

HOW TO PROTECT YOUR BUSINESS AND PROPERTY FROM FLOODING

INTRODUCTION

In the past years, the low-lying area around the Nyabugogo river in Kigali has frequently been affected by flooding. Most of the floods happened when it rained heavily in March and April or September and October. There are several reasons for these floods: the rainwater flows down the hills where only little vegetation is left for slowing it down and the drainage system is not equipped for vast amounts of water. In some cases, the canals were blocked with garbage that stopped the water from being drained away. So the water rises in the streets and enters buildings, causing damages to cars, businesses and households in the area – even endangering peoples' lives. During heavy rain the river and the wetland already hold so much water that they can hardly absorb the water from the streets and hills.

There has been a bit of research on how to solve the problem of flooding and parts of the drainage infrastructure have been cleaned and upgraded but floods triggered by surface runoff remain a problem. Climate change might contribute to this: for Rwanda it is foreseen that with the changing climate, in many areas there will be more heavy rain events.

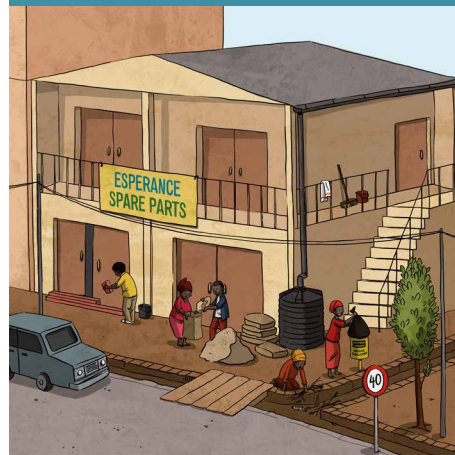
To analyse the problem and gather solutions, researchers from the Institute of Policy Analysis and Research (IPAR-Rwanda) and adelphi conducted a survey among 360 businesses in the area about the problem of flooding. The research was funded by the Climate & Development Knowledge Network (CDKN). The results showed that the floods in 2013 led to damages among these businesses that added up to at least 139,300,000 RWF. The requests these businesses had for what the local and national government should do were collected and communicated to public officials. This document now presents recommendations of what business owners in flood-prone areas can do to protect their enterprise from floods. It is based on the experiences gathered in the survey and on good practices in flood protection from all over the world.

There are useful actions you should take before a flood, during the event and after the water has receded. The results of the survey showed that businesses who prepared well, suffered less damages and recovered quicker after the flood. So have a look at what you can do to protect your business from the danger of flooding.

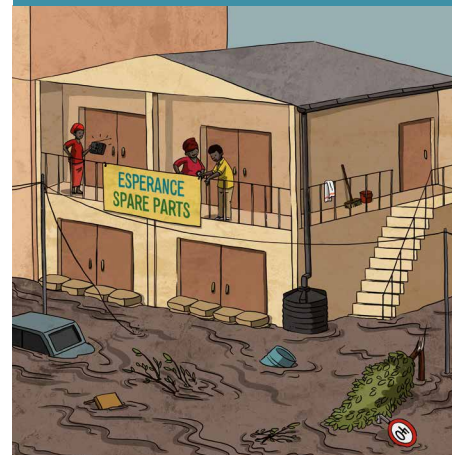
1. WHAT TO DO BEFORE FLOODING: INSIDE



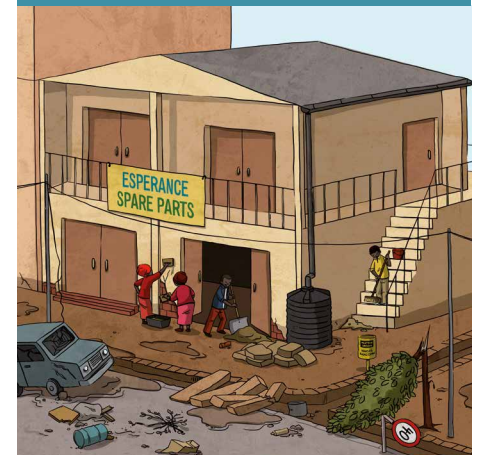
2. WHAT TO DO BEFORE FLOODING: OUTSIDE



3. WHAT TO DO DURING A FLOOD



4. WHAT TO DO AFTER A FLOOD



1. WHAT TO DO BEFORE FLOODING: INSIDE

Move equipment and stock off the floor to higher levels, for example on shelves, pieces of furniture or elevated platforms. Or secure items with bags and ropes to the ceiling. If practical, relocate important items to a safer location outside of the flood zone. The survey showed that businesses who moved important items to higher levels, recovered much quicker after a flood.

