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**A Literature Review for Private Sector Investment Decisions in Building
and Construction: Increasing, Managing and Transferring Risks**

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A Literature Review for Private Sector Investment Decisions in Building and Construction: Increasing, Managing and Transferring Risks

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Global trends in DRR/DRM policies

The Hyogo Framework for Action (HFA) explicitly identified land and urban planning policies, as well as building codes and construction regulations, as key tools for “reducing underlying risk factors”. That was further highlighted by the 2011 Global Assessment Report (GAR 11) on Disaster Risk Reduction (UNISDR 2011:19).

GAR 11 report puts factoring disaster risk into public investment and development plans among the key recommendations for scaling up disaster risk reduction: “Whereas a number of countries have already factored disaster risk into the evaluation of public investment projects, far greater benefits could be achieved if it is also included further upstream in the national planning cycle, i.e., development, sector and land use planning” (UNISDR 2011:153).

Villacis and Yan (2012) report how disasters can have a long term impact on the development of affected countries, that disaster risk reduction is inseparable from development, and that resilient urban development is impossible without efficient implementation of disaster risk management policies.

There have been increasing calls for disaster risk management to be included in wider policy frameworks to be agreed in 2015, including the post-Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs) and climate change agreements, with a post-HFA agreement providing a strong hub that links to the other frameworks (Mitchell and Wilkinson 2012).

According to data reported by Villacis and Yan, economic damage from the 2010 earthquake was 125 percent of Haiti's GDP from the 2010 earthquake; 80 percent of Honduras' GDP and 49 percent of Nicaragua's GDP after hurricane Mitch in 1998; 31 percent of El Salvador's GDP after the 1976 earthquake, with numerous similar examples from many other countries.

Countries' development is not only damaged by such intensive disasters, but also from extensive disasters – smaller intensity but regular events such as annual floods, landslides, etc. “The past 20 years have seen an exponential increase in the number of local areas reporting losses... associated with extensive disasters. Increasing extensive risk is closely related to the challenges low- and middle-income countries face in addressing underlying risk drivers and reducing vulnerability” (UNISDR 2011:34). According to GAR 11 report (UNISDR 2011), the impacts of each of these extensive disasters account for a small portion

of overall disaster mortality but, accumulatively, they are responsible for significant economic losses (damage to housing, crops, livestock, local infrastructure) and they especially affect low-income households and communities. Additionally, extensive risks, accumulated over time in areas prone to major hazards such as earthquakes or cyclones, open the way for infrequent but highly destructive intensive disasters (ibid.). Figure 1 shows the influence that a series of extensive disaster events can have on the long-term development of a country.

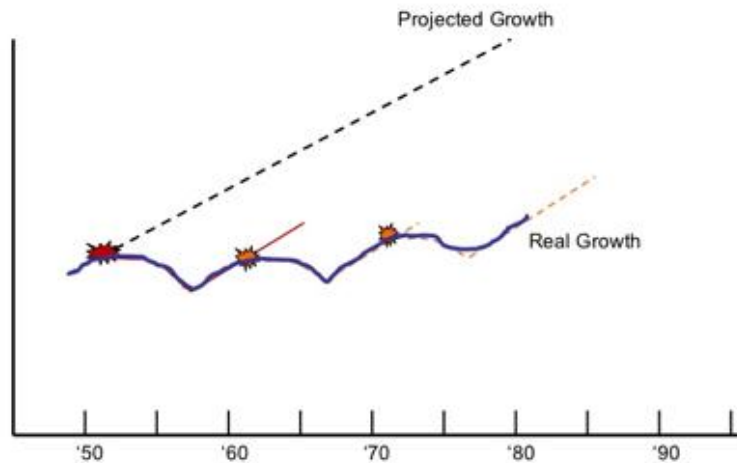


Figure 1: Effect of intensive and extensive disasters on development (source: Villacis and Yan 2012)

Therefore, appropriate urban and spatial planning, particularly land use and construction regulations can be used to manage both intensive and extensive disaster risks. Indeed, the idea of contemporary urban and spatial planning actually emerged from the necessity to regulate health and safety issues – fires, floods, earthquakes, outbreaks of various diseases, etc. in rapidly growing cities during the industrial revolution. First urban plans in the UK were dealing with health and safety issues, urban reconstruction of Paris introduced land zoning and building regulations (building standards, setbacks, floor space indexes, etc.) in order to minimize the impact of disasters and create better living conditions, etc.

The control of negative and support for positive externalities is one of the key roles of the governments, which they try to achieve through plans and regulations (Knaap 2006). Therefore, urban planning, land use and construction regulations were considered necessary tools for guiding and regulating the behaviour of individual actors on the land and real estate markets, in order to be able to manage the risk from disasters, among other things.

Global trends in urban development, and a growing role of private sector

In the majority of world's low or high income countries, from late-1930s until the mid-1970s, urban development policies were centrally planned, with strong governments control over land use, construction and urban planning processes.

Starting from 1970s, development policies began to be reformed. Based on the assumption that the state is poor manager and owner, large-scale privatization of public land and housing took place in almost all countries, together with a dramatic decrease or complete abandonment of Government's intervention in land and housing markets.

As Glesson and Low (2000) describe in their book “Is Planning History?”, a global economic crisis that gripped advanced capitalist nations in early 1970s resulted in movements against government planning and for ‘marketization’. State interventionism that was, in different ways, practiced in the majority of countries in the period after the WWII, seemed unable to control the parallel growth of unemployment, inflation and interest rates (‘stagnification’), so “[n]eo liberal interests took advantage of the sense of crisis to promote radical political reform programmes that sought to dismantle much of the Welfare State’s institutions and regulatory regimes” (p. 270).

These trends were widely accepted by the developing countries from the late 1980s onwards, and neo-liberal concepts of public administration became dominant thinking about the state organization globally. This was especially true in ex-Socialist countries, where “...post-Communist governments were often seduced by the simplistic, free-market reform programmes advocated by some Western economists and the many right-wing ‘think-thanks’ that had been set-up by vast funds by big businesses all over the world to promote neo-liberalism” (ibid, p. 270). These movements and forces have produced “a well known ideological trilogy of competition, deregulation and privatization”, distinguished for its hostility to all forms of spatial regulation, “including urban and regional planning, environmental policy and economic development policies” (ibid, pp. 270-271).

