

1 **Tactical Conflict Prevention Strategies in Public-Private Partnerships:**
2 **Lessons from Experts**

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13
14 **Abstract**

15 Conflicts are frequent in Public-Private Partnerships (PPP) due to the involvement of multi-
16 disciplined parties within the process. Individual parties among the numerous stakeholders often
17 work towards achieving their own desired goals. Early identification and elimination of potential
18 conflicts are significant to achieving a smooth delivery process of PPP projects. PPP offers
19 imperative benefits for economic development, especially in developing countries. However,
20 despite the huge potentials of PPP in infrastructure development, limited attention still exists early
21 stage on the prevention of conflict. Aside that, a more focused investigation is required across
22 different locations. Therefore, this study aims to enhance the understanding of conflict occurrence
23 and articulate steps to conflict prevention in PPPs through pre-construction stage practices. Expert
24 interviews were carried out in two phases. Phase I identified the current process and triggers of
25 conflicts and Phase 2 identified the strategies, and recommendations to eliminate the conflicts. The
26 purposive sampling method was used for the selection of experts in Sri Lanka and findings were
27 analyzed using the content analysis method. This study identified and categorized the triggers of

28 conflicts in PPP as political interference and public interruption, lack of knowledge about PPP,
29 contractual agreement, and commitment of professionals. Further, the strategies to prevent
30 conflicts were discussed under key headings such as proper professional practice, use of lessons
31 learned, thorough contract drafting, a well-defined program, pre-contract practices, project-long
32 audits, awareness programmes, and government support.

33 Keywords: public-private partnership (PPP), conflicts, conflicts prevention, pre-contract stage

34 **Introduction**

35 Public-Private Partnerships (PPP) arise between the public and private sector as a collaborative
36 effort to deliver public infrastructure and services. In recent years, PPP projects have become
37 increasingly popular, particularly in developing countries especially due to the reasons of limited
38 government resources and the need for efficient delivery of public services. PPP has been
39 extensively used in the fields of infrastructure and public services including transportation, water
40 and sewage, energy, environment protection, and public health (Wang et al., 2017). PPPs involves
41 joint development and risk sharing between partners, these are areas the traditional procurement
42 processes failed to address (Sharafi et al., 2021). However, PPP projects are often complex and
43 prone to conflicts due to differing objectives, interests, and expectations of the public and private
44 partners involved. This has resulted in numerous challenges, including delays, cost overruns, and
45 even project failures, which have had negative consequences for both the public and private
46 sectors. Especially, in developing countries, these conflicts have mainly caused a lack of
47 motivation for the use of PPP in project delivery, conflicts are results of numerous issues
48 confronting PPP (Wang et al., 2017; Sharafi et al., 2021; Gunasekara et al., 2022).

49 To overcome these challenges, pre-contract strategies are important. The pre-contract stage is
50 identified as critical in construction project delivery as most of the major decisions are finalized
51 during this stage (Aigbavboa, 2019). It is the period during which project design or preparation
52 and agreements are reached (Ndekugri, Ankrah and Adaku, 2021). Pre-contract strategies assist in
53 identifying and addressing potential conflicts before their occurrence, minimizing the probability
54 of disagreements and disputes during the project's execution. Pre-contract strategies effectively
55 help to foster trust and collaboration between the public and private partners, leading to better
56 project outcomes.

57 Generally, several conflict prevention practices have been discussed in the construction industry
58 such as thorough risk analysis, proper documentation, and proper professional planning throughout
59 the project (Gould, 2012; Gajaman et al., 2019; Gunasekara et al., 2022). Some prevailing
60 literature also discussed conflict prevention techniques, however, the alignment of these
61 techniques with different procurement methods and specific project phase is still lacking, this is a
62 needed focus. Indeed, studies have considered conflicts in the construction industry; however,
63 limited attention has been given to addressing conflicts in PPP projects (Klijn and Teisman 2003;
64 Spielman, Hartwich, and Grebmer 2010; Wang et al., 2017; Sharafi et al., 2021). Some studies
65 have mainly discussed conflicts in PPP projects at the conceptual level (Akomea-Frimpong et al.,
66 2021; Musenero et al., 2021) and financial level (Sharafi et al., 2021). Although the importance of
67 conflict prevention in PPP projects is widely acknowledged for project success, there is ongoing
68 debate and disagreement over what constitutes proper guidance or best practices or strategies in
69 this area. This highlights the need to enhance the understanding of conflict occurrence in PPP
70 projects and articulate specific pre-construction practices that can prevent conflict occurrence in

71 PPPs. Thus, this research paper aimed to examine the tactical conflict prevention strategies that
72 can be employed in PPP projects, drawing on the experiences and insights of experts in the field.

73 The specific objectives of the study are to:

- 74 1. identify the current process of PPP projects;
- 75 2. identify the triggers of conflicts in PPP projects; and
- 76 3. identify the pre-contract strategies to prevent the identified conflicts.

77 This paper aims to provide valuable insights for policymakers, practitioners, and researchers
78 involved in PPP projects.

79 **Literature Review**

80 **Potential causes of conflicts in public-private partnerships**

81 The Public-Private-Partnership (PPP) has become one of the renowned procurement methods in
82 many countries (Osei-Kyei and Chan, 2016; Chan et al. 2010). It is identified as an effective
83 procurement method to enhance public infrastructure and economic growth. (Osei-Kyei and
84 Chan, 2016). According to Chan, (2015), most PPP projects or contracts have similar kinds of
85 identities such as sharing risks, a long-term relationship, and financing of a public facility by the
86 private sector. Thus, conflicts are common in construction projects procured through PPP. Jaffar,
87 et al., (2011) and Noorzai, (2021) have identified potential causes of conflicts and risks in
88 projects as payment-related conflicts, variations, an extension of time, quality of work,
89 unfamiliar with the local condition, not defining the project clearly, unfair risk allocation by the
90 parties, the differences in ways of doing things and technical specifications. Also, lack of
91 communication, unrealistic client expectations, availability of information, adversarial approach
92 in handling conflicts, lack of knowledge of the local legal system, conflict of laws, jurisdictional

93 problems, unclear contractual terms, lack of team spirit and previous working relationships have
94 been identified as causes of conflicts (Klijn and Teisman 2003; Spielman, Hartwich, and
95 Grebmer 2010; Wang et al., 2017; Akomea-Frimpong et al., 2021; Musenero et al., 2021). Table
96 1 further shows the causes of conflicts in PPPs identified in different studies.

