

A comparative analysis on maritime disaster management between Korea and Sweden

ABSTRACT

The purpose of this study is to illustrate the importance of crisis management planning and effective governance by comparing and analysing cases related to crisis management in disasters. Firstly, this study analyses the sinking of the MV Sewol of Korea, one of the worst ship accidents in the world, and criticise the crisis management plan. It also applies relevant methodologies to identify how to manage incidents and how to perform them for better management. Secondly, this analyses the sinking accident and crisis management plan of MS Estonia in Sweden which is one of the worst ship accident in the world. As a result, MS Estonia disaster triggered improvements in safety policies in Sweden.

This study argues that Korean government can learn important lessons from Sweden to avoid the "vicious cycle" that exists in South Korea's policy decisions related to safety issues. Compared with the case in Sweden, this study suggests that further measures are needed to end the vicious circle of low safety standards and low confidence in Korea. Compared to the case in Sweden, a few policy recommendations are suggested in this study.

Keywords: Disaster management, Maritime disaster, Vicious cycle, MV Sewol, Ms Estonia

1. INTRODUCTION

The purpose of this study is to illustrate the importance of crisis management planning and effective governance by comparing and analysing cases related to crisis management in disasters. Firstly, this study analyses the sinking of the MV Sewol of Korea, one of the worst ship accidents in the world, and criticise the crisis management plan. It also applies relevant methodologies to identify how to manage incidents and how to perform them for better management. Secondly, this analyses the sinking accident and crisis management plan of MS Estonia in Sweden which is one of the worst ship accident in the world. As a result, MS Estonia disaster triggered improvements in safety policies in Sweden.

This study argues that Korean government can learn important lessons from Sweden to avoid the "vicious cycle" that exists in South Korea's policy

30 decisions related to safety issues. Also it provides two figures. First, it
31 presents relevant data on the safety levels of Sweden and Korea (and some
32 other OECD countries) and analyses the fundamental structural reasons for
33 the relative success and failure of the two safety policies. Second, this study
34 analyses the theoretical framework through the Sendai framework of the
35 tragedies of MV Sewol and MS Estonia.

36 37 **2. THE SINKING OF MV SEWOL IN SOUTH KOREA**

38
39 On April 16, 2014, the South Korean ship MV has sunk nearby the southwest
40 of Jindo. This tragedy took away 304 people's life and students who made a
41 school excursion to Jeju Island occupied a significant portion of the victims
42 so numerous Korean people grieved throughout the country. The public was
43 quick to pay attention to the fact that this disaster occurred artificially. If
44 appropriate safeguards and crisis management procedures had been in
45 place, it could have easily been prevented[1].

46
47 Media reports have focused on issues such as the failure of the Korean
48 government to manage disasters and the unethical business practices of
49 people related to Cheonghae Shipping, a MV-age holding company. The
50 families of the victims waited months in the Pang-Mok harbor, hoping to find
51 dead bodies in the sea. The pressure on the government's inability that was
52 the main cause of the disaster spread widely. After the disaster, the citizens
53 in Korea visited approximately 2,204,224 people in the first 100 days after
54 the sinking, and 67 memorials were established[2]. In addition, citizens
55 expressed sympathy by wearing a yellow ribbon. They demanded that the
56 government enact new safety laws and thoroughly investigate the events and
57 punish those directly contributing to the chain of events. In summary, the MV
58 Sewol sinking focuses on Korea's policy decisions with defined by Birkland[3].
59 Relatively uncommon; the potential to cause a potentially larger future can be
60 identified or defined as harmful. It is harmful to a specific geographic area or
61 community of interest. "It is known to policy makers and the public at the
62 same time." Following a generally focused event is a series of new policy
63 developments in the field. Therefore, the Korean government can adopt or
64 develop new safety-related policies in response to the Sewol disaster[2][4].

