An Examination of Governance Failure by the Irish State: The critical case of the 'Mica'/Defective Blocks issue

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Abstract: This paper examines how governance failure on behalf of the Irish Government led to the 'mica'/defective blocks catastrophe. It will examine the governance process adopted by the Irish state in the 'mica' case and review the recommendations made in 2012 (Pyrite Panel, 2012) following a similar crisis – 'pyrite' and whether the Irish Government's response to these recommendations were acted upon in a timely manner. It will further examine whether the government's action/inaction in relation to these recommendations could have contributed to the scale of this mica crisis and whether it may have exacerbated this crisis further. This paper will also establish the key lessons to be learnt from this crisis. The findings of this research will be of value to Public Sector organisations /Government departments when considering governance approaches at a local and a national level that should be in place, in particular when permitting concrete products to be placed on to the marketplace. Finally, it will be of interest to other researchers/ academics interested in Governance at both an organisational and at a governmental level.

Keywords: Governance, Governance failure, Public Sector Governance, Defective blocks, Mica

1. Introduction

> *"From a public policy perspective, what happened with pyrite should not have happened and there are important lessons to be drawn from the experience. We hope that this report and the recommendations we have made in it will not only assist you in dealing successfully with the specific problems caused by pyrite but that they may help prevent such a problem ever arising again"* (Tuohy, 2012, p.8)

This statement made by Brendan Tuohy, Chairman, Pyrite Panel in his report on the 'pyrite' (or pyrite heave) issue is pertinent in that he concedes it should not have happened. The 'pyrite' issue first came to the attention of the Irish Government in 2007 when at first a small number of private properties in the Fingal area of Dublin reported issues of their homes exhibiting significant cracking. However, it soon became clear that the problem was more widespread than first thought and over the subsequent years as many as 20,000 homes were thought to have been affected by this issue (Rawicz, 2012). More recently, figures suggest that this number may be much lower as up to the end of December 2020, 2,784 applications had been received under the Pyrite Remediation Scheme and 2,342 have been approved for inclusion However, this remediation programme is still open and applications are still being received (The Housing Agency, 2021).

Pyrite (FES2 – iron sulphide) is a very common mineral with traces of it are found naturally in the rock that is used to make crushed stone for backfill used in construction. If the level of pyrite in the stone is below a certain percentage, no problems occur. However, if this level is greater, problems can arise which in this case caused the homes built using this backfill in the foundations of these properties to collapse (Rawicz, 2012). In 2021, it was concluded by a government panel appointment to investigate this issue that:

> *"… at the time, there was not an effective testing and inspection regime in place in quarries to identify the presence of pyrite or to ensure that the hardcore material being supplied was of an acceptable quality."* (Pyrite Panel, 2012, p.11).

The cost of this to the Irish state was exorbitant and to date has cost in the region of approx. 140 million euro (Oireachtas, 2020). Subsequently, a number of key recommendations were put forward by this panel to ensure that nothing like this should ever happen again (Pyrite Panel, 2012).

However, the following year, in 2013, similar problems with defective building materials started to emerge in Donegal, in the north of the country. The presence of muscovite mica in abundant quantities in the aggregate constituent of the concrete blocks used in the construction of these homes was deemed to be one of the main factors contributing to their deterioration (DHLGH, 2017). This deleterious mineral absorbs water and through the cyclical freezing and thawing process when exposed to the elements, was believed to result in the blocks disintegrating (O'Reilly, 2016). In December 2013, at a public meeting of homeowners in the county who had started noticing unusual cracking to their homes, a lobby group, called the Mica Action Group (MAG), made up of affected homeowners, was formed with the aim of seeking Government redress to enable families to fix their homes. As indicated in the Primetime investigation and documentary on this issue of crumbing blocks in Donegal: "After Pyrite … bad building control has come back to bite again" (O'Reilly, 2016). See Figure 1 below for a timeline of the emergence of the Pyrite and mica issue in Ireland.

