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# Dominican Republic: The response to the COVID-19 pandemic in 2020

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**SUMMARY**

*The paper presents the situation in the Dominican Republic in terms of pandemic preparedness, the policies implemented to respond to it, the achievements made, and the challenges for the future. The COVID-19 pandemic found the Dominican Republic unprepared to deal with it, with significant deficiencies in the areas of prevention, early detection and notification, rapid response and mitigation, compliance with international standards, risk environment and health system strength. The country had the most infections in the entire Caribbean region and one of the most important in Latin America, however, the policies implemented were appropriate and the country faced lower rates of both serious illness and mortality, compared to the rest of the region. The health system, so far, has been able to respond, without exceeding the installed capacity in terms of beds and intensive care units. The worst part of the response preparedness is the weakness of the first level of care and its underfinancing, concluding on the necessity of investing adequately in strengthening the first level of care, implementing the population assignment using geographical criteria, developing payment for results mechanisms to increase quality and efficiency and putting in place the unified electronic medical record, in order to make it feasible to establish a prevention strategy.*

**Key words:** *Dominican Republic, COVID-19, epidemic preparedness, health systems, primary care financing.*

**RESUMEN**

*En el documento se presenta la situación de la República Dominicana en lo que respecta a la preparación para la pandemia, las políticas aplicadas para responder a ella, los logros alcanzados y los retos para el futuro. La pandemia del COVID-19 encontró a la República Dominicana sin preparación para enfrentarla, con importantes deficiencias en las áreas de prevención, detección temprana y notificación, respuesta rápida y mitigación, cumplimiento de las normas internacionales, entorno de riesgo, y en la fortaleza del sistema de salud. El país registró el mayor número de infecciones de toda la región del Caribe y una de las más importantes de América Latina; sin embargo, las políticas aplicadas resultaron apropiadas. El país presenta las tasas más bajas tanto de enfermedades graves como de mortalidad, en comparación con el resto de la región. El sistema de salud, hasta ahora, ha podido responder, sin exceder la capacidad instalada en cuanto a camas y unidades de cuidados intensivos. Lo peor de la preparación de la respuesta es la debilidad del primer nivel de atención y su subfinanciamiento. Se ha puesto en evidencia la necesidad de invertir adecuadamente en el fortalecimiento del primer nivel de atención, la aplicación de la asignación de la población con criterios geográficos, el desarrollo de mecanismos de pago por resultados para aumentar la calidad y la eficiencia y la puesta en marcha de la historia clínica electrónica unificada, a fin de hacer factible el establecimiento de una estrategia de prevención.*

**Palabras clave:** *República Dominicana, COVID-19, preparación para las epidemias, sistemas de salud, financiación de la atención primaria.*

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## INTRODUCTION

The Dominican Republic, located in the Caribbean region, shares the island of Hispaniola with Haiti, occupying the eastern two-thirds of the island, with a territory of 48 670 km and 10.3 million inhabitants. It is an upper middle-income country (US$ 19,182 per capita in PPP by 2019) (1). The country has experienced rapid economic growth in recent decades, rising to tenth place in 2019 in terms of per capita income in the Latin American and Caribbean (LAC) region (after The Bahamas, Panama, Trinidad & Tobago, Chile, Argentina, Antigua & Barbuda, Uruguay, Costa Rica, and Mexico) from 22nd place in 1990 (1). However, the investment made by successive governments in the social sectors has been very low; resulting in poor health outcomes, lower than those in the LAC region (2). Within the LAC region, investment in the first level of care (3) and in the steering role and leadership of the health system, including community services, in particular epidemiological surveillance and emergency health preparedness, has been particularly low (4).

It is in this context that the COVID-19 pandemic arrives, finding the country ill-prepared to face it. In this paper, we present the situation in the Dominican Republic in terms of pandemic preparedness, the policies implemented to respond to it, the achievements made, and the challenges for the future.

### Pandemic preparedness

In order to evaluate the Dominican Republic's preparedness for the COVID-19 pandemic, we used the Global Health Security Index (GHS), developed in late 2019 (5). This instrument is, as its authors say, "the first comprehensive and comparative assessment of health security and response capacity" in 195 countries. The GHS Index is a project of the Nuclear Threat Initiative (NTI), the Johns Hopkins Center for Health Security (JHU) and the Economist Intelligence Unit (EIU). This index was created to produce health security metrics that could be monitored over time, "stimulating changes that improve international capacity to address one of the world's most pervasive risks: the outbreaks of infectious diseases that can be caused by international epidemics and pandemics" (5).