97 Previous studies have also indicated critical success factors and general risks that should be
98 considered towards the success of PPP projects such as favorable economic conditions in the
99 finance market and involving guarantees, effective procurement, and project implementation
100 ability (Li, Akintoye, Edwards, Hardcastle, 2005). Moreover, reasonable risk-sharing, a clear
101 precise goal for the project, defined responsibilities for project stakeholders, incentives,
102 monitoring mechanisms, and legal and political support are other factors (Qiao et al. 2001,
103 Babatunde et al, 2019). Solheim-Kile, Lædre, and Lohne, (2019) highlighted that transparency
104 should be high throughout the construction process as a factor to be considered in avoiding
105 conflicts. Furthermore, a well-organized public body and attractive financial packages are vital
106 to inviting investors to the PPP project (Noorzai, 2021). Also, when it comes to policymaking
107 and negotiating, public bodies and government departments are fundamental to avoid conflicts
108 in PPPs (Osei-Kyei and Chan, 2017). Even though a variety of critical success factors have been
109 identified and are expected to contribute to the success of PPP projects, their specific impact on
110 preventing or triggering conflicts in PPP projects has not been fully explored in the existing
111 studies. Preferably, a focused examination of the strategies for preventing conflict is germane.

112 **Role of government in PPPs**

113 As stated by Ahmadabadi and Heravi, (2019) government has a significant role in PPP projects
114 and project success is largely dependent on government behavior. Governments are responsible
115 for providing conducive environments for PPP projects. Ahmadabadi and Heravi (2019)
116 mentioned that there are many conflicts, especially in PPP-based road projects due to the lack of
117 involvement of the government to resolve conflicts. Governments are responsible for facilitating
118 social development, and objectives while addressing financial problems, social conflicts, and
119 safety issues. In this regard, Boudet et al. (2011) and Meller et al. (2017) mentioned conflict-related
120 factors to PPP projects as contextual factors, project characteristics, and environmental, social,
121 governance, and economic-related factors. Besides, conflicts can be occurred in PPP projects due
122 to public engagement, power, authority, and interests where government involvement is needed
123 (Solheim-Kile, Lædre, and Lohne, 2019). Also, different perspectives of stakeholders can lead to
124 different conflicts such as poorly prepared and executed contract documents, inadequate planning,
125 financial issues, and communication problems where government involvement is required. Table
126 2 further indicates governments' role in handling conflicts of PPP projects as identified from the
127 literature. While the focus of this paragraph is on the role of government in PPPs, it should be
128 noted that all stakeholders play a critical role towards the success of PPP projects. However,
129 considering the government's unique position and involvement as the ultimate decision-maker and
130 regulator, its role in fostering a conducive environment for PPPs and resolving conflicts is
131 particularly significant.

132 The above table exhibit the way that government should involve in avoiding conflicts in PPP
133 projects. Meller et al. (2017) stated that government should be actively involved in the land

134 acquisition process and the social problems which would arise at every stage. Previous literature
135 indicates that while developing a good relationship between stakeholders it is important to
136 monitor the project's progress as well (Ahmadabadi and Heravi, 2019). Meller et al. (2017)
137 reported that it is important to identify social problems at the early stage of the construction
138 otherwise there will be a negative effect on the people who live close to the project. Also, the
139 implementation of government guarantees is important to avoid conflicts. Especially, foreign
140 exchange guarantees, a guarantee against high inflation and high-interest rate, and minimum
141 revenue stream guarantees can be mentioned (Noorzai, 2021).

142 The existing literature on Public-Private Partnerships (PPP) has identified the significance of
143 conflict prevention strategies to achieve successful outcomes in PPP projects. However, despite
144 the extensive literature on conflict prevention techniques in the construction industry, there is a
145 lack of comprehensive alignment of these techniques with different procurement methods and
146 specific project phase(s), particularly in the context of PPP projects.

147 The existing studies have mainly discussed conflicts in PPP projects at the largely theoretical
148 level at specific locations, but little attention has been given to identifying the specific pre-
149 contract strategies that can be used to prevent conflicts in PPP projects. This gap in the literature
150 emphasizes the need to enhance the understanding of conflict occurrence and articulate pre-
151 construction practices that prevent conflict in PPP projects. It is important to examine these key
152 pre-contract strategies to prevent conflicts.

153 **Research Methodology**

154 A qualitative research approach was adopted in this study. Data was collected using semi-
155 structured interviews conducted with carefully selected experts. The experts were selected using

156 the purposive sampling method (Sadeghi et al., 2016). This method is among the frequently used
157 sampling techniques in qualitative investigations, the technique requires participants to be chosen
158 based on predetermined criteria connected to certain research objectives (Onwuegbuzie &
159 Collins, 2015). In this method, participants are hand-selected by the researcher because they
160 possess the characteristics or phenomena being studied or because they have rich information
161 regarding particular cases (Boswell & Cannon, 2018). The sample size of experts is twelve, the
162 criteria for selection includes (i.) experience in the construction industry and PPP, (ii.)
163 involvement in early-stage arrangements for PPP project (iii.) readiness to participate in the
164 study, (iv.) involvement in conflict-related scenario was an advantage. The sample size of experts
165 was limited to 12, as data saturation was achieved within 12 interviews. This study reached
166 sufficient data within 12 interviews where additional data collection does not result in new
167 information or themes. Experts were mainly identified through snowballing, interestingly, the
168 selected experts are currently involved in PPP projects, they include civil engineers, quantity
169 surveyors, and project managers representing both public and private partners. The interviews
170 were conducted in two phases. Interview phase I was conducted first to identify the current
171 process and triggers of conflicts in PPP projects involving the professionals that participated in
172 PPP projects in Sri Lanka including the Colombo Port PPP project. After identifying the current
173 process and conflicts, interview phase 2 was conducted to identify the strategies, and
174 recommendations to eliminate the conflicts in PPP projects. The data analysis was done using
175 content analysis. The content analysis enables the provision of systematic appraisal of objectives
176 along with effective and rigorous pattern identification (Zou, Sunindijo & Dainty, 2014). Nvivo
177 12 data analysis software was used for the content analysis. Figure 1 shows the percentage of
178 respondents, and the profile of the respondents is shown in table 3.

