Training of Trainers Workshop on
VR/Serious Game based
Disaster Resilience Training

8-10 May 2019, Seoul, Korea
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<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Activity</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 May (Wed.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:45-10:00</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Welcoming remarks, Introduction of workshop</td>
<td>Yoonkyung KIM</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Icebreaking</td>
<td>Jaeseok PARK</td>
</tr>
<tr>
<td>11:00-12:30</td>
<td>Introduction of APDRC Understanding of disaster resilience, and Red Cross activities</td>
<td>Yoonkyung KIM</td>
</tr>
<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
<td>KNRC Cafeteria</td>
</tr>
<tr>
<td>13:30-15:30</td>
<td>Serious game based disaster preparedness education</td>
<td>Charlie SiN (UNDRR ONEA)</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Networking / Tea break</td>
<td></td>
</tr>
<tr>
<td>16:00-17:30</td>
<td>Group discussion / Presentation</td>
<td>Participants</td>
</tr>
<tr>
<td>17:30-18:00</td>
<td>Visit to Red Cross Museum</td>
<td></td>
</tr>
<tr>
<td>18:00-19:30</td>
<td>Welcome dinner hosted by APDRC</td>
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<tr>
<td>9 May (Thu.)</td>
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<tr>
<td>09:10-09:30</td>
<td>Day 1 Re-cap</td>
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<tr>
<td>09:30-09:40</td>
<td>Hand-over ceremony (incl. group photo)</td>
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<tr>
<td>09:40-10:10</td>
<td>VR based disaster resilience training</td>
<td>Jaeseok PARK</td>
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<tr>
<td>10:10-10:40</td>
<td>Introduction of VR based disaster resilience training</td>
<td>Jaeseok PARK</td>
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<tr>
<td>10:40-11:00</td>
<td>Networking / Tea break</td>
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<tr>
<td>11:00-12:30</td>
<td>Practice session1: VR based disaster resilience training (how to set up VR devices)</td>
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<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
<td>KNRC Cafeteria</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Practice session2: VR based disaster resilience training (how to operate the training)</td>
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</tr>
<tr>
<td>15:00-15:30</td>
<td>Networking / Tea break</td>
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<tr>
<td>15:30-16:00</td>
<td>Practice session3: demonstration by group</td>
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</tr>
<tr>
<td>16:30-18:00</td>
<td>Group discussion on VR training</td>
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<tr>
<td>10 May (Fri.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00-09:30</td>
<td>Group Presentation on VR training</td>
<td></td>
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<tr>
<td>09:30-10:30</td>
<td>Presentation of good practices of disaster safety related training from each NSs</td>
<td>Each participant</td>
</tr>
<tr>
<td>10:30-11:30</td>
<td>Networking / Tea break</td>
<td></td>
</tr>
<tr>
<td>11:30-12:30</td>
<td>Developing plan of action of VR training and presentation</td>
<td>Each participant</td>
</tr>
<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
<td>KNRC Cafeteria</td>
</tr>
</tbody>
</table>

Above time table is subject to change.
Introduction of APDRC &
Understanding of disaster resilience and Red Cross activities
Introduction of APDRC and Disaster Resilience and RCRC Movement

Yoonkyung Kim, Director of APDRC

- Introduction of APDRC
- DRRM Terminologies and concepts
  - Disaster Resilience and RCRC Movement
Introduction

Asia Pacific Disaster Resilience Centre

Korean Red Cross  APDRC

- APDRC is the very first IFRC Reference Centre in AP Region, aiming at supporting NSs to reducing disaster risks and enhancing community resilience

Korean RC pledged to establish APDRC to contribute to IBC  - The 32nd International Conference, 2015 -

Officially launched on 22 Sep. 2016  - The 3rd AP DM Conference -

Signed MOU btw IFRC & Korean RC  - The 21st GA in Antalya, Turkey in Nov. 2017 -
Strategic framework of the APDRC

**Vision**
- Covering in-depths topics related to reducing disaster risks and strengthening community resilience
- Creating the collaborative networks with partners
- Applying its enhanced learning and knowledge to all Asia Pacific National Societies and partners

**Goals**
- **Manage and share information** by learning, documenting, improving and disseminating existing tools and practices
- **Conduct researches** on issues pertaining to community resilience and humanitarian actions
- **Promote and implement resilience policies and strategies**
- **Provide technical assistance** to support resilience efforts of Asia Pacific National Societies and partners
- **Create networks and partnerships** amongst AP NSs and partners by reinforcing advocacy and communications

3 Key Approaches

- **IFRC Regional Centre**
- ** COVER DEEPER**
  - Resource Optimization for capacity building education & training
  - Participatory training tools
  - Lessons Learnt workshops
  - P2P learning among NSs

- **SPREAD BETTER**
  - Asia Pacific Regional Collaboration Hub!
  - Knowledge/Innovation Management
  - Innovation for Resilience
  - Virtual Reality
  - Research
  - Rediscovery note, Newsletter

- **REACH FURTHER**
  - Partnership & Networking
  - To establish cooperative relationship with RCRC Movement Academia, International Organization & Institution, Etc.
  - Knowledge network, Collaborative project
  - Technical Advisory Group

Korean Red Cross
Committee/Advisory Group

Steering Committee (8 Persons)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korean RC</td>
<td>Hee su Yoon</td>
</tr>
<tr>
<td>Korean RC</td>
<td>Sang-Jin KIM</td>
</tr>
<tr>
<td>IFRC APRO</td>
<td>Xavier Castellanos</td>
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<tr>
<td>IFRC Beijing CCST</td>
<td>Gwendolyn Pang</td>
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<tr>
<td>RCSC</td>
<td>Wang Ping</td>
</tr>
<tr>
<td>Philippine RC</td>
<td>Elizabeth Zavalla</td>
</tr>
<tr>
<td>Bangladesh RC</td>
<td>Feroz Salah Uddin</td>
</tr>
<tr>
<td>New Zealand RC</td>
<td>Angela Sutherland</td>
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</table>

Technical Advisory Group (9 Persons)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>IFRC</td>
<td>Bruno Jaghebaert</td>
</tr>
<tr>
<td>Swedish RC</td>
<td>Patrick Fox</td>
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<tr>
<td>Netherlands RC</td>
<td>Raimond Duijsens</td>
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<tr>
<td>Australian RC</td>
<td>Lauren Kaloran</td>
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<tr>
<td>ADRRN</td>
<td>Manu Gupta</td>
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<tr>
<td>ISDR</td>
<td>Rajib Shaw</td>
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<tr>
<td>UNDP</td>
<td>Sanny Jegilios</td>
</tr>
<tr>
<td>Ministry (RoK)</td>
<td>Byoungcheol PARK</td>
</tr>
<tr>
<td>University (RoK)</td>
<td>Sangman Jeong</td>
</tr>
</tbody>
</table>

APDRC’s activities in Numbers Since 2016

- 4724 participants
- 31 National Societies
- 9 Trainings/Workshops
Training for Community Resilience programme

- IFRC Framework for Community Resilience
- Road Map to Community Resilience (summary, video)
- IFRC Communication Guidance on Community Resilience


Accompanying

To join in action and influence. Resilience is a process owned by communities – not something the RCRC can ‘do’ or ‘bring’ to individuals or communities.