Additionally, low- and middle-income countries were experiencing rapid urbanization in this period, and too strict urban planning regulations were seen as a main obstacle for accommodating this growth. As World Bank’s 1993 report recorded, “[s]ince 1950, the urban population of the developing countries has more than quadrupled, growing from 300 million to 1.3 billion people in 1990” (p. 11). The growth is especially high in Asia. According to UN HABITAT (2011), in the years between 1950 and 2000, eight out of then fastest growing cities in the world were in Asia: Tokyo, Mumbai, Delhi, Dhaka, Jakarta, Karachi, Seoul, Kolkata (p. 3). The unprecedented pace of urbanization can be best understood if compared to what cities in Western European countries had in the past – London took 130 years to expand from one to eight million, while Bangkok took 45, Dhaka 37 and Seoul only 25 years (ibid.).

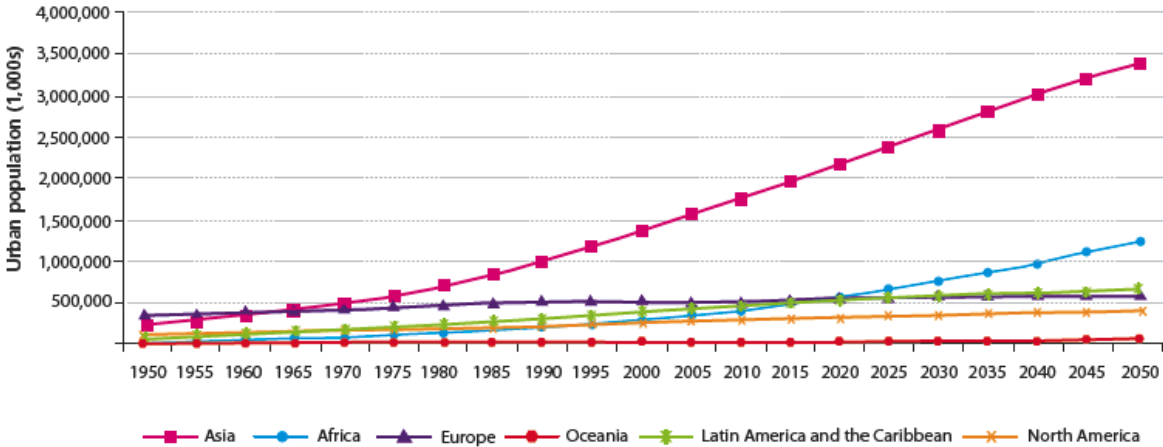


Figure 2: Growth in total urban population by region between 1950-2010, and projections for 2010-2050. (Source: UN HABITAT 2011)

In such situation, regulations dealing with building codes, infrastructure standards and land use were seen as a main obstacle to efficiently accommodate such rapid growth, and deemed cumbersome, overly expensive to implement, irresponsive to demand and too complicated (World Bank 1993: 24).

The planning rationality, methods, processes, legitimacy, etc. were heavily questioned, which led to the movements that were suggesting complete exclusion of planning and regulation of urban processes through reliance on market mechanisms. Such attitude is reflected in the movement that Alexander (1986) defines as ‘non-planning’, which was based on a premise that “people’s behavior and interactions will eventually produce socially optimal outcomes with a minimum of regulation” (p. 78).

In the concept of “enabling the markets”, governments are giving up the direct provision and management of services, instead focusing their resources and efforts on creating the environment that will enable private sector companies to provide enough jobs, housing and services, more efficiently than it was previously done by public sector.

Mukhija (2003) notes that these trends were promoted by the international development agencies as well, which were trying to work more closely with market-actors and reduce the involvement of the State, in order to achieve progress in housing and urban development sector. “The advice is directed at limiting the ‘damage’ the public actor can do in developing countries” (p. 8).

For example, World Bank’s policy paper from 1993, “Housing: Enabling Markets to Work” provided a list of recommendations for introducing the “enabling the markets” approach in housing and urban development policies in low-income countries:

- Decentralization, both ‘vertical’ – transferring the power and authority from central to local governments, and ‘horizontal’ – sharing the responsibility and authority between public, private and voluntary sectors (NGOs) and local communities.
- Enabling the Markets, which had two main segments: (1) governments must refrain from intervening in housing and land markets and allow the markets to function more efficiently, and (2) housing must be treated as an economic, and not social sector – in essence, a call for privatization of housing.

However, the key recommendation on how to implement these policies was deregulation (Mukhija 2003:8). Within the urban and spatial planning, targets of deregulation were land use and zoning policies, construction standards and regulations, building codes, etc. (World Bank 1993). It was assumed that the bigger part of the problem lies on the supply rather than demand side, with supply being influenced by a combination of policies regarding land use, zoning, taxation and competition in the building industry – unresponsive systems of land and housing supply, with more strict regulations, result in higher costs of housing construction, which in turn results in housing shortages and higher prices (ibid. pp. 24-27). In essence, the World Bank’s report was calling for removing as many regulations as possible, followed by housing privatization (Mukhija 2003, p. 9). The main critiques of such approach were that it was categorizing countries according to their level of development (low-income, middle-income, highly indebted, former centrally planned, etc.) but was not considering the

differences between cities or regions in the same country, so the same approach was proposed for Mumbai and some small towns in India. Secondly, that such approach (decentralization, demand-driven development, deregulation and privatization) was based merely upon doing the opposite of what was believed to have failed, without any empirical evidence the new approach would work (ibid. p. 10).

Therefore, housing policies, as one of the biggest segments of urban development, were greatly influenced by these changes. “Most governments across the world have been anxious to encourage home-ownership and, over the past twenty or thirty years, owner-occupation has generally increased in most urban areas. This is fairly consistent tendency across countries whatever their level of development” (UN HABITAT 2003:11).

The driving force of policy in the affluent as well as low- and middle-income economies thus became stimulating economic growth through the construction sector. As a consequence of such trends over the last 20 to 30 years, private sector became the main actor in urban development. Private sector has particular interests in urban land and housing markets, which are increasingly critical for disaster risk management as well.

The contribution of the private construction sector to building our cities

Around 85% of all investments worldwide stem from the private sector, including companies but also small and medium enterprises and individual investors (including remittances). (UNISDR 2012: 4)

Hart (2007) states that, in the development of infrastructure, both developed and low-income countries are increasingly relying upon private sector’s investment capital, planning, implementation and management capabilities.