179 **Findings and Analysis**

180 **Current process of the PPP project**

181 Interview phase 1 was carried out first to identify the current process of PPP projects process and
182 triggers of conflicts in PPP. The first stage mentioned by the participants was the identification
183 and thorough screening of the scope of the PPP project before its execution. As explained by the
184 participants the purpose of this stage is to clear understanding of the stages and characteristics of
185 the project, and project economics from initial planning to project implementation. This stage is
186 particularly suited to PPP initiatives driven by the goal to accelerate infrastructure development
187 by substituting PPPs for public financing. In these circumstances, there is a relationship between
188 the investment choice (whether or not the project should move forward) and the procurement
189 decision (whether or not the project should be a PPP). It might not be feasible (due to financial
190 restrictions) to deliver a project as a normally procured project if it is not appropriate to be a PPP.
191 The government can save money on an appraisal if the project is not appropriate for a PPP by
192 screening it for PPP possibilities early on. In the second stage, roles and responsibilities are
193 defined, environmental feasibility assessments are performed to determine the impact of social,
194 economic, and environmental factors, and a preliminary PPP project structure is established. As
195 mentioned by the participants, roles and responsibilities should be defined as which entity
196 performs which role at each stage. Depending on the unique needs of the PPP program and the
197 existing institutional duties and responsibilities, institutional arrangements and the distribution of
198 functions vary from one area to another. Feasibility studies were also mentioned by the participants
199 as it is important to make sure the chosen project is properly designed and can be successfully
200 tendered and implemented. Feasibility studies on environmental impact assessments, socio-
201 economic assessments, commercial feasibilities on PPP affordability, assessment of risks, and due

202 diligence were mentioned as general assessments to be included in the second stage of the process.
203 Pre -structuring of the PPP project and defining procurement route and plan were also mentioned
204 for the second stage.

205 Pre-planning and pre-drafting of project documents were mentioned as the third stage of the
206 process. This includes the procurement plan and the project management plan. Once this is done,
207 drawings and contracts are drafted according to the defined project draft, perhaps project scope
208 and environmental assessment are re-analyzed again during this stage. Financial risks and payment
209 mechanisms are also defined in this stage and dispute resolution systems are defined. As
210 highlighted by P1, P4, P5, and P6 defining performance requirements and evaluation criteria are
211 also undertaken during this stage. Tendering and awarding are undertaken next as mentioned by
212 the participants, including qualifying bidders, issuing clarifications in interactive processes,
213 evaluating proposals, finalizing funding agents who are investing in a project comprising equity
214 and debt financiers, introducing procurement strategy, and awarding the contract.

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223 **Triggers of conflicts**

224 Considering the previous qualitative studies that used interviews for similar contexts (Sadeghi,
225 et al., 2016; Ojo, Ogunsemi & Ogunsina, 2021), interview phase 01 was conducted, and during
226 the interviews, triggers of conflicts were identified and discussed with the participants in the
227 context of the current PPP process. The identified triggers of conflicts were categorized as
228 relating to political interference and public interruption, lack of knowledge of PPP, contractual
229 agreement, and professionals.

230 **Political interference and public interruption**

231 Political interference and public interruption were highlighted by respondents as one of the most
232 common conflicts that occurred in the current PPP projects. This is mainly due to the sudden
233 change in the existing government. When the project is implemented by the previous
234 government, the new government usually changes all the procedures which leads to conflicts. As
235 mentioned by participant 6, *“when the government change, it will directly affect this partnership.*
236 *Politics changes in the country triggering conflicts. When the other party comes into power the*
237 *people who are working in the previous government may have to go somewhere & new people*
238 *come into the picture, then the one party decides we don't want the project, we will take this out,*
239 *we will find another investor, or different procurement method, or different design, or different*
240 *a way of working in same.”* (P6). As stated by respondents, once the government is changed
241 public interruption arises making conflicts in the project. *P2 and P11 mentioned that “this*
242 *political interference also pushes public interruption leading to conflicts. When the government*
243 *changes, the complete risk is with the contractor because he has the single responsibility of*
244 *designing the building there for quality and some other objective might not be achieved.”*

245 Besides, other factors were identified as the tendency of investors and foreign contractors to
246 withdraw their investments due to political interference (P11), less project transparency (P3),
247 involvement of blacklisted contractors (P6), and the possibility of a deferral of the project design
248 period (P6 & P11). It was highlighted that the interruption or conflict experienced at the
249 construction stage can only be prevented if relevant provisions have been included at the pre-
250 onstruction stage.

251 **Lack of knowledge of PPP**

252 Out of 12, 6 participants stated that many conflicts occurred due to the lack of knowledge of
253 PPPs. Respondents highly emphasized that both the public and the professionals have lack of
254 knowledge of PPP. As mentioned by P1 *“lack of knowledge in the public about PPP projects is*
255 *a major thing to lead to a conflict. For instance, a few years ago when the government was*
256 *planning to construct some highway projects, both working staff and the public thought that*
257 *those projects would be fully privatization once completed also media expose a different opinion*
258 *to the public of this PPP procurement method. Also, both media and the public thought this*
259 *procurement method does not have benefit”*. Similarly, P2, P4, & P7 mentioned the factors of
260 miscommunication and misinterpretation of media and public thinking and misunderstanding of
261 in-house employees on privatization which lead to conflicts. As stated by P7 *“people think that*
262 *these types of projects are being privatized, because they don’t really understand the concept of*
263 *PPP”*. In addition, P3 and P8 stated that issues between the government and the private party
264 arise when the government requires innovative strategies to be implemented but the private party
265 may not accept or fails to implement them in the project leading to conflicts. Lack of
266 understanding/assessment of the scope and project risks and designing the project without
267 identifying the design-related risks were also mentioned by P3 and P7 as other factors.

268 **Lack of commitment of Professionals**

269 Respondents mentioned that the lack of commitment of professionals makes conflicts among
270 professionals. This is identified mainly due to the lack of proper practice and experience in the
271 PPPs. As explained by P3 *“if the people are not practicing proper practice it is it can lead to*
272 *conflict example let’s say normal claim where you have to send a notice and then required to*
273 *prepare the claim document and then submit so the entire claim depends on that noticed*
274 *document if the contractor forgot or didn’t send on time you cannot prepare the claim on a*
275 *property basis not having the proper practice so this something which leads conflicts in PPP”*.

