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3 **A comparative analysis on maritime disaster**

4 **management between Korea and Sweden**

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8

9 **ABSTRACT**

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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.

11

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

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14

15 **1. INTRODUCTION**

16

17 The purpose of this study is to illustrate the importance of crisis management

18 planning and effective governance by comparing and analysing cases related

19 to crisis management in disasters. Firstly, this study analyses the sinking of

20 the MV Sewol of Korea, one of the worst ship accidents in the world, and

21 criticise the crisis management plan. It also applies relevant methodologies

22 to identify how to manage incidents and how to perform them for better

23 management. Secondly, this analyses the sinking accident and crisis

24 management plan of MS Estonia in Sweden which is one of the worst ship

25 accident in the world. As a result, MS Estonia disaster triggered

26 improvements in safety policies in Sweden.

27

28 This study argues that Korean government can learn important lessons from

29 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.

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[1]. 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[2].
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.

65

66 Cheong Hae 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[3].

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[4].

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 Cheong Hae 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.

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.

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"[5]. 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.

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> |
|------|---|

| | |
|------|--|
| 1995 | April 7: the Joint Accident Investigation Commission publishes an interim report concerning technical aspects of the accident. 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.

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

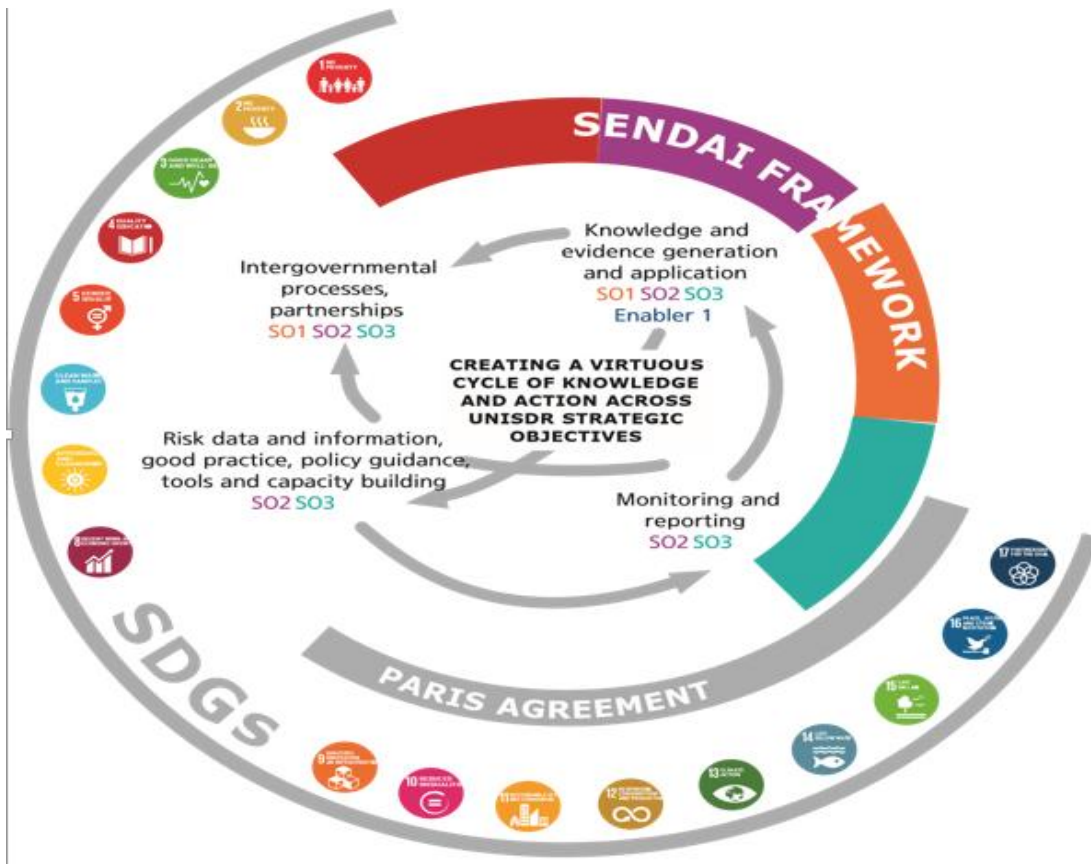
169 **4. COMPARATIVE DISCUSSION**

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 **Figure 1 SFDRR-SDGs-Paris Agreement[6]**

179



180
181

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

188

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

197

198 Behaviour priority 2 is enhancing disaster risk governance for disaster risk
199 management and key issues are Implementation system, governance /
200 collaboration. Actually, Disaster risk governance at national, regional and
201 global levels is crucial to addressing disaster risks effectively and efficiently.

