

Potential consequences of CSG-induced subsidence for farming operations on the Condamine alluvial floodplain

Consultation Report

July 2023



Background

In response to concerns about the impact of CSG-induced subsidence on agriculture on the Condamine alluvial floodplain the GasFields Commission Queensland (the Commission) has undertaken two bodies of work as set out below.

The Commission reviewed the regulatory framework and made recommendations to Government about proposed changes to framework. In response the Government has decided to amend the framework. Consistent with the proposed changes, the Government has signalled its intention to broaden the statutory responsibilities of the Office of Groundwater Impact Assessment (OGIA) to carry out technical work relevant to the proposed framework, and has provided seed funding to enable OGIA to commence those activities.

In parallel the Commission has carried out a project to assess the consequence of CSG-induced subsidence on farming enterprises. That project seeks to identify matters that need to be considered during a farm assessment that would be carried out under the proposed regulatory framework. A draft report on the project was prepared, consultation was carried out on the draft, and the report adjusted in response to feedback received.

This consultation report describes the issues raised during consultation and the changes made in response to the submissions.

Consultation process

Two rounds of engagement workshops were held with pilot site landholders and interested neighbours and community members were invited to participate in the workshops.

In addition, the consultation draft report was circulated to landholders who were engaged in the process of carrying out the project. The draft was also circulated to peak agriculture and resource industry bodies. Written submissions were invited on the draft.

A total of fifteen (15) submissions were received to the draft report. Meetings were also held with the engaged landholders to receive verbal feedback. The draft report was amended to in response to submissions received.

Overview of feedback

There is general support for the following key points:

- each farm is different. Farms that are at risk will need to be considered individually during the farm assessment process.
- farm field scale modelling is essential and conclusions about consequences should be reviewed when the results are available.
- claims that existing landform irregularities have been caused by CSG-induced subsidence need to be assessed.
- the impact on CSG-induced subsidence on regional flow patterns needs to be assessed.

There were matters raised during the consultation process that have led to improvements to the report. Those matters and the adjustments to the report are summarised in the following section of this report. There were matters raised that are beyond the scope of the report which are noted in the subsequent section.

Issues raised and adjustments made

Issues raised that are within the scope of the project are discussed in this section and the changes made are summarised. Matters that are outside the scope of the project are listed in the subsequent section.

Generally, no amendments were made to the report in response to out-of-scope issues. However, in some cases amendments were made to clarify the linkage to out-of-scope processes, such as the development of the planned regulatory framework.

Summary of issue – ‘The draft does not adequately convey landholder concern’

Landholders remain concerned about a range of issues and considered that the report should make clear that those concerns exist so that there is a better appreciation of their level of concern.

Response – The report has been amended to include the additional matters raised in submissions. This has been done by adding a new section summarising the range of concerns raised and adding emphasis at various places throughout the report.

Summary of issue – ‘The report overstates the extent of routine levelling activity’

Submitters advised that the report incorrectly implies that levelling is a frequent activity. Advice was provided that in practice the frequency is low and on some farm fields levelling is rarely needed.

Response – The report has been amended to draw a distinction between extensive levelling, as is likely to be carried out when a farm is established or reconfigured, and ‘brushing’ which is the minor levelling carried out to correct local changes in topography. The report has been amended to more accurately reflect the frequency of levelling activity.

Summary of issue – ‘The report does not adequately identify the difficulties involved in levelling’

The report identifies the potential need for levelling to correct CSG-induced subsidence. However, it was raised that the report does not recognise the difficulties involved in carrying out levelling such as cost and availability.

Response – An additional section has been added to list the difficulties and limitations involved in carrying out levelling. This includes the temporary loss of productivity resulting from the levelling activity, which would be in addition to any loss of productivity caused by CSG-induced impairment of drainage that the levelling is carried out to correct.

Summary of issue – ‘Bankless irrigation is less common than implied in the report’

The report says that there is a trend to bankless irrigation, but submitters advised there are few bankless farms in the area, and that the technique is not practicable on many farms. Submissions noted that it is not a practicable option if water is supplied directly from bores rather than a farm dam, and that it is not suited to farm fields with very low slopes. It was also pointed out that levelling is not carried out as frequently as stated in the report with bankless irrigation.

Response – The report has been amended to recognise that there are only a few bankless operations and that the technique is not suitable in all situations. However, expert advice is that there is a trend to bankless and that it will become more common. Because of the critical slopes involved bankless operations will generally be levelled more frequently than other farmland and will also be more vulnerable to any slope change resulting from CSG-induced subsidence. It is important to include the reference to bankless operations as any intention of a landholder to convert to bankless should be a matter for consideration at the time of a farm assessment.

