

# Flores -- water, water everywhere...

While Indonesian islands are surrounded by water, more than 100 million Indonesians do not have access to safe drinking water. About 30 percent of all Indonesians suffer from waterborne diseases such as cholera, dysentery and typhoid fever.



Aerial photograph of the old well in the village of Lewoawan.



Women walk through the forest carrying water from the well to their home.

## 2005: Identifying the problem

On the island of Flores, typically women have to bring a bucket to collect water from a well. They have to walk a long distance through the forest to get the water. Sometimes they get to the well and it is dry. Often they have to spend a lot of time waiting their turn to draw the water up from the well. One bucket might only hold 10 litres and so they have to make five or six trips in a day to collect enough water for all their daily needs – to wash clothes, dishes, bathe, drink and cook.

This is hard on the human body and hurts necks and knees as they carry the water on their heads and walk through the forest. Research found that only five percent of women were less than 30 minutes away from a safe water source.

Also, the children are often sick because of the dirty water and this means they miss out on school. Hygiene is poor as they do not have enough water to wash hands and the incidence of diarrhoea was found to be 38 percent.

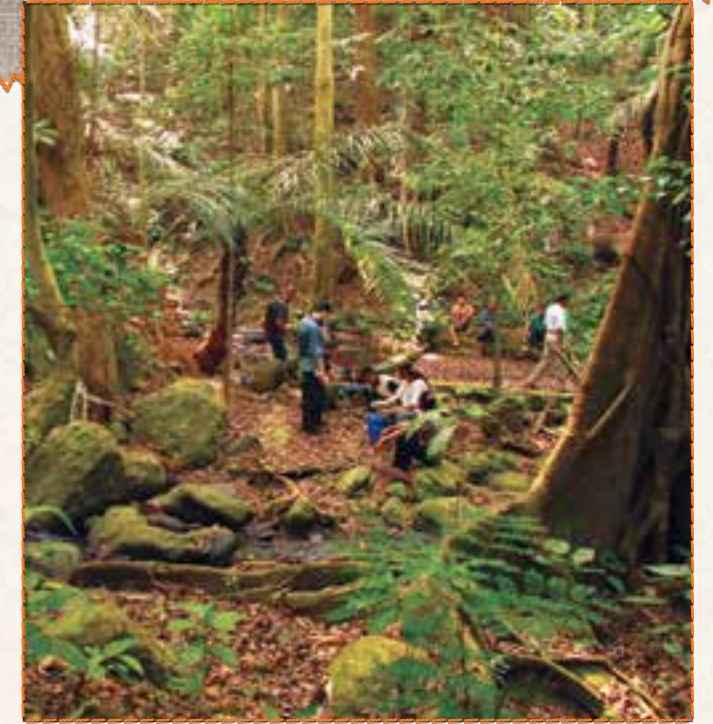


Village women pull the water up from the 17 metre deep well.

## 2005-2006: Planning a solution

In 2005, villages in East Flores approached World Vision Indonesia to help them gain access to safe water. The community leaders knew of a natural spring near the village of Hewa – 27 kilometres away and on the side of the volcano, Mt Lewotobi. World Vision Indonesia received funding and advice from World Vision Australia and provided an engineer to make sure it was possible. Gravity would force the water along the pipeline and involve low running costs.

The communities then approached the leaders from Hewa village for permission to use the spring water on their land. The communities signed an agreement and held a feast to mark the beginning of the project. The villages agreed to pay Hewa \$120 each year for the water and agreed to protect the water source – to keep it clean and healthy.



The freshwater source is a 45-minute walk from Hewa village and set in a rainforest well away from human settlement.

## Topographic map of Flores

Red line indicates the 27 kilometre water pipeline



## For you to do

1. What sort of data collection and research was done in identifying the problem?
2. What is the elevation of the water source and why is this important for the strategy?
3. What are the possible problems with implementing this planned solution?
4. Suggest strategies to measure the effectiveness of this aid program. How would you expect this program to impact the community on East Flores?
5. Use the topographic map to draw a cross-section of the Lewotobi volcano between the villages of Hewa and Norabeleng.

# Water on Flores

## 2007-2008: Implementing the strategy

The water project has been a partnership between AusAID, World Vision and the local villages on East Flores. AusAID provided the money to buy the materials – the concrete, pipes and engineering design of the project. World Vision, the non-government organisation, helped to bring the villages together to support and facilitate the project. This also included education programs about hygiene and the importance of hand washing for good health.

