



Newsletter No. 117

April 2023

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ABOUT CED

Christian Engineers in Development (CED) is a Christian professional consultancy service dedicated to development work with overseas communities, and through service, to witness to the Christian faith. Operations usually comprise a tri-partite arrangement between a developing country organisation, a funding agency and CED providing technical assistance. CED responds to requests for assistance, improved water supply being the most frequent request but by no means the only one. CED promotes self-help with the maximum use of local resources.

CED's services include site visits, feasibility studies, assistance with project proposals, design, contract documents, procurement, tender evaluation, project supervision, direct labour employment, on-the-job training of local staff, project monitoring and evaluation, assistance with fund-raising and the management of project funding.

CED's income comes primarily from grants for projects together with donations from churches, trusts, members and supporters, and membership subscriptions. Most of the expenditure goes to operations; management costs are kept as low as possible. CED is not a funding agency and therefore cannot directly fund major projects but it can, and often does, fund preliminary investigations for potential projects.

The Association is registered as a Company Limited by Guarantee (without shares) and being a non-profit organisation, it is registered as a charity. It is managed by an Executive Committee overseen by a Board of Trustees, all of whom give their services voluntarily. CED Members participate in the work of the Association either voluntarily or if they depend on earnings for their livelihood on negotiated payment for their services.

Membership of CED is open to any person who is professionally qualified, supports the Aims, accepts the Statement of Faith, supports the activities of CED in any way, or serves as an employee or volunteer, both in the UK and overseas. Becoming a Supporter of CED is open to any person or group that supports the Aims, and wishes to be kept informed of CED matters. Anyone wishing to become a Member or Supporter should contact the Secretary.

Newsletter

The Newsletter is published twice annually. We'd be delighted to provide additional copies for friends, colleagues, church book stands etc. Please contact ian@ced.org.uk and let us know how many you'd like. The newsletter can also be downloaded from the CED website.

The editor would be happy to receive contributions for the next Newsletter. Please send to toian@ced.org.uk

PrayerPoints

Copies of our monthly prayer bulletin are available by e-mail or post. Please request a copy by email to pray@ced.org.uk or by writing to the Secretary.

Privacy Statement

For administrative and mailing purposes we hold your name and contact details in our records. They will not be given to any other person or organisation. If you prefer not to receive publicity and information literature, then please inform the CED Secretary (admin@ced.org.uk).



**SHARING SKILLS
CHANGING LIVES**

From the CEO, an Engineer's Parable

Luke 6:46-49

Last year Sue and I saw the Leaning Tower of Pisa – the bell-tower of Pisa Cathedral. And we did what most tourists do, we took silly pictures of us either pushing the tower over, or trying to push it back to a vertical position.

Why is the tower leaning? Well, when they started building, in 1174, they dug down about 3m and assumed that the sands and clays they found would be fine for supporting a 50m high marble tower. They were wrong, and the only reason it survived to the 20th century is that it took so long (about 200 years!) to build it that the clay was able to compact gradually as the tower was being built. Many millions of Euros have been spent in recent decades to stabilise the tower, but the canny citizens of Pisa don't want to remove the lean completely, because it is their main source of income! A building error turned into an asset! But not all such mistakes have had a happy ending, and there have been countless instances of building collapse caused by inadequate foundations.

Which brings us to Jesus' well-known parable at the end of the Sermon on the Plain (Luke 6v20-49). An almost identical version is found at the end of the Sermon on the Mount



(Matthew 5v1-7v29). The same parable, told on two separate occasions, as the conclusion of Jesus' teaching to his disciples. I think that tells us that Jesus was saying something important in this parable.

