

Soil Problems in Housing Development Projects: A Legal Analysis

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Abstract

Soil problems in housing projects are potentially hazardous to house purchasers, neighbourhood residents as well as the public safety with consequential economic loss. Although there are guidelines and policies supporting the housing industry in Malaysia, the occurrence of problematic soils in housing projects still persists as little regulatory control on housing project being carried out. In addition, there is no currently specific regulation exists in Malaysia to govern soil fitness in housing development projects. Soil problems are natural hazards that include land slide, soil erosion, unsuitable site conditions, or instability land location that triggering building collapses and failures to the detriment of house purchaser and stakeholders. In essence, this writing provides description on the study of legal issues pertaining to soil problems in housing projects that occur right from the outset of the development till the completion of the housing projects. These problems are diverse and the lack of enforcement in the legal framework is the primary factor. This paper aims to review the laws governing problematic soils whether the provisions had been incorporated in Street Drainage Building Act 1974, Town Country Planning Act 1976, Uniform Building By-Law 1984, and National Land Code 1965. Similarly, other related acts that govern the soil problem will be examined too. By using legal research method, the study adopts case law where judicial decision being the primary source to highlight the legal problems in relation to problematic soils. The study also includes interview that forms as part of the research validity. It is timely that these legislations need to clearly define the responsibility and liability of stakeholders and the local authority which this stand as loopholes in the law. This issue of soil problems is not resolved, and the public complaints are mounting which if not well addressed, it is anticipated that the housing industry will experience future catastrophic losses. It is always the house purchasers who become victims and residents living in the neighbourhood might be affected too.

Keywords: Building collapse; Foundation Failure; Slope failure; Landslide; Soil erosion; Construction Negligence; Legislative deficiency; Policy & Legislation

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1. Introduction

The collapse of apartment Highland Tower is a landmark case resulting in the deaths of 48 people and evacuation

of the remaining two blocks due to safety concerns [1]. It is opined that the causes of the collapse are due to human Negligence but also not to exclude the natural forces[2]. It should be noted that, one of the common causes of

slope failure is mainly due to continuous heavy rainfall which has consequential effect on soil condition[3]. However, some studies prove that the failure of hillslope development in Malaysia reveals 60% of 49 landslide cases are due to faulty design as a result of insufficient design check and 20% are triggered by a combination of design and construction failure. Further, the lack of communication and close coordination among project key players during the early stage also attribute to some failure of hillslope development[4]. In other words, the cause of the hillslope failure is due to insufficient communication and coordination among responsible technical divisions in protecting the development of hillslope. This is identified through the omission in reviewing application plans by local authorities, failure of duties separation and overlapping areas of enforcement and responsibilities[5]. Nevertheless, these problems should be evaluated from many contributing factors although the success of a development project relying to all the stakeholders who primarily are the developer, the land owner, the consultants, the local authority and the property buyer. The completion of a project should not only end within the time and budget but also in compliance with the legislation that protect the right house purchaser, and stakeholders.

Studies and reports revealed these housing projects are related to soil problems involved hillslope developments, unsuitable site conditions, or instability land location remain an unsettled issue today. These problems occur due to uncertainty during planning stage where some approvals of housing projects did not require proper geotechnical study prior to commencing housing projects. The examples of landmark tragedies are the loss of lives that happened in the Highland Towers in 1993, the Bukit.

It is imperative that the study establish the causes or contributing factors that leading to problematic soils in housing projects, hence the study adopts some legal problems that stands as root causes of the problems. The study also takes into account the necessity to examine the existing legal provisions such as National Land Code 1965 (Act 56) ('NLC'), Street, Drainage and Building Act 1974 (Act 133) ('SDBA'), Town and Country Planning Act 1976 (Act 172) ('TCPA'), and the Uniform Building By-laws 1984 ('UBBL') whether the provisions incorporate the problem of soils in Malaysia that triggered cracks in housing projects. Besides, the study examines to what extent the enforcement of developer to comply with the building and planning laws. The study also examines the liability of professional team such as engineer and architect as well as the responsibility of the local authority in giving approval, the importance of geotechnical assessment, and other related areas in the existing provision as mentioned. It adopts case law where judicial decision being reference that highlights the legal

problems in relation to problematic soils. Below are the important events that discuss the injustices and grievances with reference to case law.

2. Planning Approval

In the case of *Sunway City (Penang) SdnBhd v Lembaga Rayuan Negeri Pulau Pinang & Ors and other appeals*, [6] the legal problem that occurred under this stage is when planning application and building plans were approved by Majlis Perbandaran Pulau Pinang for Sunway City huge project comprising 600 high rise apartments and bungalows on hill land covering 80 acres, approximately 43 per cent of which are on slopes exceeding a gradient of 25 degrees. But the approval became a national issue as the scheme was seemingly a potential threat to the local residents. The matter was brought before the Appeal Board which instead disapproved the project favouring the local residents' objections on the ground that the project posed a high risk to the surrounding neighbourhood and the environment. Notably, Sunway City is the owner of the registered landowner of a 32.7 hectare plot in Sungai Ara known as Lot 14345 which lies within a hilly area of district of Penang. It is imperative to note that Lot 14345 is located more than 76m (approx. 250 feet) above sea level and approximately 43 percent of the plot has a gradient exceeding 25 degrees. Physically, Lot 14345 lies within a conservation area where physical development should not take place in a preserved area wherein the natural environment should be preserved in accordance with the Conservation Act.

