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# An Analysis of Policy Frameworks on Business Formulization and Disaster Management to Mitigate Flood Loss and Damage Among Informal Businesses in Sri Lanka

**Vindya Hewawasam * and Kenichi Matsui**

Faculty of Life and Environmental Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba 305-8577, Japan; matsui.kenichi.gt@u.tsukuba.ac.jp

* Correspondence: hewawasam.vindya.ya@alumni.tsukuba.ac.jp

**Abstract:** The 27th Conference of the Parties to the United Nations Framework Convention on Climate Change in Egypt made a historical decision on disaster loss and damage for vulnerable countries. Even though parties agreed to salvage vulnerable nations with generous support, a fundamental question remains as to the extent to which these vulnerable countries can accurately identify the most vulnerable communities/areas. In Sri Lanka, informal businesses are particularly vulnerable to floods, but their informal status has limited the extent to which they could receive flood protection, including disaster-resilient infrastructure developments. The main objective of this paper, therefore, is to identify challenges that informal businesses have experienced in dealing with flood disaster risks. In doing so, we analyzed government policies and laws that are related to business formalization and disaster management. We also conducted interviews with key informants to verify our data. Our analysis found that the Sri Lankan government requires informal business owners to follow complicated rules to register their businesses. For these owners, who are not highly educated, these processes and fear of high tax rates discouraged registering their businesses. The central government tends to prioritize flood mitigation actions for formalized business areas. Informal businesses are not usually covered by flood insurance and compensation. In conclusion, we emphasize the need to establish widely available legal and administrative support for informal businesses to register. Adopting business continuity plans (BCPs) and keeping standardized business records also help businesses minimize flood loss and damage.

**Keywords:** business formalization; disaster management policy; informal businesses; flood loss and damage; flood vulnerability; Sri Lanka

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## 1. Introduction

In November 2022, the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Egypt made a historical decision. The parties agreed to substantially increase support for vulnerable countries to mitigate climate change-induced disasters (COP27 2022; UNFCCC 2022). Many developing countries welcomed this outcome in principle, but the fundamental question remains as to how developing countries can accurately identify the most vulnerable communities and areas so that the proposed loss and damage fund, which was one of the outcomes of the above decision, can be mobilized effectively. Informal businesses represent more than half of the workforce in developing countries (IIED 2016) and disaster damages to these businesses are not yet clear even though past studies found that informal businesses in developing countries were highly prone to disaster loss and damage (GIZ 2014, 2005; UNDP 2013; ILO 2008).

Informal businesses are often located on sub-optimal lands which are prone to floods and other disasters (UNDP 2013; Bradley 2013) without business continuity plans (BCPs) and disaster insurance (GIZ 2005, 2014). Noncompliance with labor and other regulations makes these businesses out of scope from nation's social protection and welfare services

(IIED 2016; ILO 2008; WB 2007). These businesses operate at household or individual levels without having disaster coping strategies (UNDP 2013; ILO 2008). Due to informal business lacking records, it is very challenging to understand the scale of their loss and damage. As a result, developing countries are unable to obtain an accurate picture of disaster preparedness and recovery (de Mel et al. 2010; Aryeetey 2015; ILO 2008).

In Sri Lanka, informal businesses play a major role in its economy, representing approximately 96% of business establishments (Census 2017; Atlas 2014). The national government conducted its first-ever economic survey for the 2013–2014 fiscal year and found that the total output of informal businesses was LKR 1175 billion (Census 2017). Approximately a half of these informal businesses belonged to female owners (LFS 2020). That much we know so far; but we do not yet know how these businesses have suffered from past and ever intensifying flood disasters in the last twenty years.

Flood is the most frequent disaster in Sri Lanka (ILO 2020). The two historically devastating flood disasters occurred in 2016 and 2017, causing approximately USD 1.2 billion of economic damage, of which the business sector suffered from USD 355.8 million of damage (PDNA 2017, 2016). Approximately 1.4 million people were affected and the number of damaged informal businesses was estimated to be 300,000. Here, we may be looking at underestimated figures as the loss and damage of informal sector were not thoroughly calculated due to the lack of baseline data and assessments (PDNA 2017, 2016).