65
66 Cheonghae Shipping has continuously pursued economic benefits. First, the
67 company minimized security investments, accounting for only 0.001% of the
68 2013 safety training session gross revenue. Second, the company did not
69 regard the crew as a top priority. Three of the five MV Sewol crew, including
70 the captain, were temporary workers. Their overall salary was 20-30% lower
71 than other coastline shipping companies paid. This poor environment and
72 lack of safety education clearly affected the way the crew responded in the
73 event of a disaster[5].

74

75 Third, Cheonghae shipping did not comply with regulations to increase profits.
76 Before the disaster, MV crew members forged the documents indicating the
77 amount of cargo and the number of cargoes when reporting to the Korea
78 Maritime Institute, which is responsible for passenger and cargo safety. The
79 reported amount was 657 tons of cargo and 150 passenger cars. However,
80 the ship actually had the cargoes of 2,142 tons, and 185 vehicles. The ship
81 would have to have 1565 tons of ballast water, but only had 761 tons in the
82 ballast water tanks which was not enough to actually stabilize the ship on the
83 day of the disaster. This fabricated reporting risked the lives of passengers,
84 yet the company falsified 56 of the 118 trips from January to April 2014[6].

85

86 Fourth, the MV crew members were found to have contributed to the tragedy
87 by committing bribes three members of the Incheon Coast Guard after the
88 vessel was renovated. Thereby avoiding the Cheonghae Shipping from
89 submitting important documents. Finally, the Cheonghae Shipping lowered
90 the ship's weight by 100 tons and over-estimated the ship's carrying capacity
91 to be approved by the Korean shipbuilding company. Ultimately, the
92 incompetence of the shipbuilding industry and the production of the
93 Chunghaejin Shipping were jointly responsible for the tragedy of the Sewol[7].

94

95 **3. THE SINKING OF MS ESTONIA IN SWEDEN**

96

97 MS Estonia sank on September 28, 1994, and killed 852 people, including
98 501 Swedes and 290 Estonians. The ship was first introduced in 1980 by the
99 Finnish company Rederiaktiebolaget and operated the routes between Turku
100 (Finland), Mariehamn (Finland) and Stockholm (Sweden). It was sold to the
101 Estline Maritime Company in Estonia in 1993. All members of the crew were
102 qualified, and the language of communication on board was Estonian, which
103 everyone understood[8].

104

105 MS Estonia departed from Stockholm at 7:15 pm on September 27, and 989
106 people boarded. The weather showed serene breezes and mild weather, but
107 later weather worsened and some passengers reported seasickness
108 immediately after midnight. At 1 am, one of the crews heard a loud sound like
109 a wave of ship bow. He reported it as a normal occurrence, but there was no
110 ordinary incident, MS Estonia's bow visor was dismantled at 1:15 am and
111 seawater began to penetrate. At 1:20 am, the crew alarmed and the first call
112 was registered at 1:22 am. The water entered the ship very quickly and
113 completely disappeared from the radar at 1:50 am. An hour after the
114 disappearance of Estonia, a rescue effort began and an ambulance
115 helicopter finally arrived at 03:05. Also four rescue boats arrived at the
116 accident site in short time. But, only 138 passengers were ultimately saved.

117 During the next three days, 92 bodies were recovered from the water and the
118 rest of the passengers were still unknown.

119
120 After the catastrophe, Estonia (MS Estonia) was constructed hastily and
121 many parts of the ship were found to have been contracted by a Finnish
122 manufacturer. This caused the ship to sink, including a broken bow visor at
123 night of the accident. At the time of the disaster, the other boats also had a
124 bow visor the Estonia had. According to the official report, the main technical
125 reason for the disaster is "safety helmets do not have safety devices",
126 "experience in the shipbuilding industry was limited, and foundation work for
127 the construction of the bow visor was not well established"[8]. Crucially, the
128 report suggested that the accident was not caused by problems related to
129 corruption, crew failure, or clear regulatory failure. Instead, the "Black Swan"
130 catastrophe occurred and all existing safeguards overwhelmed due to
131 weather conditions at night[8].

132
133 Since the sinking of MS Estonia, the Swedish government has worked with
134 all interested parties to establish an agency to investigate the cause of the
135 accident. Table 1 summarises the main activities of the first year after the
136 accident.

