixed wing aircraft (part 135 of the Civil Aviation Legislation), type certified helicopters (part 127) and non-type certified helicopters (part 96). The company's safe management, quality management systems and its maintenance control manual were also approved. "Every aspect of the entire company was checked, from its management experience and structure, reporting lines within the company, emergency response protocols, record keeping, quality assurance, equipment and publications to even the first aid kits," said Louw.

The aerial fire fighting company, which is a subsidiary of the FFA Group, recently heard that they have excelled by fulfilling all the requirements for South African Civil Aviation Authority (SACAA) certification, making it the only aerial fire fighting agency on the continent to achieve this success with three different AOCs (Aircraft Operation Certificate) and its own AMO (Aircraft Maintenance Organisation).

The aerial fire fighting company is a partner of the government-funded job creation initiative, the Working on Fire Programme, which is administered by the FFA Group. FFA Aviation consists of a fleet of spotter and bomber aircraft as well as helicopters and their support vehicles. During fighting a wildfire, the FFA Aviation's pilots, all experienced commercial pilots, are in the front line of the fire attack as aircraft are used for the initial attack.

New agency for Rural Fire Rescue

Managing director of Rural Fire Rescue, Marius Koekemoer, confirmed that they have been appointed as the official agents for Wildfire Environmental Incorporated of Canada – previously known as Wildfire Equipment – for Africa and Australia.



The Wildfire Environmental Incorporated stand at the recently held WildFire 2011 conference at Sun City

This follows a very successful exhibition and negotiations by both companies at the recent Wildfire 2011 Conference which was held at Sun City.

First known as Watson Jack & Co Ltd, the company established itself as a manufacturer in the 1920s with the WAJAX, a powerful 200-psi portable fire pump. In the many decades since, Wildfire has continued to work with fire fighters to produce first-rate products.

Best known for the Mark-3®, the benchmark in high-pressure, portable, centrifugal pumps, Wildfire also manufactures slip-ons, fire line hardware, backpacks, forestry tools, portable water tanks and other related products. Completing their product line-up is specialty fire hoses, foam, aqueous fire fighting gel and much more.

The upshot of Wildfire's recent management buy-out is a return to its roots as a manufacturer, driving a renewed emphasis on being the water handling experts. Wildfire is committed to the development of innovative wildland fire control products.

Haix

fire fighting boots

Professional footwear manufacturer, Haix, has recently announced that Working on Fire International will be marketing their boots in South Africa.

Established in 1948 and a world leader in producing professional footwear for the fire and rescue services, police and defence forces around the world, their product range also includes safety boots for specialised industries including forestry as well as hiking and hunting footwear.

The Haix philosophy

"The range of fire boots that was generally available at the beginning of the 1990s was by no means adequate for my comrades. A lesson I learned myself as a member of the voluntary fire brigade in Mainburg. As a trained master shoemaker, I felt honour bound to adopt a wholly new approach", says Haix managing director, Eward Haimerl.

"I developed the very first Haix fire fighting boot on numerous evenings and weekends off in the workshop of Haix, our family owned company. Innovations require just as much courage as a fire fighter on a mission."

"It is with a certain degree of pride that I can claim that our first boot was developed by a fire fighter for fire fighters. Nowadays fire brigades around the world have discovered the advantages offered by Haix fire fighting boots", concluded Haimerl.

Working on Fire International has offices in Europe, Chile, Australia and South Africa.



Working on Fire International has acquired the marketing rights for Haix fire fighting boots in South Africa and will be distributed locally in partnership with Rural Fire Rescue



Precision flying demonstrated by the Working on Fire Huey landing at Sun City, piloted by their very experienced fire fighting pilots



Wildfire 2011

Fire and Rescue International recently attended the 5th International Wildland Fire Conference was held at Sun City, South Africa.

The conference's theme, "Living with Fire", addressed global change through integrated fire management. This was the first time that South Africa played host to the Wildland Fire conference. The previous conference was held four years ago in Seville, Spain. Korea won the bid to host the next Wildland Fire conference in 2015.

WildFire 2011 was conducted under the auspices of the United Nations International Strategy for Disaster Reduction (ISDR) and the Food and Agriculture Organisation of the United Nations (FAO) and convened by the regional sub-Saharan Wildland Fire network, AfriFireNet. The event was co-hosted by several departments of the South African government including the successful Working on Fire programme.

The impressive opening ceremony was a sea of yellow with 800 Working on Fire fire fighters performing a spectacular show of African singing and dancing in the Super Bowl. The inspiring event had all conference delegates and fire fighters taking part in a playful musical performance presented by the Rhythm Workshop.

UN Secretary General, Ban-Ki Moon, send a special message presented by Professor Johann Georg Goldammer, director of the Global Fire Monitoring Centre (GFMC) in Freiburg, Germany, in which Moon called for a global spirit of cooperation.

Chairperson and national programme leader of the national resources management programmes, Dr Guy Preston, outlined how South Africa's Working on Fire programme grew out of the Working for Water programme

after team members removing alien vegetation lost their lives in a wildfire. He said that there were opportunities to fight shack fires in South Africa's informal settlements using the same principles of early detection and quick response used by the forestry industry.

"Mind of a Fox" author and respected scenario strategist, Clem Sunter, told delegates that global wildfire experts need to "think like foxes" in their planning for catastrophic events in his opening address "A model for catastrophic risk management".

Various international and local speakers, all leaders and specialists in their respective fields, presented papers at this well-attended event.

Fire and Rescue International will cover some of the most relevant presentations in future issues.

WildFire 2011 also presented the opportunity for over 40 international and local fire related companies and organisations to exhibit their businesses, products and systems. ▶



photographer: Bruce Sutherland

Clem Sunter presented the opening address



photographer: Bruce Sutherland

Chris de Bruno Austin, CEO, Working on Fire International



photographer: Bruce Sutherland

The Working on Fire passing out parade at WildFire 2011

► The conference, exhibition and field day was impeccably organised and managed and the quality of the documents presented, very high. Several plenary and parallel sessions took place over the four day event and an impressive field day was held in the Pilansberg Park.

Wildfire 2011 ended on Friday, May 13 in a fitting climax and visual spectacle. Adventure Skydives' skydivers delivered the largest South African flag in the world in a breathtaking display, the WoF aerial fire fighting team performed a fly-past in their unmistakably yellow aircraft and the Wof ground teams displayed their meticulousness in their passing out parade.