'Why do you call me "Lord, Lord," and do not do what I say? As for everyone who comes to me and hears my words and puts them into practice, I will show you what they are like. They are like a man building a house, who dug down deep and laid the foundation on rock. When the flood came, the torrent struck that house but could not shake it, because it was well built. But the one who hears my words and does not put them into practice is like a man who built a house on the ground without a foundation. The moment the torrent struck that house, it collapsed and its destruction was complete.' (Luke 6v46-49, NIV)

So, at the end of his teaching, Jesus says to his disciples "everyone who hears my words and puts them into practice... is like a man who dug down deep and laid the foundation on rock." On the other hand, says Jesus "the one who hears my words and does not put them into practice... is like a man who built a house without a foundation."

**So, we have a choice:
Foundation. Or No Foundation.**

Modern house-building in the UK is a fairly complex process, and increasingly uses mechanisation and prefabrication to make

things less physically demanding for workers on site. Houses in first-century Palestine were much simpler, of course. But, they didn't have machines to do the digging, and the clayey subsoil which often overlies rock in Palestine can be pretty hard in summer – which is when folk used to do their house-building in Jesus' day.

I served my bricklaying apprenticeship in the 1970s, and for a small job we often wouldn't use a machine – we'd dig a trench by hand using a pick-axe and shovel. And it was very hard work. So I can easily imagine the man, on a hot summers day, saying to his fellow-labourers "boy this is hard going, and this ground looks fine to me; surely we've gone deep enough now." But then, one of the older villagers looks into the trench and says "you need to keep going – through that hard clay, to reach the rock which will be down there somewhere. Remember, when the winter rains come that clay will go all soft and mushy." And the man in the trench says "great, just what I wanted to hear." But he carries on digging, and eventually gets down to the rock, which he can use as the foundation for the walls of his new house.

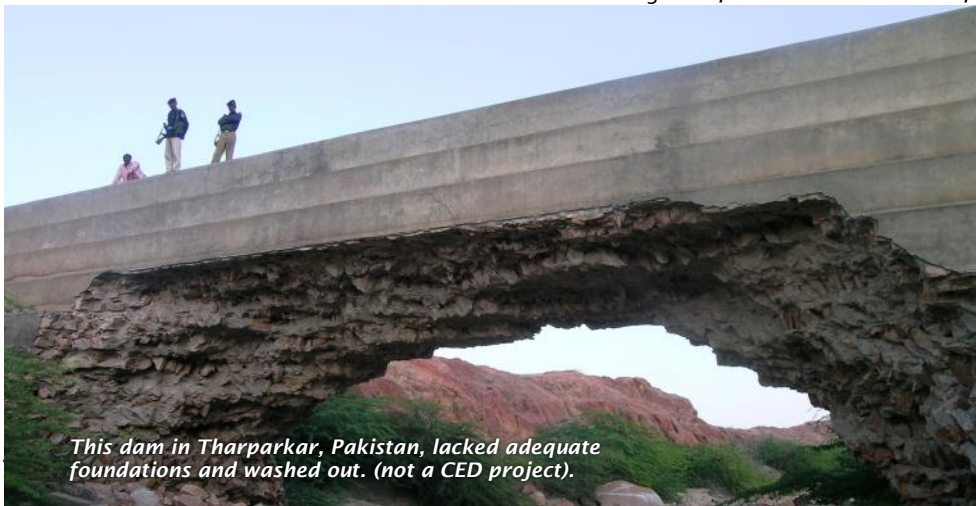
You can imagine the scene: Winter comes, and with it torrential rain, and the unsurfaced village street is soon a stream of brown muddy water, the ground quickly becoming soft and gloopy, threatening to swallow your wellies! Easy to imagine the wall of a house being

undermined as winter progresses, and subsidence leading to progressive collapse. Unless the walls are founded on rock. That's the picture which Jesus paints in this parable.

Notice four things about Jesus' parable:

1 This parable is addressed primarily to disciples. No doubt others were listening in as well, but Jesus' target audience was his disciples. His hearers have already made some level of commitment to following him. Now he is saying to them "don't just listen to my words – you need to put them into practice as well. It's only if you put my words into practice that you build your life on a solid foundation – on me and my teaching."

