Program Evaluation, Preparedness and Resilience

Examples from Western Australia

Rachel Armstrong – WA Department of Fire and Emergency Services
Disaster Resilience
Babi Island – East Nusa Tenggara
Community Preparedness Programs
Impact of preparedness programs

“Just a note of thanks for the incursion with your fabulous team. The children were so very excited and enthusiastic - you 'made their day'. Many of them went home saying that it was the 'best day ever! I am sure that now they will all spread the word to their families about how they must keep safe and what to do. Home fire management plans are probably being drawn up as I speak.”

Kerry King, Infant Jesus School (visited by Malaga CFRS)

“Of all the programs my son was involved in as a result of this one fire incident, I found JAFFA the most individualised, ‘on-the-same-level’, and pertinent to my son. The JSO related directly and appropriately to my son, and was a great male role model. The information that was discussed about the consequences of fire and the images was informative, and educational due to the scientific aspects of fire spread. This was engaging for my son.”

(Parent of 16 year old participant, referred from Youth Justice Service)
Behaviour change takes time
ME HATES COMPLEXITY
Program Theory - DFES Preparedness Programs

**CPD Programs**

- **FIRE CHAT**
  - Bushfire planning resources

- **JAFFA**
  - Support to juvenile fire lighters

- **SCHOOL AGED EDUCATION**
  - Disaster resilience education programs

- **BUSHFIRE READY**
  - Community based bushfire prevention and preparedness

- **AT RISK COMMUNITIES PROGRAM**
  - Supports health and community services organisations to work with their clients in high risk areas

**Activities**

- Develops preparedness programs and resources
- Works with stakeholders to engage the community in PP
- Provides community engagement and preparedness training advice

**Intended CPD Outcomes**

**Short term outcomes**

- Understand and accept risk
- Stay informed and respond appropriately to risk

**Medium term outcomes**

- Prepare plan and property
- Responds to and recovers well from emergencies

**Long term outcomes**

- Community leaders, networks and organisations understand disaster risk and work with communities to PPRR and improve resilience.

- Community uptake of programs and resources.
- Community and EM organisations collaborate.
- Local emergency information networks develop
- Communities work together to PPRR

- EM organisations collaborate locally to improve community preparedness and resilience.

- Relationships with CPD program partners. Uptake of programs and resources.
- Local organisations provide localised support.
- Consistent engagement with communities to PP

More Disaster Resilient Communities
Bushfire Ready and Disaster Resilience

Community Resilience to Natural Hazards

Coping Capacity
- Information and engagement
  - Localised information and active engagement for bushfire preparedness

- Economic Capital

- Infrastructure and planning
  - Improved property preparedness reducing individual property risk.

- Emergency Services

- Community Capital

- Social Capital

Adaptive Capacity
- Governance, policy and leadership

- Community and social capital
  - Community leaders and networks engaged in preparedness. Community support networks for bushfire development.
Results: Information and engagement

Localised information and face to face engagement

BFR Activities
- Property walk throughs
- Meetings
- Street meets
- Station open days
- Street coordinator meetings
- Door knocks and one to one engagement

What's the impact of BFR on risk awareness?
- Positive feedback from Facilitators and stakeholders
  
  Argyle – Irishtown Post Incident research
- Most BFR participants took action to improve their preparedness

Stay informed / responding appropriately?
Yallingup BFR Facilitator led survey:
- Better awareness of EmergencyWA

Argyle-Irishtown Post-incident research:
“Followed my plans and prepared to evacuate if necessary”

“Evacuated children, pets, livestock; removed pre-packaged important documents, irreplaceable items etc.; Soaked surroundings using retic.; filled and ran fire fighting unit”
(BFR Participants)

Improved coping capacity

More disaster resilient
Fire Chat

Survival plan needed ahead of fire season

COLLIE residents have been encouraged to start preparing a bushfire survival plan. Emergency Services Minister Fran Logan launched the official bushfire season on October 1 and said just 16 per cent of Western Australians have discussed with their families how they would survive a bushfire. Mr Logan said the new DFES Fire Chat tool, available online and in hard copy, would help people create a survival plan in five minutes. The Fire Chat helps people understand if they know what to do when a bushfire hits.

Kalamunda Volunteer Bush Fire Brigade shared City of Kalamunda’s post 6 December 2017

Bushfire season has begun, with the emergency services warning that the Southwest has recorded its driest autumn in five years. Emergency Services Minister Fran Logan has said that he has launched an initiative called the Fire Chat program.

Department of Fire and Emergency Services WA
## Promoting Fire Chat

### Where did you see or hear about Fire Chat?

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Chat leaflet in letterbox</td>
<td>26.4%</td>
</tr>
<tr>
<td>Articles in the local newspaper</td>
<td>21.3%</td>
</tr>
<tr>
<td>On the TV news</td>
<td>18.8%</td>
</tr>
<tr>
<td>At local Bushfire Ready events</td>
<td>16.2%</td>
</tr>
<tr>
<td>From your local bushfire brigade</td>
<td>16.2%</td>
</tr>
<tr>
<td>From a DFES staff member</td>
<td>10.7%</td>
</tr>
<tr>
<td><a href="http://www.dfes.wa.gov.au">www.dfes.wa.gov.au</a></td>
<td>9.6%</td>
</tr>
<tr>
<td>On Facebook</td>
<td>8.6%</td>
</tr>
<tr>
<td>Local shire communications</td>
<td>7.1%</td>
</tr>
<tr>
<td>On the radio</td>
<td>7.1%</td>
</tr>
<tr>
<td><a href="http://www.emergency.wa.gov.au">www.emergency.wa.gov.au</a></td>
<td>6.1%</td>
</tr>
<tr>
<td>Billboard on Forrest Hwy</td>
<td>5.1%</td>
</tr>
<tr>
<td>At an other event</td>
<td>3.0%</td>
</tr>
<tr>
<td>On Twitter</td>
<td>0.5%</td>
</tr>
<tr>
<td>Can't recall</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