However, when Sunway appealed to the High Court, the trial judge decided against the residents. The High Court judge indicated that "Lot 14345 was a first grade [7] land title land without restriction of land use, hence, there was no necessity for an application for a change of land use to be made". Further, the Planning Application submitted by Sunway at all material times had no endorsement on the issue document of title to the effect that the Land is subject to the provisions of the Land Conservation Act 1960. However, six months after the submission of the Planning Application, Sunway was informed by the District and Land Office that the Land had been declared as hill land under the Land Conservation Act 1960 but Sunway was given right to apply for removal of the Land which is subject under the Land Conservation Act 1960. The State Authority then approved the Applicant's application for the removal of the Land as hill land under the Land Conservation Act 1960 subject to certain conditions [8].

The removal of hilly lands under the Land Conservation Act 1960 is evidential that even Penang Local Council agreed with the developer, Sunway City to apply for planning consent in respect of conserved land under the Act 1960. This reflects the authority's lack of

will to preserve the environment in the wake of planning application to develop lands in Sungai Ara. It is clear that section 6 (1) of Land Conservation Act 1960 prohibits from clearing any hill land or interfere with, destroy or remove any trees, plants, undergrowth, weeds, grass or vegetation on or from any hill land.

In other words, it prohibits any development or project that may temper with the natural environment especially with regard to the soil stability, water flow, and the floral and fauna found in the hilly slopes which may affect the ecosystem in the subject area.

In the judgement delivered by Justice Lim Chong Fong in the High Court, he opined that the developer's application for the project should be proceeded by MBPP without having to refer to the State Planning Committee as it lies in the Category Two of the State Planning Committee Guidelines for Special Projects. In this regard, the local planning authority had approved the project but unfortunately for the residents, the High Court ruled favouring the developer and overturned the Appeals Board's decision. In that matter, the learned judge said the "Penang Structure Plan need not be slavishly complied with" by the local planning authority". However, the case is now pending appeal to the Court of Appeal.

It is evident that the trial judge failed to consider that if the project was executed it would pose a potential threat to nearby residents since 43% of the scheme would be developed on gradient exceeding 25% which was certainly dangerous. As the project built on slopes' exceeding 25% gradient, the judge should consider the potential dangerous of the development may pose to the nearby residential area.

Further, a housing project in Taman Harmoni, Lot 82, Mukim of Cheras, Selangor, Phase 2 was not completed by developer K & T Development was due to discovery of soil problem initially. The slime soils were found underneath the land and it was not suitable to build houses. This caused the developer to extract and replace new soil which cost additional expense. It is opined that the Local Authority had approved the application for alienation land without requirement of thorough study and provision of geotechnical report. Prior to initial development of Taman Harmoni, Phase 2, there was no study undertaken by the Land Authority and Planning Authority on the soil condition indicating on imposed risk which would have affected the housing project[9]. It is opined that, technical comments on planning application were taken from planning authority, but the comments were not put into account on physical study of soil condition (as such slime soils) underneath the land as well as the capability of applicant developer to carry out such housing project. In other words, the technical comments were insufficient[10].

Likewise, a landslide occurred during construction of housing project which consists 50-storey affordable housing located at Lengku Permai, Tanjung Bungah[11] had caused death of 10 foreign workers including a Malaysian site supervisor. It is opined that there was no torrential pour for several days that trigger the collapse of the slope. It is believed that, the cause of the landslide was due to the negligence of the local authority in giving approval, monitoring and compliance to guidelines. The development consists of steep slopes was granted approval despite Department of Environment's objection. The housing project is deemed to be invalid for not abiding the legal procedures. It is argued that, the state authority and the local authority had violated the Penang Structure Plan that has been gazetted, where the Tanjung Bungah area was classified as being in the secondary corridor. The Structure Plan also indicated that housing projects in the so-called secondary corridor were permissible with maximum of density of 15 units per acre however were not complied by the authorities [12]. According to the Ministry of Natural Resources and Environment, the Department of Environment (DoE) did not support the purported project as there were no sufficient buffer zones between the apartment project and the quarry site nearby as stipulated by the Guidelines of Siting and Zoning of Industries and Residential Areas[13].

It was opined that, this landslide occurred was also due to failure of planning authority to issue earthwork study to developer although the final approval lies with the Penang Local Authority[14]. Chief Lim (Penang Chief Minister) opined that the objection made by Federal government through the DoE did not require an EIA report to the housing development which claimed stood on the hillslope. It is opined that the project was supported by 17 different technical departments except the DoE that objected[15].

This unfortunate event could be avoided if the provision of EIA report was made compulsory regardless the size of housing projects. Hence, if housing developments stood on slopes to a certain degree of risk, the projects should require detailed mitigation plans which help to control negative effects on the environment particularly soil erosion, soil siltation and additional runoff due to the proposed site clearance[16].