Enabling

Implies – providing the means to act.

Connecting

To connect communities to many stakeholders that can reinforce knowledge, systems and structures in support of resilience.

Korean Red Cross

APDRC Asia Pacific Disaster Resilience Centre
Training for Community Resilience programme

Roll-out of the Roadmap to Community Resilience (R2R)

- Global Training of Trainers Workshop on R2R in 2017 in Seoul
  - 39 participants from 17 NSs and IFRC
- AP Regional Training of Trainers Workshop on R2R in 2018 in Nepal
  - 34 participants from 12 NSs and IFRC / CHF 30,000
- Facilitated R2R session in 2 events, EA Youth camp in Mongolia and EA Resilience Network Forum in 2017 in Beijing

Resilience Innovation Initiative (RII)

Interactive Innovation Workshop (IIW)

In line with Beijing Call for Innovation (2014), APDRC launched RII to create the culture of innovation in the AP region and share various innovative projects and ideas among different partners

- 1st AP Interactive Innovation Workshop (May 2017, Seoul)
  - 69 participants from 11 NSs, 9 partners

Korean Red Cross

APDRC Asia Pacific Disaster Resilience Centre
Resilience Innovation Initiative (RII)

- 2nd AP Interactive Innovation Workshop on Disaster Resilience (Dec. 2018, Seoul)
  - 70 participants from 12 NSs, 10 partners

<table>
<thead>
<tr>
<th>Topic</th>
<th>Innovative approaches for resilient communities</th>
<th>New Technology for resilient communities</th>
<th>VR based training</th>
<th>4th industrial revolution and Humanitarian action</th>
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<tbody>
<tr>
<td>IFRC</td>
<td>Singapore RC, RCSC</td>
<td>KOICA</td>
<td>APDRC</td>
<td>Google</td>
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<td>UNISDR</td>
<td>Local Gov. (Incheon)</td>
<td>Korea Telecom</td>
<td>ICRC</td>
<td>Philippine RC</td>
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<td>Youth members</td>
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<td>SK Telecom</td>
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<td></td>
<td></td>
<td>Noul Inc.</td>
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<tr>
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<td>ShareLight Co., Ltd.</td>
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<td></td>
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<td>Corners</td>
<td></td>
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</tr>
</tbody>
</table>

Korean Red Cross

Resilience Innovation Initiative (RII)

Virtual Reality based Disaster Resilience Training

- With greater awareness of how dangerous disasters can be, people can be better prepared for disasters when they happen and be more likely to take right actions
- Budget: USD 47,000
- Funded by RCHC
- With 5 National Societies

Be SAFE. Be RESILIENT.

Korean Red Cross

APDRC Asia Pacific Disaster Resilience Centre
AP is “Supermarket of Disasters”

- Home to over 60% of the world’s population
- Most disaster prone region facing over 55% of world disasters

Disaster safety training is not an option
Realistic and participatory training is needed

Why Virtual Reality?

- Nobody knows how they’ll react in an emergency until disaster strikes. However, we can test our ability or learn to handle stress and solve problems in chaotic situations.
- People can experience in different disaster situations if they are actually there.
- Learning by doing / Makes experiences memorable
- Human - Visual creatures: Makes learning more visual
VR based trainings

Military Training
Immersive First Aid Training
Surgery training
KFC OJT

VR Contents and devices

2 (3) Contents
- Fire in a theatre
- Escape from a sinking ship
- Earthquake (coming soon)

19 VR Devices
- Laptop, Head-mounted display, 2 touch controllers, 2 sensors

Korean Red Cross
Statistics in VR training

<table>
<thead>
<tr>
<th>Country</th>
<th>Devices</th>
<th>Targets</th>
<th>Participants</th>
<th>Events</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rep. of Korea</td>
<td>6</td>
<td>2,520</td>
<td>2,977</td>
<td>51</td>
<td>June 2018 ~ March 2019</td>
</tr>
<tr>
<td>Philippines</td>
<td>1</td>
<td>100</td>
<td>512</td>
<td>15</td>
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<tr>
<td>Mongolia</td>
<td>1</td>
<td>150</td>
<td>234</td>
<td>9</td>
<td>April/May ~ November 2018</td>
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<tr>
<td>Nepal</td>
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<td>100</td>
<td>527</td>
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<td>Indonesia</td>
<td>1</td>
<td>100</td>
<td>27</td>
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<td></td>
</tr>
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<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>2,970</strong></td>
<td><strong>4,277</strong></td>
<td><strong>98</strong></td>
<td></td>
</tr>
</tbody>
</table>

VR based Disaster Resilience Training

AP FbF Workshop, KL
AMCDRR, Mongolia
Youth Exchange Program, Korea
National Youth Camp
Korea Baseball All Star Game
AP Regional Conference
Satisfaction Survey

Level of satisfaction
Comments
New contents

Korean Red Cross

Result of Survey

95.4%

1,495 out of 1,426 respondents were (very) satisfied

Korean Red Cross
Comments from participants

It was like a real disaster. When disaster happens, I think I can do as I learned.

Very educational and fun
New and creative
Very essential
Realistic
Great experience

It is helpful to understand the psychology of victims affected by disasters
Feel dizzy.

Excellent!
Amazing
Very useful training

I can learn how to react to disasters

Very attractive for young people to experience

Definitely need for all students and all people
It was not boring because it is vivid and realistic

I didn’t think it will be happened to me. But after VR experience, I realized that it could be happened to me.

Please provide more opportunity to experience in VR training

Korean Red Cross

Contents survey

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>549</td>
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<tr>
<td>Metro accident</td>
<td>212</td>
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<tr>
<td>Flood</td>
<td>184</td>
</tr>
<tr>
<td>Heatwave</td>
<td>108</td>
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<tr>
<td>First Aid</td>
<td>85</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
</tr>
</tbody>
</table>

(No. of Respondent: 1,145)

Korean Red Cross
2. DRRM Terminologies & Concepts

Key objectives

Refresher on the commonly used DRRM terminologies, concepts and their definitions.
A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. It may be natural, anthropogenic or socionatural of origin.

Identify/Match definition to a term

Korean Red Cross

APDRC Asia Pacific Disaster Resilience Centre

Quiz

Hazards are classified as:

A. Biological or Environmental
B. Geological or geophysical
C. Hydrometeorological
D. Technological
E. All of the above

Choose ONE

Discuss:
Which hazard types are the most typical in your geographical area?
Exposure

People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses.

Match definition to a term

Korean Red Cross

Vulnerability

The conditions determined by physical, social, economic, environmental and political factors or processes, which increase risk and susceptibility of people to the impact of hazards.

Match definition to a term

Korean Red Cross
Quiz

Can you give examples of the different vulnerability factors?

E.g.
- Physical factors
- Social factors
- Economic factors
- Environmental factors

ONE POINT EACH

Capacity

“The combination of all the strengths, attributes and resources available with in an organization, community or society to manage and reduce disaster risks and strengthen resilience”.