Table 1 shows the growth of total public and private investment from 1990 to 2004 in 149 low and middle-income countries for infrastructure projects that included private sector investment in the energy, transportation and water sectors. (ibid. p. 27)

“Society increasingly relies upon private sector for the investment capital, and the planning, implementation and management capabilities for developing infrastructure... Private infrastructure development experienced a renaissance in the 1970’s in response to the inability of national governments to finance, build and manage large infrastructure projects without private sector assistance.” (ibid. p. 27)

“The private sector’s role in providing capital and know-how has become increasingly important in both developing and OECD countries... Private financing of infrastructure is even more significant in developed countries. In 2005, loan commitments to infrastructure projects worldwide reached approximately \$121 to \$140.3 billion, reflecting a continuing trend toward increasing private investment in infrastructure. Borrowers domiciled in OECD countries accounted for approximately 71% of private infrastructure loans. Private lending, bonds and equity investments in infrastructure have all increased during the past decade”. (ibid, p. 27-28)

“The increasingly important role of the private sector in global economic development is demonstrated by comparing the volume of net private and multilateral lending.” ...”growth of private sector capital flows from 53.3% of total net flows in 1990 to over 100% of total net flows since 2002 for twenty-nine emerging market countries in Asia, Latin America, Africa, and the Middle East. Net private flows of over 100% indicate net repayment of bilateral and multilateral loans, which are more than offset by increases in private sector inflows.” (p. 29)

“At the same time that private sector investment in infrastructure has been increasing, government expenditure on infrastructure has been decreasing as a percentage of GDP” (p. 31)

| Year | Investment (US\$ millions) |
|--------------|-----------------------------------|
| 1990 | 8,466.60 |
| 1991 | 13,720.40 |
| 1992 | 17,699.30 |
| 1993 | 27,957.10 |
| 1994 | 36,358.70 |
| 1995 | 46,755.00 |
| 1996 | 63,919.40 |
| 1997 | 111,141.50 |
| 1998 | 99,525.30 |
| 1999 | 66,679.00 |
| 2000 | 89,296.60 |
| 2001 | 70,605.50 |
| 2002 | 58,953.80 |
| 2003 | 55,904.50 |
| 2004 | 64,020.10 |
| Total | 831,002.60 |

Table 1: The private participation in infrastructure development in developing countries (Source: Hart 2007)

A role of the private sector in urban land and housing markets

Effects of ‘Growth Politics’ in the USA (all according to Elkin 1987)

On his study on public- and private-sector relationships in American cities from 1987, Stephen Elkin has explained how the promotion of economic growth in the city became to mean viewing the city as a pattern of land use. “This is the case because when a growth-oriented alliance between city officials and businessmen is consummated, rearranging land-use patterns is typically a central feature of its activities, and because the principal businessman involved in the alliance are those whose business activities are deeply concerned with the city’s land-use patterns.” (p. 36)

In order to build the reputation, politicians do not necessarily have to appeal directly to voters, but more importantly to the groups in the city whose support would be useful for gaining and holding office (other officials, powerful private citizens, businessmen, etc.).

Furthermore, limited powers of cities and the prerogatives of private controllers of assets also direct the attention of city officials toward rearranging land-use patterns. The division of labour between state and market means that public officials cannot command investment, but are under pressure to seek to introduce it. Elkin (1987) lists a variety of ways cities are attracting investments from the private sector, each reducing investment risk, decreasing costs and increasing the likelihood of profit for investors:

- provision of capital assets – roads, parks, etc. – necessary to development,
- help in seeking investment funds,
- tax incentives,
- waiving or otherwise helping with municipal regulations, including zoning requirements,
- developing an educational system that will produce an attractive mix of work skills, and
- help with land assembly.

In the efforts to encourage growth by offering a variety of inducements, politicians have allies among businesses with large fixed assets in the city, and whose revenues depend on the level of economic activity in the city and metropolitan region – banks, newspapers, large stores, developers, real estate agencies, real estate law firms, property management firms, utilities, etc. (ibid.).

Their behaviour is best understood as an effort to enhance the value of their fixed assets (majority of which are parcels of land) by attracting mobile capital to the city. They are naturally drawn to land-use schemes, and thus community of interest with officials is born. They encourage officials in their efforts to induce investment through rearranging land-use, but also propose projects that the city should undertake. And since they themselves control large parcels of land, many of the projects they propose are the ones from which they directly benefit (ibid.).

Effects of privatization and ‘Growth Politics’ in developing countries

As briefly explained above, since the late 1970s many low- and middle-income countries started following the neo-liberal reforms that were originally promoted by affluent Western countries, primarily USA and UK.

However, UN HABITAT’s report on rental housing from 2003 reveals that these trends were more radically implemented in the developing countries than in developed countries that they were inspired by: for example, private homeownership rates are today much higher in the developing countries of Asia, Africa, Latin America or Eastern Europe, than they have ever been in the countries in which “American dream of universal homeownership” was most

radically promoted since the beginning of the 20th century – USA and UK: “Despite the granting of huge amounts of tax relief on mortgage payments, and in the British case, the selling off of much of the public housing stock, neither country has managed to get beyond a peak of 70 per cent” (UN HABITAT 2003:104).

On the other hand, “[t]he highest levels of owner-occupation are actually to be found in developing countries. For example, owner-occupation in Niger was estimated to be 93 per cent, 87 per cent in Thailand and 81 per cent in Iran... Certain transition economies, like Bulgaria, Estonia, Hungary, Kyrgyzstan, Romania and Slovenia, have also developed high rates of homeownership, sometimes above 80 per cent” (ibid. p. 15). Report also concludes that in developed countries there is actually an inverse relationship between private homeownership and GDP per capita, “with the richest countries tending to have the lowest levels” (ibid. p. 15). Affluent Germany, Sweden and Switzerland have low levels of ownership, 40, 42 and 31 percent respectively (ibid.).

Harris (1980) notes the same for land markets, arguing that “[n]o really ‘private’ market for land has existed in the West for centuries, if ever, and it never worked the way it was designed” (p. 143). He further explains that in America and England the market was probably at its freest at the beginning of 20th century, and that since then, restrictions were constantly increasing (ibid.).

