

R E P O R T

OF THE

COMMISSIONERS OF INQUIRY

INTO THE WORKS OF

ARTERIAL DRAINAGE

IN ELEVEN DISTRICTS

IN

IRELAND.

*Presented to the House of Commons by Command of Her Majesty.
June 16, 1853.*

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Arterial Drainage in Ireland.

To the Lords Commissioners of Her Majesty's Treasury.

*Great George Street, Westminster,
June 11, 1853.*

May it please your Lordships,

IN pursuance of the instructions received from your Lordships by minute dated the 13th day of July, 1852, we, the Undersigned, being three of the Commissioners appointed to inspect and report on certain districts in Ireland in which arterial drainage works had been commenced and carried on (to a considerable extent) under the Summary Proceedings clauses of the Act 9 Vict., cap. 4, beg to report as follows :

On the 12th day of September, 1852, three of the Commissioners, namely, Richard Griffith, Chairman of the Board of Public Works, James Walker, C.E., and James M. Rendel, C.E., assembled in Dublin for the purpose of commencing the examination of the several districts. Owing, however, to severe illness, Mr. Walker was unable to proceed; but Mr. Griffith and Mr. Rendel, accompanied by Mr. William T. Mulvany, the Arterial Drainage Commissioner of the Board of Public Works, and some of the engineers and officers connected with the Drainage Department of the Board, visited the Kilbeggan and Brosna (Ferbane) districts, to inspect and examine the works which had been executed therein. This portion of the inquiry being completed, and Mr. Walker being still unable to act, the further progress of the inspection was postponed awaiting his recovery.

On the 25th day of November following, the Commissioners re-assembled in London for the purpose of resuming the inquiry, when Mr. Walker, not feeling himself sufficiently recovered, declined to proceed to Ireland, and Sir William Cubitt, C.E., was added to the Commission by your Lordship's minute dated the 23rd of November, 1852.

Having made certain preliminary examinations and calculations deduced from the detailed plans and sections of the whole of the drainage works referred to us, the Undersigned, assembled in Dublin on the 27th day of January, 1853, attended by a secretary, Mr. John B. Maule, and Mr. John Clutton, a gentleman of great experience in the valuation of lands in England, particularly those connected with drainage operations, and next day we recommenced our survey of the districts, and continued it without interruption until the whole had been examined, being accompanied throughout by Mr. Mulvany and several officers connected with the Board of Works.

We have deemed it necessary to make the foregoing statement, in order to explain to your Lordships the causes which have prevented our report being made at an earlier period.

The eleven* district drainages on which our report is required are, the Brosna Kilbeggan, the Brosna Ferbane, the Cappagh, the Lavally, the Dunkellin, the Fergus, the Shanagolden, the Inny, the Rinn and Blackwater, the Lough Gara and Mantua, and the Kill.

These districts are respectively situate in the counties of Westmeath, King's County, Galway, Clare, Limerick, Meath, Cavan, Longford, Leitrim, and Roscommon.

* The original number referred to us was twelve, but on one the award was made previously to our visit: we therefore take no note of it in this Report.

The rivers, their principal tributaries, and the loughs on which the works extend, exceed 385 miles in length, whilst their catchment basins comprehend an area of 1,139,182 imperial acres, of which about 77,546 acres are liable to injury by floods to a greater or less extent.

To entirely prevent these floods in some cases, and to mitigate them in others, were the primary objects of the works in question. We say the primary, because in many cases they have been made subservient to the improvement of the mill-power on the rivers, to the draining of turloughs, and to the reclamation of tidal mudlands.

This brief statement of the extent of the works brought under our notice, and of the objects they are designed to effect, will suffice to show not only the vast amount of labour and engineering skill that was requisite for their proper projection, but will also, we hope, satisfy your Lordships that the service we have been called on to perform, has been one of unusual difficulty.

This difficulty has been increased by the lengthened period during which the works have been stopped; and the other and more peculiar circumstances which gave rise to their discontinuance and to our instructions.

These instructions were to report:—

First. As to the original plans and estimates for the works.

Secondly. As to the alterations subsequently made or proposed therein by the Board of Works.