The WildFire baton was then passed to the Korean delegation who will host the 6th International Wildfire Conference in 2015. ►



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Wildfire invents, makes, and delivers premium water handling equipment for wildland firefighters, agencies and governments worldwide. Its distribution network, with branches in strategic locations throughout Canada and the United States, and with export agents in other international markets, provides the after-sales service which is of utmost importance in the wildland fire control industry.



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WE MOVE WATER



photographer: Bruce Sutherland

Fire and Rescue International's second edition was well received by conference delegates and fire fighters alike



photographer: Bruce Sutherland

Conference delegates enjoyed the musical interaction at the opening ceremony



photographer: Bruce Sutherland

Johan Heine, co-managing director of FFA Holdings, Trevor Abrahams, executive chairman of FFA Operations, Ricardo T. Pacheco Campusano of Chile and Mike Assad of FFA Aviation.



photographer: Bruce Sutherland

International delegates at WildFire 2011



photographer: Bruce Sutherland

The Inforest team at their stand



photographer: Bruce Sutherland

The Canadian Interagency Forest Fire Centre's (CIFFC) exhibit



photographer: Bruce Sutherland

SEI Industries exhibited its Dragon fire ignition range of products and its well-known Bambi bucket for aerial fire fighting



photographer: Bruce Sutherland

The South African governments' exhibit included various programmes including Working for Water and Working for Wetlands amongst others



photographer: Bruce Sutherland

The Korea Forest Service impressive exhibit



photographer: Bruce Sutherland

Val Charlton, one of the organisers of WildFire 2011, with international delegates at a function at the Valley of the Waves at Sun City



photographer: Bruce Sutherland

The Storm King Mountain stand displayed various burnover protection products



The Wildfire Environmental Inc team



photographer: Bruce Sutherland

Wildfire 2011 field day

The Working on Fire training camp impressed delegates

The field day, held in conjunction with WildFire 2011, presented conference goers with an opportunity of experiencing a prescribed burn for fuel load reduction in the park through aerial ignition. The beautiful Pilansberg Park played host to the conference field day.

Fire and Rescue International will expand on this project in Pilansberg Park, in a future edition.

Other field day events included a visit to the Pilansberg airport where conference goers were entertained by The Flying Lions Harvard aerobatic team, a skydiving performance by Adventure Skydives and a static display of the various Working on Fire fixed-wing spotters, bombers and helicopters. The friendly staff members and pilots were on hand to explain any aspect of their day-to-day jobs as aerial fire support.

Delegates also had the opportunity of visiting the National Working on Fire winter training camp at Pilansberg. A fire fighting equipment display and demonstration was held next to the Mankwe dam in the park where a fire ignited by the organisers, was being suppressed by the Working on Fire (WoF) aerial team in several Huey choppers fitted with Bambi buckets and fixed-wing bombers while the fixed-wing spotter kept a watchful eye. The well-trained WoF ground crew then did the final mop-up.



The WoF Huey filling the Bambi bucket during the field day operations



Aerial ignition for the use in prescribed burns for fuel load reduction was demonstrated at the field day



photographer: Bruce Sutherland

Visitors to the field could investigate the SEI Industries Bambi bucket up close



The Flying Lions Harvard aerobatic team in action



photographer: Bruce Sutherland

The Adventure Skydives team



photographer: Bruce Sutherland

Rural Fire Rescue exhibited and demonstrated various fire tankers



photographer: Bruce Sutherland

Conference delegates enjoying the static display at Pilansberg airport



One of the WoF fixed wing bombers in action



photographer: Bruce Sutherland

The field day ended in a well-deserved and relaxing evening function at Sun City's boma



WORKING ON FIRE

SCHOLARSHIP FUND

To enhance the sustainability and protection of life, livelihoods, ecosystem services and natural processes through integrated fire management in order to contribute to economic empowerment, skills development, social equity and accelerated service delivery.



The **WORKING ON FIRE (WOF)** Programme is one of the most successful components of the South African governments Expanded Public Works Programmes designed to alleviate poverty through skills training and the creation of job opportunities. The WOF Programme draws beneficiaries from impoverished communities and transform formerly unemployed and in some cases unemployable youth into fit, disciplined and trained veld and forest firefighters, which are deployed at over 100 bases in fire prone areas across South Africa. South Africa has created a world record proportion of women in the ranks of these firefighters, where some 30% are young women.

The impact of this programme has been widely recognized through the accolades which it has been awarded over the years. Not only has the WOF Programme made a huge contribution to South Africa's veld and forest fire fighting capabilities, but the modest remuneration which the WOF Programme beneficiaries receive is a critical relief measure from the depths of poverty experienced by so many in South Africa. Their income represents a real contribution to the lives of the beneficiaries, their families and communities where they live.

WOF beneficiaries not only receive specialized training in various fields related to their veld and forest fire fighting work but are afforded to progress in the ranks of the WOF structure to become Type II then Type I crew leaders as well as branching out into the management and administration functions in the programme. Some 84 former fire fighters have already progressed into such positions such as instructors, regional managers, media and community liaison officers, financial clerks, stores and procurement administrators, etc.

The WOF Scholarship Fund is intended to provide resources to aspirant current and former wildland fire fighters still engaged by WOF to pursue further formal training to improve their skills and knowledge. The fund will be managed by a committee consisting of former fire fighters and programme managers, chaired by the executive chairman of FFA Operations, the company implementing the WOF programme.

Contributions will be solicited from the general public, both domestically and abroad, corporate social investment resources and public and private institutions both in the form of general contributions and targeted funding initiatives. Individuals or institutions may also choose to sponsor a WOF beneficiary pursue their further studies or training. The intention will be to register the WOF Scholarship Fund as a public benefit entity to allow for tax deductible contributions from the corporate sector. All contributors to the WOF Scholarship Fund will receive annual statements on the utilization of funds and beneficiary progress.

You are urged to make a contribution to this fund which will greatly enhance the ability of the WOF Fund beneficiaries to improve their skills and knowledge and in so doing improve their employment opportunities and contribution they can make to their communities. Contributions can be made via the enclosed pledge form.

For further information, please contact:

The Executive Chairman,
FFA Operations T/A WORKING ON FIRE,
Email: Abrahams@iafrica.com
Tel: +27 (0) 82 557 5069.

Also see the WOF website at www.workingonfire.org

Or deposit your donation in the following Bank Account:

Account Name: FFA Section 21
Account Nr: 405 953 7280
Branch code: 632005
Bank: ABSA Nelspruit
Ref: Scholarship Fund





DONE FOR
COUNTRY

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While the focus of WoF will always be fire, its underlying motivation was poverty relief and skills development designed to build self esteem and help beneficiaries to fulfil their true potential."

photographer: Bruce Sutherland

What Working on Fire has done for me and my country?

