

THE NEXUS OF CLIMATE CHANGE AND DEVELOPMENT: THE ROLE OF MEDIA IN PAKISTAN

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ARTICLE INFO	ABSTRACT
<p><i>Article History:</i> Received: 12 Aug 2019 Revised: 19 Oct 2019 Accepted: 05 Jan 2020 Available Online: 31 Mar 2020</p> <hr/> <p><i>Keywords:</i> Climate change, Sustainable Development, Print and Electronic Media, Awareness</p> <hr/> <p><i>JEL Classification:</i> O26, O30</p>	<p>Pakistan is facing two front challenges from climate change and development. It has the least share in production of Green House Gases (GHGs) as well as in Carbon Offset and on the other hand, it is the country which is worst affected by climate change among South Asian countries. Similarly, the cost of sustainable development hinders the growth of Gross Domestic Products (GDP). The electronic and printed media in Pakistan is more focused on the causes and impacts of climate change as well as on the progress of sustainable Development Goals (SDGs). The present study explores the diverse dimensions of the role of media in the understanding of the nexus of climate change and development to maximize the benefits for the country development particularly of GDP sector. The existing potential of Pakistani media is studied to interlink the GHGs emission and GDP, with the impacts of climate change and Carbon Offset take down by the country. In the same fashion, the relation between sustainable development and growth of GDP with inflation rate portrayed the actual struggle of the country for the SDGs progress. The paradigm shift in understanding and projecting of the nexus of climate change and development from Pakistani media will support the growth of GDP in the country.</p>

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1. INTRODUCTION

Climate change is a scientifically proven phenomenon of a monumental magnitude. It is global in nature and affects living and non-living entities on the entire planet Earth. It has trans-border character as it does not respect political boundaries of countries and carries serious implications for developed and developing nations. Sufferings of nations having less resilience to adapt the impacts of climatic variability and climate change are mostly observed in developing nations. Governments, academics and policy makers see the issue of climate change through myriad of angles and have varying views. Since the problem is of apocalyptic nature, pessimists envision a doomsday scenario whereas optimists have great hope in human ingenuity to find out solutions of issues connected with climate change and sustainable development. The literature review suggest that solutions are feasible through sustainable use of resources, innovation and global cooperation (Cannon & Müller-Mahn 2010; Ayers *et al.* 2014; Inderberg *et al.* 2014).

Media, has enormous discursive power that can affect and /or change the public opinion, build consensus and manufacture consent. Media is not only the source of knowledge but also source of changing perception regarding any issue. It can easily divert attention from matter of vital importance towards issue of mass consumption of subservient importance. Media creates an 'epistemic community' as it informs the masses and raises questions through actual or fabricated audience. The same principle is applied for the awareness of climate change and sustainable development. Ultimately, international action to address climate change can be created through media. Media can play essential role for the propaganda of actions taken by a Government agency or institution for combating climate change and achieving SDGs. It has the power to raise the concerns of local community to local authorities and international communities (Holt & Barkemeyer 2012; Schmidt *et al.* 2013; Bell 2016). There is wider consensus that Pakistan is severely affected by climate change in the recent decades. Due to its weak state institutions and less coping capacity, climate change poses greater security risk to the country. During the last two decades, Pakistan's civil society and media have emerged as vibrant organs of the state yet there has been little effort to sensitize masses about future challenges in the wake of modern non-traditional security challenges like climate change. The paper argues that vitally important awareness about climate change is lacking among government, state institutions and general public. It explores that how can global media help in combating climate change regionally and globally and what are the new developments addressing this emerging issues. It will also assess the difference that media campaigns make in raising awareness regarding the

issue of climate change and sustainable development. Media's responsibility goes beyond the flow of information; it must convey credible and legitimate information with authority. Media with the help of scientific research can identify climate change as an environmental problem. Then there is a need to convince governments to take action on this issue. Policy makers with the help of environmental scientists can propose potential solutions to fight climate change. Media and scientists can bring awareness among the general public to create a political pressure to counter such kind of opinions among those who do not consider it a risk but only media hype. In the modern world the media have become a powerful tool and they communicate information to billions of people very effectively (Khan *et al.* 2011; Memon *et al.* 2015; Mir *et al.* 2017).