This implies that the private sector has much bigger influence on the urban development, and especially housing and land policies, in developing than in affluent countries in the West. It is also much more difficult for local governments to co-ordinate or regulate land use and housing policies when they do not own the land and provide housing, but the provision is done by multiple private actors, often with mutually conflicted interests, who, according to Elkin, have strong influence on urban policies.

a) Effects on the quality of construction and property prices

The percentages of public rental housing in total housing stock of a country are not only an important indicator of how influential the private sector is in a given country’s housing markets. Public housing can be an important government’s tool to promote housing and construction standards which are directly related to the disaster safety and environmental features of a building. The design and construction of public housing is usually not influenced by profit making, so these buildings usually have higher construction and safety standards than apartments built by private developers for commercial purposes. For example, UN HABITAT (2003) argues that in Netherlands, a country with a strong public housing policy, institutionally owned rental housing is of a much better quality than private rental sector, with majority of public apartments build over the last 30 years, mainly in good city locations, generally more spacious, well equipped and maintained (p. 84). Therefore, weak or non-existent public sector housing sometimes can lead to the decrease in construction standards.

In developing countries, with the radical privatization of land and housing, prices skyrocketed and many lower income families were thus excluded from the housing markets. As a consequence, quality of construction decreased and informal settlements started to grow dramatically. For example, UN HABITAT (2011) reports that in Asia many cities have

completely lost control over land development as such cities have high rates of private land ownership due to the privatization over the last few decades, so masterplans and urban plans are not implemented or enforced (p. 9).

In Turkey, there is an ample evidence that businesses and developers are able to build and in some cases, have officially approved, developments in known hazard areas (Yonder and Turkoglu 2010; Balamir 2010; Sengezer and Koc 2005). For example, Ertan (2009) have found that in Fatih District in Istanbul, which is highly exposed to earthquakes, masonry buildings with 3,4 and 5 storeys are to be found in the area in which Building Code prescribes that such buildings should not be over 2 storeys high. "It is determined that 39% of total concrete building stock is 5 storeys and 31% of it includes 6 storey buildings. Most of the buildings are 5-6 storeys excluding the wooden building stock" (ibid. p.104).

"Economic growth is pushing up land prices, especially well-located land in urban and inner-city areas. In many cities in Asia land is largely privately owned which, as affordable housing is typically less profitable than high-income housing, makes affordable housing on such land difficult" (UN HABITAT 2011: x).

Privatization of land and public housing has happened rapidly in many countries, not allowing time for new institutions and regulations to be set-up, which had various repercussions.

On one hand, it has created the problem of maintenance of condominium buildings in which apartments are now in private ownership. As Mojovic (2008) explains on the case of Serbia, rapid privatization of housing stock was not followed by appropriate changes in institutional and legal frameworks that would transfer the responsibility for maintaining the buildings from state housing agencies to the new owners. And that has resulted in the chronic neglect of former public housing estates. In such cases, the result has been chronic neglect of former public housing estates and condominium buildings, especially in major cities. Aside from lowering the quality of life, that increases disaster risks. Similar situation exists in many other countries which privatised land and housing markets during the last 20 to 30 years.

On the other hand, the promotion of private ownership and rapid increase in land and housing prices opens up the space for speculative investments. For example, housing prices in 35 major cities in China increased by 225 percent since the public housing stock was privatized (Wu, Gyourko and Deng 2010:1). And as a result of speculative investments in housing, the press reported that there are currently 64.5 million vacant homes while owners are waiting for prices to continue to rise (Asia News 2010). At the same time, many families who cannot afford to pay a market price for housing are living in slums.

At the beginning of neo-liberal reforms, it was believed that deregulation will decrease the construction cost of housing, and that this would lead to price decreases and housing becoming more accessible and of better quality. However, this is not always the case.

For example, in Sweden, a country in which a quality of total housing stock is arguably among the best in Europe (Norris and Shiels 2004, pp. 80-81), Municipal Housing Companies and housing co-operatives own more apartments than private landlords (Hyresgastforeningen 2003:19, Norris and Shiels 2004:81). In such situation, national and local tenant unions are

influential enough to exert political pressure to improve building regulations, city environment, housing finance mechanisms, etc. (Hyresgastforeningen 2003: 12). The prices, housing standards and even the environmental aspects of apartments are determined annually on a meeting between the national government and union of tenants and landlords. Since private landlords own smaller part of apartments, they are forced to follow the construction and space standards set up by non-profit landlords (municipal housing agencies and co-operatives) and to adjust the prices accordingly. “The rent setting in the municipal housing companies is based on a prime cost principle. On the private market the rents are set with reference to the rents of equivalent dwellings in the neighbourhood, owned and managed by a municipal housing company” (ibid. p. 11).

The case of Chile seems to be in complete contrast with Sweden. As Smolka and Sabatini (2000) report, land markets in Chile were drastically deregulated in 1970s – urban land boundaries were removed, so the construction was allowed basically anywhere, and regulations were so liberal that virtually any type of construction was allowed. This was done in a belief that the liberalization will make urban development more efficient, and that people will stop constructing informally once legal and regulatory barriers are removed,. However, 30 years later, a quality of the objects and services remained on the same level as before liberalization – unsafe, unsanitary constructions located on land which is not appropriate for construction, and often dangerous. Liberal thinkers in Chile are complaining that markets have never been fully liberalized and there is still much of the state intervention, which is the reason why living and safety standards are still on the same level as before. On the other hand, progressives believe that liberalization went too far and that free market cannot solve problems of land prices (that are still growing, although there are no more urban growth boundaries defined by plans), quality and durability of housing (same as in informal construction), servicing of land, urban poverty, inequity (resulting from growth patterns of the cities, and creation of exclusive, closed communities), etc. After almost thirty years of free market, Chileans now agree that some level of state intervention is necessary (all according to Smolka and Sabatini 2000).

As Morales-Schechinger (2009) shows, a price of housing on a free market is determined by the amount of money an average family has available after spending part of their income on other basic necessities such as food, clothing, education, etc. (‘an ability to pay’ for housing). Developer’s profit is determined as a difference of this amount of money and costs of construction and land acquisition, plus all the building and construction regulations that a building has to comply with in order to acquire building permit (building codes, spatial and construction standards, building set-backs, etc.). Respecting those regulations is costly, but if they are removed or made less strict by the government (deregulation and speculation), or are ignored (informal construction), the property price will not decrease, but the developer will still try to capture all the available money household is able to pay. That would reduce the cost of construction, but the houses would be of a lower standard and less secure due to regulations being less demanding.