Christalene de Kella and Ali Mlanzi at the recent WildFire 2011 conference

This was the bold statement made by South Africa's Working on Fire programme at the recently held WildFire 2011 conference.

The successful Working on Fire (WoF) enterprise had a highly visible presence at the WildFire 2011 conference at Sun City in South Africa in early May this year. This government funded initiative, which at present has more than 3 000 young men and women trained as wildland fire fighters, has already received a number of awards and accolades. The WildFire 2011 conference provided a perfect platform for South Africa to demonstrate its talents, from the fire fighters participation in the opening ceremony, their role as support staff, the activities at the Fire Camp, their role in the field day demonstrations and the exhibition stand which attracted considerable attention in the form of the visitors which engaged with the Working on Fire personnel who were in attendance.

The Working on Fire stand was based on the theme "What Working on Fire

has Done for Me and My Country" as a testament to the impact this programme has had on the lives of mostly previously unemployed youth in South Africa. We are also proud of one of the highest levels of women (30%) among the ranks of our fire fighters. The CEO of Forestry South Africa's acknowledgement that without the efforts of the WOF Programme during the disastrous 2007 fires, the economic loss would have been double the further testament to the value of this programme in South Africa.

The stand was manned mostly by former fire fighters who have since moved up in the ranks of the programme to become instructors, regional managers, structural fire fighters, high angle rescue officers and media and community liaison officers. This experience in itself was another milestone as these programme personnel were now afforded the opportunity of interacting with fellow wildland fire managers, academics and personnel from related disciplines from across the globe. The words from these personnel amply illustrate

the value this stand had for our personnel as well:

"It was a good experience and a big privilege to be called to Sun City to be part of the Working on Fire stand at the WildFire 2011 conference. To think it was only the fifth one and I was part of it, one can only dream to go to Sun City but my dream came true, I was there and was representing my company, the one that I love since the day I started." Sherwin de Kella, assistant regional manager.

"It was a great opportunity and quite a challenge to have been given the role of managing the WoF stand at the conference, as never having been a part of an event of such magnitude it was quite a demanding role that needed me to think effectively with support of the team." Noel Malokoane, media and community liaison officer.

"I enjoyed every moment of it and I manage to network with other people from different countries. A lot of them did fill in their scholarship forms and I hope that we will stay in contact with them regarding the ▶

Five new rescue pumpers for City of Longmont, Colorado

Pierce Manufacturing, an Oshkosh Corporation company, recently delivered five Pierce Velocity custom rescue pumper vehicles into service at the Longmont Fire Department in Longmont, Colorado.

These Velocity pumpers showcase the flexibility and performance of Pierce custom fire trucks, as they help the Longmont Fire Department provide a wide range of emergency services to its citizens," said Jim Johnson, Oshkosh Corporation executive

vice president and president, Fire and Emergency. "With their rear mounted pumps and full complement of rescue equipment, they are engineered to address fire suppression as well as EMS and rescue responses."

"We rely on these new Pierce Velocity rescue pumpers to give each crew all the tools they need to handle the vast majority of emergency responses without having to call for additional units," said Longmont Fire Department Assistant Fire Chief Scott Snyder. "They can handle advanced life support, basic extrication and, of course, fire fighting attack. This gives

us the most flexibility and the most efficient use of personnel."

Longmont Fire Department serves the City of Longmont, Colorado and its 86 000 residents. The full-service career department provides fire suppression, emergency medical services, technical rescue, hazardous materials response, fire investigation, public fire education, code review, and building fire inspections. The department operates urban search and rescue, technical rescue and HazMat teams, and also conducts fire investigation and wildland response. Every Longmont fire fighter is a state certified Emergency Medical Technician. ▲



photographer: Bruce Sutherland

an international conference and being one of the people who represented WoF at this stage was an honour for me. I had a lot of confidence since the first day and I'm not looking back after I have seen that people do believe in me. This was an experience you cannot buy but something that you earn through your hard work and dedication." Ali Mlanzi, media and community liaison officer.

The Working on Fire scholarship fund is a new initiative designed to raise funds to support the WoF personnel develop their skills even further and enhance their life chances in the future. A number of conference delegates signed pledges indicating their interest in supporting this deserving initiative. We hope this will result in lasting bonds of solidarity between the world's wildland fire fighting community and the Working on Fire programme in South Africa.

Contact the executive chairman of the WoF Programme at Abrahams@iafrica.com to support the WoF scholarship fund. ▲

Sherwin de Kela assisting conference delegates

pledge for the scholarship fund. It was a good thing that we had people at the stand that came up through the WoF program because a lot of the delegates was linking the stand name with the people at the stand, and it was good for me to explain to them where I came from, starting as a fire fighter. It was a brilliant idea and it also gave them an idea that we care for our fire fighters. Many delegates were very

impressed about our stories and it made them to realise that WoF is not just about fighting fires but also trains and equips our fire fighters with more skills and knowledge that they can use within the program or at other organisations such as our partners." Christalene de Kella, media and community liaison officer.

"This was a once-in-a-life-time opportunity that we got to attend

NAMPO 2011

NAMPO's Harvest Day 2011, a four-day exhibition held annually by Grain SA, in Bothaville in the Free State, was a resounding success.

This agricultural event incorporates field demonstrations and an exhibition and succeeded in its objective of supporting agricultural producers on their way to sustainability by presenting a variety of exhibitions of a high standard at a single venue.

Fire and Rescue International attended this year's event in search of fire fighting equipment and technology suitable for farmers.

We were impressed by the number of smaller manufacturers and the equipment on offer. Various models of skid units were on display, from high pressure – low volume units to low pressure-high volume units and all variations in between. Some of the larger manufacturers also had fire tankers and pumpers on display. A wide range of pumps, blowers, nozzles, hoses, couplings and safety gear was also exhibited. Portable, semi-portable and permanent dam structures and linings were also on show.

The attendance figure for the four days was 73 552, which is higher than last year's figure. Wednesday 18 May 2011 – which was a public holiday owing to the municipal elections – saw a record number of visitors for a single day, while the other days showed lower attendance than last year.

Although the parking area had been enlarged and additional entrance points set up in order to facilitate the admission of visitors on the Wednesday, the two available routes to NAMPO Park could not handle the volume of traffic. "In spite of the abnormally high number of visitors on the Wednesday, the NAMPO Park grounds and facilities could cope," said Mr Jub Jubelius, Chairman of the NAMPO Harvest Day Committee. He apologised for the inconvenience caused by the traffic congestion and said that further talks would be held with the relevant authorities to address the problem.

