

McGough Foundation reforestation and afforestation projects

June 2020 – July 2022

Executive Summary of Final Reports

1. Introduction

This is an executive summary of two projects that have been running concurrently, The Bhatighadi Community Forest project (launched in June 2020) and Murgiya Hariyali Community Forest (launched in March 2021) which both ended in July. I have distilled the key points, observations and outcomes from the final project reports submitted by our implementing partner, The Mithila Wildlife Trust (MWT). Both sites are approximately 30-35km northeast of Janakpur, the provincial capital of Madhesh Province, southeast Nepal and located in the “Chure” wooded hills. These hills are important not only as wildlife habitats but also as central elements in providing the water supply to the “Terai” plains in the south. Without the water retention and control of river-banks provided by forests, the Terai would lose their fertility and be at the mercy of environmental disasters, including floods. The latter is particularly pertinent given the effects of climate change in Nepal, which is the ninth most climate change-affected in the world.

Note that Murgiya and Baluwa are alternative names for the same river and Bhatighadi may also be spelt Bhatighari.



2. Bhatighadi Community Forest

The Bhatighadi CFUG has been managing 57 hectares of forest by agreement with the Government of Nepal, since 1993. But in 2007, the nearby Jaladh river, which ran south from the Chure hills to the Terai, changed its course to flow further to the west and join the Jagdhar River. The Government gave the CFUG the opportunity of extending the forest into a further 45.5 hectares of former river basin. Unfortunately, in spite of the CFUG’s best efforts, only about a third of this could be used for reforestation as there was only sand and gravel (former riverbed) available rather than fertile soil and a highly limited water availability.

When the prospect of grant funding became available from The McGough Foundation, MWT developed a two-year plan for reforestation/afforestation of 32 hectares (22 hectares in year one, 10 in year two) using an approach that involved:

- Scrub clearance and fencing off the plantation site to prevent grazing by domestic or wild animals
- Pitting – a process of digging .45m deep holes that could be filled with imported fertile soil that would allow saplings to take root
- Irrigation by constructing a piped water supply and a supporting tractor/water tanker

- Regular weeding and maintenance, including patrolling to deter wild animals and prevent forest fires

The inputs to the project were as follows:

- An initial £2,088 raised by Philip Holmes on his 60th birthday half-marathon run which funded the construction of a toilet for the workforce and the provision of a piped water supply from a well to a 1,000-litre tank
- A grant of £132,793 over two years from The McGough Foundation
- A private purchase of a tractor and 7,000 litre water tanker by Chris McGough, costing £6,750
- Saplings to the value of £56,851 by the Division Forestry Office
- An additional one hour per day of voluntary work by the CFUG members

The outputs have been as follows:

- 57,741 saplings from 25 native species were planted with a 93% survival rate. This compares favourably with a national average – on fertile soil – of 20%. A further 4,100 saplings have been replanted to replace those that died.
- The additional voluntary work allowed 38.8 hectares to be regenerated rather than 32 hectares.
- Wildlife, including deer species such as Spotted Deer (Chittal) and Blue Bull, have returned to the area. This has been welcome but has increased the challenge of preventing grazing as deer can jump the fencing.
- The project provided vital income to 164 households during COVID lockdowns.
- MWT has conducted scientific research on the best water retention methods for saplings that have been planted in this inhospitable terrain. The research will be published in due course and provide invaluable guidance at other sites. The best mulch has been shown to be Water Hyacinth which is an invasive species that clogs water courses in the area.
- National recognition in that in August 2021 the Prime Minister of Nepal presented the Bhatighadi CFUG with highly coveted Ganeshman Singh Award for Forestry Management, an annual national award that recognises the best CFUG out of 22,000.
- Approximately 600 tonnes of CO₂ will be sequestered annually once the trees are mature

Other observations:

- In 2021, when Nepal was struck by wildfires, our plantation site lost just 30 saplings. This was because of a sense of community ownership that saw villagers leaving their homes at 2.30 a.m. to extinguish new fires.
- The project received extensive coverage in the local media, including [the Nepali Times](#).

3. Murgiya Hariyali Community Forest

The newly formed Murgiya Hariyali CFUG took on the challenge of restoring 12 hectares at three separate plantation sites as their first project. In doing so they were supported by experienced members of the adjacent Bhatighadi CFUG. The area is home to two very ethnically and culturally different communities – the marginalised Madheshi and the Pahadi Janjati, the former being lowland and the latter hill peoples. Both communities are very poor and the employment provided was very welcome, especially during a COVID lockdown. To their credit, the people toiled through extremes of weather – extreme heat and monsoon rains - to complete the project.

This is an important area as the Murgiya (Baluwa) river is a permanent source of water that attracts a wide range of wildlife including the last two survivors of a herd of wild elephants. It is important for animals to have cover as they drink. It was also decided to plant bamboo along the riverbanks as this would not only stabilise the riverbanks but provide fodder that would stop elephants foraging in the neighbouring village and coming into human conflict. This part of Nepal is a high-risk area for human-wildlife conflict and the community was keen that the project should mitigate the risk.