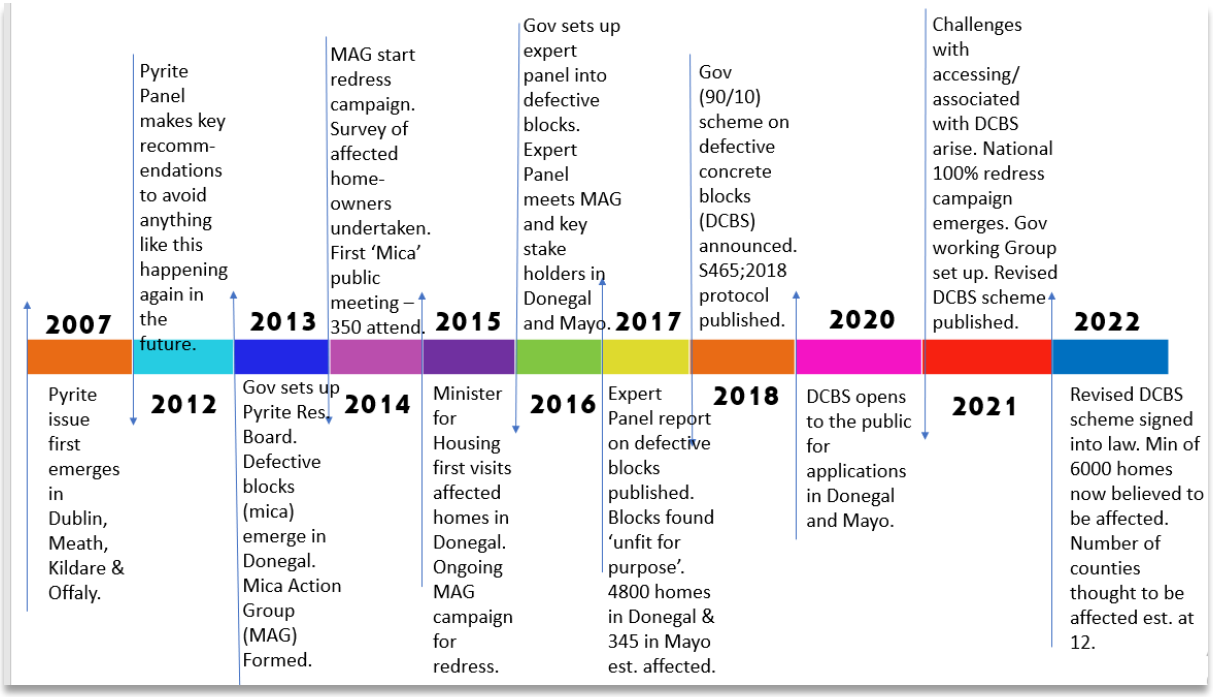

Figure 1: Pyrite and Defective Blocks timeline (Source: author's own).

This paper examines how governance failure on behalf of the Irish Government led to the 'Pyrite' and subsequent 'Mica' crises. In particular, the key aims of this paper are to:

1. review and examine the recommendations made by the Pyrite Panel in 2012 and whether or not these recommendations were acted upon in a timely manner;
2. examine whether the government's action/inaction in relation to these recommendations could have contributed to the scale of this mica crisis and whether it may have exacerbated this crisis further; and
3. establish the key lessons to be learnt from this

The paper is presented as follows; section 2 provides an overview of the emergence of defective building materials in Ireland – Pyrite and Mica. It will also outline the key research aims of the paper. Section 3 presents the methodological approach adopted. Section 4 discusses the key findings and section 5 presents the overall conclusions and future direction of the research.

2. The emergence of defective building materials – 'Pyrite' and 'Mica'

In 2007, following the emergence of the problem of pyrite heave first evident in five local authority areas, Fingal, Dublin City, Meath, Kildare and Offaly with thousands of properties suspected of being affected, attempts to remediate or 'fix' the properties, proved unsuccessful. The cracks simply reappeared. Further testing found high levels of the mineral pyrite in the hardcore beneath ground floor slabs (Pyrite Panel, 2012). The oxidation of pyrite, its expansion and resultant heave was found to be the main cause of the damage to the buildings concerned (Pyrite Panel, 2012). This damage to properties included:

- the cracking of floors, internal partitions and external walls;

- outward movement of external walls; and/or
- the heaving of ground floors and bulging of internal partition finishes (Pyrite Panel, 2012).