"We receive many compliments on the Harvest Day as a whole – many of them on the high standard of the exhibitions. As may be expected, the general feedback from exhibitors is also positive about the Harvest Day as a business opportunity," he added.

We found the show to be well organised, the exhibits interesting and of a high quality, the people friendly and the food great! ▲



Renault South Africa's team at NAMPO



The Hino 600 at NAMPO

An advertisement for Vital Weather Online Weather Station. The background is a dark grey with a large, glowing moon in the top left corner. In the center, there is a weather station with a black sensor and a white antenna. To the left of the station is a yellow sun icon with the word 'SUN' below it. To the right is a blue cloud with raindrops and the word 'RAINFALL' below it. Below the sun is a white cloud with raindrops and the word 'WIND' below it. Below the rain cloud is a blue water drop with a plus sign and the word 'HUMIDITY' below it. At the bottom, there is a dark blue banner with white text: 'Tel: 27 11 805 4720 e-mail: cwp@cwprice.co.za www.cwprice.co.za'.



The SafeQuip team



The Andreas Stihl South Africa team



The Vital Weather station



Agrinet's team seen with their new skid unit



Midmacor displayed its range of fire fighting units



The Mercedes-Benz Unimog at NAMPO



The TATA LPTA 4x4 medium commercial truck



The Husqvarna South Africa team



The MAN stand at NAMPO



The Scania team



The 10 000th Scania truck – it's all in the detail



The Scania emblem on the chrome exhaust outlets added the finishing touch

Scania Black Diamond

The 10 000th Scania truck was handed over to its proud new owners at the recently held NAMPO exhibition.

Tamal Mitoo and Dean Chetty of Time Link Cargo were overwhelmed by the public's response at an agricultural show with regards to their truck.

This vehicle was painted piano black and boasts a customised interior with 10 000 edition stitching on the seats and door panels. Chrome bull bars and nudge bars were fitted to add to the vehicles already aggressive look. Chrome graphics on the side added fine detail and finish the vehicles overall design.

Scania SA is very pleased to be in the position to deliver 10 000 units over the last 12 years to truck owners throughout Africa. ▲



Dean Chetty and Kamal Mitoo with Scania's managing director, Christoffer Ljungner



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The SavFIRE project in the Kruger National Park

Investigating the impact of ignition type on fire patterns in the Kruger National Park

By Lynne Trollope

SavFIRE 2010

SavFIRE is the acronym for the Savanna Fire Ignition Research Experiment being conducted in the Kruger National Park (KNP) by Professor Winston Trollope, Working on Fire International associate, Mrs Navashni Govender, fire ecologist for the Kruger National Park and Working on Fire Programme (WoF) South Africa, to investigate the effect of type of ignition on pyro diversity ie fire patterns.

The current fire management policy in the Kruger National Park is to apply point ignitions rather than perimeter ignitions during prescribed burning. This policy is motivated by the idea that point ignitions result in more diverse fire patterns thus sustaining and/or contributing to biodiversity whereas perimeter ignitions "homogenise" the vegetation because of more intense and uniform fires.

However, the problem is that point ignitions are more challenging for the rangers who have to apply prescribed fires as part of their management duties. The fires are difficult to control and pose a greater danger to tourism infrastructure and concession areas within the Park in contrast to perimeter ignitions which are less hazardous because they are initiated from secure fire breaks.

SavFIRE was initiated to investigate the hypothesis that, above a certain threshold size, the effects of perimeter burns would result in similar fire patterns, or pyro diversity, to point ignitions. The bigger the area being burnt, the longer it would take to burn allowing for different types of fires to develop throughout the day and night resulting in a range of head, back and flanking fires, each with different fire intensities. Applying perimeter burns in certain instances would greatly facilitate the Park rangers' job and increase the safety factor in prescribed burning.



Chris de Bruno Austin, incident commander of the SavFIRE project

The question posed was "what size of perimeter ignited burns, applied under specific atmospheric conditions, would result in similar pyro diversity to point ignitions thereby providing an alternative safer method of applying prescribed burns, while still sustaining and/or promoting biodiversity in wildlife areas?"

In order to conduct an experiment of this magnitude over a six year period, assistance was required to burn in excess of 100 kilometres of fire breaks each year and to apply point and perimeter ignitions to paired plots of increasing size ranging from 500, 1 000, 2 000 to 4 000 hectares ie 15 000 hectares. This assistance was provided by highly trained Working on Fire (WoF) burning crews, who formed an integral and essential component of this investigation in an experiment being conducted in three major vegetation landscapes in the Kruger National Park.

The Working on Fire Programme is an Expanded Public Works (EPWP) Programme funded by the South African government who appointed a private company, FFA Operations (Pty) Ltd, for the implementation of the integrated fire management programme aimed at controlling wild ▶



The heat is on

Introducing STIHL's mighty little blower

Getting equipment into the veld for the management and control of fires can be an exercise in frustration. Enter the STIHL BG-KM 100 R blower, a powerful space-saving solution used by Working on Fire in the Kruger National Park.

The BG-KM blower, which can be dismantled easily for storage behind a bakkie seat or next to a bakkie sakkie, forms part of the STIHL KombiSystem. Designed to save space, time and money, the KombiSystem enables you to buy just one power unit with a split shaft, and then choose from a multitude of attachments that can be stored, transported and attached with little effort and are lightweight and easy and very simple to use.

Unique innovation from STIHL transforms the KombiSystem into a compact yet fully-fledged high-performance blower – the ideal tool for veld fire management.

Blowing power

Different KombiEngines are available to suit various blowing applications, with blowing power increasing with the size of the power pack. Depending on the KombiEngine used the blower's performance is between that of the STIHL BG 85 hand held blower and the STIHL BR 550 backpack unit.

Maximum air throughput at the nozzle is 800–950 m³/h and air velocity is 54–64 m/s with a standard round nozzle. A flat fan nozzle is also available.

Unique innovation from STIHL transforms the KombiSystem into a compact yet fully-fledged high-performance blower – the ideal tool for veld fire management.

The 1.05 kW 31.4 cc KM 100 R blower used for fire management in the Kruger National Park weighs in at only 6.3 kg, enabling long hours of use in the veld. It comes with a single strap harness, facilitating carrying and reducing operator fatigue. The D-shaped loop handle is designed for difficult terrain and confined conditions and also saves on storage space.