276 Participant 12 further stated that professionals in PPPs improperly maintain their documents and
277 do not keep proper records. Moreover, lack of commitment happens due to personal attitudes
278 and reluctance to work and contributions to the project as stated by P8. As the other factors P 7,
279 P8, and P9 mentioned miscommunication among professionals among the team and handling the
280 people, personal perceptions, goals, and attitudes of professionals, delays in decision making,
281 and inconsistencies and issues of the leadership during the interviews.

282 **Contractual Agreement Inadequacies**

283 Interviewees also highlighted that most projects are postponed in the earlier stage due to a lack
284 of understanding of the objectives and contractual agreements. Participant 9 stated that *“there*
285 *are issues in agreements, most of the time loan is taken from USD so the dollar can fluctuate, so*
286 *both parties had to come to the initial contract. As an example, there was a clause about what*
287 *to do when the USD dollar gets increased but there was no any clause when the dollar*
288 *increased”*. In PPPs, most of the funding agents or contractors are aimed to cover the cost of the
289 construction and profit margins. However, participants 7 and 8 mentioned that the private party

290 must implement the objectives in alignment with the economic situation of the country and the
291 market. The interviewees made reference to clauses in the concession agreement that is signed
292 between the public sector and the private party that deal with currency fluctuations.

293 Overall, participants highlighted that the objectives of the government and private sector are not
294 aligned within PPP projects. As mentioned by P6 and 9, in a contract agreement private party
295 tries to overcome risks by preparing biased conditions in the contract. Also, there is a common
296 conflict among participants that, some important conditions are not mentioned in the conditions
297 of the contract (Qiao et al.,2001).

298 The following triggers of conflicts were further identified under contractual agreements.

299 1. Document errors - Document errors include mistakes in contract language or typos
300 leading to disputes between the parties. For instance, a document error in a PPP project
301 for a toll road could result in disputes over the toll rate, which would cause delays and
302 extra expenditures, and conflict.

303 2. Use of different standard forms and documentation - This leads to misunderstandings and
304 differences in how terms and conditions are interpreted. It may be challenging to
305 reconcile the two formats, resulting in disagreements and potential lawsuits, for instance,
306 a difference in the financial statement format of the commercial sector and the public
307 sector leads to misunderstanding. This highlights the importance of using a consistent
308 and standardized set of forms and documentation throughout the project, rather than
309 frequently changing them, templates to be adopted has to be agreed at the pre contract
310 stage.

311 3. Bias conditions are included by the private sector when it is difficult to compensate for
312 the cost of the construction. - This occurs when the private sector incorporates provisions

313 that are in their best interests and restrict the public sector's liability or accountability.
314 For example, if the private sector builds a hospital while including a clause that they will
315 only be responsible for maintaining the building for the first five years, it can be
316 challenging for the public sector to find another contractor to maintain the building after
317 that period. A special attention is recommended to be placed on the elimination of bias
318 clauses according to the experts.

319 4. Poor risk allocation within the contracting entities, where parties are unable to handle
320 those risks. - Poor risk allocation occurs when risks are not fairly allocated between the
321 public and private sectors, or when risks are not sufficiently addressed in the contract.
322 For instance, if the private sector takes a considerable risk in a PPP project, they might
323 be unwilling or unable to fulfil their obligations, leading to delays or termination of the
324 project. Conversely, if the public sector is taking on too much risk, this might lead to
325 budget overruns or delays that could impact the delivery of public services. Thus, proper
326 risk allocation is an important aspect to ensure that the project is delivered successfully
327 and mitigate the risks of conflicts arising between the parties. A comprehensive risk
328 analysis is recommended and all parties must agree to allocated responsibilities.

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330 Figure 3 shows the summary of identified conflicts triggers based on the described PPP process.

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335 **Findings of the interview phase II**

336 After the identification of the current process and triggers of conflicts in the PPP process, phase
337 2 interviews were conducted with experts to determine the pre-contract strategies to overcome
338 the identified conflicts. The approach is similar to the procedures of Sadeghi, et al. (2016) and
339 Ojo, Ogunsemi & Ogunsina (2021). The following section discusses the strategies that are
340 highlighted by the respondents.

341

342 **Adherence to industry best practices, rigorous contract drafting, and incorporation of**
343 **lessons learnt**

344 Based on the triggers of conflicts experienced by the participants in the current PPP process, the
345 proper professional practice was highlighted by participant 12, as one of the solutions to
346 overcome them. *“It is a proper professional practice, I mean like, if the engineer or architecture,*
347 *project manager, civil engineer everyone must do their job so it’s all about skill part, if they do*
348 *they job right there wouldn’t be any conflicts and anyhow they couldn’t do it any construction*
349 *work wouldn’t be able to carry out”* (P12). This means that there are certain standards or norms
350 of professional practice that should be followed to confirm that conflicts are prevented in PPP
351 projects. Simply it means that engaging in professional practice is not enough, but it must be
352 done in a proper, appropriate, and effective manner to prevent conflicts. Proper professional
353 practice emphasizes the importance of following best practices and adhering to established
354 standards in order to minimize the risk of conflicts arising in PPP projects.

355 Lessons learned were mentioned by participant 1 as another key factor to analyze and refer to
356 before engaging in any construction work and this would lead minimize conflict and identifying

357 conflicts in the early stage. As stated by P1 *“I have both PPP experience in Qatar and Sri Lanka,*
358 *the first thing should be lesson learning to avoid conflicts, here in Qatar we do that so Sri Lanka*
359 *should follow the same pathway.”* A common opinion of the participants was that the condition
360 of the contract must be drafted properly before starting the post-construction stage. Also,
361 participants mentioned that the roles and responsibilities of each stakeholder must be addressed
362 clearly in the condition of the contract, and the consultant team must provide all the specifications
363 in parallel to the construction requirements (Jafar, 2011). A well-drafted contract means which
364 clearly outline the roles and responsibilities of each party, scope of the project, key milestones,
365 detailed payment schedule and also provisions to manage risks and ensure compliance with
366 applicable laws and regulations. To drafting contracts properly, it is necessary to have a thorough
367 understanding of the project's goals and objectives, as well as the legal and regulatory
368 environment in which it operates. It also requires collaboration between legal experts and project
369 managers, who should work closely together to develop a contract that meets the needs of all
370 parties involved and it is further important to review the contracts periodically and updated as
371 necessary to reflect changing circumstances or new information. Rigorous contract drafting
372 should undertake all these requirements to ensure that contracts are drafted properly, thus PPP
373 projects can avoid misunderstandings, delays and conflicts.