When this issue came to light, a number of legal actions were instigated through the courts with the Quarries involved. However, all but one of the quarries were closed by 2012. Additionally, Homebond - the main insurer of these homes for structural defect guarantees, refused to reimburse or pay out on these properties insurance policy (Pyrite Panel, 2012). Government intervention was required to address this crisis and as such the Pyrite Resolution Board (PRB) was established under the Pyrite Resolution Act 2013. The Housing Agency took over the role of assessing and remediating these homes (The Housing Agency, 2022). In the Housing Agency's annual report (2021) they indicated that they had remediated just over 200 properties in 2020 bringing the total number of homes remediated under the pyrite remediation scheme to 2091 since its inception (The Housing Agency, 2020).

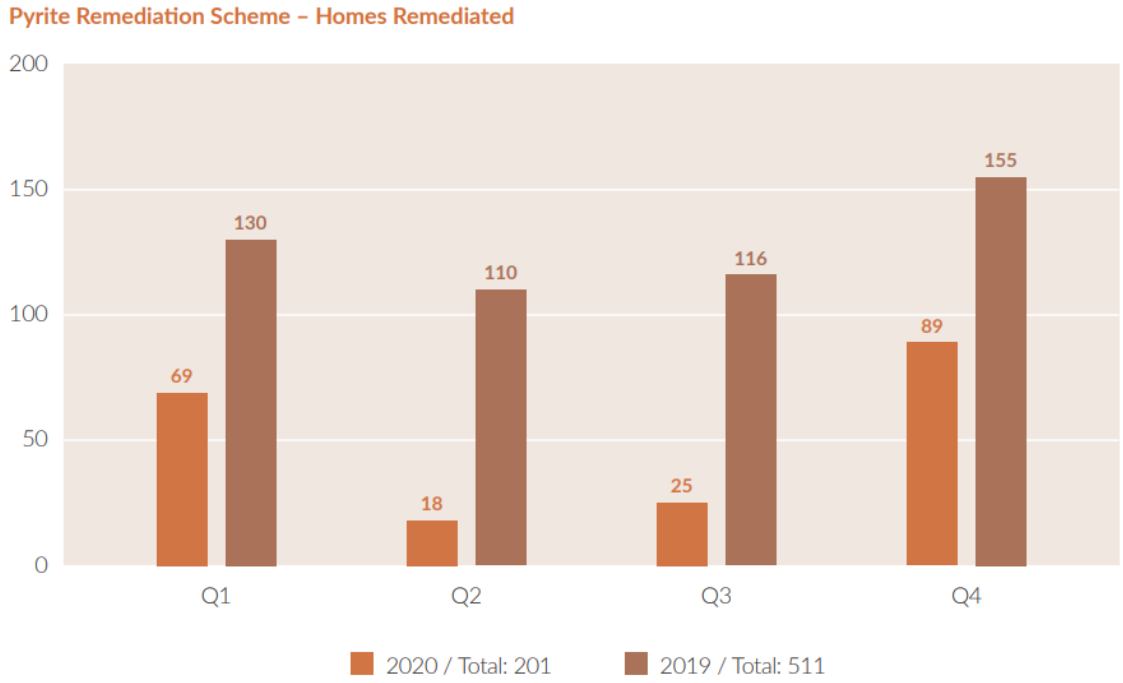

Figure 1: Pyrite Remediation Scheme – Homes Remediated 2019/2020 (The Housing Agency, 2020)

The costs of this Pyrite remediation scheme to the Irish state is significant with the cost of remediating each property averaging €70,000 (Oireachtas, 2020). This equates to an estimated cost of €140,000,000 to the Irish taxpayer to date. The Pyrite Panel in its report in 2012 made a number of key recommendations to avoid anything like this happening again in the future.