The KombiSystem brushcutter attachment will also be of use in fire management. The quick-release coupling means the blower can be converted within seconds to a brushcutter,



Alex Held of Working on Fire, operating a STIHL BG-KM 100 R blower in the Kruger National Park.

and vice versa. Fitted with the brushcutter attachment, the unit weight is only 6.5 kg.

Other KombiSystem attachments include a trimmer, power sweep, bristle brush, hedge trimmer and pole pruner as well as pick tines.

In the line of fire

The BG-KM blower is used mainly for cold fires, and where control and assistance is needed to clear a line for backburning. It works best in fine fuels such as savannah and leaves.

The blower should be used at the base of the flames and from the side of the fire and not the head, where flames are too intense.

KombiSystem Highlights

A push-in connection with a tommy screw enables you to simply turn the screw by hand

to release the coupling sleeve and then remove the attachment. The quick-release coupling and split-shaft design allow units to be dismantled into two parts for easy transport and storage in a small space, and then quickly reassembled without the need for any tools.

The KM 100 R is powered by the STIHL 4-MIX engine, which combines the benefits of 2-stroke and 4-stroke engines to deliver high torque and low emissions.

Other features include a multi-function control handle, a decompression valve for easy start-up, an electronic ignition for reliable starting and trouble-free running, and an effective anti-vibration system.

For more information, contact STIHL toll free on 0800 336 996 or visit www.stihl.co.za



Igniting a perimeter block burn

Professor Winston Trollope monitoring fire behaviour

► fires while simultaneously alleviating poverty and uplifting people through providing training and opportunities for unemployed people from disadvantaged communities. To date Working on Fire Programme has trained and deployed more than 80 twenty-two-man fire crews to fire prone localities in South Africa. The fire crews comprise both men and women. The four teams involved in the SavFIRE research project in the Kruger National Park provide a unique example of an imaginative research program aimed at promoting biodiversity while simultaneously addressing the social necessity of alleviating poverty and uplifting depressed communities in South Africa.

Dr David Mabunda, Head of the South African National Parks, in his address to the 6th Science Networking Meeting held in Skukuza during May 2008, said that it was important to focus more attention on socio-economic aspects in the National Parks and he issued the challenge to practice science intervention the unusual way. "Business as usual" was no longer an attractive option. The Kruger National Park is an exciting, intriguing and challenging environment to work in and also offers amazing and unusual experiences to tourists. Neighbouring communities need to be brought into the loop so that they too can benefit from this incredible resource.

SavFIRE is already meeting that challenge. It is an unusual partnership between science and

social upliftment of disadvantaged communities – it is practicing science in an unusual way!

Project manager, Bandit Steyn and the WoF fire crews, burnt an average of 135 kilometers of fire breaks in the Pretoriuskop and Satara area of the Park in the phase one to three of SavFIRE by the end of April each year. This daunting task takes almost two months to complete and is a huge achievement as it has been executed without mishap. Often the temperatures are in the high 30's (Celsius) and the grass is generally waist high as the fuel load requirement for SavFIRE is a minimum of four tons of grass per hectare.

SavFIRE – A scientific partnership between research and social upliftment in South Africa

Tourists may not be happy at seeing the burnt fire breaks but wait a week or two for prime game viewing as zebras just love toasted grass, wildebeest prefer open areas so they can see the predators, especially if they have calves at foot and white rhino take delight in mowing the fresh succulent green regrowth of the grass. Even cheetah and leopard were observed hunting on the Pretoriuskop firebreaks during SavFIRE!

Many of the fire crews had never visited a National Park, most had never seen lions, elephants, buffalo, rhino or indeed any other game and were afraid of working in this environment.

Game guards provided by the Park accompanied persons working in the field. The project leaders thanked these dedicated men who so patiently protected researchers and crews for long hours while they investigated, measured or applied treatments to this unusual, intriguing and fascinating ecosystem. Survey teams collected data on the vegetation prior to the actual prescribed burns so that the fire effects could be analysed and related to the fire patterns.

What motivates a survey team? The roar of a lion not far behind you when you have just been dropped off in the veld at the beginning point of the survey and the vehicle

is disappearing in the distance with the other survey team!! Needless to say that particular team finished that transect in record time!

Data on the condition of the vegetation and the grass fuel loads was collected on a minimum of 110 kilometres of transects through the burn blocks during each phase of the experiment. At least 8 600 to 9 000 data points of information is collected each year. That is a lot of walking, identifying and measuring grass species in the hot midday sun! The survey teams have had several exciting encounters with inquisitive rhino that have followed them only ►



The SavFIRE survey team seen here with the KNP game guards

▶ 40 meters away for a kilometre or more. One group of three rhino, a mother, father and baby, caused a level of concern. The teams were not sure if Dad was inquisitive or being protective, but he was a bit too close to the survey team for comfort. Elephant have also caused slight deviations from the transect lines or temporary halts in the team progress. Buffalo on the plots were carefully watched by everyone until they distanced themselves and the buffalo lost interest.

The team spirit of the survey teams that have included students from the University of Kwa-Zulu Natal and volunteers, who forfeited their holidays, was wonderful. Post burn surveys are also conducted along the same transect lines and often the WoF fire fighters, in spite of long hours of hard, hot work, will volunteer to assist when there is a shortage of manpower for surveying.

Give unemployed, disadvantaged persons status, value and hope and the result is dedication, commitment and tremendous team spirit.

During SavFIRE the incident commander, who directs the whole operation in collaboration with the researchers, was Chris de Bruno Austin, CEO of Working on Fire International, two project managers acted as the operations chiefs, one controlled the teams on the point ignitions while the other controlled the perimeter ignitions.

WoF headquarters in Nelspruit provided twice daily real time weather data and a six day forecast so that De Bruno Austin and the researchers could base their decisions to burn on the correct weather conditions. The reason for this was firstly, to align the burns with the required temperature and relative humidity conditions and



Navashni Govender monitoring spread rate of fire

secondly to assess the Fire Danger Index (FDI) so that they would not be burning in the National Park under extreme weather conditions (orange or red days) and so increase the possibility of a wildfire.

A WoF spotter plane and trained spotter pilot, co-ordinated operations from the air and De Bruno Austin kept the ground based teams informed about fire behaviour and fire spread. This was a necessity as the paired plots were not contiguous since the fires could influence the local weather conditions and each other. The spotter plane was also used for aerial photography throughout daylight hours while the fires were burning. Satellite images were used for analysis and interpretation of fire patterns.