2. RESEARCH METHODOLOGY AND THEORETICAL FRAMEWORK

The present study is attempted to analyze the facts and figures of the printed and electronic media for projecting the nexus of climate change and development. The major variables of the study are the climate change, development and media. These variables are further divided into sub components and the role of media is analyzed with projecting each component in the light of support to GDP growth. The qualitative approach is adopted to interlink the relation and impacts of the role of media on the nexus of development and climate change. The role of media in the understanding and projecting the nexus of climate change and development can be assessed in their contribution to different components of this nexus. The climate change risk model has three major components of hazard, risk/impacts and adaptation strategies. The hazard component is further divided into causes and mitigation of climate change. The risk/impacts can be described in form of vulnerabilities, exposure and damages in the specific region or country. The adaptation strategies have strong link with the sustainable development. The development particularly the growth of GDP has the direct link with the GHGs emission. The media is assessed qualitatively for their contribution towards awareness of the causes of climate change; impacts of climate change on the fragile and developing economy of Pakistan; projecting the heavy cost for the climate change adaptation and sustainable development; provide justification for low cost technologies of developmental sectors; and identification of market for Carbon Offset and their substituents.

The role of media in this nexus can be described as their knowledge, motivation and projecting the national causes while reporting the GHGs emission, impacts of climate change and cost of sustainable development in developing country like Pakistan (Figure 01). The Pakistani media performance in projecting the low share of GHGs emission and identification of opportunities for local manufactures in the Carbon offset trade and their substituents is analyzed through their reporting and mass awareness. In the same fashion, the damages caused by impacts of climate change reporting and interlinking these impacts with the sustainable growth and climate change adaptation. The third and most important part of the media role analysis is the positive reporting of GHGs emission with the adaptation of low-cost technologies for the growth of GDP.

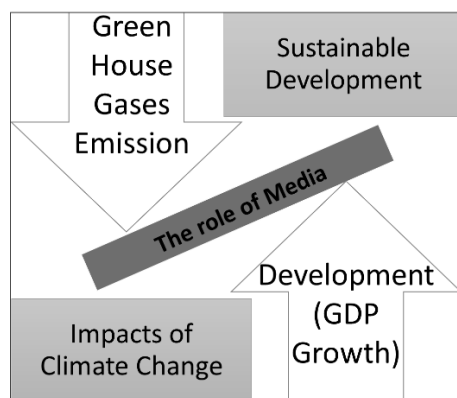


Fig. 1. Theoretical Framework of the Study

3. CLIMATE CHANGE AND DEVELOPMENT

The United Nation (UN) organized an international conference on the issue of climate change on November 30 and December 1, 2011 in Paris, the capital of France. The political leadership from almost all of the countries of the world was present in the summit held on the climate change. The holding of an international summit was itself a big milestone in the history of climate change. The conference was titled as COP21 (Conference of Parties in the 21st century). It was a success of the demographers and scientists that they urged political leadership of the whole world to sit and find some way out to tackle with the issue of climate change. A huge number of public service officers and policy makers also attended the conference in addition to the presidents and prime ministers of almost all of the countries of the world. The challenge of the global warming and its effects was discussed in detail in the conference. There was a complete consensus that the issue of climate change is of great apprehension for the whole world, and it should be kept on the high-level priorities of the governments of the developed as well as the developing nations. The international conference ended with an agreement among all participants to deal with the challenge on a top priority. In spite of its highest level of importance, the issue of climate change could not get the attention either of the presidential candidates or of the American media in the recent election, 2016. Consequently, like consequences are started from new administration regarding climate change agreements (Morgan 2016; Rhodes 2016; Kinley 2017).

The most recent meeting of the COP21 held on November 15-18, 2016 in Morocco in which 126 nations of the world ratified the agreement. Earlier in 1997, the Kyoto Protocol was approved to control the omissions of the gases but many countries could not adopt this because of their internal issues and problems. Scientists are of the view that its highly commendable for all nations of the world to abide by the Paris accord to reduce the hazards of the climate change. The Paris agreement enforces governments of the all countries to have necessary legislation to overcome the issue of climate so that there should a legal protection for the operations and activities of the governments for the sustainable results for controlling the gas emissions and other activities. It is hoped that the Paris agreement will play vital role in dealing with the challenges of climate change. World Bank data on carbon dioxide emissions show that China and USA are the top producers of carbon from 2015-2016. China has produced 9 million tones and USA 5.3 million tons of carbon till now (Mace & Verheyen 2016; Robbins 2016).