Except for a few UN studies, informal businesses and their disaster vulnerability have gained scant attention in academic studies. What we have today is limited studies that discuss informality as a challenge for small and medium enterprises (SMEs) to cope with disasters (de Oca 2022; Sharif 2021; Gunathilake 2018; Shale 2015; Parthasarathy 2015; Kuruppu et al. 2013; UNDP 2013; Galbraith and Stiles 2006; Gamage 2003). The UNDRR (2020) similarly identified informality as one of the main risks for SMEs to deal with disasters.

This much said, there are some business formalization studies that focus on definition, formation process, cost, and benefit (GIZ 2014; GIGA 2006; GIZ 2005). Compared with the informal ones, formal businesses are considered more beneficial in terms of access to infrastructure, GDP contribution, labor productivity, wages, working conditions and tax revenue (WB 2022; GIZ 2014). Others emphasized the importance of labor market reforms, taxation challenges, tighter law enforcement, intra-government coordination, and simpler documentation processes in order to transform informal businesses into formal ones (ILO 2021; Benhassine et al. 2016; IIED 2016; Aryeetey 2015; Bruhn and McKenzie 2014; GIZ 2014; WB 2007). In connection to disaster management, Parthasarathy (2015) explored the role of informal-sector workers in post-disaster resilience in India after the 2005 floods and found that informal workers played a vital role in city's recovery process by providing essential goods and services, participating in rescue operations, and cleaning. So far, however, no past study has examined informal businesses in terms of better understanding issues that are germane to disaster loss and damage in developing countries.

Considering this gap, this paper attempts to identify challenges that informal businesses have experienced in dealing with flood disaster risks in Sri Lanka. In the following sections, we first explain about data collection and analysis methods. Then, we explore the challenges that informal businesses face in dealing with flood risk by analyzing the policy framework of business formalization and disaster management. Finally, we discuss the importance of business formalization to minimize disaster risk.

## 2. Materials and Methods

### *2.1. Sri Lanka's Enabling Environment for Doing Business*

Before better understanding informal business challenges in Sri Lanka, one needs to have general knowledge about how it has formalized and registered different types of businesses. The registration and the formalization of sole proprietorships and partnerships have long been governed by Business Names Act No 7 of 1987. Provinces and municipalities follow this by

establishing regulations and policies. Here, informal businesses belong to sole proprietorships and partnerships within a category of SMEs (Business Names Act 1987).

According to the Ease of Doing Business Ranking made by the WB (2020), Sri Lanka ranked the 99th among 190 countries in doing business. A high ranking means the regulatory environment is more conducive to starting and operating a local business and vice versa. Though the Sri Lankan score is relatively low, it is still higher than the average South Asian score, which is 58.2 in 2020. The score is the result of 10 easiness indicators, which include the business start-up, construction permit process, property registration, credit/loan availability, tax payment, minority protection, and resolving insolvency (WB 2024, 2020). Sri Lanka is ranked among lowest in contract enforcement (164), tax payment (142) and property registration (138) (WB 2020). For example, resolving a legal matter takes approximately 1318 days (CBSL 2020).

Though this World Bank study illustrates a generalized picture of Sri Lanka's business environment, it does not include informal businesses. It sampled limited liability companies that operated in Colombo with 10–50 employees (WB 2020). These companies are managed by (Company Act 2007, No 7), but informal businesses are governed under the Business Names Act. Due to these two different legal frameworks, informal businesses and limited liability ones fall under separate rules, regulations and procedures. Limited liability companies are never informal. According to our discussions with the administrator of the Small Business Development Division of the Ministry of Youth in Colombo (Personal Interview 2024), it is difficult to generalize Sri Lanka's business easiness ranks and scores without incorporating informal business contexts.