Match definition to a term

Annotation:
Capacity may include infrastructure, institutions, human knowledge and skills, and collective attributes such as social relationships, leadership and management.
The **potential disaster losses**, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.

**Match definition to a term**

- Korean Red Cross
- APDRC Asia Pacific Disaster Resilience Centre

**How can Disaster Risk be expressed through a ‘formula’?**

Components of Disaster Risk:
- Hazard (H)
- Exposure (E)
- Vulnerability (V)
- Capacity (C)

\[
\text{Disaster Risk} = H \times E \times \frac{V}{C}
\]
Disaster

A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Match definition to a term

Korean Red Cross

How do we reduce disaster risks?
Mention 3 key categories of activities and measures to reduce disaster risks

- **Prevention:**
  Activities and measures to avoid existing and new disaster risks.

- **Mitigation:**
  The lessening or minimizing of the adverse impacts of a hazardous event.

- **Preparedness:**
  The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.

ONE POINT EACH
Example of practical application of mitigation OR prevention?

Mitigation OR Prevention?
Mitigation OR Prevention?

Korean Red Cross

Mitigation OR Prevention?

Korean Red Cross

APDRC Asia Pacific Disaster Resilience Centre
Match photo to a term

3. Disaster Resilience and RCRC Movement
One Billion Coalition for Resilience

Affected community

Local actors

individuals

RCRC commitment to **partnership and coalition-building**
by **mobilizing 1 billion people till 2025**
to **build safer, healthier and more resilient communities**

**1BC: Korean RC’s** collective participation and contributions

**1BC MAB members**

**1BC GSC member**

IFRC Reference Centre - APDRC

International RC Youth Camp in Mongolia

DRR projects in AP
(Bangladesh, Viet Nam, Timor-Leste)

**Windmill of Hope**
- Community based resilience building approach
  (Children & Youth, Senior citizen, Migrant, Families in potential crisis)

**1BC: KRC’s highlighted actions**

Disaster & Safety training and education

17 PSS Centers

Develop SOP for emergency health crisis

Youth Online Platform

Emergency Disaster Ops Center
(nationwide network base)
Thank you
Serious game based disaster preparedness education
School Safety Programme
Towards a Culture of Disaster Prevention in Korea

Korean National Disaster Education (Experience-focused)

Conduct disaster drills and learn how to perform CPR and how to use a fire extinguisher in school nation-wide => less focus on prevention and mitigation

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Prevention-focused DRR Education Program

**Background**
Developed jointly by UNDRR, Ministry of the Interior and Safety of the Republic of Korea (MOIS), and Incheon Metropolitan City to complement the national disaster education of Korea using UNDRR’s knowledge, expertise, good practices from other countries, educational materials such as Riskland game, Hazard Bingo, and videos.

**Highlights**
- Fun-oriented, easy to learn education through various educational materials such as Riskland game, Hazard Bingo, good practices, and videos.
- Encourages group discussions and brainstorming on various topics related to DRR through participation of and interaction amongst students.

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**Educational materials**

<table>
<thead>
<tr>
<th>Modality</th>
<th>Primary School</th>
<th>Middle School</th>
<th>High School</th>
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</thead>
<tbody>
<tr>
<td>PT &amp; Video</td>
<td>▪ Understanding Disaster Risk Reduction (Presentation)</td>
<td>▪ Differentiation of hazards</td>
<td>▪ Differentiation of hazards</td>
</tr>
<tr>
<td></td>
<td>▪ The Story of Tilly Smith (Video)</td>
<td>▪ Hazard Hunt</td>
<td>▪ Non-structural risk assessment</td>
</tr>
<tr>
<td></td>
<td>▪ “When The Earth Shakes” (Video from FEMA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Activity</td>
<td>▪ Riskland</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>▪ Hazard Bingo</td>
<td></td>
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### Program

<table>
<thead>
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<th></th>
<th>Primary School</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>10min</td>
<td>Understanding Disaster Risk Reduction</td>
<td>Understanding Disaster Risk Reduction</td>
<td>Understanding Disaster Risk Reduction</td>
</tr>
<tr>
<td>10min</td>
<td>Video 1 Tilly Smith</td>
<td>Video 1 Tilly Smith</td>
<td>Video 1 Tilly Smith</td>
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<tr>
<td>30min</td>
<td>Group activity 1 Riskland Game</td>
<td>Group activity 1 Hazards : Natural vs Man-Made</td>
<td>Group activity 1 Hazards : Natural vs Man-Made</td>
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<tr>
<td>10min</td>
<td>Video 2 Earthquake Evacuation Drill</td>
<td>Video 2 Earthquake Evacuation Drill</td>
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</tr>
<tr>
<td>30min</td>
<td>Group activity 2 Hazard Bingo</td>
<td>Group activity 2 Hazard Hunt</td>
<td>Group activity 2 Non-structural Risk Assessment</td>
</tr>
</tbody>
</table>

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![Disaster Impacts 2000-2012](image)

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The Sendai Framework

- Governments should engage children and youth.
- Youth leadership should be promoted.
- *Children and youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction.*
- Invest to make schools safer from disasters.

Learning Objective

- Understanding DRR through firm grasp of the key concepts and terminologies
- Understanding the difference between a hazard and a disaster
Prevention-focused DRR Education Program

① Understanding Basic DRR Concepts : 10min

② Video of Tilly Smith : 5 min

A 10 year old saved over 100 people during the 2004 Tsunami in Asia!

♦ Learning Objective

➢ Understanding importance of education

➢ Understanding important roles of children and teachers for DRR

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③ Riskland Game : 30 min

Learning Objective

➢ Learn to find the ways to prevent disasters and reduce risks

➢ Encourage participation in learning DRR through interactive questions and answers

➢ Refresh DRR concepts learned from presentation and understand how they contribute to school safety
Earthquake Evacuation Drill: 2 min
5. **Hazard Bingo**: 30 min

- **Learning Objective**
  - Students fill out blank Bingo card with DRR-related words they have learned.
  - It makes students review what they have learned.

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What is Disaster Risk Reduction?

Hazard
Vulnerability

Disaster

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Resilience

Mitigation

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Natural Disasters? Natural Hazards?

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How can children and youth contribute to making our world safer?

© UNDRR – United Nations Office for Disaster Risk Reduction
A 10 year old saved over 100 people during the 2004 Tsunami in Asia!

Her name is Tilly Smith
She learned how to detect tsunamis, just before going on holiday

A miracle in Kamaishi City

- 1,000 people died out of a population of 40,000 by Tsunami in March 11, 2012 in Kamaishi City
- Only 5 out of the 2,900 primary and junior high school students lost their lives.
- A casualty rate of 0.17% is 1/15 of the rate for the general public (2.5%, (55% in tsunami in 1896))
## A miracle and a tragedy in 3.11 Tsunami

<table>
<thead>
<tr>
<th>A miracle in schools of Kamaishi City</th>
<th>A tragedy in a school in a northern city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casualty rate: 0.17%</td>
<td>Casualty rate: 70%</td>
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</tbody>
</table>

- Strong awareness that tsunami may come at any moment
- Students and teachers have cooperated for creating hazard maps
- Community working with schools to be prepared for tsunami (drills, etc.)
- Lack of understanding that tsunami may reach the school
- Children were kept in school while teachers discussed what to do
- The school was not in a flood zone in community tsunami hazard map

> Pre-disaster IWRM (IFM) process was decisive element in the miracle

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1. Don’t be caught by assumption.