The deficiency in statutory of National Land Code 1965 (NLC) under Section 108 has given power to the State Authority and the land authority to undermine the function of the local authority and the planning authority, in the event that the restriction made by planning authority is in conflict with condition made by the State Authority. Thus, we can conclude that the Penang State government may overrule the decision made by planning authority, by exercising its superior authority and is not bound to follow any restrictions or views of planning

authority, which this may possibly lead to the violation of the Structural Plan. This legal issues are also related to the decided case in the Federal court between *Majlis Perbandaran Pulau Pinang v. Syarikat Bekerjasama-sama Serbaguna Sungai Gelugor Dengan Tanggungan* [1999] 3 MLJ 1, which undermined the provision of the development plan, even though it is mandatory pursuant to the Town and Country Planning Act 1976 (Act 172)(TCPA).

Power of State

In another related case of *Ketua Pengarah Jabatan Alam Sekitar & Anor v Kajing Tubek & Ors* and other appeals, [17] Malaysia's Appeal Court delivered a unanimous ruling against the members of an indigenous tribal group who had challenged Sarawak State's forceful acquisition of land to construct the massive Bakun Dam. The decision was made in consideration of the public interest where there was insufficient supply of electricity in Sarawak hence, the construction of the dam was justified. The three judge panel dismissed the indigenous grouping's appeal although environmentalists had reportedly criticized the judgement because the move to build the dam displaced thousands of villagers as well as causing flooding of at least a 260-square-mile area. Despite these protestations, the judges in the Appeal Court decided in favour of the appellants, namely, the Director General of Environmental Quality, the Government of Malaysia, and the Natural Resources and Environment Board of Sarawak, the Government of Sarawak and Ekran Bhd. In short, the judgement gave the appellants the right to proceed with the project. The appellants had argued that the EQA did not apply to the project although Section 1 of the EQA applies to the whole of Malaysia as the land in question belongs to the State of Sarawak where the state has its own environmental law, that is, the Natural Resources Ordinance 1949 - the Ordinance that is relevant in this case. The appellants also contended that since the Bakun Dam would be built in land and river that were wholly within Sarawak, the legislation that applied is the Ordinance and not the EQA. Thus, since the EIA is not applied, the respondents or defendants had no rights in the matter of procedural fairness and they had not been deprived of such rights by the Amendment Order. In other words, the EIAs should not be disclosed to the natives where they had not been deprived any rights as such they are not entitled the opportunity to comment on the proposal pertaining to the large dam projects. They also opined that the respondents did not have locus standi (standing) in the case in question.

The appellants claimed that pursuant to Article 74 of Federal Constitution, the legislature of State to exercise its power with respect to any matters cited in the State List which is provided also in the Ninth Schedule of the

Federal Constitution that places land as a legislative subject in the State List. Here, environmental issue is not specified as an independent legislative subject in any of the three Legislative List due to its multi-dimensional concept thus the state may has power over its land. The judge dismissed the case on the ground that EQA did not apply to Sarawak and the state has its own law, namely, the Natural Resources & Environment Ordinance of 1949 that was relevant in the matter under consideration. However, it is clear stated in Section 1 of the EQA this legislation applies to the whole of Malaysia which literally includes Sabah and Sarawak and cannot be interpreted otherwise[18]. Thus, the EIAs should be properly disclosed to the public where the natives had been deprived the opportunity to comment on the proposal pertaining to the large dam projects. Hence, the judge decision in the High Court should be upheld.

3. Professional Negligence

In the case between *Lim Teck Kong v. Dr. Abdul Hamid Abdul Rashid & Anor* [2006] 3MLJ 213[19], the appeal judges opined the losses suffered by the plaintiff were not pure economic losses. It is clear the evidence revealed that the damage suffered by the plaintiff constitutes a bungalow which collapsed a few years it was built due to weak soil condition. In the trial, the first defendant, *Jurusan Malaysia Consultants* was found negligent for not conducting thorough soil tests on the site. The reason for the test is to determine whether the soil could withstand the weight of the completed building. It was legally, the obligation of the first defendant as consultant hired by the plaintiff to ensure that it was safe to construct the building at that site. It is clear that the first defendant failed to undertake a thorough test of the soil when they recommended the building to be built on the said land. On appeal, the court found that the engineer who was the 1st defendant was liable[20]. A report issued by engineering consultant *Kumarasivam Tan Ariffin Sdn Bhd*, appointed by plaintiff indicated that the causes of the collapse were as follows:

The slope on which the said building was built was steep with a gradient of about 45 degrees;(2) engineers advising on the building and construction of the house took little consideration in assessing the stability of the slope;(3) an excavation that was carried out on a neighbouring land known as Lot 3008 at the material time by the 3rd defendant who were the contractors engaged in erecting a double-storey bungalow thereon;(4) heavy rainfall; and(5) toe erosion at the river banks bordering Lot 3007.