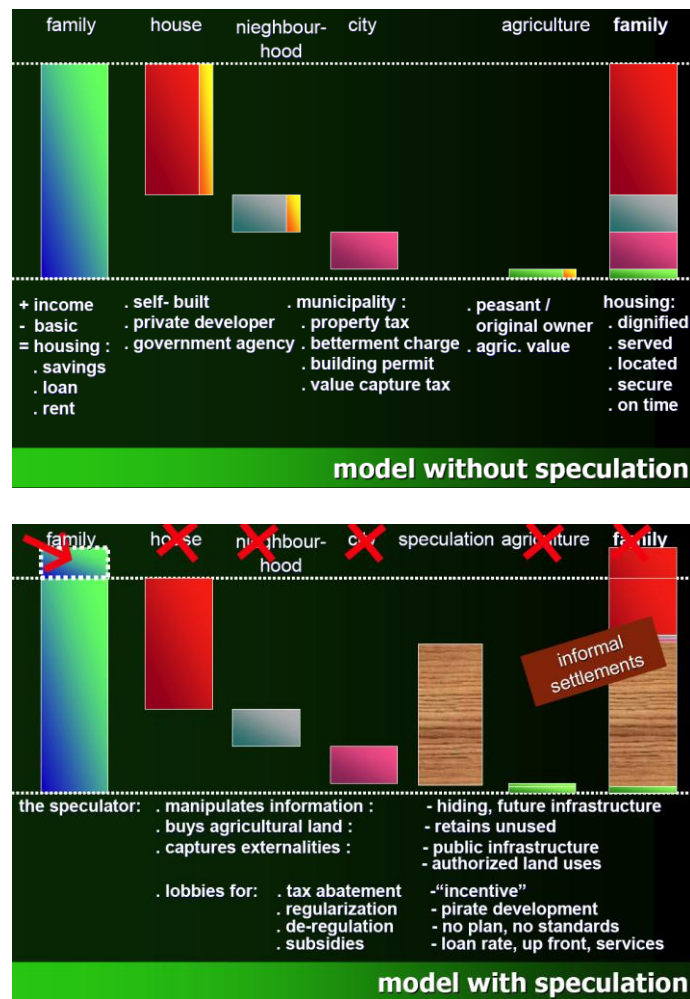


Figure 3: The composition of housing price in the model without speculation (above) and with speculation (below). (source: Morales-Schechinger 2009)

Figure 3 shows the composition of housing price in two different development models, both occurring on former agricultural land in the process of expansion of city limits. In the first model, public sector has strict control over the construction – city and municipality buy (or expropriate) the agricultural land, charge various taxes used for financing the infrastructure and services on the plot and in the neighbourhood (schools, hospitals, transport and other public services), and impose other urban planning and construction regulations. The result is “dignified, served, well located, secured and timely constructed” housing. In this scenario, the structure of housing price is: original agricultural land + construction costs (self build, private developer or public housing agency) + costs of equipping the land, providing services and compliance with regulations.

In the second model, land speculators drive the development without previous urban land use planning. In this model, land is first sold, and governments are then providing services and infrastructure (which is typical for the “demand driven development” approach where developers can negotiate with governments on future developments, instead of government making urban plans in advance). Land owners or speculators are charging the same price for land as if it is completely planned and serviced, because they capture “future expectations”

that it will be equipped with infrastructure and services (that is, they capture all available family budget). The family has to spend additional money on housing construction. If municipality provide subsidies for low-income families, speculators will try to capture this amount as well – the land price will be higher. This results in two possible scenarios: either the local government will have to provide services, but with no funds collected from the development, or the new development will be informal. Therefore, the structure of housing price in this scenario simply: original agricultural land + speculator's profit.

b) Informal settlements and slums

As a result of privatization, deregulation and speculation on land and property markets, informal settlements are growing around big cities. As it has been recorded by GAR11 report (UNISRD 2011), authorities of Dhaka, one of the fastest growing and most disaster prone cities in the world, are not able to implement land use planning instruments that restrict development and construction in flood prone areas. “Despite the Plan, these areas are still being rapidly urbanized through private- and public-sector projects” (p. 19). The case study done in Dhaka as part of this research states that the development of the build environment in Dhaka city is absolutely driven by the private sector (p. 1).

In Brazil, as in many other developing countries, urban land is a major means of concentrating wealth. “In Porto Alegre, the existence of large undeveloped sites near the city center contributes to urban sprawl on the periphery. The major factor responsible for this situation is land speculation by wealthy landowners who hold large vacant sites and wait for a favorable moment to undertake investments or to sell their sites at huge profits” (De Cesare 1998:1). As a result, low-income families are pushed to the periphery, mostly in settlements without the basic infrastructure and services, since its construction requires large investments from the government (ibid.).

Therefore, solving the issue of informal settlements and non-engineered structures is critical for building long-term disaster resilience in the developing world. Having efficient and effective land use planning and building regulations in place is the key for tackling further creation and growth of informal settlements (UNISDR 2011:128 - 133).

With the growing rates of urbanization in developing countries and increasing demand for urban land, informal builders have increasingly been compelled to encroach the land not suitable for human habitation: environmentally sensitive, or even dangerous areas, exposed to floods, landslides, etc. (Cohen 2000, Fernandes and Smolka 2004 and UNISDR 2011). Thus, they are creating all sorts of harmful repercussions – socio-environmental, legal, economic, political and cultural – not only for millions of people living in such settlements worldwide, but also for city governments and the entire urban population (Fernandes and Smolka 2004:1).

Therefore, it can be concluded that, by speculative investments in land and housing without effective regulation, private sector ends up transferring negative externalities to the public sector and society whilst maximising its profits. However, there are cases of private landowners directly making profits from the informal construction, by minimising investment in utility or service provision, by avoiding building and planning regulations, etc.

Conservative estimates from a survey done in 10 big Latin American cities show that the informal land development brings much higher profits to land owners and developers, than the provision of formally developed land – in informal development, average profits over advanced capital are 200 percent, while in formal development they are 141 percent (Smolka 2003). Additionally, the advanced capital necessary for informal development is significantly lower since there are no costs of equipping the land and compliance to building codes and other regulations, which together with inability of governments to prevent informal construction, makes these kinds of investment less risky (ibid.).