A number of these key recommendations by the Pyrite panel are outlined below:

Table 1: Extract from key recommendations by Pyrite Panel (Pyrite Panel, 2012, p.140)

Recommendation 9: Re-engagement by HomeBond in facilitating remediation
HomeBond should review its position on cover as articulated in its letter of 31 August 2011 and, as a matter of urgency, HomeBond should re-engage with homeowners in facilitating the remediation of pyrite-damaged dwellings. This should be addressed, in the first instance, by the members of HomeBond and, in turn, they should be supported in this process by the overall construction industry, which was involved in the establishment of the HomeBond structural guarantee scheme. This would not preclude HomeBond seeking to recover costs from other parties whom they consider may have a liability.
Recommendation 10: Engagement by the insurance industry
The Insurance Industry Federation (IIF), as the representative body of the insurance industry, together with its relevant members, should immediately engage with solving the problems caused by pyrite and for which some insurers have provided insurance cover. The Panel exhorts the IIF to encourage its relevant members to respond with greater sensitivity and urgency to the homeowners and to explore the options for a collective solution to the pyrite problem, as opposed to just awaiting the outcomes of lengthy legal processes.

Recommendation 11: Funding by mortgage providers
Subject to whatever legal constraints exist on the members of the Irish Banking Federation (IBF), mortgage providers should consider providing funding for pyrite-related remediation work, including testing, to homeowners.
Recommendation 12: Role of Government
Government should take the necessary steps to ensure that: (a) those who have responsibility for the pyrite problem should bear the costs of remediation, (b) remediation is carried out in a timely manner, (c) that comprehensive measures are put in place to minimise the risk of this or similar problems occurring in future.
Recommendation 17: Enforcement of Building Control Legislation
The Panel recommends that: (a) Building control authorities should adopt a risk-based approach to the enforcement of Building Regulations and take appropriate enforcement action for serious breaches of Building Regulations following consideration of the particulars of each individual case, (b) in local authority areas where pyrite has been shown to be a problem, the building control authorities should consider using the enforcement provisions of the Building Control Acts 1990 – 2007 to require builders to remediate defects in pyrite damaged dwellings, (c) the Minister for the Environment, Community and Local Government should reconsider the 5 year time limit for prosecutions under the Building Control Act, with a view to extending it, (d) Building control authorities should require evidence of periodic testing and certification, of hardcore used on sites, to demonstrate compliance with the Building Regulations, (e) the County and City Managers' Association should review its guidance (as articulated in its submission to the Panel) in relation to building control enforcement.
Recommendation 24: Dissemination of important information
The Panel recommends that: (a) a more effective and efficient method of dissemination of information should be established to ensure that information reaches relevant people in a timely manner and that the Department of the Environment, Community and Local Government should take the lead in setting up this system. Consideration should be given to the use of a centralised web-based alert system with a suitable feedback loop with information readily and publicly available via the internet, (b the National Standards Authority of Ireland (NSAI) should provide a single, publicly accessible information point with up-to-date information on standards immediately and readily available to all involved in the construction industry, (c) professional bodies should take responsibility for ensuing that their members receive information in a timely manner.

However, as aforementioned, just over a year later in 2013, similar problems with defective building materials started to emerge in Donegal and Mayo. The presence of another deleterious material - muscovite mica in abundant quantities in the aggregate constituent of the concrete blocks used in the construction of these homes was deemed to be one of the main factors contributing to their deterioration (DHLGH, 2017).

In 2016, an expert panel was established by the then Minister for Housing and Urban Renewal - Paudie Coffey, TD, to investigate this issue. In June 2017, the panel concluded in the Report of the Expert Panel on Concrete Blocks that the disintegration of the concrete blocks used in the construction of the affected dwellings in Donegal and Mayo was primarily due to excessive amounts of deleterious materials (Muscovite Mica in Donegal and Pyrite in Mayo) found in the aggregate used to manufacture the concrete blocks (DHLGH, 2017). This same government report found that at least 4800 homeowners were impacted by defective blocks used in the construction of their homes in Donegal and a minimum of 345 in County Mayo (DHLGH, 2017). This report further found that the blocks used to construct these homes were not 'fit for purpose', hence defective, causing the homes to crumble and collapse (DHLGH, 2017). DHLGH in their 2017 report on the issue confirmed that there were "many incidences of building failures or severe non-compliance concerns which followed the 2008 collapse in economic and construction activity" (p.56), and they recommended more meaningful on-site inspections and enforcement by building control personnel in future.