Thirdly. As to the course of proceeding we would recommend, showing the nature and extent of the deviations from the plan and estimate last proposed by the Board of Works which we would recommend, and the reasons for them.

As to the original Plans and Estimates for the Works.

It appears that the original surveys of the river-courses and flooded lands—comprising, as before stated, a length of 385 miles, and an area of 77,546 imperial acres, respectively—as also the designs for the works and the estimates of their cost, were commenced and completed in the year 1846, with two exceptions only, one of which, the Brosna Kilbeggan, was first reported on in 1844; and the other, the Lavalley, in 1847. It also appears that this great labour was performed by eight civil engineers only; and that in many cases they were simultaneously engaged in carrying on other and equally important surveys.

Doubtless the admirable Ordnance maps greatly abridged their labour; but making all due allowance for this advantage, we are of opinion that the performance of the task must have been so rapid and laborious as to increase liability to imperfection in the designs, and errors in the estimates of cost, even in the hands of the most experienced and skilful engineers.

Further; such was the untoward combination of national calamities which gave rise to the “Summary Proceedings Act,” and to the hasty manner in which the several works proposed under its operations were designed, that the check upon error provided in the Act by the clause requiring an examination of the plans and estimates by two of the Commissioners of the Board of Works, was rendered inoperative—the time at their disposal being too short for deliberate consideration.

This will be apparent from the fact that, between the 9th of May and the 26th of October, 1846, with very few exceptions, no less than 101 districts—of which the 12 submitted to us formed a portion—were surveyed, and the works for their drainage planned, estimated, certified by two Commissioners, and commenced. It will therefore be manifest that they must have issued them as a mere form in compliance with the Act, in order that employment might immediately be provided for a starving population.

To the increase on the first estimates consequent on the errors resulting from this haste, there was another and a material addition, namely, the impossibility, at such a time of national distress and want of employment, of resorting to the ordinary method of contracting with responsible persons for the completion

of the works for a fixed sum. Such a course, even could an adequate number of contractors have been found in so short a time, would, we think, have been unsuited to meet the necessities of the case, not only because much time would have been lost in the preparation of the accurate details required for a contract, but because it was a greater object to give employment to the largest number possible, than to execute the works by the most skilled labour, and at the smallest expenditure.

Looking therefore to these circumstances, it will not surprise your Lordships that we are compelled to state that, although we approve of the suitability of the general plans to meet the objects for which they were designed, the details indicate a want of that information which experience of each particular district and long consideration alone can give; and further, that in the desire, laudable in an engineering point of view, to combine with agricultural drainage, the improvement of mills, of navigations, the reclamation of turloughs, the embankment of tidal mudlands, and the improvement of the sanitary condition of the surrounding districts, they have embarked in works of a general rather than a special nature, and by the natural antagonism which exists between some of the objects they have endeavoured to combine, there has been, and will still be, further considerable increase of cost above what would have been necessary for the attainment of the contemplated measure, had it been confined to drainage only.

It may be asked, why should not all these interests be made to contribute to the cost of the works, on the same principle as the owners of lands,—namely, in proportion to the benefit conferred? Such an arrangement might easily have been made under local Acts, administered by parties representing the various interests concerned; but we do not see how any general Act, administered by a Public Board, could possibly be framed to meet the variety of cases that must arise in carrying out works so complicated and diversified.

But even in the case of the drainage of lands, the uniform apportionment of cost presents to our minds considerable difficulty, owing to the peculiarity of the valleys in which most of the works under consideration are situated.

These valleys occur, for the most part, in a succession of basin-lands rising one above the other, and separated by low ridges, consisting of either gravel or limestone-rock. Through the whole series a river or drain has made a channel, taking the form of a broad and shallow sheet of water or a narrow rapid, according as its route lies across the flat lands or down the gorges it has cut through the intervening ridges.

It will be apparent that, in such formations, each flat or basin might be drained by its own works, and that the only impediment to such a system would be the probable objection raised by the owners of the basin-lands below, on the ground that the natural flooding of their property would be accelerated by the means adopted for hastening the flow of water from the districts above them.