Summary of issue – ‘Potential consequences for dryland farming is not adequately recognised’

Some submitters considered that the report incorrectly gives the impression that CSG subsidence will be less a concern on dryland farms than on irrigated farms.

Response – The report has been amended to better recognise that dryland farming is an important contributor to agriculture in the region, and that in comparison to irrigated agriculture it is more susceptible to any changes in regional runoff patterns and that any levelling on dryland farms is more disruptive than on irrigated farms.

Summary of issue – ‘Subsidence monitoring and baseline is not discussed in the report’

There is a concern that the report does not discuss monitoring. The intention is to rely primarily on LiDAR runs to provide a baseline and changes but some are concerned that the reflection of LiDAR from ponded water and crops will prevent adequate identification of baseline and changes from baseline.

Response – Although monitoring is the responsibility of OGIA and essentially outside the scope of the project, the report has been amended to include discussion based on advice from OGIA because the representation of baseline and changes is closely connected to the project. OGIA considers that through use of multiple LiDAR runs at different points of time a baseline and changes can be established and subsequent changes can be identified. The comments on monitored subsidence have been updated to include the latest information from the UWIR annual report.

Summary of issue – ‘The variability conditions within farm fields is overstated’

Some submitted that the example provided as an appendix to the report of the variability of growing conditions and yields within a farm field, is not typical of a farm field for the area.

Response – Expert advice is that farm fields are more variable than is often realised as is becoming apparent as more farmers move to precision agriculture techniques. The advice is that the more the complexity is understood the more possible it will be to identify any change due to waterlogging including any water logging resulting from CSG-induced subsidence. The report was amended to further clarify the intent.

Summary of issue – ‘The report is incomplete’

Some submitted that the report has not delivered on the original intended scope. They consider that there should have individual farm visits to assess what the consequences will be on individual farms.

Response – The project has evolved. It was originally expected that preliminary farm scale modelling would be suitable as a basis for on-farm discussions. It became clear that that preliminary data was not adequately accepted as useful basis for on-farm discussions. The legislative mandate of OGIA has now been extended to enable it to carry out farm scale modelling. The report recommends that the conclusions of the report be reviewed when the farm scale modelling and assessment of existing farm field irregularities are complete.

Out of scope issues

Regulatory framework

Submissions raised matters that relate to the regulatory framework for managing the impacts of CSG-induced subsidence. Those matters are as follows:

- ‘Need clarity about the identification of the farms that are at risk’
- ‘Need to reverse of the current ‘burden of proof’ of CSG-induced subsidence
- ‘Self-assessment of CSG-induced subsidence by CSG companies is unacceptable. Need appropriate arrangements for carrying out farm scale assessment’.
- ‘Needs to be support for landholders, including consideration of the impact on mental health’
- ‘Compensation should be retrospective if impacts have already occurred’
- ‘Compensation should include productivity costs as well as rectification costs’
- ‘Monitoring of subsidence is needed’

Comment – It is intended the matters raised will be considered under the planned regulatory framework.

Practicality of levelling

Submissions questioned how levelling could be a practicable solution to correct landform change resulting from subsidence, particularly on low slope land, because extensive works would be needed and soil would have to be imported causing biodiversity risks.

Comment – The practicality of levelling will need to be addressed when farm scale modelling is available to improve understand of the likely extent of subsidence and any associated need for levelling.

Precautionary principle

Submissions proposed that the focus should be on a cautious approach to CSG-induced subsidence and a focus on avoiding impacts to farming enterprises rather than managing impacts.

Comment – This primarily a matter of government policy. In its regulatory review the Commission noted that a principle underpinning any regulatory framework should be that the long-term productive capacity of agricultural land is maintained and that the government should consider what the course of action should be in instances where CSG-induced subsidence is predicted to have a ‘critical’ impact on land use.

Impact on Farm Infrastructure

Submissions noted concern about the potential for impacts on farm infrastructure such as dams and ring-tanks and that this should be in scope for the project.

Comment: Noted, the report clearly states that this issue was raised by landholders as a concern however is out of scope for the purposes of the report.

Other business impacts

Landholders were also concerned that perceptions about potential impacts on the economic viability of farming operations, potential flow on impacts to finance and other obligations. Examples of these concerns are relate to the potential for:

- reduction in yield and increased costs affect the profitability of farming operations and therefore the ability to service debt;
- diminution of farm value due to the impacts of CSG-induced subsidence;
- production impacts as a result of the impacts of CSG-induced subsidence may restrict farming operations to meet forward (contracted) sales commitments; and
- impact on Environment, Social and Governance obligations for agricultural enterprises.

Comment: Noted, whilst out of scope for the report the fact that these issues has been raised by landholders as a concern has been included in the report.