

Reconstruction: Planning, Insurance and Design

Introduction

On January 4th, 2020, the Kangaroo Valley region (NSW, Australia) was hit by the Currowan Fire - part of the 2019/2020 bushfire season now often referred to as the Black Summer. The Currowan Fire began on the 26th November 2019 more than 100 kilometres south of Kangaroo Valley. It would eventually burn for 74 days across 320,385 hectares. The fire directly impacted approximately 100 properties where it is estimated that over 130 substantial structures were destroyed, including around 48 dwellings (which represented roughly 10% of homes in Kangaroo Valley).

In recovering from a major bushfire, the construction industry plays an important role in both the immediate clean-up and recovery, as well as the longer term reconstruction of damaged homes and infrastructure. The construction supply chain is known to be complex, typically

made up of a fragmented network of interrelated stakeholders and activities, which often faces significant resourcing and cost challenges following natural disasters.

As part of this research project, we sought to better understand how key aspects of the reconstruction supply industry responded to the rebuilding requirements of Kangaroo Valley in particular, while also considering wider impacts across the NSW South Coast region which was also heavily impacted by bushfires.

Figure 1 presents the key phases of construction activities that are embedded in changing policy and technical context. Within this context a typical construction/rebuilding project will move through planning and design, sourcing materials, making components, and finally the delivery or building of the final structure for the end user phases.



Removing a dangerous tree from fire impacted property in Kangaroo Valley (photo – Mark Bugden).

This document is one of several *Bushfire Research Briefs* that summarise research findings by the University of Wollongong (UOW) research team regarding the Kangaroo Valley community's activities and perspectives regarding bushfire-resilience.

In-depth interviews were conducted with over fifty interviewees, including Kangaroo Valley residents, business owners and tradespeople from the NSW south coast, RFS volunteers and local service providers. Through these interviews we explored the construction supply ecosystem servicing

Kangaroo Valley in order to understand the issues faced by the supply chain since the 2019/20 policy bushfires.

This particular *Bushfire Research Brief* focuses on the experiences and key challenges people faced during the initial planning stages of post-bushfire rebuilding. This included dealing with the local government coordinated response to clean-up and recovery, then dealing with insurance, planning and approvals, as well as design considerations for rebuilding in bushfire prone areas.