### 2.2. Data Collection and Analysis

To identify challenges that informal businesses have experienced in dealing with floods, we examined Sri Lanka's policies that are pertinent to business formalization and disaster management (Table 1). As we explained earlier, business formalization processes are regulated under Business Names Act No 7 (1987) along with provincial and municipal laws and regulations, including Municipal Councils Ordinance No 29 (1947), Urban Councils Ordinance No 61 (1939), and Pradeshiya Sabhas Act No 15 (1987). The Registrar of Business Names is empowered to implement the Business Names Act. Municipal laws and regulations on business licenses and levying tax are governed by the respective local authorities namely; Municipal Councils, Urban Councils and Pradeshiya Sabhas. Pradeshiya Sabha is the third-tier municipality coming under the local authorities in Sri Lanka (Pradeshiya Sabhas Act 1987). Additionally, provincial government websites provide information about business name registration process. These sites are managed by the Western Province Business Name Registration Department and Southern Province Electronic Business Name Registration System.

Regarding disaster management, the Disaster Management Act of 2005 is the main legal framework and it is implemented by the National Council for Disaster Management. The Act mandates the government to create preparation plans for disaster management (Disaster Management Act 2005). Accordingly, we examined relevant government policy documents, such as the National Policy on Disaster Management (2010), Sri Lanka Comprehensive Disaster Management Programme 2014–2018, and MoE (2011). We also reviewed disaster relief and compensation-related circulars by the Ministry of Defence.

Most detailed information about flood loss and damage is found in Post Disaster Need Assessment Reports of Floods and Landslides in Sri Lanka (PDNA 2017, 2016). In addition, we collected flood loss and damage data from the national disaster database (Desinventar 2023) and National Disaster Relief Services Center (NDRSC).

**Table 1.** Policy framework of business formalization and disaster management in Sri Lanka.

| | Policy Framework | Implementing Agency (Number of Local Authorities) |
|---|---|---|
| Policies and regulations on business registration | Business Names Act No 7 of 1987 | Register of Business Names |
| | Municipal Councils Ordinance No 29 of 1947 | Municipal Councils in Sri Lanka (24) |
| | Urban Councils Ordinance No 14 of 1940 | Urban Councils in Sri Lanka (41) |
| | Pradeshiya Sabhas Act No 15 of 1987 | Pradeshiya Sabhas in Sri Lanka (276) |
| | Provincial statute on business name registration | Western Province Business Name Registration Department/Southern Province Electronic Business Name Registration System |
| Disaster management policy frameworks for businesses | Disaster Management Act (2005) | National Council for Disaster Management |
| | National Policy on Disaster Management (2010) | Ministry of Defence/Disaster Management Center |
| | Sri Lanka Comprehensive Disaster Management Programme 2014–2018 | Ministry of Defence/Disaster Management Center |
| | Flood relief and compensation circulars | National Disaster Relief Services Center/Ministry of Defence |
| | Climate Change Vulnerability Data Book 2011 | Ministry of Environment |
| | Post Disaster Needs Assessments Reports: 2016 and 2017 | Ministry of National Policies and Economic Affairs and Ministry of Disaster Management |
| | Flood loss and damage database | Desinventar database/Disaster Management Center |

After examining the above data and our preliminary field surveys in such flood hotspots as Colombo, Kolonnawa and Kaduwela divisional secretariat divisions (DSDs) of Colombo district in March 2020 and May 2022, we designed online interviews and discussions with key informants from September to December 2022. These surveys attempted to understand the current status and practices of informal businesses and related flood risks. Accordingly, the lead author had phone interviews with the assistant director of the Small Enterprises Development Division of the Ministry of Youth and Sports in Colombo on the current business registration framework and related challenges. The interviews took approximately one hour per week from September to October 2023. Clarifications about legal background of the formalization of businesses were discussed with a lawyer (commercial and industrial law) and a senior provincial council consultant (legal and governance) in Colombo through telephone and online discussions. These discussions were held when the authors needed legal clarifications on the current practices. Therefore, a series of discussions were held from September to December 2023 and the time of the discussions varied from 10 min to 1 h. Approximately, 15 discussions were conducted. In addition, informal personal interviews were conducted with an administrator of the Disaster Management Center (DMC) to identify the flood compensation process for business in December 2022. Finally, we analyzed the data under two policy frameworks, namely business formalization and disaster management. Here, we focused on legislation, definition, tax and license process, flood loss and damage assessment, insurance and compensation.