The GHS Index assesses countries' health security and capabilities in six categories

- Preventing the emergence or release of pathogens
- Early detection and notification of epidemics of potential international concern.
- Rapid response and mitigation of the spread of an epidemic
- Sufficient and robust health system to treat the sick and protect health workers.
- Compliance with international standards to improve national capacity, funding plans to address gaps, and adherence to global standards.
- Overall risk environment and country vulnerability to biological hazards.

The above dimensions are measured by 34 indicators and 85 sub-indicators, obtained through open source information, i.e., data that a country has published on its own or reported by an international entity. The GHS Index prioritizes not only countries' capacities, but also the existence of functional, tested and proven capacities to stop outbreaks at their source. It includes indicators of nations' capacities to reduce Global Catastrophic Biological Hazards (GCBR), which are biological hazards of an unprecedented scale that could cause serious damage to human civilization globally, undermining the potential of civilization in the long term. These are events that could wipe out advances in sustainable development and global health because of their potential to cause national and regional instability, global economic consequences, and widespread morbidity and mortality.

The GHS Index Overview Report, released in October 2019, concludes that most countries are unprepared for a global biological catastrophic event, including those that could be caused by the international spread of a new or emerging pathogen or by its deliberate or accidental release. It also concludes that biosafety is a low priority area at the international level and those

connections among health sector actors in the response to epidemics are generally weak.

Interestingly, according to this index, the best prepared countries are the United States (with 84 points out of 100) and the United Kingdom (with 74 points). In the Latin American and Caribbean (LAC) region, the best prepared was Brazil (with 60 points). In October 2019, no one imagined that, just a few months later, the COVID-19 pandemic would spread around the world and that the countries at the top of the ranking would have the worst record in terms of impact and response to the pandemic. The Figure 1 below shows the overall results of the index in the countries of the Americas, drawing attention to the fact that some of the worst prepared countries (according to the GHS index) have so far performed well, such as several islands in the Caribbean, and especially Cuba.

The Dominican Republic is ranked 14th out of 34 countries in the Americas, with an overall score of 38, which places it at 91st out of 195 countries, as shown in the Table 1.

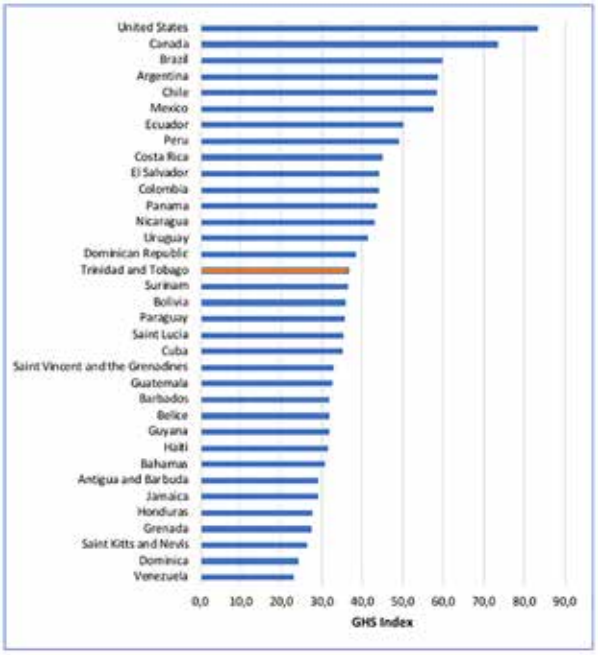


Figure 1. GHS in the Americas, 2019.
Source: (5).

Table 1

Dominican Republic: GHS Index, October, 2019

| | DR Score | DR Rank (out of 195) | Average score (of all 195 nations) |
|---|---|---|---|
| **Overall** | **38,3** | **91** | **40,2** |
| Prevention | 30,5 | 105 | 34,8 |
| Detection and Reporting | 37,1 | 105 | 41,9 |
| Rapid Response | 47,3 | 53 | 38,4 |
| Health System | 16,1 | 125 | 26,4 |
| Compliance with International Norms | 43,5 | 126 | 48,5 |
| Risk Enviroment | 59,3 | 73 | 55,0 |

Source: (5).