After funding was approved and the engineering was agreed, the villages provided 50 to 60 workers every day to construct the 27-kilometre pipeline. World Vision provided training for the community to build the pipeline. Construction took 16 months to complete.

Initially, there were two villages that did not want to be involved in the project. They didn't think it could be done. They thought it was impossible for the water to run 27 kilometres from the mountain to their village. They said it would happen "when the cats have horns" or "when pigs might fly". However, when they saw the water running to other villages, they wanted to be included too.

The villagers then formed a water management committee to maintain the pipeline and ensure that leaks and faulty taps were repaired.



Every day, 50-60 men from the villages worked to build the pipeline. Construction took 16 months to complete.



The gravity fed pipeline crosses valleys on its 27-kilometre trek from the water source to Kaha.

## Map of East Flores



## For you to do

1. Why did some village communities not believe that the water project would be successful?
2. Complete the map reading worksheet at [worldvision.com.au/schoolresources](http://worldvision.com.au/schoolresources).
3. On Flores, what role did each of the following groups play in improving access to water?

Organisation/ community group	Role/function
AusAID	
World Vision (NGO)	
Local community on Flores	

# What role does water play in a community?

## 2009-2013: Outcomes

"We now find it easy to do the laundry, the washing and cooking. Also in the yards we can water plants and grow small gardens close to our homes. Now we can take baths at any time but we used to have only one a week – now we have more time each day to meet with mothers and look after the children." (Anastasia)

"Another economic benefit of the water is the growth of a brick making industry and improved housing. The local soil can be mixed with the water and placed into brick moulds before being put in the sun to dry. When they have a few hundred, they are placed in a kiln to dry and bake hard. One family business now makes 600 bricks per day – before, they could only make 15 bricks per day.

The bricks are now used to build houses in the villages and the government buys bricks from the local makers when they are building schools or health centres in the area. Today, there are 30 brick producing families in the area." (Wilhelm)

Students can now wash their hands easily. This has improved hygiene and the health of the children.



"Teachers and healthcare workers are now more willing to come and work in our villages because we have water. This has helped to improve our education and health too."



Brick making has improved housing in the villages.



The water management committee at the water source.

"We completed the pipeline in 2007 and now it has been successfully running for five years. The water management committee meets every three months and my responsibility is to coordinate the group. Each meeting we make sure that we clean the water source and environment around the pipeline; maintain the pipelines and repair leaks; and manage the finances to keep the project sustainable.

Every household contributes 4,000 Rupiah (50 Australian cents) per month to the committee. We use this money to provide ongoing maintenance for the water project. We preserve it, maintain it and care for it to provide for our children and their children.

About 6,000 people in the villages get the benefits from this water project. Today, 95 percent of the population are less than 30 minutes from a safe water source and the incidence of diarrhoea has been slashed from 38 percent to less than 10 percent." (Michael)

Clean water has significantly reduced the incidence of diarrhoea.



## For you to do

1. Use the following criteria to evaluate the effectiveness of the water project on East Flores (p.18-23):

Evaluation criteria	Evidence
<b>Impact:</b> What has been the impact of the strategy? How has the project changed the community?	
<b>Approach:</b> To what extent did it engage the local community? Why are participatory approaches effective?	
<b>Sustainability:</b> What sort of repairs will be needed in the future? Who will do these?	

# Reflection and action

I was surprised to find out...	
The most interesting thing I learnt was...	
I would like to know more about...	
I don't understand...	
One thing I would like to do now is...	

## Edward de Bono's thinking hats

Use de Bono's six thinking hats to explore Australia's engagement with Asia: Indonesia. This includes the DVD chapter and written resources.



**White hat:** What are some of the facts you learnt as a result of looking at this topic?



**Red hat:** How do you feel as a result of looking at this topic? Hopeful, angry, depressed, thankful, disappointed, something else?



**Black hat:** What were some of the negative aspects to this topic?



**Yellow hat:** What are some of the positive, encouraging or hopeful aspects of this topic?



**Green hat:** What are some ideas or possible actions that could address an issue in this topic?



**Blue hat:** What is the "big picture idea" behind this topic? What have you learnt about Australia's engagement with Indonesia?