## 3. Results

### *3.1. The Policy Framework of Business Formalization*

In our document analysis on business formalization, we found that one of the challenges that ubiquitous small local businesses faced in formalizing their businesses was complex costly procedures and overlapping organizations. The Business Names Act requires every firm, individual or partner that conducts business to be registered (Business

Names Act 1987). Under the 13th Amendment (1987) to the Constitution of 1978 (1st list of the 9th Schedule), provincial councils are empowered to register and administer business names (BNR 2017). The business name registration fee cost LKR 2500 for an individual business and LKR 3000 for a business firm (Western Province Statute 2013). However, not all regional councils have established business name registration offices. In practice, divisional secretariat divisions (DSDs), which are organized within a district under the central government, carry out business name registration for individual businesses (Personal Interview 2022a). Provincial offices tend to play a subsidiary function for business registration. For example, the Western Province Business Name Registration Department assists five DSDs in Colombo district (BNR 2017).

Before an applicant goes to a DSD office, he or she must obtain endorsement from a local village head called Grama Niladari. Divisional secretariat looks at a certified copy of the national identity card, a copy of land/building ownership, an assessment tax report (Waripanam) and an affidavit for initial capital of the business. Depending on business types, an applicant must obtain additional consent from the specific government authority. For example, businesses that deal with wood or timber products need to receive consent from the Department of Forest. If the business is based on a partnership, it is requested to provide a copy of the partnership (Personal Interview 2022a; BNR 2017).

The island-wide study by the Ministry of Youth and Sports (2020) showed that 40% of businesses were not registered due to the lack of documents that proved one's land or building ownership. These businesses operated in rented places or informal settlements where lands were not officially surveyed. The survey further found that approximately 14% of them failed business name registration because they could not obtain a permit from a relevant authority (Personal Interview 2022b).

To make things more complicated, business registration does not necessarily mean that a business is formalized. According to the Department of Census and Statistics (DCS), formal businesses must be registered in the Employees Provident Fund or the Department of Inland Revenue. Formal businesses must keep formal accounts or have more than 10 employees (LFS 2020). This definition, however, was not made in compliance with the Business Names Act as it does not provide a standard definition about what should consist of formal businesses. There is no informal sector survey conducted after the 2013/2014 survey.

To operate business in Sri Lanka, it is mandatory to obtain a business license or pay tax to local authorities. These local authorities come under the local government system (MPC and LG 2022). The Municipal Councils Ordinance No 29 (1947), Urban Councils Ordinance No 61 (1939) and Pradeshiya Sabha Act No 15 (1987) and their amendments authorize local authorities to issue business license and levy tax under by-laws (Personal Interview 2022c). For example, Section 247 (A, B, C) of the Municipal Councils Ordinance stipulates that municipal councils can issue license to premises and levy tax on them (Municipal Councils Ordinance 1947). The Urban Councils Ordinance (Section 164, 165, 165A, 165AA, 165B) and Pradeshiya Sabhas Act (Section 149, 150, 151, 152) have somewhat overlapping provisions for license and tax (Personal Interview 2022b; Urban Councils Ordinance 1939; Pradeshiya Sabhas Act 1987).

Our interview with a senior provincial council consultant in charge of legal and governance confirmed that annually local authorities collect license fee and tax from all small businesses in respective locality (Personal Interview 2022c). Each local authority is mandated to maintain an annual business database about its license and tax transactions. However, in practice, it is not common for a local authority to keep its database, making it difficult to know an overall picture of business transactions (Personal Interview 2022a, 2022c). To make it worse, all these license and tax transactions at local authorities are processed without having knowledge about the business name registration under DSDs. There is no information-sharing mechanism between local authorities and DSDs over informal business records even though laws on local councils mandate them to maintain business databases (Personal Interview 2022c).

In our interview with the Small Business Development Division, an administrator told that her Ministry survey found that 21% of all businesses did not have any motivation to have their businesses registered because they feared of paying income taxes and complying with other labor regulations (Personal Interview 2022b). She further mentioned that local authorities do not have a mechanism to encourage business registration (Personal Interview 2022b). Overall, overlapping documentation processes and complicated bureaucracy discourage businesses to register (GIZ 2005, 2014; Aryeetey 2015).