The learned judge established that the claim by the plaintiffs against the second defendant, *Majlis Daerah Gombak*, under section 95 of 133 does not have basis. According to the judge, he dismissed because the plaintiffs did not show that there was a breach under

Section 101(ee) of the Local Government Act 1976, pertaining to provision where “the local authority shall have the power to divert, straighten, define and canalise the course of any stream, channel or watercourse.” Secondly, the plaintiff should have adduced evidence whether there was a breach under Section 53(1) of Act 133 which requires local authorities to maintain and keep in repair watercourses under its remit. Thirdly, they did not show any breach where under Section 70A of Act 133 which empowers local councils to order cessation of earth works where the safety of life or property is affected or is likely to be affected. Fourthly, under By-law 8(3) and 17 Uniform Building By-Laws 1984, which confer powers on local councils to disapprove building and structural plans submitted for its approval which the plaintiffs did not prove of any breach. Fifthly, By-law 10, Uniform Building By-Laws 1984 “sets out requirement for building plans submitted to the local authority must contain complete lines of surface, water discharge to the proposed drains”, and yet the plaintiffs claim is absent in the site plans for their lot submitted by the first and/or fourth defendants but failed to adduce evidence. Lastly, By-law 25(2), Uniform Building By-Laws 1984, requires that “all...open spaces in and around buildings shall be suitably protected against soil erosion” but the second defendants have failed to ensure relevant steps to protect this. This too was not proven [21].

The learned trial judge had no choice but to dismiss the claim against the second defendant on the ground that breach of statutory duty against the second defendants was without evidence. In other words, it is crucial for plaintiffs to succeed they must show that the defendants are under a class of person intended by law to be protected but the statutory provision was broken and in consequence of the breach the plaintiffs suffered damage and that this damage was triggered by the breach of the provision by the defendant. The judge opined that plaintiffs failed to establish the specific provisions in the statute where the second defendant had breached. Firstly, the Uniform Building By-Law 1984 in which various provisions are said to have been breached did not come into force in the State of Selangor until 1 January 1986. It is important to note that though the building plans of the house were submitted in 1984, the completed house was handed over for possession to the plaintiffs on 11 April 1985 before the by-law came into force. Thus, any allegations for breach of statutory duties which involved the second defendants in respect of Uniform Building By-Law 1984 cannot be sustained because there was no enacted statute at the material time to be breached. As such, the court opined that under section 95 of the Street Drainage and Building Act the “State Authority, local authority and any public officer or employee of the local authority shall not be subjected to any action, claim, liabilities of demand whatsoever arising out of any

building or other works carried out in accordance with the provisions of this Act or any by-laws.” Furthermore, the judge revealed the third defendant, Mighty Corporation SdnBhd, was liable in negligence for “they had also interfered with the rainwater by constructing transverse drains ending three quarter way down the slope of Lot 3008”. As is evident, all these had impacted the natural flow of the water resulting in its concentrated and increased infiltration into the land thereby causing adverse impact on Lot 3007. By such deeds it was adduced that the third defendants had “breached their duty of care towards the plaintiffs in respect of negligence, caused nuisance to the plaintiffs, as well as being liable in part under the rule of Rylands and Fletcher.”

Legal Protection for Local Authority

Likewise, in the case of *Steven Phoa Cheng Loon & 72 Ors v Highland Properties & Others*[22] (*Highland Towers’ case, 1996*) the High Court found that the three apartment blocks of Highland Towers were built on elevated land with a relatively flat base with a steep hill behind the buildings. Some witnesses indicated the gradient of this hill to be about 10 to 20 degrees but the judge found the various photographs tendered to be far steeper. However, the Federal Court ruled that the local authority, Majlis Perbandaran Ampang Jaya (MPAJ) was not liable pursuant to section 95(2) of the Street, Drainage and Building Act 1974 (Act 133) (‘SDBA’) for the collapse of Highland Towers. It was established that, MPAJ failed to provide a master drainage plan for the affected area on the hill slope behind the blocks of apartment, as prescribed by sections 53 and 54 of the SDBA, that helps to retain the stability and safety of the adjacent Blocks 2 and 3. The exemption from liability exclude the MPAJ’s negligence on its acts and omissions prior to the collapse of Block 1 of Highland Towers as well as for the post-collapse liability. According to the Federal Court (Abdul Hamid Mohamad and Ariffin Zakaria FCJJ), the section 95(2) of the SDBA absolves liability of the local authority, as subject to public policy, responsibilities, burdens and limitations, as well as local circumstances held by the local authority, thus it was not fair, just and reasonable to confer such a burden of liability. Abdul Hamid FCJ reasoning was that, the balance of interests between the local authority and the ratepayers in Malaysia added constraints to MPAJ and that of the interests and losses suffered by the plaintiffs (MPAJ) as compared to the injuries and losses sustained by the respondents[23].

Nevertheless, the High Court judge held that, the MPAJ was exempted from the pre-collapse liability but no protection was given to the local authority for post-collapse liability. The High Court also found that the housing developer was negligent in failing to engage a