As a result, the country's preparedness to respond to an epidemic is arguably low in absolute terms (although it is in the middle in relative terms). It is interesting to note that its worst score refers to the strength of the health system, where the weakest areas refer to the absence of a plan to address human resource shortages, lack of evidence of an effective communication system with the population and between the public and private sectors in the event of a health emergency, low priority given to health worker care, and lack of a monitoring and evaluation plan.

**Implementation of COVID-19 control policies**

The first case of COVID-19 was identified on March 1, 2020, being a case imported from Italy. Policies to address the epidemic were put in place on March 19th, a few days after the World Health Organization (WHO) declared a global state of emergency and the disease a pandemic. That day there were 34 confirmed cases in the country (6).

The government created a high-level commission, coordinated by the Minister of the Presidency of the Republic, composed of high government officials and private sector personalities. A state of emergency was established in the country, borders were closed by sea, land and air, teaching in schools and universities was suspended, and businesses and productive activities were closed. The next day, a curfew was established starting at eight o'clock at night. Table 2 shows the policies implemented in the country from March 19 to October 15th, 2020.

Table 2

Policies implemented to control pandemic by COVID-19

| Date | Implemented policies | Cases |
|---|---|---|
| **19/03/20** | **State of emergency**<br>Flight suspension – countries Europe, China, Korea and Iran<br>Quarantine of passengers from countries with community transmission<br>Restriction on coronavirus testing laboratories<br>Suspension of teaching in schools and universities<br>Air, land and sea passengers border closures | **21** |
| **20/03/20** | **Curfew**<br>Trafic and circulation ban between 8:00 p.m – 6:00 a.m. (exceptions for health personnel, journalisis, emergencies) | **72** |
| **26/03/20** | **Modification of curfew**<br>Exceptions for persons an vehicles in the industrial, food, energy, water and telecommunications sectors. | **581** |
| **14/04/20** | **Extension of the state of emergency and curfew until May 1**<br>Madatory use of masks | **3 614** |
| **1/05/20** | **Extension of the state of emergency for 25 day**<br>Curfew 7:00 p.m.-5:00 a.m.; Sunday 5:00 p.m.-5:00 a.m. | **7 954** |
| **20/05/20** | **First phase of reopening**<br>Companies enter gradually according to the number of employees. Public transport resumes at 60 % capacity. Churches reopen only on Sundays with protocols.<br>Barber shops, beauty salons and medical offices only by appointment | **13 657** |
| **3/06/20** | **Second phase of reopening**<br>Curfew 8:00 p.m.-5:00 p.m.<br>Increase the size of the companies authorized to work; opening of shopping centers; private transportation of passengers is alowed | **18 319** |
| **17/06/20** | **Third phase does not start because of the increase in infections**<br>The second phase in maintained | **26 645** |
| **1/07/20** | **End of the state of emergency**<br>Opening of borders. Authorization to tourist hotels and restaurants with protocols<br>Opening of gyms and companies with protocols is allowed.<br>Curfew is lifted | **34 197** |
| **20/07/20** | **New State of Emergency due to increased infections**<br>Curfew 7:00 p.m. - 5:00 a.m. on weeksdays and 5:00 p.m. - 5:00 a.m. on weekends | **54 797** |
| **3/09/20** | **Extension of the state of emergency**<br>Continuation of the curfew in the previous period | **97 902** |
| **28/09/20** | **Extension of the state of emergency**<br>Curfew is established in the national territory from Monday to Friday from 9:00 p.m. To 5:00 a.m. and on Saturday from 7:00 p.m. to 5:00 a.m. | **111 209** |
| **15/10/20** | **Extension of the state of emergency**<br>The state of emergency continues and the curfew is maintained in the last format. | **120 924** |

Source: own elaboration.

The University of Oxford has a tool for monitoring the response that governments are giving to the coronavirus pandemic, through which they build a set of indicators, namely: government response, health containment, policy stringency and economic support. The first one, of government response, covers the indicators of all the previous ones.