### 3.2. Disaster Management Policies for Informal Businesses

Another issue Sri Lanka's informal sector has is related to the design of disaster management policies. The Disaster Management Act (2005), the first comprehensive national legislation for disaster management, was enshrined to provide an administrative framework for protecting the life of Sri Lankan individuals and communities. It established the National Council for Disaster Management (Disaster Management Act 2005). This law is administered by 20 key ministries, but not those ministries for industry, commerce and small enterprises. This shows that the business sector is not mainstreamed in disaster management regulations.

Under the National Policy on Disaster Management (2010), the Ministry of Environment developed vulnerability profiles in 2011 that identified flood vulnerable housing and urban development areas (MoE 2011). A large proportion of informal businesses are located in Colombo and Gampaha districts (Atlas 2014). Colombo DSD was found to be the most vulnerable to flood in the housing and urban development sector (MoE 2011). Our past studies (Hewawasam and Matsui 2022, 2023) found that informal settlements with informal economic activities were concentrated on Kolonnawa and Kaduwela DSDs, where the flood vulnerability level was the highest among Colombo District DSDs. We also pointed out that these vulnerability profiles were created by using DSD's administrative boundaries rather than communal or geographical characteristics. The National Determined Contributions (NDCs) of Sri Lanka proposed a comprehensive sectoral-wise loss and damage assessment, but it is not yet performed (MoE 2021).

Combining this policy shortcoming with past administrative difficulties with business formalization and registration that we discussed in the previous section, Sri Lanka faced challenges to accurately assess disaster loss and damage for informal businesses. Following the worst floods that occurred in Sri Lanka in 2016 and 2017, for example, the Ministry of National Policies and Economic Affairs and the Ministry of Disaster Management conducted the Post Disaster Needs Assessments on Floods and Landslides (PDNA 2017, 2016). According to the 2016 assessment, the total flood loss and damage to informal businesses was estimated to be LKR 5.87 billion (equivalent to approximately USD 41 million), which was 19% of the total loss and damage to the industry and commerce sector. Informal sector employment and livelihood losses were estimated at LKR 5.06 billion (USD 35 million) whereas those of the formal sector were LKR 1.72 billion (US4 12 million). It was also estimated that 99,027 informal employees were affected by the 2016 flood (PDNA 2016).

Here, the question is how the post-disaster needs assessments were conducted without having informal business records. In short, the above figures were calculated largely based on the assumption that the total damage per informal unit at Colombo and Gampaha districts was LKR 100,000. In other affected districts it was estimated to be LKR 50,000 per unit (PDNA 2016). As many informal businesses were interrupted for more than 3 months, the losses of the informal sector were calculated by a formula where the mean annual turnover was multiplied by the number of establishments for 3 months. Here, mean annual turnover was estimated at LKR 100,000 (PDNA 2016). These assessments, however, did not include rented business premises. In some cases, insurance companies paid land/building owners for damage to the premises, but business owners could not claim any compensation for their property damage, making it difficult for the businesses to recover (PDNA 2016).

According to the flood loss and damage assessment of 2017, informal businesses represented 40% (LKR 1.94 billion or USD 13 million) of the total loss and damage in the

industry and commerce sector. Out of this, LKR 1 billion were reported from Marata and Galle districts (PDNA 2017). Out of the total businesses (215,139) in the flood affected areas, 98% (210,882) was of informal establishments. Of the total employment, 205,244 or 59.8% belonged to the informal sector. Again, the accuracy of these numbers is dubious as the government did not have sufficient information about informal businesses. Without having specific records for informal business entities, the government could not compensate informal businesses (PDNA 2017).