qualified architect to prepare the building plans. Both the first defendant, a housing developer and second defendant (unqualified architect) were found to be negligent for providing inadequate terraces, retaining walls and drains on the hill slope which this could reasonably foresee to have caused the collapse. Further investigation by the High Court, revealed that the third defendant, an engineering firm, was also liable in negligence and in contravention with the Street Drainage Building Act, 1974[24]. It was also revealed that, the registered architect and engineer obtained a Certificate of Fitness without fulfilling the conditions of the Local Authority such as inability to investigate the terracing of the hill slopes and construction of the retaining walls even though they were aware they would affect the buildings[25]. The engineer was liable in negligence for failure to take into consideration the hill or slope behind the Towers as well as failure to design and construct a foundation to accommodate the lateral loads of a landslide. Alternatively, the engineer should have ensured that the adjacent hill slope was stable[26]. Further, the High Court found that the Fourth Defendant (Local Authority) was negligent in respect of its duties in relation to developments approval and issuance of the Certificate of Fitness. Based on the Highland Tower case, the judicial decision proves that the professionals engaged by developers are liable if they are found to be careless or neglecting their duties where they owe a duty of care to the house purchasers. However, the local authority was conferred immunity by reason of section 95 (2) of the Street, Drainage and Building Act, 1974 (Act 133). Section 95 of Act 133 absolves the liability of the local authority towards any building failures and injuries. In consequence, when approving a project or granting building approval, the Local Authority might omit certain indispensable requirement which can trigger building failures. Thus, this reflects certain lacunae in the existing law. The exemption of liability at building approval stage should not be given protection as such failure of providing master drainage plan for the apartment of Highland Towers may cause harm to the public. The defendant should have taken reasonable care and diligence in examining the plans submitted to ensure whether the design of drainage and retaining wall are adequate and reasonably fit for the purpose it was intended for. The consequence of inadequate design of terrace, retaining walls and drains have changed the direction of water courses, streams and rivers in the vicinity of the Highland Towers Site, Arab Malaysian Land and the surroundings which were under the jurisdiction of the 4th defendant. https://www.hba.org.my/laws/CourtCases/S/steven_phoa.htm

In *Steven Phoa v Highland Properties* (1995)[26] the High Court also opines the scope of professional liability

towards the house buyers by citing example in the decision of Lord Atkin in *Donoghue v Stevenson* (1932) A.C. 562 : "that every man must take reasonable care to avoid acts or omissions which he can reasonably foresee would be likely to injure his neighbour, i.e. those persons who are so closely and directly affected by his act that he ought reasonably to have them in contemplation as being affected when he is directing his mind to the acts or omissions which are called to question, and this results in damage to the neighbour. By this, suffice to say, at this stage, that the important elements for the plaintiffs to prove in this cause of action are: causation and foresee ability [27].

Nuisance

Further, James Foong J, in his judgement in *Steven Phoa v Highland Properties SdnBhd* also quoted private nuisance from *Winfield & Jolowicz on Tort*[28] which is described as "unlawful interference with a person's use or enjoyment of land, or some right over, or in connection with it", and this takes three forms. The first: is encroachment on a neighbour's land. The second: is direct physical injury to the neighbour's land. And the third is interference with the enjoyment of the neighbour's land. Likewise, according to a practising architect Ar. Rusman bin Darus in AlorSetar, he opined the adjacent land with a new development may also cause the existing housing project to sustain damages due to construction activities that being carried out[29]. He also asserted that your project may be completed now, 20 years later problem starts to arise. The problem may not cause from your particular land that you have developed, but adjacent land that may carry construction activities affecting your project, especially land with high risk such as hillslope development. He added that, the existing project maybe safe to occupy but what happen 10 years later? Somebody bought the land is beyond the developer control and then develop, that later on may disturb the drainage system of the land. These are the real problem that I think partly due to the soil movement. He also asserted again, the uncontrolled development by others, may affect your project. Let say, if you are the pioneer that develop on the foothill, your building has undertaken all the study, i.e the Soil Investigation (SI) report, fulfill the EIA requirement, in compliance with all regulations but down the line after 10 years, 15 years, 20 years, somebody else develop on the top of hill which due to scarcity of land, take Penang for example; a new development built on the top of the hill, further up, cut the hill slope, although there is study being carried out and complied with the law'.

4. Limitation

In another case of *Siew Yaw Jen v Majlis Perbandaran Kajang* and another appeal, the first defendant was the registered landowner and the developer of a project. The

second defendant was one of the consulting engineers for the first defendant and was responsible for the project. The project was situated within the local authority area under the jurisdiction of the respondent, Majlis Perbandaran Kajang who is the plaintiff in the high court. The first defendant had lodged the infrastructure plan for the project which was duly approved by the plaintiff. According to the infrastructure plan, the first defendant, the developer was required to construct a Nehemiah reinforced soil wall and bored pile wall or retaining walls along the slope throughout the boundary of Lot 6504 with the adjacent lot. The plaintiff issued a certificate of fitness for occupation for the project. When soil erosion and landslides occurred on the slope, the plaintiff claimed that it was the first defendant, the developer, who did not build the retaining walls. The plaintiff claimed that it was the negligence and fraud of the defendants as they had failed to build the retaining walls in accordance with the infrastructure plan. The plaintiff demanded that the first defendant carry out remedial works as well as to build the retaining walls and the High Court allowed the plaintiff claim against the defendants.

However in the appeal court, the judge is to determine (1) whether the plaintiff's action was barred by limitation; or (2) whether the first defendant's refusal to construct the retaining walls upon demand being made by the plaintiff constituted negligence; and (3) whether the plaintiff was stopped from claiming the reliefs claimed in this action.