The Stringency Index seems to be the most used and has begun to be included in some international databases, such as "Our World in Data", also from the same University of Oxford. It does not include economic policies or information on diagnostic tests, which are less available internationally. The indicators included are the following:

- Containment policies: School and university closures; workplace closures; cancellation of public events; restriction of social events; closure of public transportation; obligation to stay home; domestic travel restrictions; international travel restrictions.
- Health system policies: public information campaigns.

Figure 2 shows the Stringency y Index in relation to COVID-19, noting that it was very high during the first two months, but that it subsequently began to relax as of June 2020, coinciding with the process of reopening the economy. Although not presented in the graph, by October 24th the index showed a reduction to 65 %.

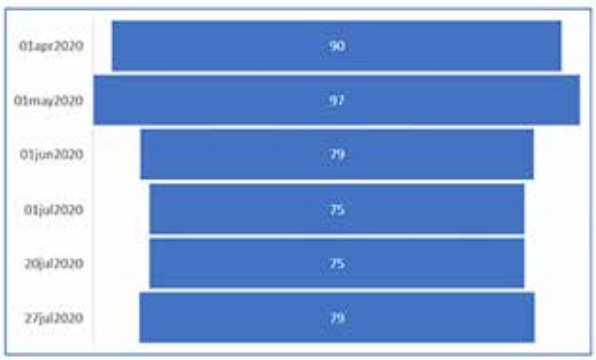


Figure 2. Government Response Stringency Index to control COVID-19 pandemic.
Source: (7).

In fact, during the month of May, the population began to put strong pressure on the government to begin the process of opening, not only because of the difficult economic situation generated by the complete closure of the economy but, very especially, because of the political process that the country was going through. On February 16, before the pandemic was declared, municipal elections were to be held and on May 16, presidential elections. The former, held with electronic voting, had to be cancelled on the morning of February 16th due to the malfunctioning of an important group of voting machines. The elections were postponed to March 16th and were held despite the fact that the pandemic was already known. This was the reason why the government waited until the 19th to declare a state of emergency. What was left of March, April and May, the country maintained an almost total closure and it was even necessary to postpone the presidential elections for July 5th.

In mid-May, the pressures were felt, due to the suspicion of various sectors of society regarding the political panorama. The government proposed a plan to open up the country starting on May 20, when the country had 13 657 confirmed cases and the daily cases were increasing, without public information on the number of diagnostic tests being performed or the rate of positivity.

The first and second phases occurred as scheduled, but it was not possible to enter the third phase, due to the increase in new cases. As of June 17, there were 24 645 confirmed cases, new cases continued to increase, and the positivity rate (which had already begun to be published) exceeded 20 %.

Because the elections had been rescheduled for July 5, on the first of that month the state of emergency was lifted, curfews were lifted, borders were opened, public transportation was normalized, and hotels and restaurants were allowed to operate with protocols, although controls on business operations were maintained.

Since mid-June, political activities were carried out during the electoral campaign, with the polls favoring the main opposition party. Finally, the elections were held, with this party winning and beginning a process of political transition until August 16, when the new authorities took office. At the end of July there was a surge of

Table 3

Dominican Republic: programmed opening phases

| |
|---|
| **Phase 1 – May 20** |
| Microenterprises may incorporate up to 5 employees or 50 % of their staff |
| Small companies may hire up to 10 employees or up to 50 % of the staff |
| Medium and large companies up to 25 % of the total |
| Barber shops, beauty salons and medical offices - users must make an appointment to be seen |
| **Phase 2 – June 3** |
| Microenterprises will be able to work 100 % of their staff |
| Small companies may incorporate up to 75 % of their staff |
| Large and medium-sized companies can operative with up to 50 % of their staff |
| Stores in shopping malls, private passenger transportation and gaming companies, except casinos, may begin operations |
| **Phase 3 – June 17** |
| Small and microenterprises of up to 50 employees will be able to work with 100 % of their staff |
| Companies with more than 50 employees may have up to 75 % of their staff |
| Religious service may be held three times a week |
| **Phase 4 – July 1st** |
| All companies resume work with 100 % of their staff |
| Tourism is reactivated, opening hotels and airports, as well as gyms and restaurant dining rooms |

Source: coronavirusrd.gob.do/2020/05/19/comision-alto-nivel-detalla-4-fases-del-plan-de-reapertura/

new cases and a strong increase in positivity. In fact, between July 1 and July 20, the number of confirmed cases increased by 60 %, reaching a positive rate of 35 %.