- High value of local, face-to-face engagement in reaching communities
- Many found out about Fire Chat at Bushfire Ready events
Have you ever heard of Fire Chat

- Aware: 30.9%
- Not aware: 69.1%

Did you have a Fire Chat?

- Yes: 62.9%
- No: 37.1%

Did you access the Bushfire Preparation Toolkit

- Yes: 33.0%
- No: 67.0%

Did you use the Bushfire Preparation toolkit?

- Yes: 69.2%
- No: 30.8%
Results: Infrastructure and planning

- Localised information
- Face to Face engagement

Infrastructure and planning (individuals and households)
- Prepare property
- Make a plan
- Reduced risk in an incident

Improved coping capacity

More disaster resilient

Impact on property preparation
- Feedback support better property preparation and maintenance
- Some LG report reduced infringements

Impact on bushfire plans
- More likely to have a bushfire plan

Actions of BFR Participants in Argyle Irishtown after participating in BFR activities

- New written plan
- Worked with neighbours to prepare
- New property preparations
- Shared emergency information
- Joined a phone tree
- Improved existing plan
- Discussed plans with neighbours
- Discussed plans

What a tremendous effort by everyone involved involved in the Gwindinup fire over the last 4 days. But I must say a huge shout out to the landowners in the area of the fire. Over the last 2 years DFES community engagement and the Argyle-Irishtown BFR Ready Group have run multiple activities and meetings to assist the community with being prepared for fire season. The landowners in the area have been listening intently and preparing their homes for bush fires. Because of this the fire crews were easily able to defend the homes and save them all. This fire was fierce and fast moving and we did not lose a single home. So thank you to the land owners, DFES community engagement and the Argyle Irishtown BFR Ready Group all your hard work has paid off.
Bushfire Ready and Disaster Resilience

Community Resilience to Natural Hazards

Coping Capacity
- Information and engagement
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- Economic Capital
- Infrastructure and planning
- Emergency Services
  - Improved property preparedness reducing individual property risk.

Community Capital
- Community leaders and networks engaged in preparedness. Community support networks for bushfire develop.

Social Capital
- Governance, policy and leadership

Adaptive Capacity
- Community and social capital

Government of Western Australia Department of Fire and Emergency Services
Results: Community and Social Capital

Community and social capital

- Communities participate

EM organisations collaborate

- Improved coping and adaptive capacities
  - More disaster resilient

Local emergency information networks develop

- Communities work together to plan and prepare for bushfires

EM organisations include:
- 47 Volunteer bushfire services
- DFES community preparedness
- DFES regional operations
- LG emergency services
- DBCA

Communities work together
- “It brings people together to work as a community to become more BFR. They understand the limited resource of the fire brigades and police and accept responsibility for their own readiness”

Bushfire Ready Facilitator led survey:
- Reach BFR communications networks
- Argyle Irishtown Post-incident research
- Local information networks during the Gwindinup Fire.

Bushfire Ready Program is growing
- 70 BFR Facilitators
- 270 BFR groups
- > 4000 attended events (2017-18)

“I like the sense of ‘community’ that BFR is encouraging. Getting to know your neighbours must improve the general resilience of communities should they be impacted by fires.”
Bushfire Ready Facilitator
Community bushfire surveys
Measure change over time Baseline, 2 years and 5 years. Indicators include:

- Bushfire plans
- Property preparation
- Confidence in capacity to plan and prepare
- Community support networks for bushfire
- Preparedness to stay and defend (for those who intend to do so)
- Participation in community preparedness activities (including BFR)
The current state of bushfire preparations for the property

No householders had all 9 measures in place and only 1 in 10 had 7 or more measures.

The most popular protective measures related to vegetation and other flammable materials near the house. These are cheap and easy to do but not permanent protective measures.

Total number of listed bushfire protective measures (1-9) currently true for their property

- **5-9 measures**: 45.8%
- **4 measures**: 18.4%
- **3 measures**: 17.5%
- **2 measures**: 11.3%
- **1 measure**: 6.6%
- **0 measures**: 6.6%

Average = 4.2

Current state of property bushfire protective measures

- No flammable materials against / near the house: 75.0%
- Min 2m gap between house & tree branches: 69.3%
- No shrubs growing against the home: 69.3%
- Fire truck can access & turn on your property: 60.8%
- Gas cylinders stored away from likely direction of...: 40.6%
- All gaps where embers could enter the house are...: 39.2%
- A cleared fire break on the property boundary: 30.2%
- Fire radiant shield such as a solid fence around...: 19.8%
- Metal mesh on all windows and vents &...: 18.4%
Conclusion and discussion

• Community Preparedness work is essential to improving community disaster resilience.
• We need to know what works and what doesn’t.
• We need to communicate our results to keep up the interest and get others involved.

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