

expenditure on the operation and maintenance of the schemes, and the costs and revenue from their sales have been recorded in the Crown accounts.

The full balance sheets for the Crown Accounts were established on 1 July 1991. The values of the assets and liabilities were based on the estimated amounts due to be received by and paid by the Crown after 1 July 1991 under the terms of the Sale and Purchase Agreements.

### Settlement Payments to or by the Purchasers

The financial settlements with the Purchasers were carried out by MAF. The final outcomes of the settlements were reviewed by Deloitte Ross Tohmatsu. The sources of the information were not audited, nor were they reviewed in terms of the New Zealand Society of Accountants Statement of Review Engagement Standards. The financial information has, however, been accepted by the Irrigation Companies concerned as full and final settlement of their Agreements for purchase of the assets.

Prior to making payment, the settlements were referred to Treasury to confirm that they reflected the intentions of the Sale and Purchase Agreements.

### GST Liability

These financial statements do not include GST although the settlement payments by the Crown covered the Purchasers liability for GST. The Purchasers paid GST on work carried out by the Crown after the *effective date*, but were not required to pay GST on the price paid for the assets.

### List of Crown-funded Irrigation Schemes Sold

Purchased as	Crown Scheme	
Amuri Plains	Waiau Plains, Waiareka Downs, Balmoral	3
Arrow	Arrow River	1
Ashburton-Lyndhurst	Ashburton-Lyndhurst	1
Bannockburn	Bannockburn	1
Beggs	part of Ardgour	1
Blackstone	part of Omakau	1
Burn Cottage	Burn Cottage	1
Earnsclough	Earnsclough/Blackmans	1
Eiffelton	Eiffelton	1
Galloway	Galloway	1
Glenbrook	Glenbrook	1
Glenmark	Glenmark	1
Greenstreet	Greenstreet	1
Hawea	Hawea Flat	1
Hawkdun Idaburn	Hawkdun and Idaburn	2
Ida Valley	Ida Valley	1
Kerikeri	Kerikeri, Puketotara, and Kapiro Pungaere	3
Last Chance	Last Chance	1
Levels Plain	Levels Plain	1
Loburn	Loburn	1
Lower Waitaki	Lower Waitaki	1
Luggate Creek	(mining rights previously leased)	0
Maerewhenua	Maerewhenua Settlement	1
Maniototo	Maniototo	1
Manuherikia	Manuherikia	1
Maungatapere	Maungatapere	1
Mayfield-Hinds	Mayfield-Hinds	1
Morven Glenavy Ikawai	Morven Glenavy and Redcliffs	2
Omakau	Omakau	1
Pisa	Pisa	1
Pukerimu	Pukerimu	1
Rangitata Diversion Race	Rangitata Diversion Race	1
Ripponvale	Ripponvale	1
Tablelands	Tablelands	1

Tarras-Ardgour	Ardgour and Tarras	2
Te Kauwhata	Te Kauwhata	1
Tebbutts Road	Tebbutts Road	1
Teviot	Teviot	1
Upper Waitaki	Upper Waitaki and Upper Waitaki Extension	2
Valetta	Valetta Farm Settlement	1
Waiaua	Waiaua	1
Waimea East	Waimea East	1
Wolds	Wolds	1

41 Schemes sold	Total number of irrigation schemes constructed	50
2 Schemes not yet sold (Beggs, Pukerimu)		

### VALUING THE IRRIGATION SCHEMES

A valuation model was developed jointly by the Ministry of Agriculture and Fisheries and the Treasury. This model formed the basis for the Crown's negotiation with irrigators. In effect, values determined by using this model became upper bounds on the sale process.

The model first calculated the price that the irrigators could pay for water, based on the production differential between dry land and irrigated land. The expected operating and maintenance costs were then added into the model and pre-tax and post-tax cash flows were calculated. The post-tax cash flow was discounted at a 7.5% real, post-tax rate of return (approximately equivalent to 11% pre-tax) to produce an economic value for the scheme. The discount rate was based on expected rates of return for other rural investments.

The above value was then adjusted downwards in recognition that as a normal commercial product, water can be used as an input for a wide range of products on farm. Therefore, it cannot be sold to individuals at different prices reflecting different land uses. As the predominant land use was for pastoral irrigation for sheep farming, the valuation was recalculated assuming that the gross margins for sheep applied to the total area currently irrigated. In essence, the value calculated was the marginal value for sheep farming.

The values calculated by the model were dependent on a number of key assumptions. The most important of these was that all past costs incurred by both the Crown and irrigators were sunk, that a uniform water charge is applied across all the users of each scheme, and that the charge must be affordable to a substantial majority of those users.

It was also recognised that a scheme's value derives from past investment by both the Crown and the Irrigators. The Crown in the form of capital costs and accumulated liabilities; the Irrigators in the form of on-farm development costs and, in some cases, a share of the off-farm costs. It was also recognised that the two sets of investments are equivalent to shares in a partnership, with one partner having the opportunity to buy out the other.

A number of other factors could not be included in the valuation model but nonetheless played a role in determining sale prices. Through the negotiation process, these factors, for example the level of risk and historical debt, generally acted to reduce the estimated value of the schemes.

The sale process was also constrained by the absence of competitive bidders because the Government directed that schemes would be offered first to irrigators. While this undoubtedly had the effect of reducing sale prices, it also minimised monopoly and regulatory questions that would have arisen if schemes had been sold to a party other than the irrigators. The offers that were finally accepted from irrigators were below the Treasury's estimate of the irrigators' share of the commercial value of the scheme derived by the above