Results of SavFIRE have been incredibly interesting as initial results showed that size of burn was not the over-riding factor in influencing fire behaviour – weather conditions had a dominant and integral effect.

It is possible to influence fire behaviour and pyro diversity by manipulating temperatures and relative humidity, in the main, when burning. When the experiment is completed at the end of 2011 all the data will be analysed, satellite images of the fire will be interpreted so that a more comprehensive conclusion can be drawn from this exciting and challenging experiment. ▲



110 kilometres of fire breaks are burnt around the blocks for safety pre-SavFIRE

Training fire fighters through interactive e-learning

By Lenny Naidoo

Lenny Naidoo, chairman of the Standards Generating Body for Fire and Rescue and past president of South African Emergency Services Institute (SAESI), recently spent two weeks with the Quebec Fire Department and an organisation called Educexpert.

Educexpert is the founders of e-learning and this approach is currently being used by 2 020 fire fighters in Canada, 4 006 fire fighters in France and 1 040 fire fighters in Switzerland. Africa and Brazil will be next for the implementation of this cutting edge technology in training.

Canada is nearly eight times the size of South Africa and there are three IFSAC accredited fire training colleges which deals with the certification of fire fighters. Due to the large distances that fire fighters are expected to travel in order to get access to the three training academies, the fire services needed an innovative approach to deal with fire service training and certification.

This resulted in the introduction of e-learning through which learners can access all the learning material and skills on line.

Renewal of knowledge program

The renewal of knowledge acquisition program is a form of continuing education offered to all fire fighters who wish to upgrade their knowledge during their career. The renewal of knowledge acquisition program is carried out through:

- Computerised revisions sessions of theoretical contents
- Practical sessions executed at the fire station

The programs are offered in English and French and the two programs on currently on offer are Fire fighter I

and Hazmat Awareness. The distance learning module-type programs engage the adult learner in a flexible and active learning environment that facilitates various approaches in thinking.

The distance learning programs offer a graphical interface that places the adult learner in a real work situation. The learner is solicited by interactive contents which involve him and encourage him in his learning, either by animations or by visual elements.

Learners are able to watch, listen and interact with theoretical lessons and practical simulations. Revision and practice questions form part of the learning methodology. A mentor/monitor is available for support on site whilst the academic support is available via the internet or telephonically. Learners are also able to print lectures or practical sessions.

Audio is in available in either English or French.

Stakeholders

The stakeholders that are part of the process:

- Learner
- Head of section (example chief fire officer, senior fire officer or training manager)
- Mentor – guides and supports the learner at the workplace
- Instructor – conducts the summative assessments ▶



track of the learner's performance. The learner becomes familiar with the steps to acquire practical competency and the monitor oversees the practical training and development in accordance with the interactive training program. Attendance registers for all practical sessions are maintained.

When learners are ready for the competency theory and practical assessments – the accredited training centre is contacted to set up the assessment. The success rate is close to 100% due to the fact that learners know what standards are expected and have had adequate time frames to achieve competence. It is a win – win situation for the fire service and the community that is being protected at a minimal cost.

Benefits of e-learning compared to the traditional way?

1. Standardisation of training and instruction: Instructors vary with respect to their knowledge, skills and attributes. The presentation of the training program varies from instructor to instructor and sometimes learners are prejudiced. E-learning eliminates this problem as all learners have access to one method of instruction. The bottom line is that the most efficient and safe techniques are demonstrated and practiced.
2. Financial savings: There is enormous financial savings using e-learning to train and certify fire fighters:
 - a. There are no travel costs as learning takes place at the workplace or home
 - b. No accommodation costs are necessary as is when learners are sent away to the training academy for three months
 - c. Meals costs are not a factor as the learner is at the normal place of work
 - d. No overtime costs are necessary as is the case with the traditional method whereby learners that are sent away for three months need to be replaced at the workplace by overtime staff
3. Training is adapted to the learner's rhythm
4. Learners are developed at familiar settings
5. A personalised follow up and supervision with performance indicators is maintained
6. There is no peer pressure to interfere with the learning process

Evaluations leading to qualification

Evaluations leading to qualification are offered at the end of each training program.

Two types of evaluation (formative and summative) are introduced in order to control the level of knowledge acquisition, by means of problem solving exercises, pair matching and various types of questions.

The following is needed for e-learning to take place

A computer, access to the internet, fire service equipment and a mentor (in some instances the service provider sends a mentor).

"E-learning is the way of the future and is widely used in the United States other countries", states Naidoo.

"We will need a mind-set change to embrace the new cutting edge technology that is the way of the future for fire and rescue services." ▲

- ▶ • Admin support – records the learner profile, tracks and records the learner progress, answers all learner queries and generates reports.
- Training centre – provide for the assessment of learners to determine competence

The roll out of e-learning

The service provider meets with all stakeholders and agreements and contracts are signed. Mentors at the workplace are identified and Educexpert sets up semesters. A semester is a grouping of the various chapters that make up the syllabus. Fire fighter I (NFPA 1001) is normally three to four semesters.

An induction program is conducted whereby learners and the mentors are taken through the online training program. Each learner is issued with a user code and password. The learner logs on to the program. The learner can send messages to the administration support or receive messages from administration support. Learning begins. The administration support is able to track each time the learner logs on and the time spent on the program. This enables the learner to build a portfolio of evidence. Progression through the modules in the sequence of the learning plan is mandatory. This means that learners can only access a module if they have completed the preceding module. The learner works at a comfortable pace and revises as many times as need be. Learners can test their understanding by answering the assessment questions. The question paper is automatically marked and a report is sent to the academic support for tracking and monitoring purposes. This form of assessment prepares the learners for the summative assessment. In addition a report is compiled highlighting areas of weakness (if any). Highlighting the areas of weakness ensures the learner can prioritise learning and also allows the mentor to keep



Task force leader Colin Deiner (right) and squad leader Marius du Toit, Tshwane Emergency Services (left), lead members of the rescue team into the affected area near Sendai airport on the first day of the mission

Japan:

Rescue South Africa's assistance

By Colin Deiner, Chief Director, Department of Local Government, Western Cape

In the early hours of the 11th March 2011, a massive 8,9-magnitude earthquake occurred off the north east coast of Japan.

The earthquake triggered a massive tsunami which killed approximately 8 500 people and caused the formation of 15 metre walls of water that swept across rice fields, engulfed entire towns, dragged houses onto highways, and tossed cars and boats over large areas. Some waves reached 10 kilometres inland into the Miyagi Prefecture on Japan's east coast. The tsunami also damaged or destroyed more than 126 000 buildings and 1 400 roads.