The river is also an important migratory route that ultimately connects with the isolated Dhanushadham Protected Forest (DPF) to the south. A central element of the success of the forest was the community engagement at the outset, as a significant factor in the deterioration of the land had been open grazing that prevented the forest from regeneration. The CFUG readily accepted the need to refrain from this practice once they understood that they

would have ownership of the restored forest. Another factor was the need to fence off the plantation areas. The community had tried twice before to plant trees but, in the absence of fencing, had failed.

The project started a little later than anticipated due to the need to form a new CFUG committee and to negotiate the requirement to restrict grazing access to the land. Then, approximately 50% of the land area required clearance of invasive scrub. Eventually, 20,850 saplings from 36 species were planted, with the Dhanusha Divisional Forest Office providing the saplings and technical expertise. As per at Bhatighadi, the pitting process was employed, with the ground being primarily sandy rather than gravel based. The survival rate of 89% was a little lower than at Bhatighadi, but still very creditable. The increased mortality has been attributed to:

- The slightly later start in planting meant less rainfall had been available
- Some irregular irrigation
- Many saplings were one-year old. Experience indicates that the survival rate is higher for two-year old saplings and above

A further 2,300 saplings from 17 species have been planted to replace those that did not survive.

The inputs to the project have been:

- £67,429 invested by the McGough Foundation
- Saplings to the value of £10,560 provided by the Department of Forestry
- Some volunteer labour by the local community, including training support from Bhatighadi CFUG

Outputs to the project have been:

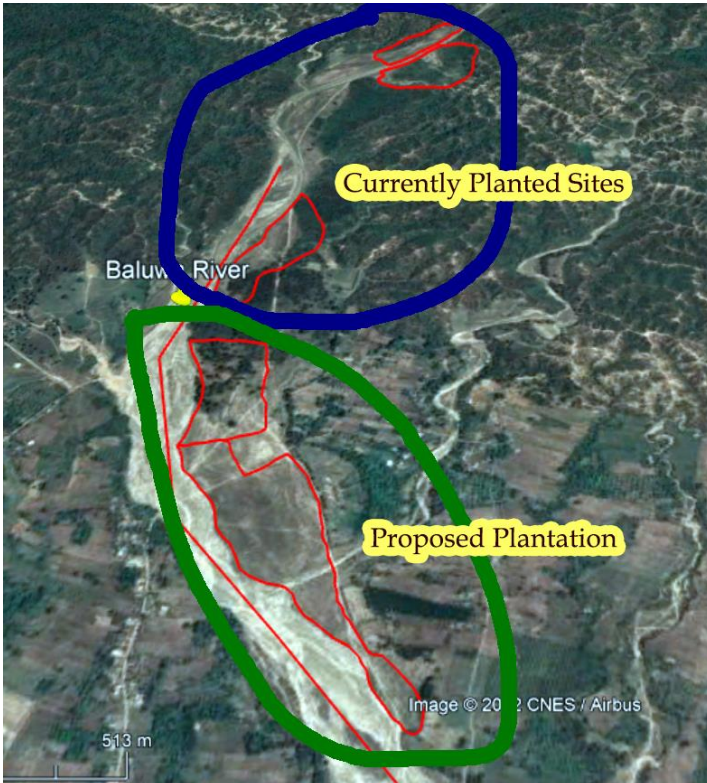
- 20,850 saplings planted and replaced where necessary. These can be expected to sequester 200 tonnes of CO₂ annually, once mature.
- Capacity building of a new CFUG at Murgiya/Hariyali that is capable of undertaking further plantation work

4. Financial statement

Please see accompanying spreadsheet.

In summary, there has been an overpayment by McGough Foundation, donating £194,571 against a pledged amount of £193,472. We can return the surplus of £1,099. There has been a shortfall of transfers to MWT, with our transferring £174,143 against a pledge of £176,206. We will transfer the difference (£2,063) concurrently with the return of the surplus to McGough Foundation. Note that at project end we have £3,869 on account, so, after these two transactions, the remaining balance of £707 can be added to the Nepal transfer, as an offset against exchange rate fluctuations.

5. Future needs



There is a requirement for some maintenance, patrolling and ongoing weeding at both sites that come to £12,247 over two years for Bhatighadi and £6,559 at Murgiya/Hariyali.

Beyond that, it would be ideal to continue reforesting the banks of the Baluwa river heading southwards as we create the wildlife corridor that will ultimately connect with the Gurkha Memorial Forest that arises from The Dhanushadham Protected Forest. The next plantation site that is available consists of 15 hectares and can be reforested over three years at a cost of £77,713 of which £54,950 would be in year one, £13,988 in year two and £8,774 in year three. This would result in planting a further 16,800 saplings with an annual sequestration potential of 160 tonnes CO₂.

Philip Holmes
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