Now, though it is quite reasonable, as a public question, that drainage works should not be carried on upon this principle of isolation, it will be apparent that if the whole course of the river is to be drained, not only will it be difficult fairly to apportion the cost on any general rule of benefit conferred, but that, if the works upon the steep gorges in the hills are carried to the extent of draining the small quantity of land on their narrow margins, the difficulty will be increased to what, in some cases, would amount to an injustice to the owners of the basin-lands.

In illustration of this part of the subject, we would refer to the great excavation made both above and below the village of Ferbane, on the Brosna Ferbane drainage, for the discharge of the flood-waters from the upper basins of the district. These excavations, between Ferbane and Coole Castle, for a length of three miles present a striking character, the old river-course having been entirely obliterated and a deep and wide channel formed which has been executed with skill and success, and, the nature of the material removed considered, at a moderate expense. At the same time we are of opinion that the scale of operations has been larger than was actually necessary to effect the object originally proposed.

Great operations of this class should be looked on more in the light of public than of private commercial works, and we are of opinion such should not have been undertaken without the special consent of the proprietors interested in the drainage, and perhaps of the county in which they are situate: for the

county roads, several of which were heretofore flooded during the winter, and frequently during the autumn, will no longer be liable to injury from the overflow of water, nor the passengers and traffic to danger.

We would likewise allude to the proposed works which have been in part executed for the relief of the great Rahasane turlough, situate near the outfall of the Dunkellin district, in the county of Galway, and containing 755 acres of land, 600 acres of which are liable to be flooded for eight months in every year. These works we find, on a careful investigation, could not be completed for less than 9,145*l.*, in addition to 2,380*l.* already expended. According to this estimate the cost per acre would amount to 15*l.* 16*s.*, or if the plans proposed by the Engineer of the Board of Works were adopted, the cost would be 27*l.* per acre, an expenditure which in the opinion of Mr. Clutton would much exceed the benefit conferred.

Here, then, we find some works undertaken of much greater magnitude and cost than were necessary in our opinion to effect the object originally proposed; and others commenced, which if carried out to their full extent, and charged to the lands relieved, would be ruinous to the proprietors, although an adequate allowance was made for the rapidity of discharge of the flood-waters from the upper level. On the other hand, it may be said that the entire expenditure should be spread rateably over the whole district; but surely such an arrangement, under the circumstances, would be unjust to the proprietors of the upper portion of the district.

It is from these and similar examples, which we might multiply, that we are led to consider that misconception has arisen in making the average cost per acre of the land drained the basis of the apportionment. Doubtless the land-valuers attached to the Drainage department of the Board of Works have equitably administered their powers of charging the land "in proportion to the benefit conferred." There is, however, another and more important question to be regarded, wholly independent of this, namely, what was the smallest expenditure on each acre which would have produced the same result?

In illustration of the difference in the apportionment that would result from the adoption of the one or the other of these principles, we would again revert to the Dunkellin district. It has been already stated that the Rahasane turlough could not be drained at a less cost than 15*l.* 16*s.* per acre. The Lackafinna Basin in the upper part of the same district contains 1220 acres of land which are liable to flooding; it has an ample outfall of its own, and can be perfectly drained wholly independent of any other portion of the district at the comparatively small cost of 19*s.* 2*d.* per acre. It is clear from this that in spreading the cost of the works of the whole district over all the lands relieved from flooding in proportion to the benefit conferred, a large proportion of the cost of draining the Rahasane turlough would be chargeable on the lands in the Lackafinna Basin, although several miles distant from it, and possessing capabilities of its own for a perfectly independent drainage at a small cost.

As we presume it is not expected that we should report on the original plans of the respective districts referred to us in detail, we shall without further comment proceed to consider the second head of our instructions, namely:

As to the alterations subsequently made by the Board of Works in the original Plans and Estimates.

It appears that in each of the drainages submitted to us, great alterations in the original plans and estimates have been made, and further are proposed: in many instances these alterations have been executed, in others they are only partially carried into effect, and in some few they have only been so far designed as was necessary to form an estimate of their cost.

As regards their extent: they are in some instances confined to an enlargement of the width and depth of the river-bed as originally designed, in other cases entirely new and larger river-channels have been cut in place of straightening, but following their natural courses.

So far as these alterations relate to drainage, most of them have been made to give the lowlands a four-feet clear drainage at all seasons, the original plans having been designed principally with a view to carrying off ordinary winter and autumn floods.