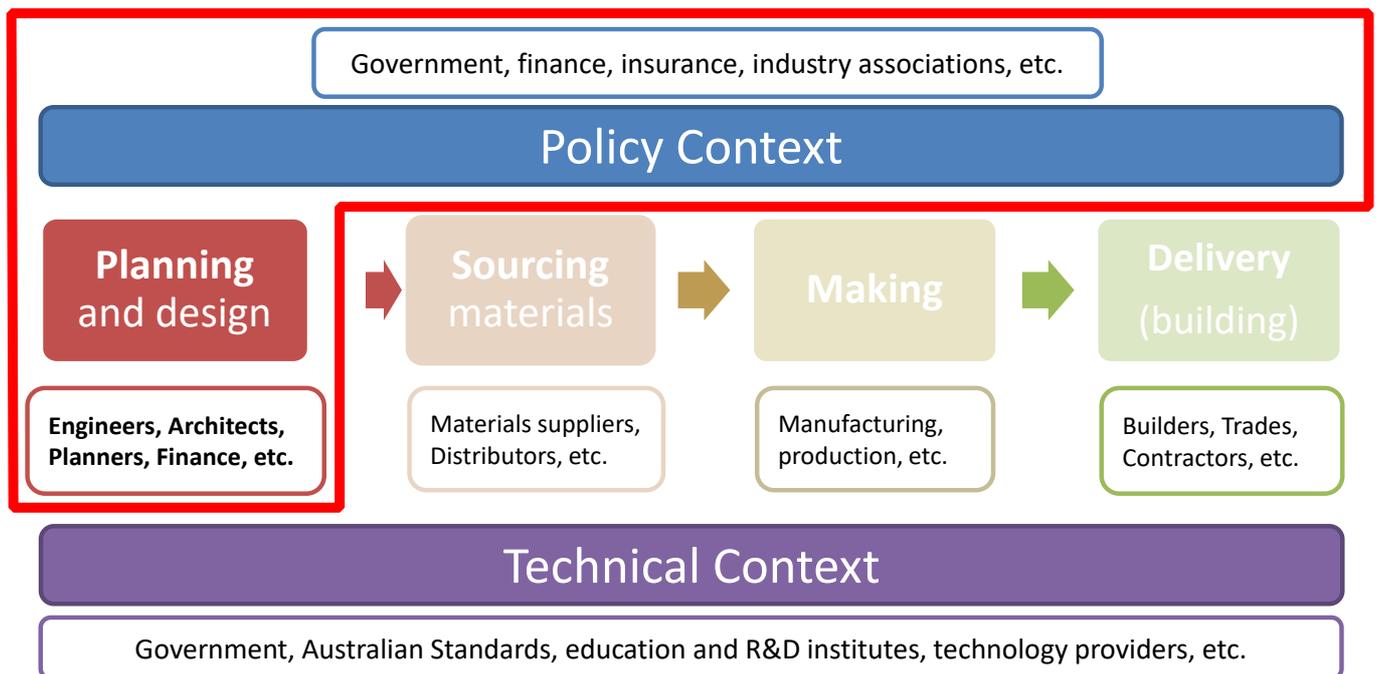


Figure 1. A schematic representation of the key elements of the building reconstruction process and ecosystem. This *Bushfire Research Brief* focusses primarily on the elements highlighted in the red polygon.

GOVERNMENT RESPONSES TO CLEAN-UP AND RECOVERY

In response to the Black Summer bushfires, the Shoalhaven City Council established the Shoalhaven Recovery Committee (initial meeting 3 Jan 2020, and approved by Council on 20 Jan 2020), to coordinate the remediation and recovery in the Shoalhaven Local Government Area (LGA). It was comprised of four recovery action teams: Social, Built, Economic/Tourism and

Environment. This was the framework within which much of the council response operated¹.

Bushfire Recovery Centres

In terms of support for impacted households in Kangaroo Valley, a community-led Bushfire Recovery ‘Drop In Centre’ was quickly established in the village just three days after the impact of the Currowan Fire. Local volunteers were able to help households badly impacted by the

¹ Further information available in the SCC Recovery Action Plan (February 2020) <https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=D20/43793>

fire to: locate places to stay, contact their insurers and banks, and apply for funds from charities and government sources, etc.

A centralised 'one-stop shop' recovery centre for the Shoalhaven was established in Ulladulla by Shoalhaven along with mobile recovery 'hubs' where people impacted by the bushfires could go to access various agencies to assist in the recovery process².

Unfortunately, face-to-face operation of recovery centres was ceased from late March/early April 2020 due to the introduction of COVID-19 pandemic restrictions.

Interviewees highlighted two key issues with the government run recovery centres which could be targeted for future improvements in implementation. Firstly, the initial registration form didn't ask if the applicant was the property owner, or to provide contact details for the actual owner. This was important as many properties were holiday rentals or owned by absentee landlords, and property owner approval was required for clean-up to proceed. Shoalhaven City Council instituted a mass mail-out to rate payers and were able to track down the owners, however this slowed down the clean-up process to some extent.

"Every single counter had the same registration requirement. At the end of four hours, you could actually have told the same story, seven or eight times, and be walking out that door without the information on the help you need". (Government employee)

Secondly, there were restrictions on sharing of information about affected people between the agencies that were operating in the Recovery Centre. This was largely due to existing privacy controls on information

sharing between government agencies. While there are sound reasons for these privacy controls, this meant that people presenting at the Recovery Centres would have to share their details and repeat their story multiple times with different agencies, taking up valuable time and causing additional stress on people who had witnessed traumatic events and were seeking support.

The Recovery Committee structure was a tailored response aiming to streamline the decision-making throughout the recovery process and provide agency to the sector specific coordinators. Overall, those involved with the process expressed pride in the work of the Recovery Committee. To them, being comfortable to wind-up the Recovery Committee by 30 June 2020 was a sign that the region was successfully transitioning from recovery to 'repair'.

Clean-up process

Another key aspect of the short-term response from local government was the assessment, and provision of an official determination, of the extent of damage to all impacted properties. This is a key step in registering properties for assisted clean-up, as well as accessing insurance.

To streamline this, the local authorities established Hybrid Building Impact Assessment (BIA) teams, a multi-agency process to ensure a single site visit to damaged properties was all that was required to obtain an official determination. This involved significant coordination between multiple local and state agencies³.