2 Here's the second thing: Both the man who laid a foundation on rock and the man who built without a foundation heard Jesus' words. They both heard him. But only one of them put Jesus' words into practice. The other decided not to. Have a look at all that Jesus said earlier in Luke 6 - about blessing those who curse you, about loving your enemies, about doing to others as you would have them do to you, not judging others, giving generously (and there's more in Matthew 5-7). All of those are acts of grace, springing from a heart which has been touched by God's grace and knows the joy of God's love and mercy in their life. The fruits of a changed heart. An indication of a life founded on Jesus Christ. One of the builders has that changed life, founded on Jesus Christ;



This dam in Tharparkar, Pakistan, lacked adequate foundations and washed out. (not a CED project).

the other builder doesn't. One of the builders is doing those acts of grace, because he has been changed by Jesus; because Christ is his foundation. Love leads to action. A changed heart leads to action.

3 And the third thing: Both houses look the same on the outside. On a good day, in good weather, you couldn't tell them apart. The foundation is hidden. That's sobering for us as believers, because it is possible to have the appearance of being a Christian, in terms of church attendance, respectability, doing good deeds, and so on, and yet not be founded on Christ.

The recent earthquake in Turkey and Syria has shown (yet again) the dangers of skimping on reinforcement steel or concrete quality. Many buildings which collapsed were designed to modern earthquake codes, and should have survived – but corners were cut during construction, to save money and time, and no one insisted on the drawings being followed. So we saw on TV two seemingly identical buildings – but one had collapsed and the other was fine. On the surface they were identical – but structurally they were very different. In the same way, we can have the appearance of a good life, a fulfilled life – and yet be hollow, be weak inside, because we've

not laid a good foundation – on Christ and on his words.

4 And here's the fourth thing: Both houses experience the storm. That is an important truth: Having a life founded on Christ is not going to insure us against the storms of life; they will happen to us. The earthquake might still happen. But, the important difference is that if we are in Christ, that foundation will hold.

Storms can take many forms. The storm could very well be ill-health, or it could be family troubles, or it could be unemployment, poverty, and of course many other things besides. And the devil will use such things to try to weaken our faith and sow seeds of despair. In the Bible the storm is sometimes used as an image for the righteous judgement of God, when we finally stand before Him. Will we survive that? Yes, if we are founded on the foundation which is Jesus Christ, we will survive even that.

**So, we have a choice:
Foundation. Or No Foundation.**

From an Engineer's point of view, it's a no-brainer!

Jonathan Appleby

CED Committees

The Executive Committee met on 9 February and the Board on 1 March. As usual, minutes of the meetings are available to any member who may wish to see them.

The Board and the Executive Committee would like to offer our grateful thanks to James Fallah-Williams who has served on the Board since its inception, but is now standing down. At this stage, given that there remain six members on the Board including three Non-Executive Directors, which is sufficient to ensure good governance, there are no immediate plans to replace James on the Board, but this will remain under review.

Jonathan Appleby, CEO



James on location in Sierra Leone

Membership and Supporter Subscriptions and Donations

At the request of an Executive Committee member I was asked to prepare an analysis of income received from members and supporters of CED. A review of 2021/22 and 2022/23 to date resulted in the following conclusions being drawn :-

- 🌐 The majority of members paying a subscription paid £40, the current subscription level, but this represented less than 25% of total membership income, with a small number of members contributing considerably more.
- 🌐 More than 50% of supporter income came from trust funds and local churches.

The Executive Committee agreed that to impose an increase on the current subscription level might be somewhat

insensitive at a time when media headlines focus on a cost of living crisis and in itself was unlikely to yield significant additional income.

However we would ask all members to consider whether they are able to increase their personal level of giving above the £40 level to support the work of CED.

In addition we would encourage members and supporters to promote the work of CED within their local churches in the hope of increasing both prayerful and financial support from a wider audience. If you would like some help in this regard please contact one of the Executive Committee members who will be glad to assist.