The disaster was further compounded by massive damage which occurred at the Fukushima nuclear power plant when three reactors suffered catastrophic structural damage which led to the threat of core exposure and the resultant nuclear fallout.

Following an assessment by Japanese authorities, an international request for assistance was made by the Prime Minister of Japan, who personally took command of the rescue and relief operation.

A discussion was held between the South African Department of

International Relations and Regional Cooperation (DIRCO) and the NGO, Rescue South Africa and it was agreed that the department would assist Rescue South Africa in mounting a response operation to Japan as soon as possible.

A South African disaster response team was deployed from a number of emergency services and NGOs. The team consisted of 50 members and included the following:

- First Secretary for Political Affairs: Embassy of Japan in South Africa
- Nine journalists: various media houses
- One professor of emergency medicine: WITS
- One paramedic: University of Johannesburg
- Three members of ORRU (Off-road Rescue Unit)
- 35 urban search and rescue technicians

Preparation for the response posed many challenges to the planning team and a lot of time was spent ensuring the task force would be one hundred percent prepared to meet



Water rescue teams conducting search operations on a large area of flooded rice paddies in Natori City

the challenges they would face in the tsunami stricken area.

New challenges confronting the team were the planning for possible exposure to high radiation levels, dealing with frequent tsunami evacuation alerts and the cold weather which was prevailing in the region.

A major challenge was the acquiring of a suitable charter aircraft and preparation of 12 tons of cargo including 2,4 tons of water, 1,2 tons of food, 8,4 tons of specialised rescue equipment and camping gear. It was a strict requirement of the Japanese authorities that any team responding had to be totally self-sufficient and not be an added burden on the country who was dealing with the many people left homeless by the disaster.

A number of rescue and disaster response teams had indicated their willingness to respond but were refused entry into Japan due to their inability to demonstrate sufficient ability to be self-sufficient for a prolonged period of time. ▶



Rescue squads carrying out wide area search operations in Natori City

► The SA rescue team deployed from OR Tambo International Airport on a chartered Boeing 767 ER-200 aircraft on 16th March 2011, following a briefing by the Ambassador of Japan to South Africa, Mr Toshiro Ozawa.

The first leg of the flight took approximately eight hours to the Maldives where a forced 10 hour layover for mandatory aircraft crew rest allowed the team leadership to conduct mandatory safety and medical briefings as well as the Japanese embassy staff to inform the team on Japanese customs and protocols. A further 11 hour flight got the team to Narita Airport, Tokyo, at 12h00 on 18th March where they were met by the South African Ambassador to Japan, Mr Gert Grobler. The South African Mission in Tokyo made two of their staff members available to accompany the team to the disaster area and further assisted with all immigration and customs formalities.

The embassy arranged transport for the team which consisted of four light trucks and nine mini busses. The vehicles were collected in Tokyo.

Operations

Day one

The first day of operations required the team to carry out deep void searches near an airport complex in Natori City (approximately 15 km from Sendai). The team faced a number of hazards which included slippery surfaces and areas covered

with deep mud as well as strong winds which dislodged damaged structural elements (such as corrugated iron sheets) and blew them dangerously close to where the team was working. A number of aircraft hangers, workshops and homes were searched together with other teams however no victims were recovered. Later in the afternoon the recon team was replaced by other rescue squads who had completed the erecting of the camp. The operation was concluded at approximately 16h00 and all members returned to the camp site where they were allocated sleeping accommodation and the programme for the rest of the operational phase was developed by the team management.

Day two

The team deployed into Natori City which had suffered massive devastation over a large scale. The South African team reported to a cleared area which was used as a staging area for fire rescue services which responded from throughout Japan (even as far afield as Hiroshima and Osaka). The day's operations consisted of dividing the team's area of responsibility up into three search zones and deploying each of the rescue squads into a particular area. During the course of the morning one victim was discovered in a flooded area and the team assisted the Japanese police in removing the lightly trapped victim from the debris and moving him over difficult terrain where he was handed over to police forensics staff.

During the afternoon the team had to be evacuated due to a tsunami warning. Just as the team had mounted their vehicles the warning was cancelled and the team returned to work but a large earthquake shook the area where the team was operating soon thereafter and it was decided in the interests of safety to withdraw from the area and return to the base camp.

Day three

The second day of deployment in Natori City concluded the searching of all the remaining structures and three victims were recovered following deep void exploration operations in homes located close to an estuary with a high wall facing the ocean. The victims recovered presented very little trauma and the bodies were largely intact and it is surmised that many of the deaths occurred by drowning. The freezing weather also ensured that the bodies were preserved for a longer period of time.

The only remaining areas to search was a large collection of flooded rice paddies which had formed a lake onto which cars, debris from houses and a number of boats and water craft had been relocated by the massive tsunami waves. It was decided that a waterborne operation would be carried out the following day whereby trained water rescue specialists would be deployed in rubber canoes into the lake to search the debris which were located in a number of different locations. ►

► Day four

After careful planning by the team management and the water rescue specialists in the team a comprehensive water search and recovery operation was launched on the third day of work in Natori City. A major safety consideration was that the rescuers on the water would be far away from the evacuation routes in the event of a tsunami alert and therefore would be badly exposed. This problem was addressed by ensuring that, at all times, the boat crews would identify a straight line of escape from any point where they might be at the time of the alert. Extra lookouts were also posted in strategic positions.

Due to the high levels of contamination of the water the teams were operating on, a decontamination point was established which was operated with warm water to counter the possible effects of hypothermia related to the freezing weather.

The team then carried out search and recovery work to the north of the lake while a part of the group accompanied by Mr Kitagawa from the Japanese mission in South Africa and members of the Japanese police. They met with the regional police commander who requested that the team redeploy to the fishing town of Ogatsu. The group travelled to Ogatsu to check out the road conditions and equipment and safety requirements for the following day's operations. The road to Ogatsu was particularly hazardous due to on-going snowfalls which had fallen on the road surface and would present a new challenge to the convoy drivers. A lot of the roads also wound its way through mountain passes and, at times, became single lane lanes with oncoming traffic.

Day five

The first day of operations in Ogatsu involved the searching of a hospital which had been totally engulfed by the tsunami which had hit the town with massive force due to the surrounding mountains which caused the onrushing waters to funnel into the town and burst out back into the main part of the town which was totally destroyed.

The force of the water was evident in the number of body parts that were recovered. Work during this day took place in the midst of an on-going snowfall which had a negative effect on operations.