374 **Preliminary considerations for pre-contract practices to avoid conflicts**

375 As mentioned by P2 and P11 identification of potential risks before the implementation of the
376 project and identifying of causes of conflicts in the early stage are important to be considered in
377 the pre-contract stage to resolve potential conflicts during the project. It can be considered as
378 proactive risk management. In proactive risk management, one approach to identify potential
379 risks is to conduct a thorough risk assessment early in the project planning process. This could

380 involve analyzing the project scope, timeline, budget, stakeholders, and other relevant factors to
381 identify potential sources of risk. After identifying these risks appropriate risk management
382 strategies can be developed and implemented to mitigate or eliminate them. Identifying the
383 causes of conflicts in the early stages of a project could involve conducting a detailed analysis
384 of the project objectives, contractual agreements, stakeholder interests, and other relevant factors
385 which help to identify potential areas of disagreement or conflicting interests, allowing
386 appropriate measures to be taken to prevent conflicts before they arise. P4 further established a
387 similar opinion and mentioned the significance of analyzing all the potential causes of conflicts
388 in the earlier stage by identifying possibilities for legal and legislative changes in the earlier
389 stage.

390 It is further suggested to make all the processes transparent before the project implementation.
391 P7 and P9 highlighted that checking the bidder's qualifications thoroughly and evaluating pre-
392 qualifications is another preliminary consideration to be undertaken during the pre-contract
393 stage. As stated by P1 increasing public awareness of the procurement guide, and clear
394 communication among all the stakeholders, and proper risk allocation (section 4.2.4) should also
395 be considered during the pre-contract stage for the early identification and resolution of conflicts.

396 PPP stakeholders increasingly prefer to anticipate potential change in the pre-contract phase, "the
397 period between the initial conceptions of the project and the signing of the contract," rather than
398 dealing with contingencies in the post-contract phase, "the period after the award of the contract
399 when actual construction begins through to its completion" (Demirel et al., 2016). During the
400 interviews, participants further mentioned the strategies that can be used to overcome conflicts
401 as pre-contract practices (Demirel et al., 2016; Gajaman et al., 2019). These pre-contract
402 practices were identified first as preliminary considerations.

403 **Contractual and design-related practices**

404 Contractual and design-related practices were also highlighted by the participants as another
405 significant aspect. Participant 10 highlighted, the strategic land acquisition as one of the conflict
406 prevention strategies. In PPP projects, land acquisition is a complex and contentious issue, and
407 inadequate planning and execution may lead to conflicts. As mentioned by P10, the land
408 acquisition should not be a routine task, but a strategic process that involves a deliberate and
409 well-planned process with careful consideration of various factors, such as cost, location, legal
410 requirements, and community impact. Strategic land acquisition requires a pre-plan taking
411 various factors into account, including the location of the land, the purpose of the project, and
412 the stakeholders involved. In strategic land acquisition, the design and documentation parts need
413 to be standardized in line with country rules and regulations to ensure clarity and transparency.
414 For instance, if the land acquisition process is not properly done, it might lead to disputes and
415 conflicts over ownership, compensation, and the right to use the land. Therefore, it is important
416 to have a proper process in place that involves consultation with all relevant stakeholders and
417 follows the legal and regulatory requirements. This will help to minimize conflicts and ensure
418 that the project is implemented smoothly and successfully. Moreover, Detailed site evaluation,
419 comprehensive contract assessment, and expert contract drafting and negotiation were
420 highlighted by P7, P5, and P2 respectively as significant factors to be considered during the pre-
421 contract stage. Conducting a detailed evaluation of the site, help stakeholders to identify potential
422 risks and conflicts early on and take steps to mitigate them. Comprehensive contract assessment
423 ensures that all parties have a clear understanding of their obligations and responsibilities,
424 reducing the likelihood of disputes arising later on. Expert contract drafting and negotiation
425 ensure that contracts are clear, unambiguous, and equitable, providing a solid foundation for the

426 successful execution of the project. These strategies are not only important in terms of
427 eliminating conflicts but also contribute to the overall success of PPP projects by promoting
428 transparency, accountability, and fairness among all parties involved. P1 further highlighted the
429 fact that “*variation in the design stage can be minimized by the collaborative involvement of*
430 *contractor and other specialist contractors in the early stage*”.

431 In the context of PPP projects, a contingency sum is an amount of money set aside in the budget
432 to cover unexpected or unforeseeable costs that could arise during the project implementation. It
433 can also be mentioned as a risk management tool that helps to mitigate the potential financial
434 impacts of uncertainties in the project. The amount of contingency sum required for a project
435 depends on various factors, such as the complexity of the project, the level of uncertainty, and
436 the risk appetite of the stakeholders. As asserted by P3, it is important to allow for a high
437 contingency sum in PPP projects as a preliminary consideration during the pre-contract stage.
438 This actually means that stakeholders should allocate a larger than normal amount of money for
439 contingencies to account for the inherent risks and potential uncertainties associated with PPP
440 projects. This helps stakeholders to ensure that they are adequately prepared for unexpected
441 events and that the project is completed within budget and on schedule. The specific amount of
442 contingency sum required for a project should be determined based on a thorough risk assessment
443 and analysis of the project, taking into account the unique characteristics and circumstances of
444 the project. **Professionals’ roles and responsibilities**

445 Defining the roles and responsibilities of professionals during the pre-contracted stage was
446 another significant aspect highlighted by the participants. This should be gone through the
447 identification of the process and the specific role of each professional (P3), involvement of all
448 the stakeholders in the decision-making (P5), defining requirements and responsibilities of

449 professionals (P9) (P12), defining ethics (P2) and defining clear communications (P12). These
450 factors were identified as significant to be considered during the pre-contract stage to resolve
451 conflicts during the project.