Following on from the publication of this Expert Panel Report, the National Standards Authority of Ireland (NSAI) set up a Technical Committee to develop a standardised protocol to guide the course of action in relation to remedial works for all affected house holders (NSAI, 2018). The standardised protocol - 'I.S. 465:2018' was published by the NSAI on 13 November 2018. This standard is used to assess and categorise the damage in properties where the concrete blocks used in their construction exhibit the characteristics of defective blocks and are believed to contain the minerals mica or pyrite. Before the publication of this protocol there was no commonly agreed mechanism for engineers to assess the damage caused by defective concrete blocks, in order to determine what, if any, remedial work should be carried out (Donegal County Council, 2022). Finally, after 5 years of lobbying by MAG, in 2018, the Irish Government finally announced that a MICA redress scheme would be put in place to enable affected homeowners to remediate their homes (Maguire, 2018). The scheme was finally opened for applications in June 2020 (Magee, 2020).

More recently, the number of homes affected by this issue of defective blocks is believed to be closer to 6000 (DHLGH, 2021) with at least 12 counties in Ireland now believed to be affected by this issue (Cox, 2022). Additionally, following significant testing of the homes over the last 18months or so, another deleterious mineral – Pyrrhotite – a naturally occurring iron sulfide has also been found in the blocks and is strongly believed to be another key factor contributing to them disintegrating. In many cases, all three of these deleterious minerals (i.e. mica, pyrite and pyrrhotite) are found in the blocks used to construct these homes. Alarmingly, there is no reference to Pyrrhotite in the IS465 protocol published in 2018 which is meant to act as a guide to the remediation of these properties, undermining the credibility of this protocol with homeowners calling for a complete review of it (Bray, 2022).

As a result of this crisis, many of these homes will need to be razed to the ground and replaced at a huge emotional and financial cost to families (Beattie, 2020) as well as a vast financial cost to the Irish state estimated as between €3.2 billion (Hogan, 2021) and €5 billion euro (Cox, 2022).

Opposition politicians, campaigners and homeowners have indicated that this issue of defective blocks has been caused due to a lack of appropriate oversight and 'light touch regulations' in the construction sector, particularly during the period from 2000 onwards when there was a 'boom' in house building in Ireland (Cunningham, 2021).

3. Methodology

This paper adopts a Critical case study approach to research with respect to the aforementioned research aims. In general terms, case study research is concerned with the detailed and intensive analysis of a single case (Bell et al, 2019). Case study research is focused on the complexity and particular nature of the case in question (Stake, 1995). Further, when the parameters of a case study approach as outlined by Bell et al (2019) below is considered:

> *"What distinguishes a case study approach from other research designs is the focus on a bounded situation or system, an entity with a purpose and functioning parts"* (Bell et al, 2019, p.63).

It is clear that the 'mica' or defective blocks case is a suitable approach due to its very complex and bounded nature, both in terms of time and also in terms of its geographic/regional focus. In their study of quality management in a UK retail bank, Knights and McCabe (1997) utilised secondary sources of documentary data such as company reports, total quality management (TQM) guides and newsletters to identify insights into why so many TQM programmes had failed. Similarly, this study will utilise multiple secondary sources such as Government reports, media coverage, documentary evidence, Irish buildings Standards concerning concrete/aggregate and media reports to identify insights into how this issue arose and why governance on behalf of the Irish State failed. After an extensive review of this secondary material in respect of this case, the recommendations put forward after 'pyrite' were deemed a suitable model to ascertain the efficacy of the approach to Governance of this issue by the Irish State.