Notwithstanding the issue of limitation, it was noted that, the learned High Court judge did not address at all in his judgment despite the fact that the issue was pleaded by plaintiff. However, the appeal judge found that, the PJ¹ form was signed on 23 November 2000 and the CFO was issued on 28 December 2001. The plaintiff issued a summon after 10 years the building was built but was dismissed and barred by limitation as Under s6 of the Limitation Act 1953, the period of limitation for actions founded on tort is six years. Thus, the allegations on the defendants made by the plaintiff was not valid as the claim should be issued on 27 December 2007.

Nevertheless, in the event of the CFO was issued, the plaintiff should have known from the site inspections that the retaining walls was not been built. If the PJ form had contained a false or negligent representation that the retaining walls was built, by the time the CFO was issued, the plaintiff should have known that was such misrepresentation. Further, the appeal court found that the occurrence of soil erosion and landslips started early as 2001, that was before the issuance of CFO, and some meetings and remedial actions were ordered and several actions were taken by the plaintiff. The court is of the

considered view the cause of action for the first defendant's allegation was not valid as the letter of demand was issued in October 2010. Thus, the judge dismissed the plaintiff's claim and was barred by limitation by the date of its filing on 25 October 2011.

However, the latest amendments in the Limitation Act 1953 provides that the addition of sections 6A(1) and 6A(2) amendments provide that the time limit for a person wishing to claim damages for negligence without personal injuries against a developer is 15 years.

The Section 6 of the Limitation Act 1953 further provides, "Save as hereinafter provided the following actions shall not be brought after the expiration of six years from the date of which the cause of action accrued, that is to say actions founded on a contract or on tort, actions to enforce a recognisance, actions to enforce an award and actions to recover any sum recoverable by virtue of any written law other than a penalty or forfeiture or of a sum by way of penalty or forfeiture."

Further, the plaintiff claimed that the first defendant is negligent in not constructing the retaining walls, and the second defendant's fraudulent/negligent misrepresentation in the PJ form that the retaining walls were built when they were not, for which representation the first defendant was also liable. There was no evidence that the CFO that was granted was a conditional CFO. When an earth slope was built and CFO granted after two inspections, the plaintiff clearly accepted that the earth slope was an acceptable replacement for the retaining walls. In other words, the second defendant's opinion that the retaining walls would not be necessary if Lot 1758 (situated on higher ground than Lot 6504) had a proper drainage system and the earth slope was properly maintained. The sufficiency of that earth slope was clearly the basis for its acceptance by the plaintiff and the subsequent issuance of the CFO. On the maintenance of the earth slope, the second defendant said to his witness:

"Q: Can that earth slope then prevents landslides?"

A: Yes, if it is maintained properly. However, it was not maintained properly in particular on the other side located in Lot 1758 by the owner of the neighbouring lot.

Q: Can you please explain what do you mean by that?

A: Upon inspection, I found out that the said drain was not maintained properly with slit (sic) and grass growing along the said drain and it was clogged with earth and stones which caused over flow of rainwater and landslides."

The surface run off was due to failure of maintaining earth slope could be avoided if proper drainage system was taken care according to the witness and this is under the jurisdiction or task of the local authority MPKj. The court was not able to find any basis that could support the learned trial judge's dismissal of the first defendant's claim that the plaintiff had waived the requirement to

build the retaining walls and had accepted, instead, the earth slope as being an adequate alternative.

As explained by the plaintiff's own witness, PuanFadilahbt Razali ('SP1') admitted that in order to construct the retaining walls, the top of the slope on Lot 1758 had to be cut off. In other words, the plaintiff must have been satisfied that it could deal with the issue of the surface run off coming down the slope from Lot 1758. Hence its willingness to issue the CFO on 28 December 2001.

Towards the end, the appeal judge allowed the appeals by both defendants, the developer and the engineer and dismiss the plaintiff's claim on the ground that the plaintiff knew the constraints faced by the first defendant in relation to the construction of the retaining walls and accepted that an earth slope was an adequate alternative, hence proceeded to issue the CFO.

Duty of Care

Nevertheless, according to Ir. Abu Bakar a practising engineer in Sungai Petani,² "the occurrence of surface water runoff is caused by poor drainage system being carried out. The effect of surface water may also cause soil erosion. When this happen, usually the engineer would divert the water flow so that it did not drain on the slope and will flow in the designed drainage. Usually the surface water running off from top of hill to ground happened by gravity from above to lower has water pressure. However, the water pressure comes from underground water". He also asserted that: "soil problem may occur due to foundation failure. When designing the foundation, it is the engineer duty to determine that the soil is fit enough to sustain the loading. If the soil is fit and strong, the building can use pad footing as foundation however, if it is not, it must use piling. This is the duty of a structural engineer that has to pay more attention the soil problem. However, house purchasers must bear the risk if buying the house near the slope or on hillslope. There is risk such as landslide and soil erosion. Nevertheless, there should be maintenance on the slope, such as planting grass to support the soil structure or build retaining walls."