452 **Awareness programs**

453 Awareness programs were indicated as one of the key strategies to avoid conflicts in PPP
454 constructions. Respondents strongly emphasized that public awareness programs during the
455 construction and end of each stage should be organized to deliver the knowledge and benefits of
456 the project and procurement route to the local people, which is a good strategy to resolve conflicts
457 in PPP projects. P10 further recommended involving a professional, who has done social science
458 to understand people more efficiently and make them aware which may help to resolve conflicts.
459 *“When the handling the public it should be done by technically sounded people who really*
460 *understand both party’s opinions so that if we can involve a person who has done social science*
461 *it would be good opportunity to avoid conflicts and they should handle the parties without saying*
462 *lies.”* (P10).

463 **Conducting audits throughout the project phases**

464 Conducting audits by a third-party association was suggested by participants in different stages of
465 the project. As stated by P 6, *“the contract itself provides certain agreement to appoint third party*
466 *audit firm. That is possible, so that audit firm will come to both private & public sector and do*
467 *the auditing, is possible, that can be done, one way it is good”*. Participants further mentioned that
468 an open audit is a good strategy to build up the relationship with the public and media, as it enables
469 the transparency of the project so that the conflicts can be overcome.

470 **Government support and commitment**

471 Government support is another aspect mentioned by the participants to minimize the conflicts in
472 PPP projects. It is further mentioned that all the PPP projects should be controlled by a separate
473 private organization in line with the government. Furthermore, participant 10 stated that there
474 should be a specific framework in line with the PPP procurement method enforcing contractual
475 obligations through various forms, including the legal system and creating and including some
476 PPP laws in the common law system. P10 stated that “enforcing contractual obligations through
477 various forms, including the legal system and creating and including some PPP laws into common
478 law system would be a good strategy for PPPs”. This emphasizes that a consistent and legally
479 enforceable framework is essential to confirm the success of PPP projects.

480 **The summary of interview findings**

481 This section of the study summarizes the findings of the interview phases highlighting the key
482 findings including the triggers of conflicts and strategies to overcome them in future PPP projects
483 within similar contexts. Further, this study has identified clear stages of the PPP process proposed
484 by experts which could make an impact to reduce the possibility of conflict occurrence during PPP
485 projects. These processes are discussed in the following sub-sections. Table 5 shows the proposed
486 stages for the PPP process, identified triggers of conflicts, and feasible strategies to overcome
487 them.

488

489

490 **Project Identification**

491 The first step is to identify suitable infrastructure projects according to the requirements of the
492 country. Once the projects have been identified, all the feasibility studies and market analysis must
493 is carried out by the government in line with the identified construction project. One of the main
494 advantages is that once the project is identified most of the conflicts which might occur due to
495 unsuitable project selection can be avoided. If a funding agent is willing to start a project or if an
496 agent proposes a project, the government can also identify whether the project is a suitable one or
497 not before its implementation. The government identifies potential projects depending on the
498 infrastructure needs and priorities. Once a project is identified, feasibility studies and market
499 analysis are conducted to identify if the project is financially viable and if there is private sector
500 interest. Here the level of involvement and responsibility of the government and private sector
501 may differ based on the country and specific project. In the proposed strategy, it suggests that the
502 government takes the lead in conducting all feasibility studies and market analysis in line with the
503 identified construction project, to ensure that the project is properly vetted and aligned with
504 government priorities.

505 **Concessionaire Selection**

506 Once the projects have been identified by the government, concessionaire selection should be
507 undertaken next. For the selection of contractors, experts suggested the “Swiss challenge”
508 strategy which can be implemented in the PPP procurement method, as it increases the
509 transparency of the project. Swiss Challenge involves a candidate submitting a proposal for a
510 project, which the government puts in front of the public for other proposals to be submitted. A
511 candidate can match the best bid from other applicants by submitting another bid. Furthermore,
512 when the government has received an unsolicited bid for a public project from a funding agent or

513 a contractor, through the Swiss challenge strategy the government can publish the bid for other
514 bidders to match the bid or better one. In this method, the most suitable agent can be chosen, if
515 not, a normal tendering procedure can be followed.

516 **Public Awareness**

517 Once the contractor and the funding agent are selected the PPP project can be implemented. Prior
518 to the implementation of the project, public awareness needs to be increased. At this stage, the
519 public must be knowledgeable about the PPP project, and public awareness should be done through
520 awareness programs and specific professionals like social officers.

521 Previously completed projects must also be analyzed to identify the conflicts. In aligning with this,
522 lessons learning must be done, by studying previous project reports, prepared by the project
523 manager. Once these steps are completed, the consultancy team must be appointed, by analyzing
524 professionals' behavior in past projects and through lessons learning to avoid potential conflicts.

525

526 **Design Approval**

527 To avoid design-related conflicts, the design should be done by the selected contractor. Once the
528 design is done according to the given specifications and requirements, each party must work
529 collaboratively to minimize the design errors and variations which might occur during the post-
530 contract stage. In the current PPP project, the selected concessionaire takes the charge of the
531 design thus, the selected contractor refers to the concessionaire who is responsible for designing
532 the project according to the specifications and requirements provided by the government. Once
533 the design is completed and approved, awareness programs should be conducted again regarding
534 the approved design for the local people.

535 **Land Acquisition**

536 The land acquisition committee must be appointed next by studying past experiences and the
537 committee must take decisions by identifying past experiences. The consultancy team is required
538 to communicate with the land acquisition committee. Afterward, the land acquisition procedure
539 must be done by two audit teams including an internal audit team which represents the government
540 party, and the independent 3rd party audit team. One of the most relevant factors is that there
541 shouldn't be any internal relationships between the internal audit team and the external audit team
542 which is important to overcome conflicts. Once the land acquisition is completed, the external
543 audit team is required to communicate with the public to avoid conflicts.

544 **Contractual Work**

545 All the contractual work that should be carried out by both the consultant team and the contracting
546 party is indicated next. Once the above procedures are finished, it proceeds to the post-contract
547 stage. The improved stages recommended by the experts support minimizing the conflicts during
548 the PPP process. Besides, the identified triggers of conflicts and strategies would help PPP
549 stakeholders in the early identification of conflicts and overcome the conflicts before the project
550 implementation.