Interviewees with knowledge of other LGAs reported that agencies often visited each property independently, causing significant delays in commencing clean-up and recovery. Other post-bushfire research has documented resident frustrations with

² Services included Disaster Welfare, Service NSW, Centrelink, Red Cross, Salvation Army, Business Connect - small business, Insurance Council of Australia, Fair Trading, SafeWork NSW, NSW Health, Chaplains.

³ The team included Shoalhaven City Council Environmental Services, NSW Police, RFS, Fire and Rescue

accessing official confirmation that their home had been destroyed⁴.

Interviewees involved in its development or implementation judged this model to be a successful innovation, due to the streamlining of the assessment process. Minutes from the Development and Environment Committee note that this model was a first to be implemented in NSW, and was subsequently rolled out to other fire impacted LGAs. It is a model worthy of an in-depth review with a view to possibly implementing this again in response to future disasters.

The provision of State Government funded demolition and clearing services was welcome assistance to the many households who had experienced significant damage to their properties, or whose homes had been entirely destroyed. The coordinating contractor for this work state-wide was Laing O'Rourke. Demolition and clearing of destroyed and damaged homes and structures by teams in Kangaroo Valley commenced at the beginning of March 2020.

By the end of April 550 properties had been cleared state-wide and by the end of the clean-up contract in July 2020, close to 3600 properties were cleared. In the Shoalhaven demolition waste from over 295 homes had

been collected (approx. 17,500 tonnes in total) with the great majority recycled⁵.

PLANNING TO REBUILD

There are multiple challenges for householders looking to rebuild following bushfire damage. The key challenges were succinctly summarised by the following comment from one of the community members involved with the Kangaroo Valley bushfire recovery Drop In Centre.

“One type of challenge is actually getting insurance payouts, one is getting council approval to rebuild and then sourcing a builder to build”. (Community member)

The final challenge mentioned by the community member above – ‘sourcing a builder’ – is looked at in more detail in our *Bushfire Research Brief* ‘Reconstruction: Delivery of Rebuilding and Repairs’.

For rebuilding post-bushfire, not only are there additional challenges on top of a normal residential building project - such as insurance claims - but there is the risk that council departments and construction supply chain entities, such as builders, are overwhelmed by increased demand when a significant fraction of the community has been significantly impacted by the fires.



Demolition team commencing post-bushfire clean-up of a fire-impacted property in Kangaroo Valley, April 2020 (photo – Maureen Bell).

⁴ Eriksen, C., de Vet, E., 2021. Untangling insurance, rebuilding, and wellbeing in bushfire recovery. *Geogr. Res.*, v59, 228–241.

⁵ Shoalhaven City Council Bushfire Recovery Statistics Snapshot. <https://getinvolved.shoalhaven.nsw.gov.au/>

The following sections outline the experience of Kangaroo Valley residents in terms of dealing with insurance, planning and approvals, and house design and construction innovations during the post-bushfire rebuild.

Experiences with the insurance industry

Post-bushfire, the insurance experience of residents impacted by the Black Summer bushfires across the South Coast varied in terms of level of insurance cover, speed, and quality of the response. Insurance levels ranged from fully covered for rebuilding costs, under-insured due to changes to BAL ratings or building standards, and those without any insurance. As one South Coast community organiser put it:

The speed and responsiveness of insurance companies in assessing claims also varied. The two key factors reported were: 1) the level of property damage, and 2) how well households could document the damage and follow up their claim. According to

“Some people are well insured. Some people who thought they were well insured are suddenly realising that changes to building codes - because they're now in much higher valued situations [higher BAL rating] - mean that their insurance isn't going to cover it. And some people are not insured.”
(Community member)

community members, homes that were fully destroyed were generally processed relatively easily, while claims for properties with partial damage were more highly contested, which had a negative impact on assessment turnaround time. Unfortunately, quantitative data to support this claim was not available to the research team.

Residents mentioned the importance of keeping good records for their claims, being

comfortable in completing detailed paperwork, and that having the time to continually follow-up with insurance companies was helpful in ensuring claims were processed quickly.