As a justification for them it has been said, and manifestly with truth, that the original plans were made before a sufficient amount of information had been procured as to the quantity of water passing off by the rivers during heavy floods, an error consequent on the want of rain-gauges, observations on which, to be useful, should extend over several years.

As regards their cost, the alterations have frequently been of an expensive nature, sometimes doubling and even trebling the original estimates, whilst the improvement which might result from the more perfect drainage would not be in the same proportion. The consequence is that the original estimate of cost per acre is very largely increased without, as appears to us, the attainment of corresponding benefit.

With regard, however, to their effect upon the drainage of the land, we are advised by Mr. Clutton that they are in many cases highly beneficial, indeed, necessary if the lowlands are to be used for arable purposes. In other cases, however, there seems to be good reason for supposing that the lands had better remain in pasture, and in that case all that could be required, or rather, all that could be afforded, was such a limited amount of works as was originally contemplated, namely, such as would secure the land against ordinary winter and autumn floods.

It must also be noticed that the alterations made in the original plans have been designed to include within the taxable area a considerable extent of land which, though not liable to be flooded, was not capable of deep or thorough drainage when the lowlands which it skirted were under water. Now, though Mr. Clutton is of opinion that this portion will be benefitted, he does not advise us that this benefit will be of such an amount as would repay the expenditure, and that consequently a tax will be thrown on the lands in the upper level, and the burthens of that in the lower increased without a corresponding addition to the commercial value of either—another example, showing the inefficiency of the principle of dividing cost of drainage according to the benefit conferred, and that the average cost per acre throughout the district drained conveys no adequate idea of the rate paid per acre on the lowest lands.

The alterations which we have been noticing are all described in supplementary reports made principally in 1850, though some of these reports are dated in 1849 and 1851. Their authors are engineers belonging to the Drainage department of the Board of Works. In some cases they were the original reporters, in others the engineers of the adjoining districts have been employed; but this change in the engineers seems to have been occasioned by the original reporters having ceased to be connected with the Board.

But long previous to the publication of these reports, the greater part of the alterations in the original plan of works had been made and acted on with the sanction of the Drainage department of the Board of Works. The revised estimates, for the first time published in their reports, varying from 25 to 220 per cent. in excess of those given in the original reports, naturally, we think, provoked the resistance of a majority of the landowners, on the ground that the plans on which their assents had been given had been departed from, and new and more costly ones acted on without their sanction.

The consequence was that, when the limit of 3*l.* per acre had been expended, the works were stopped for want of the second assents required by the Act.

To meet the objections urged by the landowners, the Drainage department of the Board of Works published with each of the supplementary reports a statement setting out their views of their powers under the Act; and it is clear from this circular* that the whole of the alterations in the original plans had been made with the sanction of the Commissioners, and that such sanction was based on their understanding of the powers which they considered had been vested in them by the Act.

The following tabular statement will show the amounts of the original and revised estimates of cost of works and areas of taxable lands, as extracted from the several reports:

* See Appendix A. (This will be presented as a separate paper.)

No.	Name of District.	The Original Designs.			The Revised Plans.		
		The Original Estimate exclusive of County Works, but including Interest.	Area of Land to be Drained.	Average Cost per Acre exclusive of County Works, but including Interest.	Revised Estimates exclusive of County Works, but including Interest to December 1852.	Revised Area of Land to be Drained.	Average Cost per Acre exclusive of County Works, but including Interest to December 1852.
		£ s. d.	Acres.	£ s. d.	£ s. d.	Acres.	£ s. d.
1	Kilbeggan	8,511 0 0	4,963	1 14 2	24,976 5 2	6,956	3 11 9
2	Brosna (Ferbane) ..	45,380 6 11	15,687	2 17 9	73,981 7 6	16,860	4 7 9
3	Dunkellin	19,318 14 10	7,110	2 14 4	45,724 8 10	9,006	5 1 6
4	Cappagh	8,079 15 6	2,927	2 14 4	20,312 2 6	3,621	5 12 2
5	Lavally	10,874 0 0	2,436	4 9 3	12,914 0 9	2,637	4 18 0
6	Fergus	41,950 0 0	8,388	5 0 0	47,720 4 5	9,557	4 19 10
7	Shanagolden	7,731 16 8	1,012	7 12 9	11,510 19 5	1,638	7 0 6
8	Inny	32,163 0 0	7,363	4 7 4	46,753 16 8	16,181	2 17 9
9	Rinn and Black River ..	16,166 0 0	4,097	3 11 6	21,762 11 11	5,691	3 16 6
10	Lough Gara and Mantua	10,280 0 0	3,003	3 8 5	18,577 2 1	4,374	4 11 4
11	Kill	2,554 0 0	642	3 19 6	4,985 4 6	1,025	4 17 3
	Total	202,958 12 11	57,648	3 10 4	329,218 3 9	77,546	4 4 11