551 **Discussion**

552 Conflicts are unavoidable in PPPs which are usually arising throughout the project. This study
553 provides useful information and understanding of the triggers of conflicts that could be occurred
554 in PPPs and how to resolve these conflicts. This study first identified the current process and
555 triggers of conflicts in the context of current PPP projects using expert interviews. The process
556 undertakes several stages, and the first stage was to be a screening of the scope of the PPP project

557 with the purpose of having a clear understanding of the stages and characteristics of the project
558 and project economics. The second stage was defining roles and responsibilities and conducting
559 environmental feasibility assessments to determine the impact of social, economic, and
560 environmental factors, and establishing the preliminary structure for the PPP project. The third
561 stage was identified as pre-planning and pre-drafting of project documents which includes the
562 procurement plan and the project management plan. Drafting drawings and contracts, re-
563 analyzing environmental assessments, defining financial risks, payment mechanisms, dispute
564 resolution systems, and defining performance requirements are also coming under this stage.
565 Tendering and awarding (Rashed et al., 2011) were identified as the last stage of the current
566 process including qualifying bidders, issuing clarifications in interactive processes, evaluating
567 proposals, finalizing funding agents who are investing in a project comprising equity and debt
568 financiers, introducing procurement strategy, and awarding the contract.

569 After the identification of stages in the current PPP process, the triggers of conflicts were further
570 collected through expert opinions. The political inference was one of the triggers of conflicts
571 highlighted by the experts due to frequent changes and alterations of power which make a
572 significant impact on construction projects. This point can be specially identified as an influential
573 factor in contexts of developing countries like Sri Lanka which has a strong impact on ongoing
574 developments within the country due to the alterations of government authority and power.
575 Existing studies have mentioned the issues of government stakeholders which lead to conflicts
576 due to personal goals and benefits (Osei-Kyei, Chan, & Jin, 2017), political interference in terms
577 of changes in partnerships has also been mentioned in previous studies as fluctuating policies due
578 to changes in politics (Wu et al., 2004; de Weck et al., 2007; Sun and Meng., 2009).

579 Public interruption, on the other hand, was another triggering factor for conflicts in PPP projects
580 as revealed by the experts. This factor has similarly been discussed by Ejohwomu, Oshodi, and
581 Onifade, (2016). Lack of knowledge of PPPs was another highlighted trigger of conflicts in the
582 study which was similarly mentioned by previous studies (Jafar, 2011; Ejohwomu, Oshodi, and
583 Onifade, 2016; Zheng et al., 2021). The conflicts arise when the contractual agreements are not
584 clearly defined and clarified as asserted by the experts and a similar argument has been mentioned
585 in the existing studies (Rashed et al., 2011; Zheng et al., 2021; Tian et al., 2022). It is further
586 mentioned that each stakeholder must be clearly defined in the conditions of the contract and, the
587 consultant team must provide all the specifications to the contract to eliminate possible conflicts
588 (Jafar, 2011; Ejohwomu, Oshodi, and Onifade, 2016). In fact, conflicts can also be occurred due
589 to a lack of commitment of professionals, especially when the private sector tends to be more
590 biased in certain conditions in activities and responsibilities of PPPs (Zheng et al., 2021). Poor
591 risk allocation was also discussed during this study which in turn led to conflicts during the PPP
592 process (Rashed et al., 2011; Zheng et al., 2021; Tian et al., 2022). Finally, document errors and
593 different standard forms and documentation were further indicated by experts which subsequently
594 make conflicts among PPP stakeholders (Demirel et al., 2019).

595 The study has identified the strategies next, to eliminate the identified triggers of conflicts from
596 experts' opinions. The proper professional practice was suggested first as a strategy to deal with
597 and overcome the aforementioned triggers of conflicts. It was further identified from the existing
598 studies which recommend enhancing the knowledge of both public and private sectors in terms
599 of contract design, operation and maintenance management, risk management, and providing
600 reliable information for decision making (Zheng et al., 2021; Tian et al., 2022). Proper contract
601 drafting is the second strategy recommended by experts to resolve potential conflicts by defining

602 clear terms and conditions in the contract (Demirel et al., 2016; Demirel et al., 2019; Tian et al.,
603 2022). A properly defined construction program was further suggested by experts as it helps
604 minimize conflicts during the construction stages of PPPs (Zheng et al., 2021). Moreover,
605 defining specific roles and responsibilities to professionals and adequate support from
606 governments were discussed as significant strategies in resolving long-term conflicts in PPPs
607 (Rashed et al., 2011; Demirel et al., 2016; Zheng et al., 2021). In addition to the factors that are
608 similarly identified in the existing literature, this study further recommends the strategies of using
609 lessons learned from previous PPP projects, conducting awareness programs for both PPP
610 stakeholders and the public at different stages that include before initiating PPP projects, after the
611 approval of final design and before implementation of the project which facilitates in resolving
612 future conflicts during and after the project. Besides, an open audit was identified as an effective
613 strategy for building trust with the public as well as the media and promoting transparency in PPP
614 projects. This approach includes regular reporting on project progress, documenting decisions and
615 actions, and disclosing information to the public and media. By providing transparency in the
616 project, both the public and media can have confidence that their concerns are being addressed
617 and that the project is being managed effectively. This helps to build trust with the public and
618 media and contributes to the resolution of conflicts by providing a platform for open
619 communication and accountability. This study further revealed that the need for government
620 support is important to ensure the success of PPP projects and minimize conflicts. The
621 government should play an active role in overseeing PPP projects and that a separate private
622 organization can be established to manage and coordinate the projects in line with government
623 regulations and standards. This helps to ensure that PPP projects are implemented transparently
624 and efficiently, while the conflicts are minimized. Without proper government support and

625 oversight, PPP projects can be vulnerable to a range of issues, including corruption, conflicts of
626 interest, and lack of accountability. Therefore, it is important to establish a strong regulatory
627 framework to govern PPP projects and ensure their success.

628 Moreover, the findings of this study have suggested pre-contract practices in terms of preliminary
629 considerations, and contractual and design-related practices which help to identify the potential
630 conflicts in the early stages. The findings of this study contribute to the existing body of
631 knowledge and practice in several ways. By identifying the main triggers of conflicts in PPP
632 projects with strategies to prevent them, this study offers directions for conflict prevention that
633 can be applied across a range of PPP projects. This is particularly significant in developing
634 countries, where PPP projects are often seen as a key driver for economic development, but where
635 conflicts are also more likely to arise. Secondly, the focus of this study on pre-construction stage
636 practices signifies the importance of early identification and prevention of conflicts in the PPP
637 process. This is a significant stage where decisions that can have significant impacts are made on
638 the success of the project, and where conflicts are most likely to occur.