Natural disaster

Nevertheless, we cannot exclude damage caused by a natural disaster or 'force majeure' which is described as unforeseeable circumstances. Likewise, earthquake, landslide and soil erosion are literally natural disasters or an act of God where there is no remedy to reinstate the claimant as in the case decided in Canada, *Atlantic Paper*

Stock Ltd. v. St. Anne-Nackwawic Pulp & Paper Co.,³ where the judge opined a "force majeure clause generally operates to discharge a contracting party when a supervening, sometimes supernatural, event, beyond the control of either party, makes performance impossible". Thus, a plaintiff bringing a claim for damage to court is unlikely to succeed. In a typical contract, a force majeure clause is allowed to be part of the agreement where damage caused by force majeure is described as unforeseeable circumstances. The purpose of the force majeure of the contract clause is to "exempt the contracting parties from fulfilling their contractual obligations for causes that could not be anticipated or beyond their control. In a way, these causes are usually described as an Act of God or natural disaster which could not be anticipated. Legally, force majeure clauses exist in a contract agreement to exclude liability where unforeseen circumstances are beyond a party's control prevent the performance of its contractual obligations.

Notably, cases of building failure stems from soil liquefaction, a phenomenon whereby a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress, usually earthquake shaking or other sudden change in stress condition, causing it to behave like a liquid. Basically, in soil mechanics, the term 'liquefied' was first utilised by Allen Hazen in reference to the 1918 failure of the Calaveras Dam in California. Hazen explained that several points below ground level suffered liquefaction which resulted in the soil lacking in strength and stiffness. In a similar incident, extensive damage of residential properties occurred in the eastern suburbs of Christchurch, New Zealand during the 2010 Canterbury earthquake. When such catastrophe occurs it is classified as natural disaster or force majeure in which no party can blame each other as it amounts to act of God.

Nonetheless, if natural phenomenon occurs such as continuous rainfall and flood, earthquake, soil erosion, etc. The housing development projects on marginal land such on hill slope or hilly terrain may also expose to potential threat which is certainly dangerous to the properties, as the soil conditions may lose its stiffness, strength and stability due to the imposed weight of the building structures on the soil bearing capacity.

Thus, it is important that, the inclusion of hill-slope factor ('HSF') and rainfall pattern ('RFP') reports within the Environmental Impact Assessment ('EIA')⁴ report is indispensable in order to avoid the unforeseeable circumstances as discussed above. Towards the end, with those circumstances occurred, the adequacy of the laws governing soil fitness to provide preventive and curative

measures to the stakeholders is still in questions. Similarly, the laws that protect house purchasers when buying houses on the sensitive land are also questionable.

5. Conclusion

The above legal prepositions provide as an example of the legal problems involving soil problems in housing development in respect of deficiency in the legislations, professional's negligence as well as local authority's omission in reviewing development application. Hence, the implication is towards the house purchaser. However, the natural force also is one of the contributing factors of housing failure pertaining to soil problems as it may cause soil erosion, slope failure and landslide in the housing projects. Although there are guidelines and policies

Table 1: Below shows the latest evidence of housing projects that fail due to soil problems taken from the online news.

No.	Type of Soil Problem	Year & Source	Location of housing failure	Remarks/ Issue
1	Soil movement	28 December 2019	Jalan Kelab Ukay 2, Taman Kelab Ukay, Ampang	A bungalow at Jalan Kelab Ukay 2, Taman Kelab Ukay, Ampang was ordered to be demolished due to soil movement in the area
2	Construction of nearby fire station	The Star Online, 8 August 2019	Taman CherasHartamas	Taman CherasHartamas residents whose houses suffered structural damage of cracked walls and tiles from the construction of the Bandar Tun Hussein Onn fire station since 2015 are still waiting for follow-up action and compensation.
3	Sinking soil due to swampy land used for housing development	BeritaHarian Online dated 25 January 2018	ProjekPenempatanSemulaNelayan (PSN) TanjungDawai, Kedah	A total of 300 housing units built for fishermen in TanjungDawai which were pre-approved housing as they were built on the models of Ministry of Agriculture and Agro based Industry were overdue due to delayed construction work arising from weak soil condition of the swampy land which was inadequately filled.
4	Soil erosion, heavy downpour	Harian Metro, dated 10 Dis 2017	Putera Jaya, Permaisuri, Terengganu	Putera Jaya housing project was built without drainage reserves which caused soil collapse at the earth drain. The situation worsened during monsoon season, the soil erosion after a heavy flood due to poor drainage.
5	Heavy downpour,	Astro Awani, dated 16	Taman Permai Utama, Gurun, Kedah	Approximately 16 units of house residents were evacuated

supporting the housing industry in Malaysia, the occurrence of problematic soils in housing projects still persists as little regulatory control on housing project being carried out. These problems have been evaluated and highlighted from many contributing factors by using case law. Notwithstanding the circumstances that occurred in the housing project, it is timely that the existing legislation should be reviewed so that such problems could be minimize through enforcement in the legal framework.