137
138 **Table 1 Swedish Policy Responses to the MS Estonia Accident**
139

1994	<p>September 28: the Swedish prime minister meets with the prime ministers of <i>Estonia</i> and Finland; they decide to set up the Joint Accident Investigation Commission.</p> <p>September 28: the Swedish prime minister establishes an emergency group, which has its first meeting that day and starts contacting different agencies to deal with the aftermath of the disaster.</p> <p>September 30: the Swedish Maritime Safety Inspectorate begins inspecting all passenger vessels arriving in Swedish harbors.</p> <p>October 2: national day of mourning.</p> <p>October 3: minute of silence in parliament. October 18: party leaders' meeting.</p> <p>October 19: the Minister of Communication announces that the government has instructed the Swedish Maritime Administration to conduct an analysis regarding how to handle the</p> <p>bodies of the victims of the accident.</p> <p>October 20: the Public Art Agency is instructed to investigate what is required to establish a place of mourning.</p> <p>November 3: a representative is appointed by the government to help the victims to promote their interest.</p> <p>December 1: the government decides to provide financial assistance to organisations of relatives of the victims.</p> <p>December 7: party leaders' meeting.</p> <p>December 12: party leaders' meeting.</p> <p>December 15: the government decides not to salvage the vessel and the disaster site is declared a graveyard.</p> <p>December 22: the government establishes the Maritime Safety Committee, which is charged with developing ways to improve maritime safety.</p>
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	April 7: the Joint Accident Investigation Commission publishes an interim report concerning technical aspects of the accident.
1995	June 1: the parliament approves the decision to sanctify the accident site. September 28: one year after the accident, several memorial events are held throughout the country.

140

141 Immediately after the accident, on 29 September 1994, after the meeting of
142 the Prime Ministers of Finland, Estonia and Sweden, a joint accident
143 investigation committee was formed to investigate the technical cause of the
144 accident. The second group, "analysgruppen", was formed by the Swedish
145 government to investigate the actions of all state bodies (including parastatal
146 bodies) involved in dealing with accidents and their repercussions [8].

147

148 The commission initially consists of nine maritime and judicial experts from
149 three countries, Sweden, Estonia and Finland, and has only one career
150 politician. It was free to work independently of the government. The analyst
151 group, discussed further in the next section, consists of five Swedish
152 nationals (three scholars, one union leader and the head of the Swedish Red
153 Cross).

154

155 The response to the MS Estonian incident reflected Sweden's ability to
156 collect crisis management in a number of ways. First, discussions on the MS
157 Estonia accident were held among the leaders of all the parliaments in
158 Sweden in 1994, 1996, 1997 and 1999, showing that all parties are jointly
159 adopting crisis and risk management issues. Second, Oct. 2 was declared a
160 day of mourning, and the National Memorial Hall was established in 1995 in
161 Djurgården, Sweden, with a tax fund with the names of all the deceased,
162 excluding the 37 families requested by the family. The memorial site
163 guarantees that there is space to remember the tragedy, and architecture
164 can be seen as an act of trust building. In 1995, along with Finland and
165 Estonia agreed Sweden's decision to sanctify the Estonian shipwreck,
166 protect the tomb, and build trust equally. Finally, a memorial ceremony was
167 held every year for 20 years after the disaster.