Case study research can be either based on a single case or a multiple case. A single case study is one in which a single research object/research event is used (Stewart, 2001). A single case study design is appropriate when one has a critical case and is able to test a well-formulated theory; or when the case represents an extreme unique case; or when the case is revelatory (Yin, 2003).

Yin goes on to explicate that the critical case is an appropriate approach when a clearly specified hypothesis exists and a case is selected on the basis that it will enable a better understanding of the circumstances in which the hypothesis will and will not hold (Yin, 2003). In the case of this research, this study will render a better understanding of whether the Irish State failed in its approach to governance of the construction sector in terms of the products that were allowed on to the market. This understanding will be enhanced by a review of the 'pyrite' recommendations (Pyrite Panel, 2012) and whether effective governance followed publication of these recommendations. Hence, the type of case study that will be adopted in the case of this study is a 'Critical case' (Yin, 2003).

Further, this critical case study approach will also include a longitudinal element by analysing archival information (Government reports, surveys, annual reports etc.) pertaining to the emergence of the 'mica' defective blocks issue, over a lengthy period (Bell et al, 2019).

4. Findings and Discussion

This section will review a number of key recommendations made by the Pyrite Panel (2012) that were deemed pertinent to the 'mica' case as outlined above in Table 1. Each of these recommendations will be considered in the context of the 'mica'/defective blocks crisis and whether they were acted upon following publication of this Pyrite report.

4.1 Recommendation 9: Re-engagement by HomeBond in facilitating remediation

The panel recommended that HomeBond - the main insurer of these homes for structural defect guarantees, should re-engage with homeowners in facilitating the remediation of pyrite-damaged dwellings. HomeBond refused to reimburse property owners who had found to have pyrite in their homes from 2007 onwards (Pyrite Panel, 2012). Similarly, in the case of mica/defective blocks homeowners, HomeBond once again walked away and refused to honour insurance policies on the affected properties (Lucey, 2021). Why, did the Irish Government learn nothing from 'pyrite'? Why, at such a huge cost to the State and given the huge stress to families, that this caused in 2012, was this allowed to happen again?

4.2 Recommendation 10: Engagement by the insurance industry

The insurance Industry Federation was recommended to encourage its relevant members to respond with greater sensitivity and urgency to the homeowners and to explore the options for a collective solution to the pyrite problem (Pyrite Panel, 2012). However, in the case of the mica/defective blocks issue, insurance companies, once again withdrew support from families affected by this issue as soon as they became aware of this issue affecting their homes (Hone, 2021). This has caused untold stress to families and again, why has the Irish Government learnt nothing from 'pyrite' years earlier?

4.3 Recommendation 11: Funding by mortgage providers

The panel recommended that mortgage providers should consider providing funding for pyrite-related remediation work, including testing, to homeowners (Pyrite Panel, 2012). However, once again, banks did not step in and provide this support to families affected by the mica/defective blocks issue. Even though, in many cases banks were also stakeholders on the property (as many had mortgages and the deeds of these properties resided with the bank), banks refused to support families affected resulting in MAG in February 2020 instigating a campaign to try to bring the banks to the table to help families pay for the testing and to support them in fixing their homes (Donegal Live, 2020). Mortgage providers did not act in any proactive manner to try to support these families affected (Donegal News, 2021). Again, and given that the Irish Government are shareholders in most of these banks following the banking bailout which cost the state an estimated 64billion euro in 2010 (Hancock, 2019), have they not put pressure on these banks to support families? The alternative puts a huge financial burden on the State. Surely coming to some agreement with the banks makes sense from both a financial and a moral perspective.

4.4 Recommendation 12: Role of Government

The panel recommended that Government should take the necessary steps to ensure that:

1. those who have responsibility for the pyrite problem should bear the costs of remediation,
2. remediation is carried out in a timely manner,
3. that comprehensive measures are put in place to minimise the risk of this or similar problems occurring in future (Pyrite Panel, 2012).