202 There is a need for solid vision, planning, competence, guidance, and inter-
203 sectoral coordination as well as involvement of relevant
204 stakeholders. Mechanisms related to disaster risk mitigation and sustainable
205 development, and the promotion of collaboration and cooperation in the
206 enforcement of various means by organisations.

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

214

215 Behaviour priority 4 is enhance disaster preparedness for 'Build Back Better'
216 for effective response and recovery / rehabilitation / reconstruction and key
217 issues are Development Process - Disasters, Risk Reduction Integrated
218 Equity. Practically, the increase in population and assets exposed to
219 disasters and the steady increase in disaster risk show the need to ensure
220 that the capacity for effective response and recovery at all levels is
221 prepared. The key is to give women and the disabled the right to openly
222 initiate and promote gender equality, universal access, response, recovery,
223 and reconstruction methods. Build-Back-Better 'through methods such as
224 integrating disaster risk mitigation into development tools, and ensure that
225 countries and communities have resilience to disasters[6].

226

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

236

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

245

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

261

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

268

269

270 **5. CONCLUSION**

271

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

282

283 Firstly, nominating an independent investigation task force is essential to the
284 policy development of joint surveys and analysts in Sweden case. For
285 Scandinavian and Swedish institutions, members drafted primarily marine
286 and legal experts, with one exception for career politicians. Both groups were
287 autonomous and allowed unlimited time to conduct inquiries. In Korea, the
288 Special Investigative Committee is politically discussed to the extent that the
289 government and the opposition demand that 10 out of 17 conventions be

290 filled. Although fair research is most important in future crisis management. It
291 is also necessary to scrutinise the entire Korean society in order to pursue
292 reforms holistically and avoid institutional fragmentation. There is a risk that
293 Korea's special investigation committee will be subject to party politics and
294 be placed in a time frame too limited.

295

296 Secondly, a public, state, and national administrative archive should be
297 established that collects all information related to the MV Sewol tragedy
298 along the Estoniasamlingen line in Sweden. Although one observer[7] has
299 proposed to establish a private archive that is not subject to state control,
300 such an approach may be short, assuming that the content of state control
301 can be subject to political interference. It requires vision because it requires
302 confidence in compliance with future safety policies. Further, the substantial
303 resources needed to maintain such archives should be provided by the South
304 Korean government. Installing a public archive can increase confidence in
305 the government and break the vicious cycle of low trust.

306

307 Third, reform of the safety policy should focus on the front line rather than the
308 top-down reform. Workers at the forefront need enough resources to handle
309 disasters directly and do so. Unfortunately, the policy discourse triggered by
310 the intense event of the MV Sewol tragedy was largely about central
311 government agencies, and issues related to frontline actors were rarely
312 discussed. When firefighters raised their voices to require better equipment
313 (2014), not only did they hear their voice, but they must also follow
314 government's decisions to reduce the use of temporary workers in safety-
315 related jobs.

316

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

326

327 Finally, internationalisation of policy lessons derived from the Sewol disasters
328 is important. The Korean coastal ship industry currently fails to meet
329 international standards, and initial deregulation contributed to the accident.
330 The International Maritime Organisation imposed ISM (International Safety
331 Management) regulations in the maritime shipping industry after the famous
332 tragedy of Titanic in 1912, and Sweden contributed to the elaboration of this
333 rule since the tragedy of MS Estonia. The Korean coastwise vessel industry

334 must also actively participate in international maritime issues. This is
335 because important lessons can be learned from the tragedy of the MV Sea.
336 This may be another step in breaking the vicious cycle of prioritising the
337 economic growth of the shipping industry on passenger safety.

338

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

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