168

169 **4. COMPARATIVE DISCUSSION**

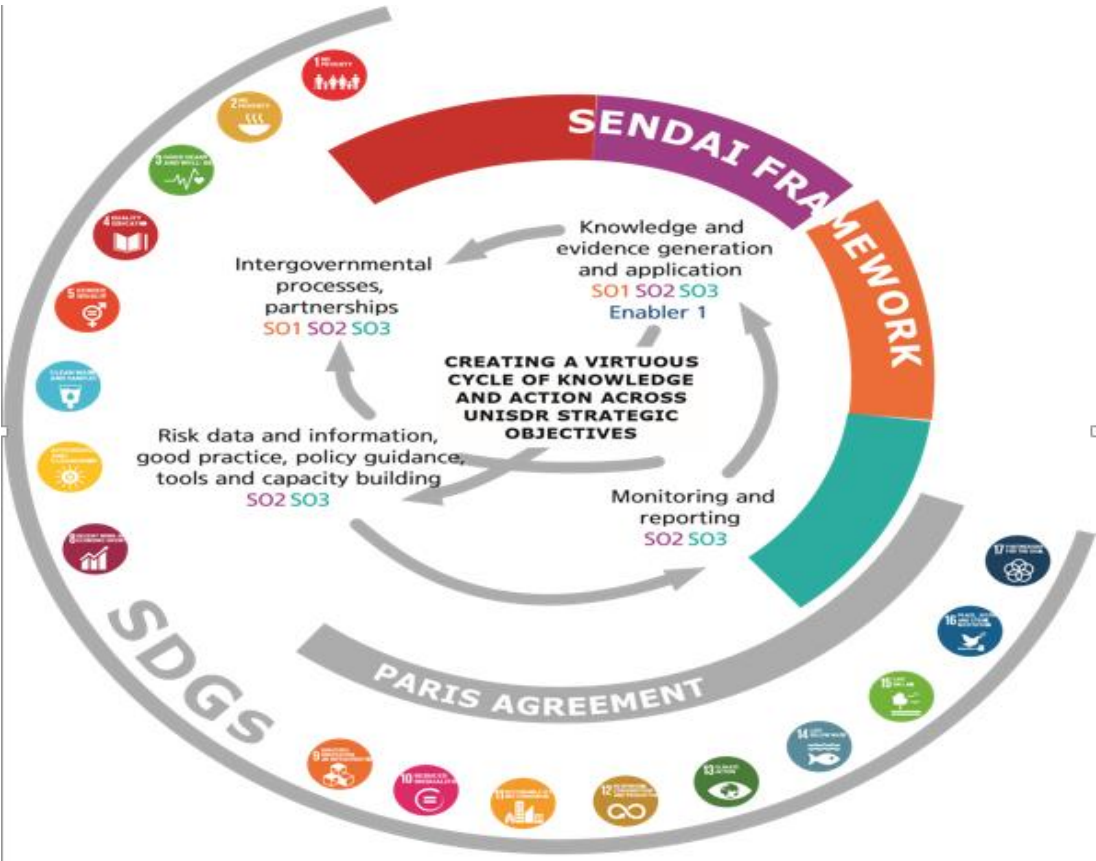
170

171 In Korea, economic reductionism promoted deregulation policies and
172 resulted in the tragedy of the MV. In Sweden, economic development
173 balances historically strong welfare systems. This study analyses the above
174 two cases using the Sendai framework, one of the crisis management
175 theories. The Paris Agreement and the Sendai Framework provide an
176 international social strategy for mitigating disaster risk. The strategy is shown
177 in Figure 1.

178

179
180

Figure 1 SFDRR-SDGs-Paris Agreement[9]



181
182

183 The Sendai Framework sets expectation benefits for a substantial reduction
184 in economic, physical, social, cultural and environmental asset losses to
185 individuals, businesses, communities and nations, as well as loss of life,
186 livelihood, and health from disaster by 2030. Priority is set for this expected
187 effect and specific action items are presented. The behavior priorities for the
188 Sendai framework are shown as follows.

189

190 Behaviour priority 1 is understanding disaster risk and key issues are Risk
191 assessment, evaluation, information sharing. In practice, policies and
192 practices for disaster risk management should be based on understanding
193 disaster risks at all levels: vulnerability, competence, exposure of individuals
194 and assets, and the nature and environment of the risk factors. This
195 knowledge is used in the development and implementation of pre-disaster
196 risk assessment, prevention and mitigation, appropriate preparation and
197 effective disaster response.