The main policies related to disaster management in Sri Lanka stress the importance of mainstreaming gender sensitive protection. For example, the National Policy on Disaster Management (2010) highlighted the importance of empowering women and girls in disaster management. The Sri Lanka Comprehensive Disaster Management Programme (2014–2018) recognized that disaster risks and vulnerabilities differ among men, women and children (SLCDMP 2014). During the floods in 2016 and 2017, however, the needs of women, who predominated the informal sector, were largely left out in the flood loss and damage assessments. The significant number of women in Colombo and Gampaha districts were engaged in home-based self-employment activities when the 2016 flood struck the region. However, these affected women could not apply for post-disaster assistance (PDNA 2016). Similarly, when the 2017 flood severely damaged the southern part of Sri Lanka, those women in caregiving services, home-based production activities, micro-enterprises, and wage labor were not sufficiently represented in the loss and damage assessment due to the lack of business records (PDNA 2017). The post-disaster need assessment of 2016 and 2017 floods showed the importance of considering the socially rooted inequalities and discriminations against women in pre- and post-disaster activities (PDNA 2017, 2016).

Insurance is considered as one of the important risk transfer approaches (UNFCCC 2013), but, in Sri Lanka, natural disaster insurance is not mandatory for businesses (Verité 2018). SMEs rarely have insurance (Verité 2018) due partly to low awareness and high premiums. A past study showed small business owners in Colombo district, especially Kolonnawa (97%) and Kaduwela (87%), DSD owners did not know about flood insurance (Hewawasam and Matsui 2023). Another study showed that private sector insurance providers in Sri Lanka did not cover SMEs, though some SME owners in flood affected areas showed interests in having flood insurance (NCF 2020).

The Government of Sri Lanka established the National Natural Disaster Insurance Scheme (NNDIS) in April 2016 to help SMEs with less than LKR 10 million annual turnovers (Personal Interview 2022d; Disaster Management Circular 2020; Verité 2018; NDRSC 2016). If qualified, SMEs can obtain damage compensation up to LKR 2.5 million. However, losses are not covered (PDNA 2017, 2016). According to the National Disaster Relief Services Centre (NDRSC), after the 2016 flood, 450 businesses claimed a total of LKR19.5 million for damage to their premises. For content damage compensation, 5392 businesses received a total of LKR 206.4 million. In 2017, 3330 businesses claimed premises damage and 28.2 LKR million were paid. In terms of content damage, 11,180 businesses claimed and received a total of LKR 148.5 million (Personal Interview 2022d; NDRSC 2016). Here, it is not clear what business categories were compensated. Many informal businesses did not receive compensation due to a lack of business records to prove their existence before the disaster (PDNA 2016, 2017). Since the NNDIS did not cover losses, many businesses faced great difficulties to recover from floods as they faced losses than damages (Hewawasam 2022). SMEs tend to recover from floods by using personal savings (Hewawasam and Matsui 2023; Hewawasam 2022; NCF 2020; UNDP 2013).

## 4. Discussion

In order to ensure that the UNFCCC's disaster loss and damage fund is to be effective, the scales and characteristics of informal businesses need to be much more accurately understood by national governments and research institutions. A business formalization process can be one step forward although many obstacles remain. Although this is beyond the scope of this paper, there can be a way to accurately assess the loss and damage of

informal businesses, for example, by incorporating all business operations into business continuity plans (BCPs), empowering local women and men in community for disaster preparedness, response and recovery (GIZ 2005). Studies show that the lack of BCPs makes businesses vulnerable to disasters (de Oca 2022). A study in the UK showed that approximately 70% of small businesses located in high-flood-prone areas did not have BCPs and were adversely affected by floods (Wedawatta and Ingirige 2012). On the other hand, in Japan, SME sector formalization through BCPs (BCP 2013) led to a relatively quick and successful recovery of businesses after the 2011 Great East Japan Earthquake and Tsunami (Ballesteros and Domingo 2015; Reconstruction Agency 2021).

How disaster-prone informal businesses can be somewhat protected by insurance is another key question in order to diversify disaster risk burdens. For this end business formalization is needed for financial institutions to recognize eligibility (GIZ 2014; UNDP 2013; de Mel et al. 2010). The UNFCCC has long recognized insurance as one of the best disaster risk transfer approaches (UNFCCC 2013), but, as we examined in this paper, still many informal businesses and formal SMEs had not regarded this option as viable even though they may know that the lack of insurance makes their businesses more vulnerable to disaster risks (de Oca 2022). Other developing countries have experienced similar issues about insurance coverage (Auzzir et al. 2018; UNDP 2013).