Floods can damage documents that are important for your business. **Place important documents in plastic bags and put them into plastic containers with sealed lids** – placing them on higher ground. Include your name and phone number, in case it gets lost.

If you are renting the location, **ask your landlord if they have done enough to make the building resistant against flooding**.

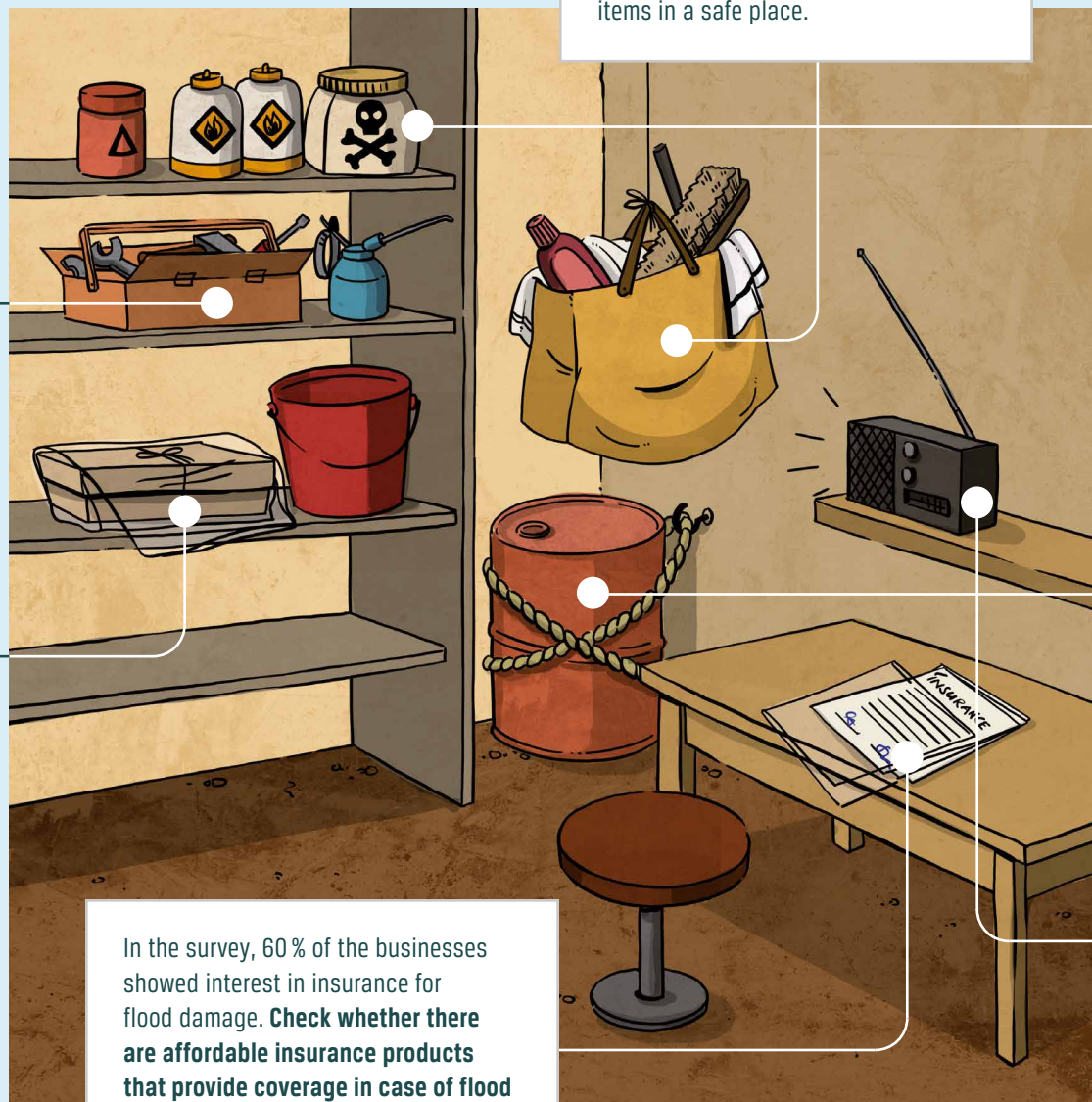
In the survey, 60 % of the businesses showed interest in insurance for flood damage. **Check whether there are affordable insurance products that provide coverage in case of flood damages**. This website can help: www.rwanda.smetoolkit.org

Think about what items you need after a flood to get your business running again. This could be buckets and things for cleaning the floors, signs or selected products. Store these items in a safe place.