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2. Do as much as you can.

3. Take the lead in evacuation.
The Kamaishi Higashi Junior High School building following the Great East Japan Earthquake and tsunami of March 11, 2011

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Riskland
A fun way to learn how to prevent disasters

“Riskland” is an educational board game that deals with disaster prevention. The game conveys messages that help you understand how some actions can reduce the impact of disasters, while others can increase our vulnerability. Following the board’s path, you will advance, and at times be made to go back. Some squares require question cards, the answers to which are intended to help you in learning about disaster prevention.

Rules of the game:

Number of Players: Two or more. It can also be played in teams so that the entire class can participate.

What You Need: The game board, a single die, one token of a different color for each player (You can also use beans, petals, grains of corn, etc), as long as they can be distinguished from each other, 24 question cards (which should be shuffled before each new game), 24 surprise cards, also to be shuffled.

How to Play:
Begin the game by placing all tokens on the starting line. Taking turns, the players advance by throwing the die and moving ahead by that amount of squares indicated by the die.

The first player to reach the finish line is the winner. If the number on the die is higher than the number of spaces between the player’s position and the finish line, the player must advance to the first space and then move his or her token back as many spaces as are left over from the number on the die. For instance, if you are three spaces away from the finish line and the throw of the die gives you seven, you must advance to the finish line and then go back four spaces.

Question Spaces:
When players land on one of these spaces another player is to ask them the question on the top card of the question card pile. If the person who landed on the square answers correctly, they get to go again.

Surprise Spaces:
When a player lands on a red square, they are to follow the instructions indicated on the top surprise card.

In addition, several squares contain instructions written directly on the board. The player who lands on one of these is to follow the instructions. For instance, the player who lands on space 13 has been chopping down too many trees, and must return to the start line for having increased the vulnerability of his or her community.

Suggestions:
1. The game may be adapted to the reality of each country or community and the hazards being faced, as well as the local environment, health, etc. by changing or adapting the contents of the Surprise and Question cards.
2. So as not to get ruined, we recommend that the game be protected by cardboard, wood or plastic.

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<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you call a large number of insects or other animals that eat and destroy crops?</td>
<td>A plague.</td>
</tr>
<tr>
<td>When there is an earthquake, why do some houses collapse while others don't?</td>
<td>Because they were poorly built, built with poor materials, or not meeting building code regulations.</td>
</tr>
<tr>
<td>You played with matches that can cause field fires or dangerous accidents at home. Go back 3 spaces.</td>
<td></td>
</tr>
<tr>
<td>What is a tsunami?</td>
<td>It is a giant wave or a series of giant waves in the ocean caused by an earthquake or volcanic eruptions under the sea.</td>
</tr>
<tr>
<td>What is the name of the chemical reaction between oxygen, heat, and fuel?</td>
<td>Fire.</td>
</tr>
<tr>
<td>You noticed that some people chopped a lot of trees in the forest and did not plant new ones. You did not warn anyone, even though you knew that this could cause erosion and landslides. Go back three spaces.</td>
<td></td>
</tr>
<tr>
<td>Name at least three supplies that you should include in your Emergency Kit in case of a disaster?</td>
<td>Any three of the following: purified water, an electric torch or flashlight, batteries, clothes, imperishable canned, food, a first-aid kit.</td>
</tr>
<tr>
<td>Why should you not live too close to a river?</td>
<td>Because when the water level rises it could lead to flooding.</td>
</tr>
<tr>
<td>Congratulations! You are helping to organize flood and fire drills in your school. Advance three spaces.</td>
<td></td>
</tr>
</tbody>
</table>
Why is it so important to keep mountain areas forested?

To protect Nature, prevent landslides and erosion, and to protect springs and river sources.
Why should you not live too close to a river?

Because when the water level rises it could lead to flooding.

Are earthquakes natural or human-induced hazards?

They are natural hazards, although people’s actions can increase their impact.
Why is it dangerous to play with matches in the forest?

Because you can start a forest fire.
Once a fire gets going, it can destroy acres of forest, brush, or grasslands, and it is very hard to stop.

What can happen if you throw garbage into a river?

The river might get blocked until the water level gets too high causing a flash flood. The river will also get contaminated and people can get sick if they drink the water.
When there is an earthquake, why do some houses collapse while others don't?

Because they were poorly built, built with poor materials, or not meeting building code regulations.

Name at least three supplies that you should include in your Emergency Kit in case of a disaster?

Purified water, an electric torch or flashlight, batteries, clothes, imperishable canned, food, a first-aid kit.
Can you name a place that is dangerous to live because of high vulnerability? Why?

river banks because of the risk of floods, the slopes of a volcano because of the risk of an eruption, a deforested hill because of the risk of landslides

What is a tsunami?

It is a giant wave or a series of giant waves in the ocean caused by an earthquake or volcanic eruptions under the sea.
Name at least two causes of forest fires.

Lighting, discarded cigarettes that are still burning, slash and burn farming techniques

What is called that for instance, someone upriver can watch to see if the water level goes higher than normal, and warn the people downriver so they can rush to a shelter.

Early Warning System
What is called that a map helps identify the hazards in your environment and determine which are the most dangerous to your community.

Risk Map

HAZARD BINGO

LET'S MAKE OUR SCHOOL SAFE!

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**Children’s Charter for Disaster Risk Reduction**

1. Schools must be safe and education must not be interrupted.

2. Child protection must be a priority before, during and after a disaster.

3. Children have the right to participate and to access the information they need.

4. Community infrastructure must be safe, and relief and reconstruction must help reduce future risk.

5. Disaster risk reduction must reach the most vulnerable.

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Compulsory School Safety Education in Korea (hours/yr)

<table>
<thead>
<tr>
<th>Type of School</th>
<th>Total</th>
<th>Home Safety</th>
<th>Traffic Safety</th>
<th>Violence</th>
<th>Drugs Cyber</th>
<th>Disaster</th>
<th>Occupational Safety</th>
<th>Emergency Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-School</td>
<td>51</td>
<td>13</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Primary</td>
<td>51</td>
<td>12</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Middle School</td>
<td>51</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>High School</td>
<td>51</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

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Prevention-focused DRR Education Implementation and Expansion

➢ Target Audience: Mostly teachers

➢ Why mostly teachers?
  ▪ Teachers’ role and capacity are crucial to ensure students’ safety from disasters so this training will help them develop their capacity for DRR.

  ▪ To multiply impact and benefits more effectively and efficiently than targeting students. Trained teachers can teach as long as they remain in school. (Retirement age for Korean teachers is 62.)