By common agreement between the government in office and the elected government, on 20 July the state of emergency was reinstated, and a curfew was again imposed from 7 p.m. on weekdays and 5 p.m. on weekends.

Within the Family Health Insurance (which is part of the Dominican social security system), some policies were implemented to ensure adequate care for patients with COVID-19. In the contributory system, as of July 2020 there were 4.2 million people affiliated, representing 42 % of the Dominican population. This population has access to private health services, so adjustments were made in the fees to be paid to infectious disease doctors and pulmonologists. The co-payments were also modified (usually between 10 and 30 %), eliminating them for hospitalization and intensive care by COVID-19, allowing the high cost coverage limits to be exceeded (which currently reach one million pesos per year per person). The system also decided to assume the PCR tests, which are free for the entire population (as long as they are indicated by an authorized professional) (www.sisalril.gov.do).

The subsidized FHS system includes 3.8 million people, or 38 % of the Dominican population, who are affiliated with the National Health Insurance (SENASA), the public risk manager that administers this system and contracts with providers, mostly public or non-profit associations (but also some private ones). SENASA made compensatory payments to hospitals in the public network that were experiencing a drop in demand for other services. It also made advances to first-level providers. For these people, both the PCR tests and the treatment of patients were fully financed by the public system. Additionally, the government implemented the so-called "Employee Solidarity Assistance Fund (FASE)" to benefit employees whose contract was suspended due to the crisis by providing a subsidy through the company for those companies affected by the decrease in economic activity, which consists of a monthly payment of five thousand Dominican pesos (equivalent at that time to about ninety dollars). https://ovi.mt.gob.do.

**Successes and limitations**

COVID-19 control policies in the Dominican Republic were similar to those adopted in most countries. Particularly at the beginning of the epidemic, they were quite strict and most of the population complied with the restrictions. The epidemic affected the country significantly. As of August 28, 2020, it had 8 570 confirmed cases per million inhabitants, ranking eighth in the Americas region, after Chile (21 139), Panama (20 854), Peru (18 864), United States (17 727), Brazil (17 696), Colombia (11 438) and Bolivia (9 691). In the Caribbean region, the Dominican Republic is the most affected, with cases per million inhabitants doubling the number of cases in the Bahamas (7). In terms of mortality rate, the country is in a better position, since the case fatality rate has not been as great, compared to other countries in the region.

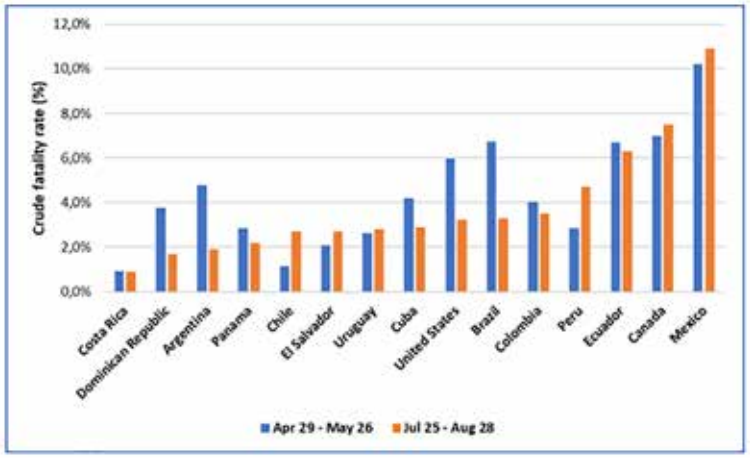


Figure 3. Latin America: evolution of the crude fatality rate by COVID-19 in the most affected countries. Source: (7).

As can be seen in Figure 3, after Costa Rica, the Dominican Republic has the lowest fatality rate in the period from July 25 to August 28, having halved it in the two periods considered. The high rates of countries such as Mexico, Canada and Ecuador stand out, as they are reluctant to go down.

In the case of the Dominican Republic, the demographic factor has been considered as an explanation, given that it has a relatively young population (although this also occurs in Mexico). No studies have yet been conducted to better understand these differences.