According to Baker and McClain (2009) “the formal private sector has played a role in slum creation as well as the role of injured party, defendant of property rights, or passive landlord. Private landowners may even be complicit with the “land invasions” and “informal land developers” that establish slums on their property because it opens the opportunity to charge rent to inhabitants while legally reserving the right to evict squatters when better opportunities for commercial development arise” (p. 2).

On the other hand, the negative externalities associated with slums, such as crime or diseases, or an increase in disaster vulnerability, can spill out of the slums into the larger city, affecting the city image and businesses directly (ibid). Therefore, some private investors are transferring negative externalities of their investment decisions not only to the public sector and society, but to other businesses as well.

Contrary to a popular belief, informality is expensive for the urban slum dwellers. Studies on informal settlements have recorded that the urban poor are actually paying significant price for housing and services in slums and informal settlements. Smolka and Biderman (2011: 8) found out that in Rio de Janeiro’s suburbs, the price of agricultural land is between \$2 and 5 per square metre, the cheapest urban land, zoned and equipped with infrastructure, costs \$20 to 35, and a piece of informally subdivided land, with no infrastructure or services, costs at least \$12 per square metre.

Baker and McClain (2009) estimate that informal provision of services in informal settlements is more costly due to a smaller scale, but services are also of lower quality accompanied with unsafe and unsanitary practices, exploitative pricing strategies, inconsistency and other quality and price differentials which disadvantage the poor – a so called ‘poverty penalty’. They also claim that slum dwellers are paying regularly for housing and services (p. 8), so slums are a very good market for landowners and informal service providers. Steinberg and Lindfield (2011) found out that in informal settlements in Manila, Philippines, services and rents actually cost more than in formal housing developments (pp. 64-65).

Corruption

Increasing significance of private sector in development is putting a question of corruption into focus, especially in low- and middle-income countries. Corruption detracts from economic growth because the likelihood of bribery influence government’s choice of projects to undertake, and leads officials to allocate public funds in ways that have negative economic

impacts (Soliman and Cable 2011). Green (2005) found that the corruption in Turkey has blossomed since the beginning of neo-liberal reforms and market liberalization in 1980s (pp. 529-532).

Corruption can change private investors' assessments of merits of a project because of the potential 'corruption payments' they may be forced to make (Soliman and Cable 2011). Corruption stimulates informal construction and non-compliance of land-use and construction regulations. In Belgrade, Serbia, there is an 'unofficial corruptive tax' for constructing more space than allowed by regulations – 100 euros per square meter of excessive space (Zerjav 2009). Since the profits in housing construction are very high, such tax suits all the 'stakeholders' in the process: developers can exceed building sizes allowed by regulations thus making higher profits, local administration staff receives cash payments to contribute to their low salaries, architects and engineers can charge more on their designs since the price of their work is also determined by a square meter of a building, etc. (ibid.). This results in much higher densities in central city areas than allowed by plans, making additional pressure to infrastructure and services originally designed for smaller densities (ibid.).

In Turkey, the adoption of neo-liberal economic agenda was manifested in privatization of land and deregulation, and as a result, "[l]arge construction firms emerged and bribed politicians for privileged access to public contracts and under-secured loans" (Soliman and Cable 2011: 738). Consequently, "many buildings were shoddily constructed and quickly crumbled in the earthquakes" (ibid.). Similar findings were obtained in Oakland, California, where impacts of Lo Prieta earthquake were exacerbated by negotiated trade-offs between professional groups, the government and industry (ibid.).

Private sector's behaviour in disaster risk management of their own premises

Links between community and businesses resilience:

In the planning for disaster protection, businesses should not only care about the protection of their own business continuity and premises, but they are responsible for the society as well. Especially in the case of small businesses, if a local business is out of work due to the disaster event, local community will have to carry at least part of the costs through the lost jobs, cut of services or increase in price of services due to the delivery becoming harder, etc.

"The US Small Business Administration (SBA) Disaster Office notes that the community's survival depends on the ability of businesses to minimize risk and damage by anticipating the worst" (Spillan and Hough 2003:398).

Sydnor-Bouso (2009) have found that the resilience of community is influencing the resilience of businesses within it, with these two having a positive relation to each other – bigger the community resilience, bigger is the resilience of businesses. There are five types of capital that influence the disaster resilience of community and businesses, and which can be influenced by disasters (pp. 32-35):

- Natural capital – a stock of natural ecological systems that have future capacity to produce valuable goods and services, such as water, minerals, oil etc.

- Human capital – a feature of human being that allows them to work productively with other forms of capital to sustain economic production, and is most commonly measured as a level of education attainment of a population. Higher levels of human capital generally increase the resilience of companies and communities.
- Social capital – refers to social cohesion and personal involvement with the community, social networks that make a collective action possible, and trust. Community networks facilitate group problem-solving, and communities able to work toward a common goal are better equipped to cope with the effects of a disaster. There are two types of groups affiliated with social capital: P-group that needs no financial incentive to join and involve in social interaction, and O-group that has the transfer of income and wealth as an objective. O-groups are more common in urban, and P-groups in rural areas. It is hypothesized that businesses within a community having more P-groups are more resilient.
- Economic capital – represents the resources people accumulate via their livelihoods, such as savings, income or investments, and it increase the capacity of groups at all levels to absorb disaster shocks.
- Physical capital – represents a number and quality of built environments, and has an effect on businesses' jobs and annual payrolls.

The ways businesses prepare for disasters

The implementation of crisis/disaster protection measures, and well as having a disaster recovery plan, is essential for the survival of the business in the case of disaster. Spillan and Hough (2003) quote earlier studies which indicated that 50 percent of companies stricken by crisis will not survive if they do not have an adequate recovery plan, and that 90 percent of businesses will fail within two years of a disaster.

A survival of big businesses is also threatened by the disasters if they do not have adequate protection measures. A study on the role of corporate sector on disaster risk reduction in India revealed that 43 percent of the industries that experienced disaster have never reopen, and 25 percent more close for good within two years even if they mobilize resources to restart operations (Government of India 2005:7).

However, according to the study on crisis planning in small businesses in USA done by Spillan and Hough (2003), crisis planning receives little attention and for most small business managers an actual crisis event must occur before crisis planning becomes a concern (ibid, p. 398). Usual argument that small businesses cite for not implementing crisis management strategies is that they lack resources to meet the requirements, and many business managers claim that they do not have time to be preoccupied with crisis planning (ibid. p. 399).