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Prevention-focused DRR Education Statistics

<table>
<thead>
<tr>
<th>Total</th>
<th>2016</th>
<th>2017</th>
<th>2018.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Student</td>
<td>Teacher</td>
<td>Student</td>
</tr>
<tr>
<td>1,466</td>
<td>2,406</td>
<td>384</td>
<td>1,099</td>
</tr>
</tbody>
</table>

- Training of Teachers: 22 sessions / 1,275 schools / 1,466 teachers
- Training of Students: 49 sessions / 49 schools / 2,406 students

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Prevention-focused DRR Education Testimonials

Became more alerted to disasters and knowledgeable about disaster prevention for DRR after watching the video of Tilly Smith
Mr. Yeom, Daeseong (Gr. 5 Teacher)
Jayu Elementary School in Paju

Students like Riskland game very much because it is a fun way for them to learn about DRR.
Ms. Jang, Jinhee (Gr. 4 Teacher)
Jeseok Elementary School, Tongyeong

Prevention-focused DRR Education Report from Trained Teacher

© UNDRR – United Nations Office for Disaster Risk Reduction
Prevention-focused DRR Education Report from Trained Teacher

Way Forward

➢ All teachers in Korea are trained on the prevention-focused DRR education through training of teachers.

➢ Promote to and share Korea’s experience with INGOs, IOs, and other countries

* It was officially introduced at the AMCDRR in Ulaanbaatar, Mongolia in July 2018 and at the 3rd ASEAN Regional Conference on School Safety in Bangkok in Apr 2019
How To Download Riskland Game

https://www.preventionweb.net/go/2114

Let’s learn to prevent disasters: educational kit and riskland game

UNIDRR and UNICEF have together produced an educational kit for children called “Let’s learn to prevent disasters”. It includes the board game ‘Riskland’ whereby players learn about what they can do to reduce disaster impacts by answering questions and advancing along the board’s winding path. It aims to provide the educational community and children with an innovative and interactive tool for risk management.

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Frequently Asked Questions 1

Q. How do we know that this program is really beneficial and serves the purpose? How do you measure the impact in ROK?

A. Statistically, we have conducted 47 education sessions covering 47 schools and trained 1,466 teachers and educated 2,373 students from 2016 until now. Qualitatively, it is difficult to measure the impact because the objective of the program is to help children and youth understand disaster risk reduction and build their capacity for disaster prevention and it is not something you can easily and quickly see. However, we train teachers and we ask trained teachers to send us a report after they have replicated it including comments and suggestions and this is a very important tool for us to use not only to see the impact of the program but also to find areas for improvement. It’s crucial to hear the voice from the teachers and students and we should ensure that school safety program is reflective of their voices.

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Frequently Asked Questions 2

Q. There is a similar school program for DRR in our country but we have some challenges to expand it nationwide. What challenges do you have in ROK in this regard and how do you deal with them?

A. Successful implementation of the school program heavily relies on commitments and support from the relevant authorities. Education office at national/sub-national/municipal level is the key partner to create an enabling environment and to keep it sustainable and obviously, the education authority at the highest level (national ministry of education) is the best partner to work with. However, the national school safety education for disasters in Korea is primarily focused on the safety measures during and after a disaster so awareness of prevention-focused DRR education is relatively low and this made it difficult for us to engage with the ministry of education of Korea. Instead, we took a bottom-up approach. We promoted and raised awareness of the program to education offices at sub-national and municipal level as it’s much easier and quicker to implement the program than working with the national ministry.

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Thank you

UNISDR for Northeast Asia (ONEA) & Global Education and Training Institute (GETI)
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175 Art Center-daero,
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Republic of Korea
VR disaster resilience training
Guidance for VR based Disaster Resilience Training

Contents

1. What is VR?
2. Where we have had show-cases of VR training
3. What we have accomplished through VR training
4. What we need for VR training
5. What kind of VR contents we have
6. Methods to set up VR device
7. Scenarios for VR Contents Operation
8. Measures to control VR device errors
9. Public Relations of VR based Disaster Safety Experience
1. What is VR?

What is VR?

- What is VR (Virtual Reality?)

A highly advanced technology that utilizes headsets and hand controllers to enable users to experience real situations within a computerized virtual world.

It is frequently used to provide realistic experience in the situations where users cannot easily access to, including disaster, war and medical occasions.
What is VR?

- Why?
  - 90% of knowledge is being memorized with images in human brain
  - Motivate the participants on the VR training, effective memory for long-lasting
    (VR training will make participants improve the efficiency of 2.7 times than traditional training, Nils Anderson, CTO Eon Reality)

- Where?

Military training  Surgery  First Aid training  Prep training at KFC

2. Where we have had show-cases of VR training
Where we have had show-cases of VR training in Korea

- 2018 RCY Nationwide Camp
- Conference of the Secretary Generals of Branch Offices
- KBO All Stars Promotion Booth
  - Doosan Baseball Player Choi Ju Hwan
  - Experiencing VR program

Where we have had show-cases of VR training in overseas

- Asia-Pacific Local Society Resilience Workshop for Instructors (2018.4, Nepal)
- Asia-Pacific Meteorological Forecast Based Disaster Response Conference (2018.5, Malaysia)
- Asia Disaster Danger Reduction Cabinet Meeting (2018.7, Mongolia)
3. What we need for VR training

Items for VR Training

- Laptop and power cable plug
- VR device set
- Sanitary masks
- USB 3.0 Hub
- Forms for gathering participants’ signatures
- Dongle for VR contents
- Information Leaflet
4. How to operate VR training

Types of Operation

<table>
<thead>
<tr>
<th>Safe Education Model</th>
<th>VR Experience only</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Consist of prior education – VR experience – post review learning</td>
<td></td>
</tr>
<tr>
<td>- Comprehensive education program</td>
<td>- VR centered, simple experience program</td>
</tr>
</tbody>
</table>
**Safe Education Model**

**DETAILED PLANS FOR SAFE EDUCATION-MODEL**

- Prior education for all participants (15 minutes)
- Watching safety videos related to fire in theater/escape from sinking ship
- VR Experience (time differs in regards to the number of persons / 2~4 minutes for fire in theater, 9 minutes for escape from sinking ship)
- 1 Assistant staff per 1 device (informing prior education contents and precautions)
- Cognitive learning through providing leaflets regarding core behavioral tactics and souvenirs
- Surveys

---

**Safe Education Model**

**VISUALIZED MATERIALS FOR PRIOR EDUCATION**

**Fire in theater**
- Why we have to pay attention to prevent a fire situation
- How to use a fire extinguisher in fire situation
- What we have to do in fire situation

**Escape from Sinking Ship**
- What we have to do in emergency situation of cruise accident
- How to wear a life jacket

---

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Safety Education Model(1)

PRIOR EDUCATION FOR FIRE IN THEATER:
VISUAL AND AUDITORY MATERIALS
1) Watch an attention-attracting video related to fire in theater
   (Made by the Republic of Korea National Red Cross)
2) Watch a video informing how to use the fire extinguisher
3) Watch a video regarding how to escape during fire
   (How to escape during fire, Made by the Ministry of Interior and Safety)

Safety Education Model(2)

PRIOR EDUCATION FOR ESCAPE FROM SINKING SHIP:
VISUAL AND AUDITORY MATERIALS
1) Watch water safety video
   (Made by the Republic of Korea National Red Cross)
2) Watch a video related to ship accidents
   (Ferry accident, Made by the Ministry of Interior and Safety)
**Safety Education Model (3)**

**PRIOR EDUCATION:**

**WARNINGS FOR VR TRAINING**

- Put away dangerous objects around and secure enough space (Put away tables, stands, vases and etc.)