With reference to the estimates of quantity of taxable land, we beg to state that we have not thought it necessary to incur the expense of such a detailed examination and survey as would have justified either the rejection or adoption of them, but we have examined the estimates of cost with much care. The result is, that we think it highly probable, had not the works been stopped, or further alterations made than were contained in the estimates of 1850, those estimates might have covered the whole cost.

The case is, however, widely different now that emigration has so reduced the superfluous labour in the country, and wages in consequence have so much increased, and when not only the material and plant provided have been much deteriorated by lapse of time, and much been lost, but considerable injury has been sustained by the works from their having remained so long in an unfinished state.

We have therefore thought it necessary to revise these estimates, in order to adapt them to the present time. The result is given in the following Table :

No.	Name of District.	The Revised Plans, published in 1849, 1850, 1851, and 1852.			The Revised Plans, if executed at the present time.		
		Revised Estimate exclusive of County Works, but including Interest up to December 31, 1852.	Revised Area of Land to be Drained.	Average Cost per Acre exclusive of County Works, but including Interest to December 1852.	Estimated Cost, if executed at the present time, according to the Revised Plan, including Interest up to December 31, 1852.	Average Cost per Acre exclusive of County Works, but including Interest to December 31, 1852.	
		£ s. d.	Acres.	£ s. d.	£ s. d.	£ s. d.	
1	Kilbeggan .. .	24,976 5 2	6,956	3 11 9	27,355 0 11	3 18 9	
2	Brosna (Ferbane) ..	73,981 7 6	16,860	4 7 9	83,527 17 6	4 19 1	
3	Dunkellin	45,724 8 10	9,006	5 1 6	56,450 2 6	6 5 4	
4	Cappagh	20,312 2 6	3,621	5 12 2	25,745 1 5	7 2 2	
5	Lavally	12,914 0 9	2,637	4 18 0	13,879 12 6	5 5 3	
6	Fergus	47,720 4 5	9,557	4 19 10	52,653 12 10	5 10 2	
7	Shannagolden	11,510 19 5	1,638	7 0 6	14,197 7 7	8 13 4	
8	Inny	46,753 16 8	16,181	2 17 9	53,643 9 10	3 6 3	
9	Rinn and Black River ..	21,762 11 11	5,691	3 16 6	24,059 3 7	4 4 6	
10	Lough Gara and Mantua	18,577 2 1	4,374	4 11 4	20,452 0 3	4 13 6	
11	Kill	4,985 4 6	1,025	4 6 8	5,612 17 6	5 9 6	
	Total . . .	329,218 3 9	77,546	4 4 11	377,577 6 5	4 17 4	

We should explain that our estimates given in this table comprise the interest on the cost up to 31st December, 1852; also the cost of restoring the injuries which the unfinished works have sustained, with an addition of 10 per cent. on the estimate of works to cover contingencies.

Having now gone fully into the subject of the first and second heads of our instructions, we cannot conclude the latter without stating our opinion that there are ample grounds for the dissatisfaction that has been expressed by the landowners; but at the same time we feel that it would be too severe on the Board of Works to make its officers bear the responsibility they have been allowed by the Act to take upon themselves.

At a time of unusual suffering and excitement, Parliament, for the purposes of relief, gave powers to a subordinate Board which no such Board under any ordinary circumstances should have undertaken. For the same purposes the landowners called upon that Board to exercise its powers without giving it the slightest aid, or putting any check upon its operations beyond what the law demanded; and the Board complying with their demand, has by an overstrained construction of duties which should not have been imposed upon it at all, placed itself in a difficulty from which those who imposed the duties must, in our opinion, now help to relieve it.