Many businesses rely on insurance as a way to protect themselves from a disaster or crisis events. Although a comprehensive insurance policy can provide assistance in resolving a crisis-provoked problem, the value of insurance in a crisis situation is far from complete. Insurance can provide protection from extensive cost implications, such as damage of

premises or equipment or even business continuity cover in some cases, but it will not cover intangible items such as customers' goodwill, decreased productivity, low employee morale, increased absenteeism, stress, worker unrest or increased workers' compensation claims. All such uninsured losses can also be essential for the survival and recovery of the firm (ibid. p. 400).

RICS (2012) study on impacts of flooding on small and medium enterprises in Cockerthorpe in Cumbria has come to similar findings: majority of businesses have used insurance as a main means of disaster protection. After the flooding in 2009, when 225 businesses were directly affected, majority of firms have implemented flood protection measures. However, most of them were focused on obtaining or reviewing the property insurance (66 percent), while only a small number of companies implemented more costly but much more effective measures, such as the installation of flood resilient floor and wall finishing, sealing the water entry points or other works related to the retrofitting of premises (RICS 2012:10).

In contrast to this, after the extreme flooding event in Saxony in Germany from 2002, the percentage of companies that have undertaken different building precautionary measures had doubled by 2006, when the next flooding in the same region occurred (Kreibich et al. 2008). Germany has stricter government policies and control over the development and land use than UK, which is the most probable reason for the different attitude of businesses towards investing in flood resilient measures. However, even in Germany majority of businesses were not properly prepared for the flooding when it occurred for the first time, in 2002, which emphasises the importance of previous experience with disasters as a motivation to take the disaster risk reduction measures.

A case-study done for the purpose of DPU's paper for the GAR showed that in England, property developers have increasingly used flood prone areas for housing construction; between 7 and 11 percent of new dwellings are annually built in areas of high flood risk, with certain regions such as London, Yorkshire and Humber and the East Midlands surpassing these averages (Bosher 2012: 2).

As can be seen in the Box 1, a special feature of UK's land use planning is that, when determining the planning application, local authorities are guided by the local development plan, but not bound by it – they have a discretionary right to take into account other 'material considerations', which are very broadly defined, and open up a space for local governments negotiating with individual developers on land-use issues (Keenleyside et al. 2009: 15). Basically, developers in London are using this possibility to get permits to build in flood prone areas by arguing that there are no non-flood prone areas available to build upon (Bosher 2012: 3).

Box 1: Comparing land use policies in UK and Germany
(all according to Keenleyside et al. 2009)

A study on land use planning systems in five different countries done by Keenleyside et al. in 2009 defines the mitigation of and adaptation to climate change as a key influence factor for land-use decisions, and that these decisions “raise strategic regional and national interests, for which UK’s urban-based planning system was historically not designed” (p. 15).

The study determined a historic split in land-use planning in the UK that is not seen elsewhere in Europe, which can be traced back in 1947 Town and Planning Act that was essentially reflecting a deal between Tory shires and Labour cities to exclude agriculture and forestry (major uses of rural land) from planning legislation. This remained so to this day, and earlier planning legislation never set out the purpose to the planning, so the UK’s land-use planning system “was seen as a means to an end, and if land uses needed to be changed (or change prevented) the planning system would oblige” (p. 15).

Recently, a tension has developed between increasingly free and global capital and labour markets and essentially local planning systems which regulate land, “the third (and immovable) factor of production” (ibid.). “These strains have been more visible in the UK than elsewhere, partly because housing, the major user of urban land, has been increasingly seen as an investment good as much as a consumption item” (ibid.). The privatization of infrastructure provision have also created problems in land-use planning, since it has become more difficult to co-ordinate infrastructure provision with development when most of the infrastructure investment is made by private sector. “To maximise returns to shareholders, private infrastructure providers prefer to invest when customers are available, rather than upfront before development takes place. Also, they tend to have shorter term horizons, which do not suit the long-term perspective of planning” (p. 15).

Main differences between UK and continental planning systems:

The UK’s planning system has three aspects in which it markedly differs from other European countries, especially Germany and France:

1. **Land use decisions are plan-led rather than plan-based:** local authorities in the UK have a degree of discretion towards planning applications – they are guided rather than bound by development plans, and can take other ‘material considerations’ into account when deciding about individual planning applications. These considerations are very broadly defined, so “any consideration which relates to land use and development of land is capable of being a planning consideration” (p. 15). In contrast, other countries have legally binding plans as a core instrument for making land-use decisions (p. 15).
2. **Central government has a major locus in decisions initially taken by local governments:** similarly to other countries, British land-use planning system gives local government the lead role. However, strains on a planning system have led central government to become more involved in land-use decisions lately, moving beyond its role of arbiter between local authorities and the general public. Especially in England, regional housing targets, for example, are set up in advance by the central government, at the start of the plan-making process, in contrast to Germany or France where such targets are an outcome of a planning process which takes into full consideration economic, environmental and social factors (pp. 15-16).
3. **Regional plans are prepared by an elected tier of government only in Scotland, Wales and Northern Ireland, but not in England:** Germany with broadly similar population and size to the UK, is fostering a polycentric development in an almost institutional way. German federal system offers a relatively advanced model of distributing responsibility between national, federal and regional levels, giving to regions a great deal of power in land-use policy making, while maintaining a coherent national policy infrastructure. Regions do not only have a leading role in strategic planning and guidance, but this is the level at which legally binding plans are prepared. In contrast, the UK is asymmetrically organized, with Wales, Northern Ireland and Scotland having a status similar to German federative regions. However, England, with a population of more than 50 million is clearly too large to be treated as a region, and yet it does not even have its own dedicated government. A difficulty in dividing England into any logically based system of regions is London as a ‘city region’ – with a third of a population living in it, it could unbalance the system and be a challenge to the authority of the national government (pp. 16 – 18).

Violating safety procedures:

There are many examples of private companies not implementing all the safety procedures from all the World's regions, equally in developed and developing countries. In Japan, a study on the damage caused by the great earthquake and tsunami in 2011 found out that the Cosimo Oil Company, that runs the oil refineries in the affected area, was violating safety regulations in Chiba refinery. As a consequence, a chemical accident (oil and chemical spills, gas releases, fires and explosions) triggered by the earthquake in Japan caused a 5 percent loss in its oil refining capacity, evacuation of 1,100 local residents and considerable fire-fighting resources for ten days to put out the fires (Krausmann and Cruz 2012).