- Stop experience of VR when feeling dizziness or sickness (Install safety net and sit on the chair when needed)

- Beware of excessive physical contact while the VR training

- Respect the VR devices purchased by precious donation

---

**Safety Education Model**

**VR EXPERIENCE:** HOW TO START

→ Put on the headset, adjust the screen clearly, and hold the hand controllers

→ Move the **blue circle** to “start” by moving the hand controllers, and press “A”
Safety Education Model

VR EXPERIENCE:
FINAL STAGE AND HOW TO RE-START

- Screen automatically switches to the first screen when everything ends
- Put on the headset again when the screen does not switch

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Safety Education Model

VR EXPERIENCE:
OVERALL MANAGEMENT OF CONTENT (START)

- Put on the headset, adjust the screen clearly, and hold the hand controllers
- Put the blue line on “start” and press the trigger around the index finger

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Safety Education Model

VR EXPERIENCE:
OVERALL MANAGEMENT OF CONTENT (END)

→ Screen automatically switches to the first screen when everything ends

→ Press ESC or Ctrl + R when the screen does not switch

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Safety Education Model

POST-EDUCATION:
MATERIAL DELIVERY, SURVEY, RESULT REPORT

- Fire in Theater
  - Material Delivery
    - Provide a Leaflet on safety prevention
    - Re-cap on important knowledge

- Escape from Sinking Ship
  - Survey
    - Collecting signatures from participants
    - Conduct a survey
  - Reporting
    - Preparing a final report (monthly)

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VR Experience only

HOW TO OPERATE

Recruitment
- Recruiting participants for experience (schools, local communities, trainings etc)
- Instructing on how to operate the equipment and precautions

VR Experience
- VR experience (time varies according to personnel / fire in theater takes about 5 minutes, escape from sinking ship takes about 9 minutes)
- One-person ancillary personnel per machine (pre-training instructions and precautions)

Signature/Survey
- Sign the Participant Experience
- Conducting a Survey

5. What kind of VR contents we have

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VR Contents

VR CONTENTS:
FIRE IN THEATER, ESCAPE FROM SINKING SHIP

<table>
<thead>
<tr>
<th>Fire in Theater</th>
<th>Escape from Sinking Ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Fire in Theater Icon]</td>
<td>![Escape from Sinking Ship Icon]</td>
</tr>
</tbody>
</table>

VR training at glance in video clip

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6. How to set up VR devices

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APDRC Asia Pacific Disaster Resilience Centre
How to set up VR devices

1. Running the Oculus
2. Click Device (Left side)
3. Click Configure Rift (Right side)

4. Click Full set-up
How to set up VR devices

Get to Know Your Rift

Please remove the protective films.
Do not expose lenses to direct sunlight.
Use the provided lens cloth to clean lenses.
Lens cleaners that contain alcohol or other
strong solvents may damage your lenses.
Lenses are fragile.
Please handle your headset with care and do
not drop it.

Having trouble? Get help.

1. Connect Your Rift Headset
   and Oculus Sensors

   Plug in the cables for your headset and
   sensors now.
   For the headset, you'll need to use one HDMI port
   on your computer's graphics card and one USB 3.0 port.
   For the sensors, be sure no more than two sensors are
   connected to USB 3.0 ports. Connect any additional
   sensors to USB 2.0 ports.

   Connection status:
   - Headset HDMI: OK
   - Headset USB 3.0: OK
   - Sensor USB 3.0: OK
   - Sensor USB 2.0: OK

   Connecting the headset and sensor to the laptop.
   Connecting the cable from the headset and sensor to the
   laptop.

   For headset, one HDMI port and one USB 3.0 port are
   required.
   For sensors, only a maximum of two sensors must be
   connected to the USB 3.0 port. Connect additional sensors to
   the USB 2.0 port.

   # If an Error Message occurs, unplug and reconnect the
   USB plug.

3. Check OK Message

   Having trouble? Get help.

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How to set up VR devices

Set Up Your Input Devices
Select the controllers you would like to pair now.

- Touch
- Oculus Remote
- Xbox Controller

⇒ Click Touch Controller
Having trouble? Get help.

Set Up Your Touch Controllers
Press and slide down on the Touch handle to remove the battery door. Put one AA battery into each controller.

Slide down and insert AA batteries (included)

Having trouble? Get help.
How to set up VR devices

Pair Your Left Touch
Press and hold the Menu and Y buttons for 2 seconds until the status LED starts blinking. Wait for the controller to finish pairing.

The light will stop blinking when the controller is paired.

- Looking for left Touch: OK
- Pairing controller: OK
- Finalizing controller: OK

Having trouble? Get help

Next

---

How to set up VR devices

Pair Your Right Touch
Press and hold the D-pad and O buttons for 2 seconds until the status LED starts blinking. Wait for the controller to finish pairing.

The light will stop blinking when the controller is paired.

- Looking for right Touch: OK
- Pairing controller: OK
- Finalizing controller: OK

Having trouble? Get help

Next
How to set up VR devices

Sensor Communication Test
Let’s make sure that your sensors are ready to support tracking.

- Sensor USB OK
- Sensor USB OK

Check OK Message, and Click Next

# If the sensor fails to operate, re-run set-up again
# If the cursor does not flash, replace the battery
How to set up VR devices

Set Up Your Oculus Sensors

Your sensors work with your headsets and Touch controllers to track your movement in VR. To get started, remove the protective film on the sensor lenses.

1. Equip the Oculus Sensors
2. Install the shiny glass face facing the front
3. Click Next

Having trouble? Get help

How to set up VR devices

Set Floor Position in VR

Enter your height. This lets us set the floor position in VR to make experiences feel even more real.

Continuers

165

Input the user’s height as CM unit

Don't worry about how tall other people who use your Rift might be. We only need the height of the person wearing the headset during setup.

Questions about entering your height? Learn more.

Next

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How to set up VR devices

Clear Your Space
Move your chair and anything else that you might hit, bump into, or trip over. Make sure you have a minimum space of 1 meter by 1 meter to move around in while using your VR. Move in better.

Stand Up and Place Your Sensors
1. Place your sensors 1-2 meters apart from each other.
2. Route and lift your sensors so the glossy side is pointing into your play area.

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How to set up VR devices

Set Up Sensor Tracking

Tracking works best when each of your sensors can track you. In the following steps, we’ll make sure your sensors are set up correctly for your available play area.

Having trouble? Get help

Next

How to set up VR devices

Room Orientation

This will help us orient your room layout for the next step.

1. Point your Touch controller at this screen and move it until the diagram matches your actual sensor position.
2. Press the trigger to confirm.

# If the re-orienting message appears, ignore it and click Next

Point your Touch controller at this diagram.

Having trouble? Get help

Skip

Next
How to set up VR devices

Adjust Sensor Position
Your sensors should be no less than 1 meter apart. Wider is better, up to 2 meters.
Move them farther apart and try again.