David Beak, Treasurer

CED AGM and Open Day Saturday 9 September 2023

This year we really do hope nothing will stop us meeting at City Hope Church, Bermondsey for our AGM and Open Day, having twice been thwarted in previous attempts, first by COVID and then by rail strikes.

The formal AGM proceedings will take less than half an hour.

The key focus of the day is to help build and grow our capabilities as an organisation. As a membership organisation, CED is **YOUR** organisation. Do please come ready to share thoughts (no matter how radical) on things we can and should be doing better, things we could be doing differently and, possibly, things we should no longer be doing. The day will include talks, discussions and workshops – please do contact me directly (phone or email) if there are any areas YOU would specifically like us to cover.

The day's programme usually starts around

10.30 and runs until 4.00 or 4.30, after which those who are able to stay can join us on a visit to 'Time and Talents', an exciting community-based project (<https://www.timeandtalents.org.uk>) including a session experiencing ancient craft skills and from there to a local pub for an evening meal.

As always, all members and anyone interested in learning more about CED are most welcome to attend for all or part of the day.

More details will be provided nearer the time – for now, please make sure the date is saved in your diary.

We really look forward to seeing a good number of you there for what should be an interesting and thought-provoking day.

Barbara Brighouse



Editor's Note

Welcome to our 117th newsletter. This Spring's Newsletter is mainly about rainwater harvesting. It's an attractive area to work in. As incomes rise in Africa, people are more likely to take an interest in water provision. Municipal supplies are still slow to arrive in some areas and are often sporadic when they do. It makes sense to store some water if you can.

Work continues in other areas too, from hydro power to sanitation, well drilling and the tech talk series. For more information on these

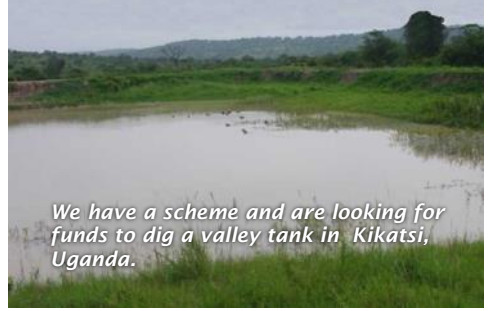
Rainwater Harvesting

After the success of the initial rainwater harvesting training courses in Rwanda in 2019, Ian Rankin went on to lead courses in Tanzania and then oversaw a further 3 courses led by those already trained. We therefore have a good pool of trained artisans, especially around Kagera and Biharamulo. The challenge is to create a situation where tanks are built with little or no input from CED. This, indeed, is the "Holy grail" of tank building: making it self-sustaining. This has been challenging NGOs since the 1970s (Rainwater Harvesting, Pacey and Cullis, p85) and has rarely been achieved. Part of the solution for CED has been to offer smaller, 1000 litre tanks but even here uptake is slow. Most unaided tanks have been of 5000 litres and built for wealthier people.

CED is currently supporting tank building in Kagera and Biharamulo. This originally relied on the presence of Church Community Mobilization Partnerships (CCMP) under the Anglican church but the funding for these is drying up which is leading to uncertainty. We continue nonetheless and this month plan to



Two 5000 lt tanks at school, Kagera



We have a scheme and are looking for funds to dig a valley tank in Kikatsi, Uganda.

please refer to the monthly PrayerPoints and Facebook.

Ian Rankin

get together in Biharamulo to develop ideas with church development workers and trained artisans. This programme has been funded by a handful of very generous CED supporters who have given £11,000 inc. Gift Aid. The money has paid for a training course in Biharamulo and lump sum subsidies for subsequent tanks, including 14 fully funded 1000 litre tanks for widows and 2 subsidised tanks for churches. It will also pay for the upcoming conference.