In the Bhopal Gas Tragedy in 1984 in India, which involved the release of 30 tonnes of toxic gas at the Union Carbide plant, it was found out that "the safety systems designed to prevent such a disaster at the plant had been shut down to save money" (Government of India 2005:13). The event led to death of nearly three thousand people and has caused severe health and respiratory problems for thousands of others. Additionally, economic losses caused by this disaster were estimated to be from \$30 million to as high as \$3 billion (ibid.). "However, even after the worst chemical tragedy, forty two major industrial disasters have taken place since then taking a toll of over two hundred fifty thousand persons in India and exposure to hazardous materials and wastes to explosives in metal scrap continues unabated. In spite of numerous environmental and regulatory laws, the chemical and hazardous industries continue to generate and discharge tonnes of potentially dangerous wastes every day, posing a grave danger to people's health, lives and environment" (ibid. p. 13).

Girin (2011) reports that two chemical incidents, that have occurred as a consequence of the 1999 earthquake in Kocaeli, Turkey, have highlighted the importance of land use planning in mitigating such disasters. The damage caused by the earthquake induced fires at TURPAS Izmit refinery and acrylonitrile spill at the AKSA acrylic tyre production plant were increased because settlements were located in the vicinity of these industries although land use plans forbade construction in such 'health protection zones'. "For Turkey, inadequate health protection zones exist mainly due to various shortcomings in the development and enforcement of land use plans and this is partly a consequence of deficiencies in regulations. Upgrades in the existing facilities and the corresponding need for an increase in health protection zone distances have not been properly addressed in the regulations. In addition, it was unclear what should be done with illegal housing that was built within the zones after the construction of the facility" (ibid. p. 1137).

Incentives for the implementation of DRR policies

World Economic Forum (2008) marked engineering and construction firms as critical to building resilience because a majority of loss of life in natural disasters results from building collapse (p. 11). According to this study, the construction industry can be hampered by the tendency of governments to 'rush to rebuild' after a natural disaster, creating an atmosphere

in which firms may cut back on safety in order to win bids, and the tendency to abandon resilience-building activities during economic downturns or shocks (ibid.).

Taylor et al. (2012) differentiate between developers' and users' or investors' attitudes towards risk - developers focus on short-term costs and returns while owner-occupiers are concerned with the long term (p. 9). In the UK, "this role split has contributed to the development industry's 'build-and-walk-away' mentality leading to poor customer and community satisfaction" (ibid.).

Their survey on private companies' (developers and non-developers) readiness to act on climate change done in Australia found that developers see government regulations and innovation and competition within the industry as major motivating factors (p. 12). The highest priority issue for them was an improved efficiency of the planning approval process and reduced approval times. Interestingly, non-developers marked the efficacy of stronger planning controls as the most influential motivating factor, while developers consider it to be far less beneficial (ibid.). Generally, developers and non-developers see the issue of assumed private-sector responsibility for climate change adaptation differently, with the main difference being that developers are less likely to agree that future benefits outweigh short-term costs of practice change (ibid. p. 17).

Respondents have also defined 'government informing industry' as a currently dominant model of industry involvement with government on climate change issues, and highlighted that their preferred model would be the one where government involves industry directly in the process, and where decisions are made jointly by government and industry (ibid. p. 15).

FM Global (2010) recommends that properties that are adequately protected against future disasters be given a seal of approval they can display on the building, as a way to incentivise the implementation of disaster risk preparedness measures by private businesses. Having the seal of approval would increase the value of the property, "and send a strong message that the building's owner is at the forefront of disaster mitigation" (p. 14).

In order to engage industry more deeply in building the resilience to natural disasters, World Economic Forum have made a list of recommendations to firms and governments based on the answers from participants of a survey (p. 17):

1. **Governments should keep their central role in strategic agenda setting, but reach out more systematically to the private sector:** during the general mobilization and relief efforts after a disaster, governments should highlight more the private sector's role in resilience measures that reach far beyond the current disaster.
2. **Insurers and reinsurers should take a stronger lead in championing all sectors' efforts:** this industry is seen by others as being best positioned to lead other industries, and to take a champion's role in pilot projects in building resilience.
3. **Companies should integrate better cost-benefit analysis for resiliency measures into their business strategies and communications:** As long as these costs remain vague, it is more difficult for companies to effectively champion prevention. Even as methodologies for elaborating the cost-benefit analysis of resiliency measures are still being developed, it is valuable for businesses to raise awareness of global

business impacts, quantifying the cost of past losses as well as the cost of the specific resiliency measures undertaken, particularly through the media.

4. **Industry champions should increase community involvement and raise the public visibility of the priority actions they undertake:** At the local level, champions can provide incentives such as community needs assessments, signing ceremonies with local officials and the involvement of SMEs for effective implementation. These activities should be linked to public outreach campaigns, for example on disaster-proof building standards, marketing “safety” more prominently (i.e. the “seismic security” of housing) and promoting resilience as part of business advertising.
5. **Businesses should channel input into national disaster platforms and strategies linked to a high-level government process or office:** business can channel their input into local, national, regional and global natural-disaster prevention planning, including the UN’s International Strategy for Disaster Reduction, for example through a global private sector advisory group. Conversely, governments could employ chief risk officers to liaise with companies, and create an institutional home for related PPPs under government affiliated auspices.
6. **Companies should develop PPPs that employ their core competencies and test mechanisms and models in highly vulnerable countries.** PPPs that engage corporate leaders and build capacity directly, rather than through philanthropic initiatives, make better use of corporate expertise and result in more sustained company involvement. To this end, the expectations of PPPs should be clear from the outset (e.g., will companies contribute funds, research or experience?).
7. **The private sector should increase its support for improvements in public sector capacity and the public sector should enhance incentives for private sector action.** Companies should make the case, in a highly visible way, for increased funding for more public goods research, such as weather stations, that communicate risk information to the public, and for public infrastructure and related expenditures in general. To incentivize the private sector, governments can provide tax credits to companies that undertake relevant activities.
8. **Financiers should incorporate considerations related to natural-disaster resilience in lending arrangements.** An evaluation of natural-disaster management plans when private banks consider financing investment opportunities will help establish the link between business sustainability and resilience. The International Finance Corporation, for example, currently requires disaster risk insurance for all of its investments and loans, helping to set industry standards.

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