639 Overall, the findings of this study generate valuable insights for PPP stakeholders in resolving
640 potential conflicts that are occurred in PPP projects in the context of constructions in Sri Lanka
641 and other similar contexts. This might help to inform and facilitate the development of tailored
642 approaches to conflict prevention in PPP projects in other developing countries with similar
643 contexts and challenges. The study further provides a significant and deep understanding of
644 formulating stages of PPP processes by proposing an improved process flow for PPPs which
645 facilitates minimizing and resolving potential conflicts in similar contexts. The additional
646 strategies recommended in this study would help future PPP stakeholders and professionals to

647 understand new directions to deal with and resolve long-term conflicts and conflict management
 648 processes.

649 Further table 5 outlines the existing conflict prevention strategies of both PPP and non-PPP
 650 projects and the strategies proposed in this study (Distilled from the expert survey).

651 Table 5: Existing strategies and strategies proposed in this study

S/N	Existing strategies	Source
1	The proper professional practice	Zheng et al., 2021; Tian et al., 2022
2	Proper contract drafting	Demirel et al., 2016; Demirel et al., 2019
3	Defining specific roles and responsibilities to professionals	Rashed et al., 2011; Demirel et al., 2016
4	Adequate support from governments	Rashed et al., 2011; Demirel et al., 2016
5	Contractor integration in the design process	Wang et al., (2022)
6	Transparency of pre-construction processes – initiating a sense of ownership by all stakeholders	Wojewnik-Filipkowska et al., (2019)
7	Uncertainty Management	Weihe, G. (2008).
8	Clear Goal Setting	Trafford, S., & Proctor, T. (2006).
9	Clear Policies	Cruz, C. O., & Marques, R. C. (2013).
10	Balancing Legitimation Strategies	Schleifer, P. (2019).
11	Thorough bidders' pre-qualification and qualification appraisal	Gao (2018)
12		
13	Defined communication path and pattern	Trach et al., (2023)
14	Clearly defined roles and responsibilities of professionals	Habib et al., (2022)
15	Examining top-level strategy, translation into department-level policy, and country-level implementation	Johnstone and Walton (2021)
16	Developing trust, reducing language barriers, and involving locals	Schutt et al., (2019)
17	Institutionalized operational prevention	Nathan (2019)
	Strategies proposed in this study	Source
1	The proper professional practice	Expert survey
2	Proper contract drafting	Expert survey
3	Defined communication path and pattern – based on stakeholder list	Expert survey
4	Public awareness upon design completion	Expert survey
5	Contractor integration in design process	Expert survey
6	Transparency of pre-construction processes – initiating a sense of ownership by all stakeholders	Expert survey

7	Conducting awareness programs for PPP stakeholders, public and professionals	Expert survey
8	Regular reporting on project success	Expert survey
9	Documenting decisions and actions	Expert survey
10	Disclosing information to the public and media	Expert survey
11	Establish and publicize a strong regulatory framework to govern the PPP	Expert survey
12	Pre-contract practices in terms of preliminary considerations, and contractual and design-related choices	Expert survey
13	Conducting open audits	Expert survey
14	A well-defined program	Expert survey
15	Defined professional practice terms including ethics and communication plan	Expert survey
16	Integration of lessons learned	Expert survey
17	Thorough contract drafting and implementation strategy done by PPP-experienced professionals	Expert survey
18	Intentional risk analysis	Expert survey
19	Thorough bidders' pre-qualification and qualification appraisal	Expert survey
20	Review of potential legislation and regulatory changes with defense strategies	Expert survey
21	Pre-design should guide land acquisition	Expert survey
22	Proper site investigation – use of two audit teams	Expert survey
23	Large contingency sum	Expert survey
24	Defining specific roles and responsibilities to professionals - Clearly defined roles and responsibilities	Expert survey
25	Adequate support from government publicized	Expert survey

652

653 **Conclusion**

654 This study investigated the triggers of conflicts in PPP projects and strategies to overcome them
655 through an expert survey. In conducting a comprehensive literature survey, the background of
656 conflicts and causes were identified first. Subsequently, the current process of PPPs was identified
657 by conducting interviews in phase I with professionals currently involved in PPP projects. The
658 study identified the triggers of conflicts in the current PPP process. Further, conducting second
659 phase interviews, strategies to overcome the conflicts were identified. Triggers of conflicts
660 relating to political inference and public interruptions, lack of awareness about PPPs, contractual
661 agreements, lack of commitment of professionals, document errors, use of different standard
662 forms and documentation, biased conditions of the private sector, and poor risk allocations were
663 identified and discussed in this study. Further, the strategies were suggested derived from a second
664 interview phase including proper professional practice, lessons learned, contract drafting, a well-
665 defined program, preliminary considerations and contractual and design-related practices for the
666 pre-contract stage, defined roles and responsibilities for professionals, awareness programs,
667 project long-audits, and government support. As a limitation, the focus of this study has been
668 limited to the Sri Lankan context and the context-specific triggers and strategies have been
669 investigated. These findings will be useful for the PPP stakeholders involved in projects of similar
670 contexts and future studies can further improve and extend the recommendations of this study
671 generating new insights into resolving potential conflicts in PPP projects. As a direction for future
672 research, this study revealed that financial considerations are an important factor in the success
673 of PPP projects. While this study does not specifically address financial models as a limitation, it
674 is further recommended that future research could explore how pre-contract strategies can be
675 designed to ensure appropriate financial models are in place to support the success of PPP
676 projects. Future studies could include an analysis of different financial models, such as build-

677 operate-transfer (BOT) and design-build-finance-operate (DBFO), and how they impact the
678 project outcomes of PPPs. Additionally, future research could also investigate the role of financial
679 institutions and investors in Public Private Partnerships, and how they can be effectively engaged
680 to support the financial sustainability of these projects.

681

682 **Data availability statement**

683 No data, models, or code were generated or used during the study.

684

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