198

199 Behaviour priority 2 is enhancing disaster risk governance for disaster risk
200 management and key issues are Implementation system, governance /

201 collaboration. Actually, Disaster risk governance at national, regional and
202 global levels is crucial to addressing disaster risks effectively and efficiently.
203 There is a need for solid vision, planning, competence, guidance, and inter-
204 sectoral coordination as well as involvement of relevant stakeholders.
205 Mechanisms related to disaster risk mitigation and sustainable development,
206 and the promotion of collaboration and cooperation in the enforcement of
207 various means by organisations.

208

209 Behaviour priority 3 is investment in disaster risk mitigation to build resilience
210 and key issues are investment & finance. Indeed, Public and private
211 investment through structured or unstructured methods in preventing and
212 mitigating disaster risks is essential for enhancing economic, social, health
213 and cultural resilience as well as the environment, as well as individuals,
214 communities, countries and their possessions. These investments are cost-
215 effective and can be a key factor in innovation, growth and job creation.

216

217 Behaviour priority 4 is enhance disaster preparedness for 'Build Back Better'
218 for effective response and recovery / rehabilitation / reconstruction and key
219 issues are Development Process - Disasters, Risk Reduction Integrated
220 Equity. Practically, the increase in population and assets exposed to
221 disasters and the steady increase in disaster risk show the need to ensure
222 that the capacity for effective response and recovery at all levels is prepared.
223 The key is to give women and the disabled the right to openly initiate and
224 promote gender equality, universal access, response, recovery, and
225 reconstruction methods. Build-Back-Better 'through methods such as
226 integrating disaster risk mitigation into development tools, and ensure that
227 countries and communities have resilience to disasters[9].

228

229 Both the sinking of Sewol in South Korea and the sinking of Estonian in
230 Sweden, both of which failed to practice the action priority 1 proposed by the
231 Sendai Framework. However, in response to the Estonian sinking, the
232 Swedish government has been doing well with the Sendai Framework's
233 action priorities 2, 3, and 4 and has been widely discussing as a good
234 example of disaster response until now. On the other hand, the South
235 Korean government has acted to ignore the priorities of the actions proposed
236 by the Sendai Prime Work and to cover their mistakes. The actions
237 eventually resulted in even more horrible results.

238

239 After Estonia's sinking, the Swedish prime minister was promptly informed
240 and held a press conference at 11:30 the next morning. Soon after, the
241 Swedish government established a joint accident investigation committee
242 and the government established a network of agencies to work with civil
243 society members, the Swedish Church and other actors to address the crisis.
244 The government appointed a negotiator to act as an intermediary between

245 the bereaved family and the relevant government agencies, and opened the
246 national day of mourning.

247

248 Although the failure of the front line actors was equally important due to
249 structural weaknesses in corruption and other disadvantages in triggering the
250 Sewol disaster, Korea's political debate subsequently focused on reforming
251 the central organisation. Conversely, the Swedish government has focused
252 on improving the behaviour of frontline workers. In the case of Estonian
253 accidents, corruption has not been a contributing factor since parliamentary
254 auditors have exercised effective oversight. Since the Estonian disaster, the
255 Swedish government has appointed a national analysis Gruppen as well as
256 the Koint Accident Investigation Commission, an international investigative
257 body. Analysts regularly met with people affected by the tragedy so that
258 everyone could be represented and regularly expressed their views. The
259 Swedish government therefore avoided a one-on-one fragmentary
260 investigation of institutional deficiencies in June and August 2014. Also, the
261 bereaved families in South Korea were often ignored by legislators and freed
262 from public and media discourse.

263

264 In the case of the MS Estonia investigation, analysts of the Joint Accident
265 Investigation Commission gathered factual information and delivered a final
266 report, then set up an archive called the Estonia Samlingen, which allowed
267 the general public to access the findings. The research also contributed to
268 the improvement of international maritime safety policies and to national and
269 international policy learning.