We shall now proceed to consider the third and last head of your Lordships' instructions.

As to the course of proceeding we would recommend, showing the Nature and Extent of the Deviations from the Plan and Estimate last proposed by the Board of Works which we would recommend, and the reasons for them.

Having obtained from the Drainage Department of the Board of Works a set of plans and sections showing in great detail the works as they were being executed at the time of their stoppage, with such additions as that department

from further consideration wished to suggest, we have examined them with great care, have brought to bear on the consideration of them all the information we collected in our inspection of the works, have consulted with Mr. Clutton on all matters on which the opinion of a skilful agriculturist was needful for our guidance, and have recorded the result of this laborious portion of our duty in a separate report on each district.

These separate reports, owing to their great length, we have thought it better to annex in the form of an appendix*. We would here however observe that our object has been to omit as far as is practicable without curtailing the usefulness of the works already executed, all such as would not be directly and obviously remunerative, or which when executed could not be maintained without more than ordinary care, or at a moderate annual expense.

It will be obvious that in districts where the works are considerably advanced towards completion in detached sections, which we find to be frequently the case, there is not much opportunity for economical alterations however desirable; but where, as in other districts, the works are continuous, we have decided on recommending considerable alterations and omissions, as in the case of the Rahasane turlough, already mentioned.

Under the previous head of our instructions we have given a tabular comparison of the estimates as prepared by the engineers of the Board of Works for their supplementary reports of 1850 and 1851, and our estimates for the same works made up in accordance with present prices.

By that table it will appear that our estimates for the works exceed that of the Drainage Engineers by 48,359*l.* 2*s.* 8*d.*; but this large excess will be more than balanced by the alterations and omissions we have recommended in the appended reports on each district, which show a reduction from the amount of the revised estimates of the Drainage Engineers of 1848, 1849, and 1850, of 3,515*l.* 16*s.* 5*d.*, and of 51,874*l.* 9*s.* 0*d.*, from those estimates corrected up to present time, as will appear from the following and foregoing tables—the interest on the expenditure being added up to the 31st of December, 1852.

		Plans proposed by the Commissioners of Inquiry.						Interest.	
No.	Name of District.	Expenditure up to the 31st March, 1853, exclusive of Interest on Borrowed Money, and County Works.	Estimate to complete the Works, exclusive of Interest on Borrowed Money and of County Works.	Total Cost of the Works, exclusive of Interest on Borrowed Money and of County Works.	Area of Land to be Drained and Improved.	Average Cost per Acre, exclusive of Interest on Borrowed Money and of County Works.	Interest paid on Borrowed Money from the commencement up to the 31st of December, 1852.		
		£ s. d.	£ s. d.	£ s. d.	Acres.	£ s. d.	£ s. d.		
1	Kilbeggan ..	16,425 14 8	7,629 11 1	24,055 5 9	5,970	4 0 7	2,633 8 0		
2	Brosna (Ferbane)	48,998 15 8	22,967 13 5	71,966 9 1	15,723	4 11 6	7,889 11 10		
3	Dunkellin ..	19,722 14 0	9,880 0 0	29,602 14 0	7,921	3 14 9	4,550 7 5		
4	Cappagh ..	7,463 10 9	5,951 15 9	13,415 6 6	3,621	3 14 1	1,982 13 11		
5	Lavally	6,981 10 9	5,758 13 10	12,740 4 7	2,167	5 17 7	728 5 1		
6	Fergus	23,335 3 10	21,232 16 5	44,568 0 3	8,419	5 5 10	4,651 6 11		
7	Shanagolden ..	2,494 16 2	7,804 14 7	10,299 10 9	1,000	10 6 0	987 3 3		
8	Inny	22,012 5 9	22,458 18 7	44,471 4 4	14,770	3 0 2	4,072 11 5		
9	Rinn and Black River	10,515 12 3	11,482 18 4	21,998 10 7	5,691	3 17 4	2,060 13 0		
10	Lough Gara and Mantua	9,000 11 7	9,379 10 11	18,380 2 6	4,374	4 4 0	2,072 17 9		
11	Kill	1,935 5 6	100 0 0	2,035 5 6	1,025	1 19 8	541 5 0		
	Total ..	168,886 0 11	124,646 12 11	293,532 13 10	70,681	4 3 0	32,170 3 7		

* See Appendix B. (This will be presented as a separate paper.)