“I organised my insurance within a few days after the fire” (Householder)

While experiences varied, most research participants in our Kangaroo Valley study were largely satisfied with the response from their insurance companies. Positive stories such as insurance agents connecting residents with emotional counselling and

“Some insurance companies have probably been a little bit slower than others. But yeah, from what I've been told, everyone's been paid out.” (Builder)

support, or providing unexpected upfront emergency payments were more common than stories of lengthy delays in payment. There was also an impression that being part of such a major disaster helped facilitate the processing of claims.

Once it came to actually rebuilding, there were a variety of approaches taken by insurers. Some would simply pay-out and leave it to the homeowner to coordinate their rebuild. Other insurers would arrange the rebuild of a property using their own favoured builder. Often, these were large nationwide building companies that would project-manage a large number of rebuilds and would often, but not always, subcontract specific individual jobs to local builders. In some instances, this process appeared to work well, in other instances local tradespeople complained of workers being brought in from interstate to work on rebuilds that could have been done more efficiently with local labour, which would have also helped the economies of affected communities.

Opportunities for improving resilience

As noted above, good record keeping, including photographic evidence of buildings and belongings, together with offsite back-ups of everything, is always extremely helpful in streamlining dealings with insurance companies after a disaster.

"I think unfortunately as with any of these sorts of disasters, people realise that they perhaps didn't keep the records or the insurances that they needed." (Community member)

A common insurance issue after a bushfire is that households often find their level of insurance doesn't cover the cost of rebuilding their house to a similar design whilst meeting current building and bushfire code requirements. Insurance companies occupy a position in the construction ecosystem that gives them extensive knowledge and influence on the policy and technical context in which post-disaster rebuilding occurs.

While the most intensive interaction between an insurer and a household occurs after a disaster or accident, there is an ongoing relationship between the two parties in any given year. This means that insurers are well placed to keep households informed of changes to codes that may impact rebuilding costs and recommend adjustments to insurance levels as appropriate.

This ongoing relationship between insurers and households, and the vested interest insurers have in reducing bushfire damage to properties, suggests that insurers may be well placed to drive greater uptake of bushfire-resilient building retrofits by households.

This could take the form of disseminating appropriate retrofit information, encouraging households to have some form of bushfire preparedness assessment, or incentivising retrofits through reductions in premiums.



Contents of shed destroyed by the bushfire (photo – Paul Cooper).

Planning and Approvals

After the immediate recovery and clean-up, the rebuild planning can start. Various factors play a role in the timing of this for impacted households; from the speed of accessing insurance payment, to the need to decide whether they want to stay and rebuild after a traumatic bushfire event, for example.

From our interviews it appears that builders began getting their first enquiries from home owners intending to rebuild by February 2020, and three formal Development Applications (DAs) were submitted to rebuild homes destroyed by bushfires in the Shoalhaven LGA by the end of February 2020.

By June 2020, 22 dwelling DAs across the whole LGA had been submitted to Shoalhaven Council, with nine approved.

However, for many other households the rebuilding planning phase was much longer. Many DAs were only being submitted by mid-2021 with the likelihood that many affected householders had still not reached that stage.

Assistance for affected householders

A number of changes to business-as-usual operations were implemented by the Shoalhaven City Council and NSW State Government to assist people whose homes

"We had lots of people from other councils offer to help us. 'We'll send you someone for two weeks.' You wouldn't even understand our systems in two weeks. We need somebody for 12 months, or 18 months. And the State Government did not deliver on that and I was really, really annoyed with that because [our staff] have gone out, over and above." (Government employee)

Given the lag between the bushfire event and the commencement of the majority of rebuilds, long duration assistance would be more appropriate and effective.

Despite this, representatives of the Shoalhaven local council reported that they were reasonably satisfied with the manner in which they coped with the additional planning load from the bushfire rebuild program. The use of a dedicated bushfire-impacted building approvals team may have been particularly useful in insulating bushfire impacted properties from the effects of the wider increase in housing demand in 2020/21 in that faster approvals meant home owners would be closer to 'the front of the queue' in terms of the stretched/constrained bushfire rebuilding supply chain.

Publicly available data on DA submissions and approvals for bushfire-affected properties in the Kangaroo Valley and Budgong areas was examined by the research team.

- Between April 2020 and September 2021 a total of 23 DAs that included rebuilding of a dwelling were received and approved.
- The time from the date of submission to approval of these applications ranged from 7 days to 203 days.
- 18 of these applications were approved within 100 days – with the median application taking 27 days.