± After setting up an appropriate distance between 1 meter and 2 meter, push the ‘Retry’ button to reset

± In case of difficulties due to the lack of space, proceed by neglecting this display with pushing ‘Next’ button.

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How to set up VR devices

Set Up Your Guardian System

The Guardian System lets you create boundaries in VR that appear when you get too close to the edge of your play area.

For more information about the set up and limitations of the Guardian System, go to www.redcross.org/help/

Having trouble? Get help.

Next

---

How to set up VR devices

Set Your Boundaries

1. Squat and hold the trigger while walking around the edges of your cleared play area. Keep the Touch controller in view of the sensors; don’t block it with your body.

2. To add to or complete your play area, squat and hold the trigger while moving.

# Set in accordance with participant’s height and area of activity.

# If the space is small, the reset message will appear.

# It is possible to adjust the angle of the head sensor.

Having trouble? Get help.

Skip > Continue

---

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How to set up VR devices

Complete to the setting

Set Your Boundaries
1. Squeeze and hold the trigger while walking around the edges of your cleared play area. Keep the Touch controller in view of the sensors; don’t block it with your body.
2. To add to or complete your play area, squeeze and hold the trigger while moving.

If an appropriate area (larger than width 2 meter X length 1 meter) is setted, go on to the next process by pushing ‘Continue’ button.

Fall to the setting

Set Your Boundaries
1. Squeeze and hold the trigger while walking around the edges of your cleared play area. Keep the Touch controller in view of the sensors; don’t block it with your body.
2. To add to or complete your play area, squeeze and hold the trigger while moving.

Guardian System works best with a larger play area (2 meters by 1.5 meters). Add space to your play area for the optimal experience.

If it is impossible to keep a larger area: reset by ‘Reset’ button.

Proceed by pressing the ‘Continue’ button.
How to set up VR devices

Set Your Boundaries

Guardian System Warning

Please be aware of the following:
- If your sensors move, Guardian System will not work correctly.
- The displayed boundaries may not match the play area you mapped out. Be sure to reconfirm the accuracy of your boundaries as Guardian System cannot warn you of sensor movement.
- If you identify boundary inaccuracies, take off your headset and repeat sensor setup.

For more information about the use and limitations of Guardian System, go to www.oculus.com/warnings

I Understand

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How to set up VR devices

Personalize Your Rift

We designed Rift for comfort and performance. We’ll show you how to get the most comfortable fit and calibrate your headset for the best VR experience.

Next

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How to set up VR devices

About Your Rift
Take a moment to notice the adjustable features of your headset. By customizing the way your headset fits, you'll have a more comfortable VR experience.

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How to set up VR devices

Customize Your Fit

1. Loosen the side tabs half way and top tab all the way. Then angle the headphones out.
2. Put on the headset from back to front.
Note the springs in the headset. These should make it easy to put on and take off your headset once it fits.
If you need to wear your glasses with Rift, learn more.

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How to set up VR devices

Find the Lens Slider

Look for the lens slider on the bottom of your headset. By pushing in and sliding the lens slider, you can adjust the distance between the lenses in your headset. This improves the clarity in VR.

Having trouble? Get help

Next

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How to set up VR devices

Get Ready to Enter VR

1. Slip the straps for your touch controllers over your wrists.
2. Move to the center of your play area and face the screen.
3. Put on your headset and follow the instructions in VR to continue.

Wear a headset and start the tutorial about VR usages.

Having trouble? Get help

Continue in Your Headset

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How to set up VR devices

◊ Tutorial Screen ◊

1. After you wear the headset, press the trigger button on the touch controller.
2. Wait for the sensor to recognize the headset and the touch controller.
3. Press the A button when the recognition is complete.
4. When the scan is complete, proceed to the tutorial, and if you do not want to proceed with the tutorial, remove the headset and press ESC key to exit the tutorial.

Click Library and run VR content in Apps list ➔
How to set up VR devices

Click to run the VR content icon on the desktop

7. Scenarios for VR Contents Operation
VR Content Scenario 1

FIRE IN THEATER: THE MAIN ACTIVITIES BY STEP

- Start Guidance
- Conduct Cautions
- Check Induction lamp
- Check Temperature with hand

Provide instructions for operation of VR device During waiting time (Using the guide plate)

Learn how to use a fire extinguisher
Move the corridor in a low position

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VR Content Scenario 1

FIRE IN THEATER: CHECK INDUCTION LAMP

If you are checking the message, press OK with the A or B buttons.

Now you’re in a fire theater. Please act calmly and think it’s the real situation.

Tip
# (If the experience fails to move)
The theater is without electricity because of the fire.
Please move along the induction lamp on the floor.

# You can move forward through the left joystick.

# Move slowly as you may feel dizzy while walking down the stairs. If you feel severe dizziness, stop using it.
(Use safety mats or chairs for the safety of experienced persons)

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VR Content Scenario 1

FIRE IN THEATER: CHECK TEMPERATURE WITH THE BACK OF THE HAND

If you have moved to the emergency exit along the induction light, check the temperature with your back of the hand as shown on the screen before opening the door.

If you touch the handle suddenly, you may experience secondary injury (burn) due to the hot temperature and consequently have difficulty evacuating.

Tip
# (Take the hands of the experienced person and demonstrate temperature check with the back of the hand.)

This emergency exit cannot be used as a fire.
Let’s find the other exit and move on.
(Move automatically)

Tip
# Please look around and check the escape route.

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VR Content Scenario 1

FIRE IN THEATER: LEARNING HOW TO USE A FIRE EXTINGUISHER

At this stage, we will experience how to use fire extinguishers. Remove the safety pin first according to the fire extinguisher, and then hold the bottom of the fire extinguisher nozzle and head for fire.

Tip
# (Inducing the experienced person to pull the handle and grasp the bottom of the nozzle)

Press the button to activate the fire extinguisher. Please spray it towards the fire for 20 seconds.

Tip
# (Concentrate the fire extinguisher on the source of the fire. Pray the fire extinguisher left and right to better control the fire.)

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VR Content Scenario 1

FIRE IN THEATER: MOVE THE CORRIDOR IN A LOW POSITION

The top of the theater is filled with toxic gas from the fire. Please move in a low position for safe evacuation.

Tip
# (In case the user is seated)
- There is a lot of smoke, so cover your nose with one hand and move on. (Or use a wet handkerchief)

# (In case the user can't move with the head down)
- Suppose this is a real situation, move lower as much as possible.
VR Content Scenario 1

FIRE IN THEATER:
MOVE THE CORRIDOR IN A LOW POSITION

Tip
# (If the experienced person has moved to the elevator, A statement that the elevator should not be used in the event of a fire.)
In real situation, you might have lost your life. you must use stairs.

After exit passage)
Thank you for your hard work. You have successfully completed all the experiences.

If a fire breaks out in the theater, 1) check the induction light, 2) check the temperature with the back of your hand, 3) lower your posture as much as possible, and 4) move on the stairs!
Please remember the 4 information.

VR Content Scenario 1

FIRE IN THEATER: SPONSORSHIP GUIDE

Tip
# (Sponsorship guidance for the ordinary people)
Thank you for the experience. Please check the last message. The Korean Red Cross uses donations to make Korea safer. We are working on various activities to make it.