Looking ahead, CED has awarded the programme £7,000 to keep things moving but we need to find ways to obtain even a small amount of regular funding so that, even if the tanks are not sustainable locally, the programme itself is sustainable because we obtain a sustainable trickle of gifts to support it. Watch this space for our "tap-twinning" appeal: you've already twinned your toilet, now twin your kitchen with someone in Tanzania. We should even be able to give you a GPS location and picture of the completed tank! If anyone would like to become more involved in the programme please let me know.

Ian Rankin



Training involves both practical and classroom work

Water Abundance through Harvesting Rainwater in Tanzania.

Rain is one of the resources we get for free in our region of Kagera, Tanzania. However, after it rains for a few hours or a few days, you will be surprised to see women and children walking long distances to find water in rivers and dirty ponds. Veneranda Thomas is a beneficiary of rainwater harvesting tanks in Kabalekela village, a project funded by CED. In 2020, a 5,000-litre tank was built at her home and has greatly helped to reduce the water challenge. She is a widow, who lives with one daughter and a son; two of her daughters are married. Her family uses an average of 150 litres of water per day, being 50 to 60 litres for domestic use, 40 litres for feeding goats and chickens and 50 litres for watering the vegetable garden.

Veneranda told me, "during heavy rain like this, I don't carry a bucket on my head like other women who don't have their own tanks".

In her village the project has built ten 5,000 litre rainwater harvesting tanks and five more



Veneranda feeding her goats.

of 1,000 litres will be completed soon.

One of Veneranda's neighbours explained, "I always ask for rainwater from Veneranda's tank for drinking, washing white clothes and cooking food for my honoured guests". The reason is that the water from the nearby well is salty, so it is not suitable for drinking or washing white clothes. Also, if well water is used to cook food like rice and bananas, the food turns black and loses its taste.

Most of the water beneficiaries have installed two 6-metre lengths of guttering to collect rainwater from their roofs, but Veneranda has installed three pieces, enabling her to collect more water in a short time.

We are very grateful to CED for this support which has reduced the distance that women would have to travel to find water. During the period of sufficient rains, women with tanks like Veneranda spend most of their time in activities to increase their income and thus reduce poverty.

Thomas Shavu, CCMP Kagera



Veneranda using her tank.

Water Tank Technology Spreads in Rwanda.



Vegetable garden, Kavumu, Mayange

CED's work in Rwanda has had some really interesting and encouraging outcomes which clearly demonstrate how effective low-technology projects can be. A specific need has been met in the form of a reliable supply of clean water to the community of Kavumu, Mayange, in the Bugesera district 30 km south of the capital Kigali, working in conjunction with Faith Center Ministries (FCM). This alone was a notable achievement with direct results in much better health and greater resilience of the community. More important, perhaps, is the way in which that first project has led to two further developments.

The first has been a range of direct benefits such as flourishing vegetable gardens and growing social and economic activity. Now other people from Mayange are visiting Kavumu, seeing for themselves what can be done and going home to encourage their neighbours in similar development. Pastor Charles Semwaga, CED's partner at FCM, has written "You have saved this community!" about these positive outcomes.

The second is the rise of what is in effect a new industry for the region: building ferro-cement tanks to a Practical Action design developed in the field by CED and at the same time spreading the technology so that further tanks can be built in yet more communities. There is a growing list of people in and around Mayange saving up to pay for tanks to be built for them by those who have already been trained.

Thus new skills have taken root and businesses have been formed which we can reasonably expect will lead to further businesses and corresponding wider benefits for the communities served. Surely this is what development is all about!

This transfer of technology has now reached the town of Byumba, 60 km north of Kigali, where Jean-Claude and Victor, two local young men and others from Kavumu, previously trained in Kuvumu four years ago, have been working with CED's Rob Hoy since mid-February. Rob is working with the Anglican Church of Rwanda on a project sponsored by the local Churches of Lewes in East Sussex to build 5000-, 4000- and 1000-litre tanks for a local school. There is potential for more such tanks in the Byumba Diocese in a remote community which is only accessible on foot - a challenge to the people who will have to carry in the materials such as steel and cement sourced off-site.