In respect of the homeowners affected by the defective blocks issue, those quarries who had manufactured the defective blocks, refused to provide redress to homeowners. They indicated that they had at all times complied with existing legislation and instead of offering redress to those affected reiterated their support for remediation from Government (Beattie, 2018). A further recommendation by the panel was for this remediation process to be carried out in a timely manner (Pyrite Panel, 2012). Indeed, this has not been the experience of families affected by the defective blocks issue, MAG first presented this issue of defective blocks to their local authority – Donegal County Council in April 2014. In December of the same year due to a lack of any response from Donegal County Council, results of a MAG survey of affected homeowners in the county were presented to Government in Dublin. At the time there were a few hundred affected homes registered with MAG (MAG, 2014). It took many years of lobbying for the Irish Government finally to agree to provide a redress scheme for affected homeowners (Maguire, 2018). Further, as of figures published by Donegal County Council in 2021, only 7 homes

(from a possible 5000 affected) in Donegal were remediated in the previous year since the scheme opened (McGinty, 2022).

The final element of this recommendation by the panel indicated that comprehensive measures be put in place to minimise the risk of this or similar problems occurring in future (Pyrite Panel, 2012). Given, the huge task undertaken by MAG to lobby Government and to have their voice heard and the subsequent (5) years it took to implement a scheme for affected homeowners (Maguire, 2018), it is clear that Government did not act with any urgency or put in place such measures to stop this happening again. In fact, it begs the question as to how many additional homes may have been built during this period of inaction which may also now be affected by this issue?

An extract taken from the Pyrite Panel report in 2012 is pertinent to the role of Government in the mica/defective blocks case:

> *"The Panel recognises the significant hardship imposed on homeowners affected by pyrite heave and by having reactive pyrite in the hardcore of their houses. This should not have happened in the first place but, after it had happened, the various stakeholders were far too slow in addressing the legitimate concerns of the homeowners. They often appeared to be more concerned about defending possible claims against them rather than in remediating the affected dwellings. Nobody wished to take overall responsibility for solving the problem."* (Pyrite Panel, 2012, p.126)

It would appear that the same lethargy and chronically slow pace at which government acted played out once again.

4.5 Recommendation 17: Enforcement of Building Control Legislation

The panel recommended a strengthening of Building control practices in respect to areas suspected to be impacted by pyrite (Pyrite Panel, 2012). In the case of the Defective blocks issue the expert panel on Defective Blocks (5 years later), in fact found that the introduction of the opt out for new single dwellings, on a single development, as provided for in the Building Control (Amendment) (No. 2) Regulations 2015 (S.I. No. 365 of 2015) as a retrograde step that may contribute to further building failures such as those experienced in Counties Donegal and Mayo (DHLGH, 2017). They further found that more independent meaningful on-site risk-based inspections and enforcement by building control personnel was required to ensure that greater compliance with the Building Regulations was secured as a necessary check and balance of the self-certification system. In this regard, building control authorities needed to be adequately resourced to facilitate increased inspection activity on the ground (DHLGH, 2017). Why had the recommendations of increasing building control from 2012 still not been acted upon 5 years later? Would this strengthening of building control, as was recommended by the Pyrite Panel have stopped or at least curtailed the extent of this mica/defective blocks issue.

4.6 Recommendation 24: Dissemination of important information

The panel recommended that a more effective and efficient method of dissemination of information should be established and that the Government should take the lead in setting up this system supported by the National Standard Authority of Ireland (NSAI) and professional bodies to ensure that information reaches relevant people in a timely manner (The Expert Panel, 2012). In respect to the Defective Blocks issue, information on the issue was not centrally controlled but instead was the remit of MAG who acted as both a lobby group and a support group for families and all key stakeholders until 2020 when the scheme was set up (Mica Action Group, 2016). This led to many challenges of misinformation and a lack of clarity about the issue. Professional bodies such as Engineers Ireland and other bodies such as the Property Services Regulatory Authority (PSRA) - the statutory body with responsibility for licensing and regulating the property services sector (Auctioneers, Estate Agents, Letting Agents and Property Management Agents) in Ireland continued to have members who were ill informed on the issue causing further challenges with regards to effectively assessing the issue as well as selling properties to unsuspecting buyers who were affected (Mica Action Group, 2014).