Despite having been strongly affected by the epidemic, the severity of cases - leading to hospitalization in intensive care units, use of respirators, and eventually death - has not been as severe in the Dominican Republic. In fact, only about 2 % of confirmed cases of COVID-19 have presented serious illness and, within these, between 15 %-20 % have required intensive care. As we have seen, the case fatality rate is less than 2 % since early July 2020.

Given these circumstances, the health system has been able to respond to the demand for care. It was only at the end of July, because of the increase in cases when the economy opened up, that the limits were reached in terms of occupancy of hospital beds and intensive care units.

Figure 4 shows the evolution of new cases at the beginning of the opening and then the positive effect in terms of the decrease in cases, with the re-imposition of limitations on circulation.

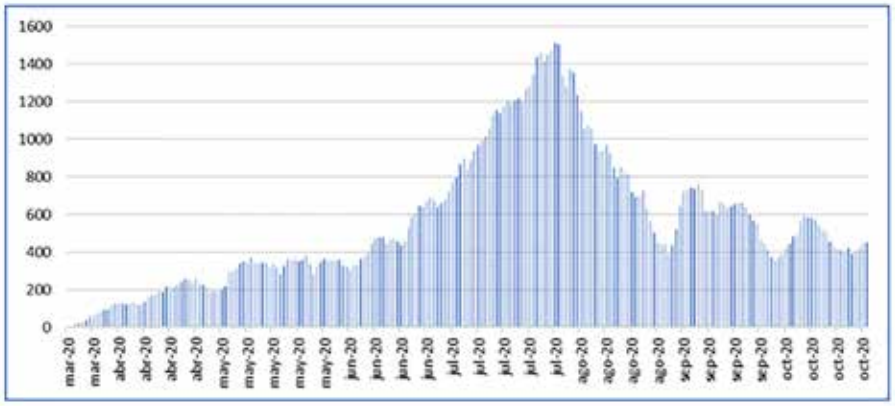


Figure 4. Dominican Republic: evolution of new cases of COVID-19 from March to October 2020 (Seven-day moving average).
Source: (6).

A clear decrease in the impact of the epidemic has been observed in recent months. The new government has taken important measures to contain it, including intersectoral actions in so-called "hot spots". It made the decision to increase the affiliation to the Family Health Insurance to the two million people who still do not have it, by December 2020. Likewise, it substantially increased the number of daily tests that are carried out, being able to observe a decrease in the positivity rate, which in October was around 10 %, with a clear downward trend.

**Perspectives and challenges for the future**

As we have seen, the COVID-19 pandemic found the Dominican Republic unprepared to deal with it, with significant deficiencies in the areas of prevention, early detection and notification, rapid response and mitigation, compliance with international standards, risk environment and health system strength.

The epidemic has hit hard, being the country that has had the most infections in the entire Caribbean region and one of the most important in Latin America. However, it has faced low rates of both serious illness and mortality, compared to the rest of the region. The health system, so far, has been able to respond, without exceeding the installed capacity in terms of beds and intensive care units.

The response of the authorities was appropriate, although as of the end of May it began to relax, especially compliance by the population. Despite the political processes that had a significant impact on the mobility of people and the fact that there was a change in the authorities, there was consensus between the two parties on how to face the crisis and the measures were continued.

The weakness of the health system is probably responsible for the fact that the epidemic could not be controlled at the beginning and became communitarian. There is an extremely low development of the first level of care in the country, despite the fact that the laws that create the current health system, which date from 2001, establish it as a gateway. According to the model of care included in the legal framework, all people should be assigned to some first level center, but this has not been fulfilled (8,9,11). The country also has an important underfinancing of the health system compared with other countries of the region, with particularly low financing of the leadership and governance function as well as community services - including epidemiological surveillance and preparation for health emergencies (3,10). This makes intersectoral coordination and efforts to contain epidemics locally difficult when they begin. It also makes it difficult, once infections occur, to track contacts and isolate them.

Consequently, looking ahead - whether in the presence of new waves of this epidemic or in

preparation for the next ones - it is necessary to invest adequately in strengthening the first level of care, put effectively in place the population assignment using geographical criteria, develop payment for results mechanisms to increase quality and efficiency and implementing the unified electronic medical record, in order to make it feasible to establish a prevention strategy.

And, of course, the leadership and governance role of the system needs to be strengthened, so that it functions in the direction of the country's intended north and is able to achieve joint and coordinated action with all sectors of society.

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