Please continue to pray for the growth of this small-scale but very effective work, for the best use to be made of the development opportunities it affords and for Rob and others providing CED's contribution.

Readers wishing to learn more of this developing initiative should refer to articles in earlier Newsletters; No. 109, p.8, No. 111, pp. 8 and 11, No. 113, p.8 and No. 115, p.10. These are available on the CED website.

Alan Michell



Setting out tank formwork, Byumba

Improved Water Supply Improves Education Outcomes

CED has been working with Faraja Orphans Rescue Ministry (FORM) over the past few years to advise on water at their school in Musoma, Tanzania. In February 2022 we supported a rainwater tank training workshop and the school now has several tanks (Report in NL 115).. Their main water supply, though, is a well which provides water all year round.

With design support from CED, in July last year the school employed a local contractor to design and install a solar pump to take water to an elevated tank from where it could be distributed by gravity around the school. The contract cost was 17,392,500 Tzs (around £6,300). CED provided a grant of £2150.

The new system takes water to stand pipes near the school entrance and to the kitchen, science block and dormitories. The local community has access to water for a small charge to help maintain the well and develop the school's ministry. This has helped build good relations with the local community. Indeed, the school is highly regarded as it offers subsidised education to local children. The motorcycle taxi driver (front cover) was keen to tell me that his child attended and that the school was doing something really good



for the community.

Prior to the new pump being installed, long queues (up to 500 students) formed at the hand pump at the well, taking hours out of the day. People now have significantly more time each day to work or study. Students' performance has noticeably improved. The gardens are greener. Other benefits include improved hygiene, particularly in relation to the latrines, dorms and kitchen. Because there is a stand pipe at the school entrance, strangers no longer pass through the premises to reach the well, resulting in better security.

So far, the solar pump has been less expensive in spare parts than the hand pump that was in constant use.

Samuel prepared a video showing the new system which you can see on <https://youtu.be/tUodtnhiGQM>.

There is also a news item on the CED website, www.ced.org.uk/news

Ian Rankin



A Statue called Antelope

The current statue on the fourth plinth in Trafalgar Square, designed by Malawian artist Prof. Samson Kambalu, shows Malawian Baptist preacher John Chilembwe who fought against British rule. He stands next to John Chorley, a white pastor, but towers over him as the scale is distorted. Chilembwe came to faith in Christ in 1893 and became a friend of Joseph Booth, Zambesi Mission's founder.

John Chorley was an Australian who arrived in Nyasaland in 1902. Little more is known of him. There is a strong connection between John Chilembwe and Joseph Booth who arrived in Nyasaland in 1891. In 1896 he made his "Africa for the Africans" proposals that criticised the European partition of Africa and the punitive British taxes that forced African people to work for European landowners. Booth and Chilembwe travelled to America the following year, Chilembwe returning as a pastor in 1900 after studying theology.

In 1914 Booth delivered a petition to King George V that criticised the iniquitous way that British power was being exerted and demanded that government be shared with African leaders in a more equitable way.

The following year saw tax hikes and unpaid labour demands imposed by the British along with more land-grabbing. Livingstone, a white estate manager, burned down 3 churches. Chilembwe complained to the government but was brushed off. Tensions rose. In 1915 Livingstone and another estate manager were killed by insurgents. Others attempted to raid the armoury at Blantyre. John Chilembwe was among those killed when this operation failed. The uprising was blamed on Joseph Booth's teaching and Booth was deported. He died in 1932, a man whose thoughts and values had been ahead of his time.

From www.zambesimission.org

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I enclose a cheque to the value of:
 made payable to
Christian Engineers in Development.

or

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Name of bank or building society

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Front cover: Steel formwork for 5000 litre tank being delivered, Musoma

This picture: Another successful 5000 litre tank, Kagera