Flooding can sweep away oils or chemicals that you store in your business. Spillage of such hazardous material can damage the environment and become a health danger. **Ensure that chemicals and oils in your possession are kept safe and do not contaminate flood water**: move them as high as you can, close their containers tightly and anchor them well.

Flood water can damage gas containers and power cables. Leaking gas and unprotected wires can pose serious health risks. **Close all gas containers tightly, anchor them and turn off the electricity** if flood danger is announced.

Pay attention to weather news and flood warnings on the radio, TV or on your smartphone. Share the information with your neighbours and other businesses in the area. Current warnings can be found here: www.meteorwanda.gov.rw



2. WHAT TO DO BEFORE FLOODING: OUTSIDE

Think about what the community can do together: do you see anything that the community could do together to reduce flood risk, e.g. cleaning the ditches together or building flood walls? 72 % of the businesses surveyed said that people in the area should work together to reduce the flood risk for everyone. Discuss with neighbours and community leaders and take action.

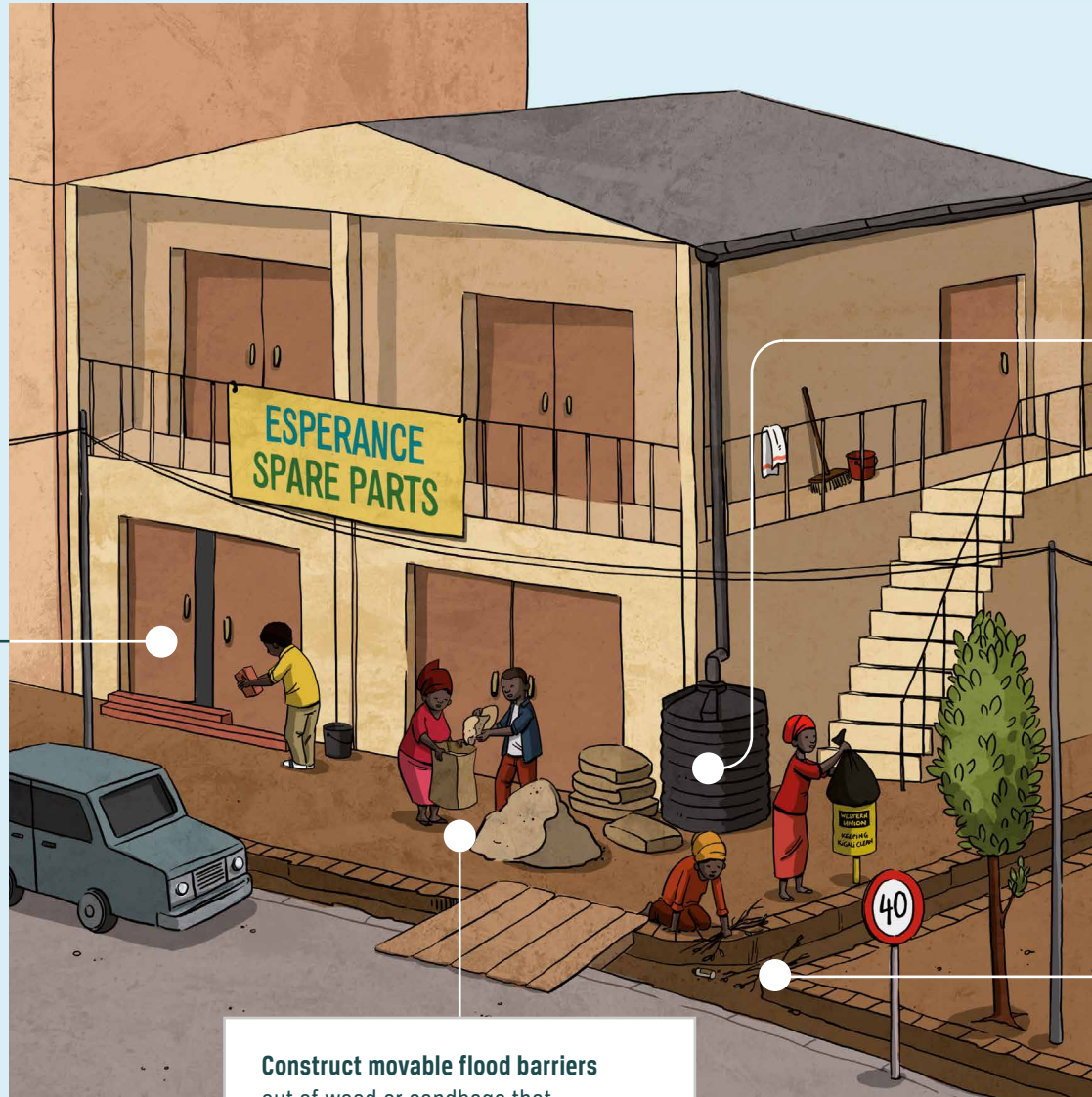
Raise the threshold at the entrance by building a little brick or concrete step.