Whether formalizing businesses or not, it is also important to keep standardized and reliable records of business operations through licensing and taxation processes. These records can be the reference point for assessing the amount of compensation for loss and damage among informal businesses. Business registration offers a potential platform to conduct more detailed researches on local business operations and potential disaster damage (de Mel et al. 2010). As we have seen in the discussion of the 2016/2017 flood loss and damage assessment, without much information about existing informal businesses, the assessment can involve a risk of over-estimation or under-estimation. This type of assessment cannot help disaster affected informal businesses recover from loss and damage, potentially weakening the overall economic resilience of a country. As long as informal businesses are registered and the records are updated according to internationally recognizable ways, home-based women's informal businesses, which were excluded from government support, can be subject to international aid (PDNA 2016).

Regarding business formalization, this paper has identified a number of challenges, including inhibiting meticulous documentation requirements and complicated bureaucratic processes. The entry cost is another obstacle for small businesses. Some international organizations and scholars have suggested to restructure regulatory frameworks by making the application process less time-consuming and simpler and simplifying the taxation policy (GIZ 2005, 2014; GIGA 2006; Aryeetey 2015; Gunawardana and Bandara 2021). The studies in business entry reforms on firm registration in several Latin American countries showed a large reduction in the entry cost and time. This reform led to an increase in the number of formal firms (Bruhn and McKenzie 2014). In Lima, Peru, after the municipal licensing reforms, the number of firm registrations increased from 1758 in 2005 to 8517 in 2006 (Mullainathan and Schnabl 2010).

In addition, removing barriers to land/business ownership, access to information and education and awareness are some of the other methods that can enhance the formalization (GIZ 2014). Some countries and organizations have already introduced innovative methods such as a single-window-clearance process and an online business registration system (ILO 2021; WB 2009; Aryeetey 2015). The World Bank introduced four types of business formalization processes: one door, one window, one more shop and online shop (WB 2009). Some countries adopted these mechanisms (EBRSP 2022; Bruhn and McKenzie 2014). There are also needs to have more studies that clarify potential benefits of formalizing businesses (GIZ 2005; Gunawardana and Bandara 2021). For implementing government administrations, it is important to reduce redundancies and costs in evaluating business license applications (Bruhn and McKenzie 2014; Benhassine et al. 2016).

## 5. Conclusions

This paper discussed challenges that informal businesses have experienced in dealing with flood disaster loss and damage by analyzing policies on business formalization and disaster management. We identified that the complexity of the business formalization process prevents businesses to be formalized. It is mainly due to complicated and overlapping documentation and authorization processes that are not clearly defined by laws and regulations. This suggests a need for a more flexible administrative framework to register informal businesses.

We also found a lack of inter-agency collaboration in business registration, licensing and taxation. This shortcoming negatively affected flood loss and damage minimization among informal businesses. In the current system, although businesses pay tax or license fees, they are still considered as informal. Government authorities must deal with flood loss and damage without baseline data about informal businesses.

We argued that the absence of community-based loss and damage assessment prevented informal businesses from receiving government aid for flood recovery. Without government support, SMEs, especially informal businesses, must rely on personal savings. This burden on personal financial capacity places these business owners in a higher vulnerable position to flood and other risks in the future. This situation can be exacerbated by the lack of flood insurance among informal business owners. It is also important to note that flood insurance can be linked with the business name registration process. Large insurance companies tend to avoid offering flood insurance to SMEs, the government may promote public-private partnerships for flood insurance at the local level.

This research also has some limitations. Our study, due to limited time and resources, does not incorporate informal business owners' perceptions of challenges. This study attempted to contribute more to our better understanding of flood disaster issues in Sri Lanka rather than small business registration and operation. Even with the focus on flood management, we acknowledge the limitation of not covering all stakeholders such as government ministries and departments, provincial and local governments, field officials, tax collectors, lawyers, banks, businesses, NGOs, donors and local communities.

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