Day six

Days six saw the continuation of search and recovery operations in Ogatsu in which the team recovered a further three victims deep inside collapsed structures. The team worked alone in this area and although certain areas had already been searched by police, they were not able to access the voids in the same manner the SA Rescue team could as they did not have the specialised search equipment. It was this equipment that enabled the SA Rescue team to locate deeply trapped victims.

Work in Ogatsu was concluded late afternoon and the team returned to the base camp in Sendai where it was decided that the entire team would return to Tokyo after the final mission on the following day. Teams were restructured to ensure that all convoy drivers would stay in the base camp for the day were they would assist with packing up the camp before resting for the all-night drive to Tokyo.

Ogatsu is located in a remote part of Japan and at first, many of the local people were apprehensive of the team but as they observed the teams work and interacted with members through interpreters, they took the team to their hearts and were very friendly and grateful to the members. On arrival in Johannesburg after the mission, a Japanese couple, who were originally from Ogatsu and are now living in South Africa, were among the large crowd who greeted the team and thanked them for their work in the town.

Day seven

The final day of operations saw the team deploy to Takajo City, where a large part of the city had returned to normal and trade had resumed in certain areas. The city still had massive areas which had suffered major destruction and the biggest challenge confronting the rescue teams was the huge piles of motor vehicles that had been piled on top of each other close to the water. In



A tourist bus which came to rest on top of a building after being swept away by the Tsunami in Ogatsu

some cases motor vehicles were piled up to five on top of each other. In one area more than fifty vehicles had formed a huge pile in which each car had to be searched individually.

The team conducted an extremely difficult mission late in the afternoon when they recovered the body of a badly trapped person from a car which had been washed up underneath a partially collapsed electric pylon. The recovery took approximately two hours and was made possible by the fact that the team had access to specialised equipment not available to other teams.

Upon their return the team was received by the ambassador of Japan to South Africa, Mr Toshiro Ozawa, a delegation from South African Foreign Affairs as well as Mr Kevin Brennan, members of the media, families and friends of Rescue South Africa, and a large number of the public including the Japanese community who turned out to show their appreciation.

The Western Cape contingent were also welcomed back upon their arrival in Cape Town by the Provincial Minister of Local Government and Environmental Affairs, Mr Anton Bredell, who followed the activities of the team throughout and called the team to wish them well while they were working in Ogatsu.

Despite facing massive challenges prior to departure the overall mission was a resounding success. The massive dedication of the CEO of Rescue South Africa, Mr Ian Scher and his commitment to the success of the mission cannot be underestimated. ▲



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Scotty Roll n Foam

offers exciting advantages

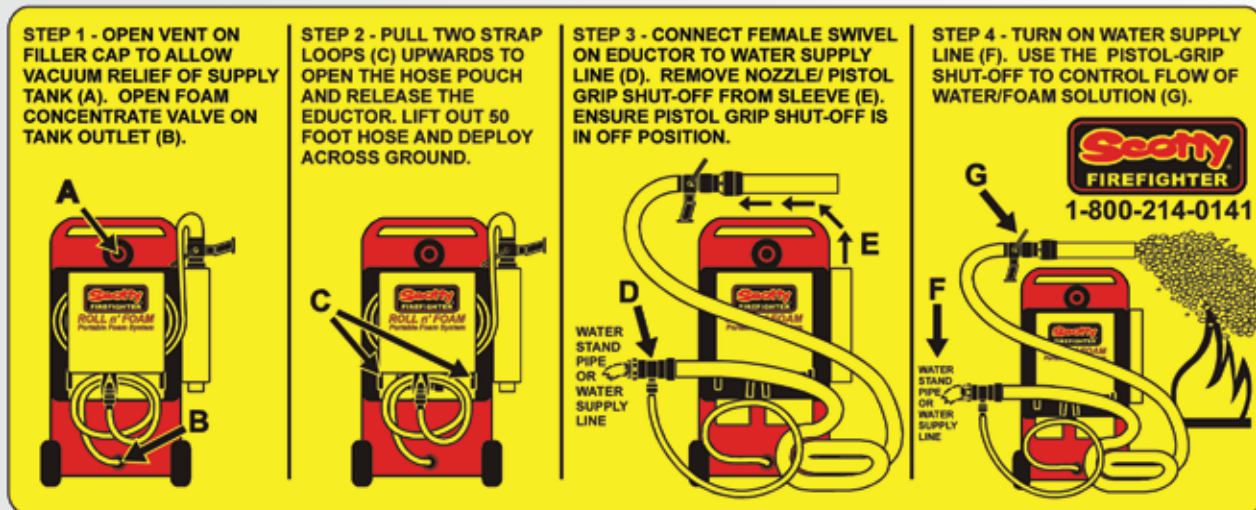
RFR is proud to introduce a new exciting product to the SA market "Scotty Roll n Foam"

Available for both Class A and Class B risks, the unit features easy to use fail safe operation even to an untrained person.

The unit features a 53lt foam tank with a handle on top and two wheels which allows the operator to tilt and roll the unit – much like a travel suitcase – so the 53lt container can be rolled to the point of attack effortlessly.

The unit is pre-connected to a hydrant outlet, and stays at this point ready for action. In the event of a fire, the unit is rolled out to the point of deployment whilst attached to the fire hydrant with a 30m lay flat fire hose. A 15m length of attack line and nozzle is stored in a pouch on the unit and is then deployed for the fire attack. The hydrant is opened supplying water through the foam inductor - also attached to the unit – which then mixes in the correct percentage of foam.

The operator merely opens the nozzle valve and points at the fire.



Who is the target market for this product?

All warehouses | Shops & shopping centres | Petrol stations | Small fuel depots | Hotels
Mines – above and below ground – the unit is intrinsically safe, no metal parts | Industrial sites and factories
Small aerodromes and heli pads | Industrial sites and factories | Bulk fuel storage depots

What is the lifespan of the unit?

The unit will last at least as long as the foam lifespan: 10 years in the sun and 20 years in the shade
The unit is supplied with a protective zip on lightweight cover to ensure that all parts remain dirt free.

Why do I need this?

The saving on my insurance discount will pay for this unit. Any untrained person can operate the unit.
It is dirt cheap – and offers a LONG life span. It offers at least 10 minutes continuous fire fighting on a Class B unit & 30 minutes on a Class A unit – way beyond what any fire extinguisher offers.

How much will this cost me?

R 5 750.00 excluding VAT
What is extra to get me going? – All items can be supplied
30m fire hose from hydrant to unit foam concentrate

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