APPENDIX 1

	landslide	September 2017		due to land erosion at the hillside behind their homes where the developer did not provide much matting to hold vegetation on hill slope.
6	Nearby construction work	The Star Online, dated 12 August 2017	Taman Cheras Perdana	Residents at Taman Cheras Perdana are unhappy over cracks appearing in their houses, claiming it was caused by nearby works for the construction of MMC Pembetulan Langat SdnBhd's (MMC PLSB) Langat Sewerage Project.
7	Lanslide	The Star Online, dated 22 October 2017	Taman Sri BungaTanjungBungah	A landslide occurred during construction stage located at LengkukPermai, TanjungBungah killed 10 construction workers.
6	Landslide heavy downpour, soil erosion	Star Online, dated 6 May 2017	Armanee Terrace Condominium PJU8,Damansara Perdana, Petaling Jaya	The construction work of Empire Residence has caused soil erosion from a hillside at PJU 8 in Damansara Perdana which threatened the residents.
8	Landslide	26 November 2016	Taman Idaman, Serendah, Selangor	A landslide occurred in Taman Idaman, Serendah, Selangor. About 340 civilians are evacuated.
9	Instability soil: soil defects	Borneopost Online, April 21, 2016	Kuala Baram, Sarawak	A three-year delay in the construction of Kuala Baram mixed housing project comprising 241 affordable houses undertaken by the state government is due to internal soil defects. No geotechnical survey was done prior to construction of the project.
10	Foundation failure	The Borneo Post 24 October 2016	Kuching	Residents of No1 to No 26 houses at MJC Mutiara here are frustrated with the developer's indifference to solve engineering issues affecting their houses.
11	Soil movement	SinarHarian Online, dated 2 January 2015	Jalan Damai Rasa, Taman AlamDamai, Cheras, Selangor	Slope failure as advised by engineering firm was caused by soil movement possibly due to clayey soil layer being impacted by heavy structural weight.
12	Soil erosion	Utusan	Taman Saujana Indah, Bukit	Residents were faced severe soil

		Online, dated 23 July 2015	Katil, Melaka	erosion which was the key factor that caused building cracks after six months occupying the homes.
13	Soil instability arising from soil movement	Sinar Online, dated 23 October 2014	Apartment Teratai, Bukit Beruntung, Selangor	Evacuation of 12 units house residents due to soil movement which has caused partial cracks and damages to their homes. Soil movement occurred possibly due to water seepage and surrounding projects. Surrounding hills suffered from landslide that stemmed from inner soil movement due to possible water seepage during heavy downpour
14	Landslide	The Star Online, dated 5 Jan 2013	Putra Heights	Construction at the Kingsley Hill housing project at Putra Heights has been halted temporarily following a landslide at the site that caused several vehicles to be submerged in mud.. No update if this affects the progress of the construction of Kingsley International school, located at the other side of this hill.
15	Soil erosion and sinking soil, heavy downpour	Utusan Online, dated 28 October 2012	Taman Jelai, Kuala Lipis, Pahang	Heavy rains triggered a landslide on the road of Benta to Kuala Lipis. A burst of underground piping system has weaken the soil structure which worrying the house residents of Taman Jelai that live nearby.
16	Soil movement	The Star, 29 Dec 2012	PuncakSetiawangsa, Kuala Lumpur	88 residents of bungalows, shophouses and double-storey terrace houses in the PuncakSetiawangsa, Kuala Lumpur were ordered to move out because of soil movement. Resident Siti MahfudzahShahril, 34, said she was shocked at the sound of a siren and rushed out to see a landslide of about 50m high.
17	Landslide	21 May 2011	FELCRA Semunggis, Hulu Langat, Selangor	16 people mostly 15 children and a caretaker of an orphanage were killed in a landslide caused by heavy rains at the Children's Hidayah Madrasah Al-Taqwa orphanage

Table 2: Statistic of landslide in Malaysia resulting life loss and injury from 1961 to 2007 by Gue, S. S. & Wong, S.Y

Date of occurred	Landslide location / Remarks	Fatality (Nos.)	Injury	Highway
1 May 1961	Ringlet, Cameron Highlands	16	-	
11 December 1993	Highland Towers	48	-	
30 June 1995	Genting Highlands slip road near Karak Highway.	20	22	
6 January 1996	North-South Expressway (NSE) near GuaTempurung, Perak.	1	-	✓
29 August 1996	PosDipang Orang Asli settlement in Kampar, Perak	44	-	
26 December 1996	Keningau Sabah	238		
15 May 1999	Bukit Antarabangsa, Ulu Klang, Selangor			
20 November 2002	Taman Hillview, Ulu Klang, Selangor	8		
26 October 2003	Km 21.8 Bukit Lanjan	-	-	✓
12 October 2004	Km 303 GuaTempurung, Perak	-	1	
10 May 2006	Taman Bukit Zooview Selangor	4	-	
8 February 2006	Kampung SundangDarat Sabah	3	2	
31 May 2006	Kampung Pasir, Ulu Klang, Selangor	4	-	
3 Jun 2006	Jambatan Sungai Mandahan Sabah	3	-	✓
7 November 2006	Kuari Kedah	2		
11 November 2006	Kampung Bukit Sungai Seputih Ampang Selangor	1		
23 March 2007	Putrajaya	-	-	✓
4 May 2007	Jalan Sultan Salahuddin Kuala Lumpur	-	-	✓
13 November 2007	Pulau Banding Perak	-	-	
26 December 2007	KampunBaruCinaKapit Sarawak	4	-	
30 November 2008	Ulu YamSelangor	2	-	
6 December 2008	Bukit Antarabangsa Kuala Lumpur	5	14	✓

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