This data aligns well with feedback from our interviewees in the construction industry that planning approval was relatively smooth for most households, although with a minority of properties facing significant delays. Although not necessarily backed up by the data, there were still frustrations expressed by those involved in the reconstruction that progress was not as fast as they expected it to be.

"Rebuild the same house, exactly the same, or the same size footprint, it was pretty straightforward for them. They didn't have to jump too many hurdles. To begin with, the council were saying, "We're going to be there to help you out, we're going to make the process really easy." That sort of thing. But I think as time went on, that went out the window. They went back to being a standard old council. Making things difficult." (Builder)

While our research did not explore the planning and approval process in LGAs beyond Shoalhaven City Council, our interviewees mentioned other regions where only a handful of bushfire affected proposals had been approved by the end of 2020. At the same time, over 100 dwellings had been approved across the Shoalhaven.

Design innovation for bushfire rebuilding

Also of interest in this research project was the design innovations that households and builders were considering in response to the bushfire rebuilds. Across the whole NSW South Coast Region, a number of different building technologies were used for the bushfire rebuild. These included pre-cast concrete homes, semi-modular construction using pre-certified load bearing frames, and fully prefabricated, factory-manufactured homes. Some of the materials being used potentially offer greater bushfire protection than those that rely on timber designs, however the

approach to bushfire resilience appeared to be a developing area for these technologies. Further discussion of construction innovation can be found in *Bushfire Research Brief* 'Reconstruction: Sourcing and Supply of Materials'.

Construction industry peak bodies noted that, at the time of writing, the construction industry in Australia had not adopted fully-modular, or systems-based construction to the same extent as seen in other parts of the

world. Part of the reason for this is the number of regulatory barriers that exist for modular and prefabricated construction. For example, standards and building codes have been written with a focus on traditional, onsite, staged-construction approaches. In addition, financing of modular construction systems is generally more difficult due to the high upfront cost of setting up an off-site manufacturing facility.



House that withstood the impact of the Currowan Fire in Kangaroo Valley (photo – Mark Bugden).

Reflecting on these regulatory and other uncertainties, some industry interviewees highlighted the fact that they had found different councils could take very different approaches to providing planning approvals for prefabricated houses as compared to conventional construction. This added an additional layer of risk for innovative new construction systems.

“She was worried we weren't going to like it and I said, ‘Oh. Bring it on. We want to see something different.’”
(Government employee)

Nevertheless, from the interviews and data from our research it would appear that the Shoalhaven City Council was quite receptive

to different or novel approaches in design/construction. One particular example given was the design for an earth-sheltered building made of resilient materials proposed for one rebuild within Kangaroo Valley.

However, within the Shoalhaven region, the large majority of households were building back using the traditional construction options, with volume/large building companies being very commonly used. This was not inherently surprising, as the choice of house design is often driven by the need to replace an existing damaged property. Often there is pressure to do this quickly if insurance is only covering rental accommodation for 12 months. In these circumstances, familiar designs and

construction techniques will be the most attractive options for many households.

Summary

The early stages of post-bushfire recovery and planning for rebuilding inevitably pose numerous challenges for affected households and communities. As discussed here, there are a number of actions that local authorities can undertake to make the process more streamlined, and ease some of the financial burdens of rebuilding. It is also apparent that there is potential to improve the interaction between householders and insurers to better prepare for future disasters, and hence improve the recovery and response.

Additional Resources

The Renew Green Rebuild Toolkit:
<http://greenrebuildtoolkit.com/>

After The Disaster: ABC Radio Podcast
<https://www.abc.net.au/radio/programs/after-the-disaster/>

The CSIRO Bushfire Best Practice Guide:
<https://research.csiro.au/bushfire/bushfire-basics/>

Eriksen, C., McKinnon, S., & de Vet, E. (2020). Why insurance matters: insights from research post-disaster. *Australian Journal of Emergency Management*, 35(4), 42-47.

Eriksen, C., de Vet, E., 2021. Untangling insurance, rebuilding, and wellbeing in bushfire recovery. *Geogr. Res.* 59, 228–241. <https://doi.org/10.1111/1745-5871.12451>



Epicormic growth of a eucalypt a few weeks after the Currowan Fire (photo – Maureen Bell)

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If this document has raised challenging issues for you, Lifeline Australia provides crisis support 24 hours a day: call 13 11 14 or see <https://www.lifeline.org.au>