This table shows that the sum required to complete the works, as described in our separate reports on each of the drainages, is 124,646*l.* 12*s.* 11*d.*, or, including interest up to the 31st December, 1852, 156,816*l.* 16*s.* 6*d.*

We have now to consider how the expenditure of this sum of money is to be repaid—a subject which, as it has formed a most embarrassing part of our duty, has received our deepest consideration. Had the works referred to us presented less complication, both of a general and specific nature, much of this embarrassment would have been removed. Unfortunately, however, not only has there been a large expenditure already incurred in works not, as we think, needed for drainage, though doubtless desirable for public improvements, but now that such works have been made a part of the general system, they must be finished at least to the extent we have described. But their cost cannot, we think, be charged entirely to drainage, more particularly as in many cases they form in their present shape no part of the original plans and estimates on the faith of which, as the proprietors state, they agreed to the works being commenced.

Again, we find that though the system of deep drainage which has been adopted in many of the districts will on the completion of the works be of immediate advantage to some and of ultimate advantage to others, supposing the works to be efficiently maintained, yet from the want of elasticity in the working of a general Act, we do not see how in such extensive districts, containing every variety of soil and offering every kind of use for it, the additional expense attributable to the change of plan from shallow to deep drainage can be apportioned so as to be free from cases of hardship.

Under any circumstances appeals would be frequent, and their results probably unsatisfactory; and these, expensive and vexatious as they are when they occur by the collision of individuals under the working of local Acts, would be far more so when the body of proprietors put themselves in a position of defence against a public Board.

It will perhaps be thought to be the most equitable arrangement to apportion amongst the proprietors such a sum as an estimate would suffice to cover the cost of the works, had they been carried out according to the original designs, the original estimates for which as before stated were considerably below the mark; but to this there would be grave objections, because it is doubtful if that portion of the proprietors who called upon the Board to commence the works under the Summary Proceedings Act would have sanctioned them at a higher charge than that shown in the estimates first presented to them; and further, because their object in consenting to the drainage was as much to provide labour and food for the starving population around them as to increase the value of their property—aims in some measure, as before shown, antagonistic.

We have therefore been unanimously forced to the conclusion, that upon the whole the only just settlement of the question will be to limit the contribution of the landowners to the original estimates of cost, with interest in each case up to the period when the works were stopped for second assents, and to complete the works at the charge of the public Exchequer.

The amount payable for each drainage, according to this suggestion, is given in the following table, from which it appears that the total sum to be repaid by the proprietors will amount to 186,916*l.* 5*s.* The total cost of the works, exclusive of interest, will amount to 293,532*l.* 13*s.* 10*d.*; consequently there will be a loss to the public amounting to 106,616*l.* 8*s.* 10*d.*

The Original Designs, exclusive of works proposed to be omitted.				
No.	Name of District.	Original Estimate, exclusive of Works proposed to be omitted and of County Works, but including Interest up to the time the Works were stopped for Second Assents.	Area of Land to be Drained and Improved.	Average Cost per Acre, exclusive of Works proposed to be omitted and of County Works, but including Interest to the time the Works were stopped for Second Assents.
		£ s. d.	Acres.	£ s. d.
1	Kilbeggan	8,850 15 0	5,970	1 9 8
2	Brosna (Ferbane)	40,085 1 1	15,723	2 11 0
3	Dunkellin	16,943 16 11	7,921	2 2 9
4	Cappagh	8,133 3 8	3,621	2 4 11
5	Lavally	9,763 1 10	2,167	4 10 1
6	Fergus	37,359 3 5	8,419	4 8 9
7	Shanagolden	7,393 12 2	1,000	7 7 10
8	Inny	29,191 4 5	14,770	1 19 6
9	Rinn and Black River ..	17,205 17 9	5,691	3 0 5
10	Lough Gara and Mantua ..	10,719 11 8	4,374	2 9 0
11	Kill	2,145 19 11	1,025	2 1 10
	Total	186,916 5 0	70,681	2 12 10