270

271

272 **5. CONCLUSION**

273

274 In conclusion, Compared with the case in Sweden, it strongly suggests that
275 further measures are needed to end the vicious circle of low safety standards
276 and low confidence in Korea. Compared to the case in Sweden, five policy
277 recommendations should be considered: (1) appoint a nonpoliticised task
278 force capable of carrying out thorough investigations without a predetermined
279 deadline for final reporting. (2) To establish the public Sewol archive similar
280 with the Estonia Samlingen. (3) Expand resources available to frontline
281 workers in charge of safety and rescue. (4) Moving the national audit body to
282 the legislature. (5) Internationalisation of policy lessons derived from the
283 tragedy of the MV Sewol.

284

285 Firstly, nominating an independent investigation task force is essential to the
286 policy development of joint surveys and analysts in Sweden case. For
287 Scandinavian and Swedish institutions, members drafted primarily marine
288 and legal experts, with one exception for career politicians. Both groups were

289 autonomous and allowed unlimited time to conduct inquiries. In Korea, the
290 Special Investigative Committee is politically discussed to the extent that the
291 government and the opposition demand that 10 out of 17 conventions be
292 filled. Although fair research is most important in future crisis management. It
293 is also necessary to scrutinise the entire Korean society in order to pursue
294 reforms holistically and avoid institutional fragmentation. There is a risk that
295 Korea's special investigation committee will be subject to party politics and
296 be placed in a time frame too limited.

297

298 Secondly, a public, state, and national administrative archive should be
299 established that collects all information related to the MV Sewol tragedy
300 along the Estonia Samlingen line in Sweden. Although one observer[10] has
301 proposed to establish a private archive that is not subject to state control,
302 such an approach may be short, assuming that the content of state control
303 can be subject to political interference. It requires vision because it requires
304 confidence in compliance with future safety policies. Further, the substantial
305 resources needed to maintain such archives should be provided by the South
306 Korean government. Installing a public archive can increase confidence in
307 the government and break the vicious cycle of low trust.

308

309 Third, reform of the safety policy should focus on the front line rather than the
310 top-down reform. Workers at the forefront need enough resources to handle
311 disasters directly and do so. Unfortunately, the policy discourse triggered by
312 the intense event of the MV Sewol tragedy was largely about central
313 government agencies, and issues related to frontline actors were rarely
314 discussed. When firefighters raised their voices to require better equipment,
315 not only did they hear their voice, but they must also follow government's
316 decisions to reduce the use of temporary workers in safety-related jobs[11].

317

318 Fourth, consideration should be given to moving the system oversight of the
319 Audit Office, currently located under the president's office, to the National
320 Assembly should be considered. From a normative point of view, the
321 Legislature represents a wider range of actors and wider citizens compared
322 to a president elected by majority rule in a single period of five years. This
323 institutional change requiring constitutional reform could potentially provide a
324 more independent auditing agency for investigative activities. Separating the
325 safety zone audit from the executive can also help limit the influence of
326 bureau-fia in the future.

327

328 Finally, internationalisation of policy lessons derived from the Sewol disasters
329 is important. The Korean coastal ship industry currently fails to meet
330 international standards, and initial deregulation contributed to the accident.
331 The International Maritime Organisation imposed ISM (International Safety
332 Management) regulations in the maritime shipping industry after the famous

333 tragedy of Titanic in 1912, and Sweden contributed to the elaboration of this
334 rule since the tragedy of MS Estonia. The Korean coastwise vessel industry
335 must also actively participate in international maritime issues. This is
336 because important lessons can be learned from the tragedy of the MV Sea.
337 This may be another step in breaking the vicious cycle of prioritising the
338 economic growth of the shipping industry on passenger safety.

339

340 In order for Korea's modernisation to progress, it is necessary for the national
341 institution to continue to have significant milestones. The five policies
342 presented here will allow the Korean government to restore confidence. A
343 higher level of government trust is important because it provides one of the
344 prerequisites for ending the vicious cycle of Korea. Trust building policies can
345 break the vicious cycle. But the government must first gain this trust. Only a
346 more credible government can link Sweden with an "imagined community" to
347 modernise institutions and to collect risk management. Therefore, the
348 transition to a virtuous cycle of comprehensive modernisation should be the
349 desire of Korean policy makers.

350

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