# (Signature and survey)
Please sign and participate in the survey to confirm your experience.

Thank you.
VR Content Scenario 2

ESCAPE FROM SINKING SHIP:
THE MAIN ACTIVITIES BY STEP

- Start Guidance
- Conduct Cautions
- Guide a basic safety rules
- Get a life jacket
- Evacuate with stairs
- Learning how to use a lifeboat
- Wearing a life jacket
- Boarding Slide
- Using a survival bags

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VR Content Scenario 2

ESCAPE FROM SINKING SHIP:
STARTING GAME AND CONDUCTING CAUTIONS

Hello.

Before you experience VR, I’ll demonstrate you how to use the equipment.

After listening to all the explanations, wear a headset.
Please adjust it to the left and right and focus.

Hold the hand controller with both hands and place the right index finger on the trigger position.

When you’re all ready, put the blue laser line at the beginning and click on the trigger to start.

Please read the details and precautions on the screen.
In particular, in case of dizziness or serious discomfort, please stop using the device.

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VR Content Scenario 2

ESCAPE FROM SINKING SHIP:
STARTING GAME AND CONDUCTING CAUTIONS

There was an accident on the cruise ship. Don’t be surprised and act calmly. There’s water in the boat right now. As you move in the water, the speed of movement is slowing down.

**Tip**
# (inducting swimming / independent of actual function)
Please move through the water, as in the water swimming through the arm.
In real situation, it’s more difficult to move because ships lean more and there’s a lot of water.

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VR Content Scenario 2

ESCAPE FROM SINKING SHIP:
STARTING GAME AND CONDUCTING CAUTIONS

**Tip**
# (select life jacket/emergency exit movement)

> Life Jacket: If you must acquire it on board but wear it on the deck. Inboard wear can make evacuation more difficult due to buoyancy.

> Emergency Exit: (Display ‘Fail and return to first’ or ‘Resume’)
  * Return to first: Start from the first step
  * Resume: Start from the failure phase

**Tip**
# (Failure) Now you’ve lost your precious life once. I hope you succeed next time.

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VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
INFORMING PRECAUTIONS TO BEGIN

The fire occurred in the vessel and it is only possible to take the stairs, not elevator, to move to the deck.

Tip
# (In case the participant cannot find the stairs)
Cases where people cannot spot the stairs may occur in real life. Carefully look around and take the stairs.

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VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
INFORMING PRECAUTIONS TO BEGIN

After arriving at the deck, put the life vest on. (The life vest will appear on the screen after a few moments.) Look around to find the life vest.

After putting on the life jacket, move accordingly to the green line demonstrated to the life boat.

Tip
# (Waiting time occurs due to the information comment)
Look around carefully to spot the lifeboat and the degree of the vessel.

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VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
INFORMING PRECAUTIONS TO BEGIN

If you move along the green line, a life boat will appear. Although the cabin crew will prepare the life boat in actual situations, we will experience the instructions of how to use it just in case.

After the life boat stretches out into the sea, move towards the escape slide.

Tip
# (Waiting time occurs due to the information comment) Look around carefully to check out the escape slide.

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VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
INFORMING PRECAUTIONS TO BEGIN

Stretch the arms and legs towards the column and slide down.

Tip
# (Actual practice for the participants)
For actual experience, we will sit down and move.
VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
INFORMING PRECAUTIONS TO BEGIN

After embarking on the life boat, spot the survival kit, open it and cut the rope with the safety knife.

Later, shoot the flare overhead and check if it worked properly.

Tip
# Between the information comment and the last message
Congratulations for success. The rescue team have spotted the flare and will arrive soon.

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VR Contents Scenario 2

ESCAPE FROM SINKING SHIP:
PHRASE FOR DONATION

Tip
# (In cases where donation guide for ordinary people is needed)
Thank you for your participation. Please check the last message. The Republic of Korea National Red Cross strives to create safer Korea through donation.

# (Requests for signatures and surveys)
Finally, it will be thankful to sign and fill out surveys for experience confirmation.

Thank you.

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8. Measures to control VR Device Errors

Measures to control VR Device Errors

ERROR 1: ERROR IN PAIRING HAND CONTROLLERS

# When ‘Poor tracking quality’ error message appears in Sensor USB in the process of paring hand controllers.

1) In case where the laptop is not be powered on, plug the power cable to supply power.

2) In case where the sensor is exposed to direct sunlight, install shade to block light.

# The problem is mostly related with power supply. As a result of outdoor operations, the device worked out even under direct sunlight.
Measures to control VR Device Errors

ERROR 2: SENSOR TRACKING ERRORS

# Although the triggers were horizontally adjusted by pulling both hands, a message stating to continue adjusting might appear.

1) Ignore the message by pressing the ‘Next’ button below.

2) However, if it is unable to press the ‘Next’ button, press ‘Retry’ to reset.

Measures to control VR Device Errors

ERROR 3: ERROR IN ROOM SETUP PROCESS

# Situations where error in room setup process occurs.

1) If the room is narrow, press ‘Retry’ to expand the area.

2) If the hand controller does not work well, adjust a suitable spot by adjusting the head of the sensor horizontally. (Usually 15 degrees horizontally)

3) However, in cases of utilizing chair or children participating, consider the position of the hand controllers to adjust the degree of the head of the sensor.

4) If moving the whole sensor, full setup from the beginning is required.
Measures to control VR Device Errors

ERROR 4: ERROR IN HEADSET SETUP PROCESS

# Situations where error in headset setup process occurs
1) In cases where one has moved away from the central circle of the virtual space, move back and redo the pairing process.
2) If the height of the sensor and the position of the hand controller unfit, reset the hand controller vertically and press the trigger.
3) If the set virtual space quakes or distorts, try full setup to re-pair the sensor and the hand controller.

Measures to control VR Device Errors

ERROR 5: CASES WHERE THE SCREEN STOPS OR BECOME DISTORTED

# Cases where the screen suddenly stops or become distorted
1) Press Ctrl + R(Reset) and restart.
2) If the problems is not solved, press Esc, coercively end the system and restart.
4) In order to restart, press saved icon of the Oculus library.
5) If the system does not operate in Library, try desktop shortcut.
6) If it does not start within the stated process, retry to full setup.
Measures to control VR Device Errors

ERROR 6:
WHEN CONTENT OF FIRE IN THEATER DOES NOT START

1) When the contents does not operate on Library or desktop.
   1. (for the first time) Wait putting on the headset and the hand controllers
      * VR contents only operates when headset and hand controllers are located properly
   2. (after the contents end) If the participant takes off the headset before the donation message appears, the game pauses automatically. Therefore, headset needs to be put on until the last message finishes.

9. Public Relations of VR based Disaster Safety Experience

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Public Relations of VR based Disaster Safety Experience

UTILIZING PUBLIC RELATIONS CHANNEL AND COMMODITY:
PHOTOGRAPHS, FACEBOOK, ETC.

1) Photograph: Minimum of 4 per each event (Stick promotion panel in front of the VR)
2) Facebook: https://www.facebook.com/apdrc01/ (Follow and Like)
3) Commodity: Headset stickers, Facebook proof shots form boards and banners