5. Conclusion and Recommendations

This study had a number of key aims: Each of these aims will be presented and conclusions drawn below:

5.1 Review and examine the recommendations made by the Pyrite Panel in 2012 and whether or not these recommendations were acted upon in a timely manner.

Following a review of the recommendations made by the Pyrite Panel in 2012, it can be concluded that with respect to a number of key recommendations in relation to issues that re-occurred in the mica/defective blocks case, that Government failed in their governance of this issue:

- *HomeBond* (insurer against structural defects)
- The insurer was allowed to walk away once again abdicating all responsibility. This had happened previously in the case of Pyrite. Why was it allowed to happen again in the 'mica' case?
- *The Insurance industry*
- The insurance industry, failed to offer insurance cover to homeowners who were affected. There was no government intervention to ensure insurance cover for those affected.
- *Mortgage providers*
- Banks and mortgage providers did not support families in terms of helping finance the testing and remediation of these homes. There was no government intervention to ensure banks were supporting those affected even though many homes were mortgaged and banks remained key stakeholders and would benefit from their remediation where the home would be returned to market value following remediation.
- *The Role of Government*
- The companies/stakeholders responsible for the mica/defective blocks issue have not been investigated and were not forced to contribute towards the cost of remediation of affected homes.
- Implementation of this scheme by Government took years and remediation of these homes has not happened in a timely manner, instead it has taken years to open the application process and the process of remediation is arduous and painfully slow.
- Comprehensive measures have not been put in place by Government to minimise the risk of this or similar problems occurring in future.
- *Enforcement of Building Control legislation*
- Findings from the investigation into the defective blocks issue in 2017, 5 years after the report on Pyrite found that as opposed to further enforcement of building control legislation as was recommended, an 'opt out' clause was implemented in 2015 which in their own words acted 'as a retrograde step that may contribute to further building failures such as those experienced in Counties Donegal and Mayo' (DHLDC, 2017). More recently, this issue of defective blocks is believed to have spread to 12 counties with all counties in the Republic of Ireland being advised to assess their housing stock for any signs of this defective blocks issue. The scale of this issue and the subsequent cost to the Irish State is continuing to rise. The lack of effective governance controls in place as aforementioned played a central role in this crisis.
- *Dissemination of important information*
- *A* government led centralised system to disseminate information on this issue was not set up leading to a lack of understanding and confusion among key stakeholders affected by the mica/defective blocks issue.

5.2 Examine whether the government's action/inaction in relation to these recommendations could have contributed to the scale of this mica crisis and whether it may have exacerbated this crisis further

It is clear that whilst a comprehensive list of recommendations from pyrite were made to address the inadequacies and lack of oversight that led to this issue emerging and to stop anything like this from happening again, many of these recommendations were not acted upon. It can be speculated, that if they had been acted upon and if effective governance had been implemented following pyrite, the scale and impact of the mica/defective blocks crisis could have been significantly curtailed and in the case of more recent properties that were built – in fact prevented from happening.

It begs the question as to whether there was a genuine will at Government level to implement these recommendations. Given the cost to the Irish state for both pyrite (currently estimated at 140million euro) and mica/defective blocks (estimated between 3.2-5 billion euro) why lip service was paid to this serious issue. The impact of this governance failure will be felt for years to come in terms of the financial cost. What is more concerning is the cost of these crises to the families affected, not just in financial terms but the stress, trauma, adverse physical and mental health impacts this is having. This is much more difficult to quantify and to accept given that lessons should have been learnt years earlier. Therefore, it is recommended that in the future, if

anything like this is to happen again, government need to demonstrate a genuine will to act upon its on recommendations in a timely and sensitive manner. Further, a public inquiry needs to be held into this issue. Why did it happen? What key factors and which stakeholders contributed to this crisis? How can we be sure that nothing like this ever happens again?

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