In recommending that the sum of 106,616*l.* 8*s.* 10*d.* should be remitted, and that the extraordinary powers of the Summary Proceedings Act should not be exercised, we must again call attention to the unparalleled combination of national afflictions and the monetary depression of the times, which caused the hurried commencement of these works. But for such a combination, the Government would never have proposed, nor Parliament have passed, an Act so much at variance with all ordinary legislation. Under such circumstances alone could works of this magnitude in cost, and local complexity, have been designed and carried on without proprietary control; and under such only should we feel justified in recommending that the public Exchequer should contribute towards them.

We must not, therefore, be understood by this recommendation to imply our approval of a system which imposes upon a public Board the duty of designing and executing works of this character, or which invests such a Board with an irresponsibility which sooner or later must bring the Government in collision with the governed. Such a system is objectionable from its tendency to induce the community to look to the Government for guidance in their local affairs and ordinary social duties. Hence arises a dependence which checks that progress which results from self-reliance and experience in the management of their own affairs, and which is wholly contrary to the spirit of our Government.

The impolicy of the system of thus extending the duties of the Government cannot in our opinion be better put than in the words of Sir Charles Trevelyan, in his evidence given before the Select Committee on the Miscellaneous Estimates in 1848, when he says, in answer to a question put to him by a member of the Committee:

“ I conceive that it places the Government in a most false and injurious position towards the whole body of the people. It places it in the relation of creditor to debtor to every landed proprietor and farmer all over the country, and it continually poisons and irritates the public mind by the necessity which the Government is under of recovering the public advances. I conceive also that it nourishes and perpetuates the habit of dependence upon others, which prevails to so great an extent in Ireland; and I am of opinion that nothing could be done which would have so great a tendency to consolidate the empire, and to

“ give a new spring to the energies of Ireland, as to cease to grant any public assistance of this sort whatever.”

In regard to the mode of carrying on the works, that is, whether under the former system, by petty contracts, according to which defined portions of excavation, whether of rock or of earth, are let by the bulk or by the cubic yard to a gang of labourers, or through contracts for the completion of entire works entered into with contractors possessing capital and experience in such works; we are of opinion that under present circumstances, it will be advisable to continue the petty contract system, and thus avoid the great delay in the completion of the works, consequent on the necessity of preparing detailed plans and sections of the excavations in their present state, by means of which alone specifications could be drawn up sufficiently precise to bind contractors to complete the works at each point, where they have been left in an unfinished state.

In conclusion we have to state the apprehension we entertain that the present state of the legislation for the proper maintenance of the works after completion, will not be found sufficient, and looking to the fact that works of the class under consideration, if neglected only for a few years, lose by far the greater portion of their value, and to the further circumstance, that the efficiency of the maintenance must depend upon all who are interested being made properly liable for their contribution to the cost; we cannot close this report without calling your Lordships' attention to the pressing necessity of devising some complete system of periodical examination of the works, say at least twice a year, by an independent and competent local functionary, who shall determine what repairs are required, estimate their cost, and see that the works are properly carried out at the right seasons.

Whether the proprietors should or should not have a voice in the selection of such an inspector, we will not presume to advise; but we cannot refrain from urging that his competency should be undoubted, that he should be properly paid so as to be independent, and that he should be held responsible for the due performance of his duties.

Unless this course be adopted and acted on with vigour and discretion, we feel that not only will the greatest portion of the expenditure be lost in a few years, but that a still greater evil will be inflicted on the public by those who, not perceiving the cause of the failure, will point to such failure as a reason for their indifference to all efforts for local improvements.

(Signed)

RICHARD GRIFFITH.
W. CUBITT, Knt.
JAS. M. RENDEL.

Arterial Drainage in Ireland.

REPORT of the Commissioners appointed by the Treasury Minute of the 13th of July, 1852, to inquire into and report on certain Works of Arterial Drainage in Ireland, commenced under the Summary Proceedings clauses of the Act 9 Vict., c. 4.

*Presented to the House of Commons by Command
of Her Majesty. June 16, 1853.*
