

A perspective of freshwater – from New Zealand and abroad



John Wright has been involved with freshwater management for many years now both on farm and at a governance level; his knowledge has seen him involved in many roles. Recently, he took on the role of the Minister of Water Resources in the Republic of Uzbekistan. We caught up with John to find out more about his journey to where he is today and how his new role compares to freshwater management in New Zealand.

My parents, two brothers and I moved from Hinds to Methven (Canterbury) in 1985, when I was at Lincoln University studying for a Bachelor of Commerce (Agriculture). The family decided to move to get away from irrigation, moving to a high reliability rainfall area with good soils, and away from sheep.

I came back from Lincoln University and we focused on intensive arable farming and processing to add value to what we were producing. The family business managed to grow and separate through a series of planned transitions including machinery syndicates and contracting arrangements. Increasingly we found that the reliable rainfall in Methven was not sufficient to support the intensive arable system we had developed, and our business was not as resilient as we had hoped.



John Wright.

I started to consider irrigation options for our land east of the RDR at the time that Barrhill Chertsey Irrigation Limited (BCI) was considering development options. Groundwater in the area was likely to only be found approaching sea level which was some 300 metres down from where we farmed.

I joined the BCI Board in 2004 out of self-interest. A capital raise to develop the scheme had just failed to gain farmer support and I wanted to see what I could do to get water to local farms, including ours. I travelled on a Nuffield Scholarship in 2005 and on return was elected Chairman of BCI.

The original BCI proposal was for a large-scale development on the South side of the Rakaia River and would utilise 17 cumecs of water on 40,000 hectares of some of the best soils in New Zealand. The proposal was consented in 2001 with minimal fuss thanks to the collaborative approach taken by local leaders in the area at the time. The issue that BCI faced however was threefold. The proposal was expensive due to the pumping requirement from the river, the consented water wasn't as reliable as desirable, and consents to drill for water in the mid and lower



Harvesting wheat that has been irrigated using furrow irrigation in Uzbekistan.



John Wright (middle) at the intake of the Great Fergana Canal on the Naryn River, with his Assistant Farkhod to his left and Foziljon, from the Andijan Basin Irrigation Service.

plains were freely available. As a result, many of those prospective users of BCI water made their own arrangements and developed at their own pace.

What followed was a mixture of stubbornness and perseverance to “cut the BCI cloth” to suit the demand in the area, and ultimately the district. In 2010 we developed the first stage of the BCI Scheme as a joint venture (JV) with local electricity lines company EA Networks, a grand total of 6,700 hectares and spread across the district using the RDR under a water swap and conveyance arrangement, and Trustpower to pump water 100 metres up from the Rakaia River at their Highbank Power Station site. We also licensed water to facilitate the 6,000 hectare Acton scheme which was a key factor in “giving effect” to the BCI consent.

When I stepped out of my BCI General Manager role in late 2020 the scheme had grown to 24,000 hectares, had achieved high reliability through commercial arrangements with Trustpower for water storage in Lake Coleridge, and amicably separated from its joint venture (JV) partner. I had transitioned from BCI Chairman to Project Manager for the JV, to JV and BCI General Manager.

Along the way I enjoyed involvement with other schemes including seven years on the North Otago Irrigation Company Board, and three years managing the acquisition and subsequent operation of the Rangitata South Irrigation Scheme on behalf of irrigator users of the water. At some point on this journey



Cotton being established with drip irrigation in Uzbekistan.

my involvement in water management became much less about self interest and more about providing for the needs of future generations within our communities.

The development of Irrigo, a joint administration and environmental service with other Mid Canterbury schemes, was a positive step forward on collaboration amongst the industry. However, a personal desire to consolidate local irrigation schemes has remained elusive.

The freshwater management landscape has changed massively over the relatively short time I have been involved in it. The challenges BCI faced pre-development were all about water quantity. The water resource was seen as limited and those wanting to further develop were doing all they could to stake a claim on whatever they could.

But, at the same time irrigators were making significant steps in improving the efficiency of use of water on-farm through changes in application technology and scheduling. At least in Mid Canterbury this resulted in a level of relative comfort in the water resource availability.

What we did not see coming around 2015 was the negative environmental impact of intensive farming. I think we were too focused on developing new infrastructure and meeting demand for water that we chose to ignore the increasing nitrate burden on groundwater and

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lowland streams. We should have seen it coming and reacted more quickly.

From that point on the freshwater management landscape changed to a focus of managing the environmental impact of intensive farming, or water quality. BCI took this responsibility seriously and were the first in Canterbury to operate under a Scheme Nutrient Discharge consent, employing specialist staff to ensure real change occurred on-farm.