If flooding is announced, **keep in mind that customers might not be able to reach your business for sometime.** If you know that they are awaiting specific items, deliver it to them or ask them to pick it up before the water will be blocking roads.

Construct movable flood barriers
out of wood or sandbags that
can seal the entrance.

During heavy rain the flood risk can be moderately reduced if residents collect rain water from their roofs in rainwater tanks. As added benefit, the water collected can be used for irrigation or other purposes later during dry spells. Discuss with the owner and neighbours whether such a tank could be useful for the area. 78% of the businesses in the Nyabuogogo area wish that property owners install rain water tanks. Check www.fonerwa.org for financial support for purchasing such tanks.

Ditches and canals are important for channelling the water away from buildings but they can only function if they are clean. Thus **do not throw any garbage into the ditches and remind others, to keep it clean.** In the survey 92 % of the businesses requested that people stop throwing garbage onto the streets or into drainage canals.



3. WHAT TO DO DURING A FLOOD

Keep track of the news and weather announcements on radio, TV or smartphone and stay in touch with your neighbours and local officials.

Avoid getting close to electric poles and fallen power lines: if they touch you or the water, there is a high risk of electrocution.



Never walk through flowing water if it is above your ankles, you can be swept away easily. If you have to walk, don't walk alone; use a stick for improving your balance and for testing the grounds before you.

Flood water can be treacherous: you cannot see what lies at the bottom and the water can pick up speed very quickly. **Never drive on flooded roads;** you can easily lose control of your car even if the water levels are low. If you must drive, be very careful, only use roads that are not flooded and watch for fallen trees or power lines. If water around the car rises, leave right away and walk to higher grounds.

4. WHAT TO DO AFTER A FLOOD

Use caution when returning to your building: wear proper shoes and watch for possible dangers, such as damaged gas canisters, hazardous liquids or broken wires. Should you smell gas or see sparks, leave immediately.

Try contacting your clients to inform them if there are any delays when it comes to products or services that they are expecting.

Check walls, floors and ceilings for damages, especially for risk of collapsing. Cover larger holes in the roof, walls, or windows with boards, tarpaulin, or plastic sheets.

Were you spared from heavier damages? **Look around if you can help others who have suffered more.**

If some of your flood protection efforts were very effective, share your experiences: **tell your neighbours and other businesses what you did and how it helped.**

If you have an insurance, **document all flood damages with photographs** and then contact the insurance company.

If you are renting the space for your business, **think about whether there are other suitable locations for your business that are less prone to flooding.**

Start cleaning up as soon as possible to avoid further damage to the building and to reduce problems that come with standing water, like the spread of mosquitos.

After the water has receded, **watch out for broken electricity poles, fallen trees, damaged bridges, broken glass or sharp objects.**



AUTHORS

adelphi

Christian Kind, Senior Project Manager
kind@adelphi.de
(+49) 30 89 000 68 78

Theresa Kaiser, Research Analyst
kaiser@adelphi.de
(+49) 30 89 000 68 79

Institute of Policy Analysis and Research, IPAR-Rwanda

Dr. Aime Tsinda, Senior Research Fellow
a.tsinda@ipar-rwanda.org
(+250) 78 830 59 60

© adelphi 2016, all rights reserved

DISCLAIMER

This document is an output from a project commissioned through the Climate and Development Knowledge Network (CDKN). CDKN is a programme funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. The views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

The Climate and Development Knowledge Network (»CDKN«) is a project funded by the UK Department for International Development and the Netherlands Directorate-General for International Cooperation (DGIS) and is led and administered by PricewaterhouseCoopers LLP. Management of the delivery of CDKN is undertaken by PricewaterhouseCoopers LLP, and an alliance of organisations including Fundación Futuro Latinoamericano, LEAD Pakistan, the Overseas Development Institute, and SouthSouthNorth.