I am now advising the Minister of Water Resources in the Republic of Uzbekistan. I started a twelve-month contract in April, based in the capital city Tashkent.

The role is quite varied and focuses on the upgrade of infrastructure to improve efficiency of water delivery and use. I lead two new departments at the Ministry, one is driving the implementation of digital technology and the other is the use of Public Private Partnerships to manage and fund infrastructure. I also

support the Centre for Foreign Investment which seeks funding from International Funding Institutions.

The task here is massive. Although the country has 2,500 years of irrigation history, the Soviets built most of the infrastructure around the same time as New Zealand developed early irrigation schemes approaching the middle of the 20th century. The Soviets decided to



An aerial shot over Tashkent in Uzbekistan. (Photo: Adobe Stock)

use Uzbekistan for production of cotton and increased the irrigated area from its 1.2 million hectares in the early 20th century to around 4.3 million hectares.

The development over this period was incredible. As an example, the 270 kilometre long Great Fergana Canal here was built in 45 days in 1939 by 160,000 people. Two major river systems, the Syr Darya and the Amu Darya, had huge water resources that were exploited. Both rivers lead to the Aral Sea and because of the development the Aral Sea has gradually drained and is seen as one of the most significant man-made environmental disasters of all time.

When the Soviet Union collapsed in the early 1990's many of the water management experts returned to Russia and Uzbekistan was left without the financial resources to continue to invest in the irrigation infrastructure. Over the subsequent period much of the infrastructure deteriorated.

In addition, the carve-up for the former Soviet Union meant that the rivers flowed in and out of the various new states causing subsequent transboundary water management issues that have caused many conflicts.

Over this period the Government required a shift from primarily cotton production to include other crops to ensure self sufficiency in food production. Now wheat is a major crop to help feed the near 35 million population.

Only in recent years has a programme to reconstruct the ageing infrastructure been implemented, relying on funding of Multilateral Development Banks such as World Bank and Asian Development Bank. Much of the focus has been on concrete lining of canals to reduce water losses and upgrading of inefficient pump stations to reduce the energy burden. The energy bill for the irrigation network is second only to the military budget in Uzbekistan.

In 2020 a Presidential Decree approved a Water Development Concept for 2020–2030 which was followed by a Strategy for 2021–2023. These were prepared with the assistance of international consultants and set out quite specific targets for improvement of the water management system in Uzbekistan. Targets range from increasing the area irrigated by water saving technologies such as drip irrigation, through to implementation of digital monitoring of the many thousands of sites in the distribution network.

Facing dire consequences of reducing water supply due to climate change, Uzbekistan is seeking to position itself to meet the needs of its growing population into the future. My role here is to assist with meeting the Concept and Strategy targets and bring my experience to help develop a highly efficient water management system.

I had put some feelers out for potential international roles over the last couple of years. I got an introduction to the Ministry of Agriculture and Ministry of Water Resources in Uzbekistan through one of the key suppliers to the New Zealand irrigation schemes who were preparing a pilot project here.

Uzbekistan is a developing country, predominately Muslim, and



The confluence of the Naryn River and Kara Darya where the major Syr Darya starts, with Foziljon, Farkhod.

“The New Zealand irrigation industry is very advanced internationally and Kiwi farmers have always been (needed to be) early adopters of new research and technology, where it is practical, to improve efficiency in our businesses. We have also always had a strategic approach to our businesses that allows us to see beyond the day-to-day operations. These are the things we have to offer the developing world.”

they speak Uzbek and Russian. There are not too many similarities to New Zealand. That said, the locals are very welcoming, and the country feels very safe.

The Covid-19 statistics here show relatively low numbers which have risen from 50 per day to around 400 per day since I have been here. Many are not convinced that the numbers are capturing what is going on in reality, plus the people are taking a reasonably relaxed approach to things like social distancing and mask wearing.

My wife Jane hasn't travelled with me on my initial trip and I do feel isolated when I am not busy. On the positive side I have found reasonable coffee shops near work and my apartment and have done a lot of exploring around Tashkent.

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In return, the developing world can give us a reality check on what is really important. Growing our New Zealand businesses and export-based economy is important, but relies on a stable global economy. This in turn relies on people in developing economies enjoying some basic needs to avoid future disruption.

Also, without advocating for government control of irrigation infrastructure in New Zealand, it is highly satisfying to be involved in a water industry that is attempting to implement a national strategy to ensure it meets the future needs of its people.