The University of Notre Dame has a project named as 'ND-GAIN Country Index', which provides details about vulnerability of various countries to climate change and their state of readiness. Pakistan spotted on 115 out of 180 countries in the climate change vulnerability index. Despite higher level of vulnerability, Pakistan's state of readiness is very low as it ranks 142 out of 180 countries. With every passing year, Pakistan will be facing grave situation due to extreme events induced by climate change. Rising population has to sustain on threatened resources; thus, climate change is like a inevitable threat for the country. In the last decade, the growth rate of GDP was ranging between 2.5 to 5.5 with no promising signs for future. The sectorial growth of the GDP and GHGs emissions in Pakistan can easily be correlated in the last decade. Pakistan emitted 342 and 327.7740 MtCO₂e in 2012 and 2017, respectively. In 2017, it was just 0.72% global share. 2017, respectively. Almost 87% share of this emissions is jointly shared by agriculture and energy sector. Around 5% each by forestry and industry share indicates the poor performance of manufacturing sector. The current energy crisis and decline emission clearly shows the poor indicators of Pakistan economy. Inspire from the international media, the local media in Pakistan always portrayed the picture of environmental degradation (Jamil & Ahmad 2010; Malik et al. 2010; Khan et al. 2011; Benzie et al. 2016; Dincsoy 2016; Abas et al. 2017).

4. CLIMATE CHANGE AND MEDIA

In a developing economy like Pakistan, climate change is a cause of social and economic problems. Long run policies are needed to curb this serious threat on the other hand it will help the government in stabilizing Pakistan's economy and other social standards. For example, Pakistan is an agrarian country, if through certain policies and mechanisms it is able to curtail floods and their impact on agriculture, Pakistan's agricultural sector and those farmers who work on these fields won't be much affected. This in a broader term will help in growth of its economy. The print media and mass media present a small but very influential picture regarding any event. The Billion Tree Tsunami program by Khyber Pakhtunkhwa's government should be commended as an effort for the protection of forest cover. Other provincial governments should also get motivated to take solid steps in protecting their environment. Finally, the Paris Agreement COP21 is a hope of global rejoinder to the risk of climate change. Like all other states, Pakistan also has a commitment to follow guidelines and report regularly on its progress. Media can spread awareness regarding climate change issue. With the collaboration of scientists and policy makers certain measures would be taken to prevent environmental threat and long-term eco-friendly policies need to be formulated. From the aforementioned information, it is evident that climate change is investable phenomena with an alarming speed. The significance of

climate change sensitization is greater than a human mind can comprehend (O'Neill & Boykoff 2012; UNEP 2012; Boykoff & Yulsman 2013).

Communication can play a crucial part in countering climate change. With communication, we can get the message across to the masses, and every individual can contribute towards the betterment of the environment. Pakistani Media (print, electronic, social) has tried to accomplish the goal of getting these messages across, but it has not yet succeeded in sensitizing the people. The intensity of this issue is so great, but the focus of media on this issue is very insignificant. Following are some of the roles played by Pakistani media in climate sensitization: Newspapers such as Jang, Daily Express, Nawa-i-waqt, Pakistan Today, Daily Times, and Dunya etc. have been publishing articles on the climate change issues to aware its readers. Several shows and discussions are hosted on T.V channels regarding the topic of climate change. Documentaries have also been made on the topic, but they are not large in number (Khattak et al. 2012; Schmidt et al. 2013; Karamat & Farooq 2016).

With the introduction and great popularity of new media, it has become relatively convenient to create discourses and build public opinion in favor of 'common good' issues like climate change. Media has many important roles to play in a society i.e. informing, documenting, investigating, acting as watchdogs and campaigning on social issues. Media through an awareness campaign can save lives and affect policy formulation process. Even if media may not affect policies directly, it influences the environment in which policy is formulated. Through its reporting, media can prepare masses for climate change. Coverage of climate change through media builds a social relationship among scientific community, scholars, policy makers and general public. Going a step further, the media of developing countries can inform the international audience, get their attention and ultimately increases collaboration to cope with the situation. Climate change is not just a story of science but it has many stories of human interest in itself. Discourse analysis indicates that Pakistan's media has been gripped by two themes during the few years i.e. war on terrorism and political instability. Climate change despite posing existential threat to Pakistan has not become an important theme in Pakistani media. People can assert pressure on the government to act to solve climate change-induced problems. Media can sensitize people about the challenges and need for effective measures. Experts on the subject contend that the challenges of anthropogenic climate change can be resolute through fostering climate-friendly behavior for which media has essential role (Seegerberg & Bennett 2011; Holt & Barkemeyer 2012; Memon et al. 2015).

Massive flooding events occurring during the last few years resulting into killing of thousands and displacing millions and material losses of worth billions of rupees in Pakistan are attributed to adverse effects of climate change. Likewise, there were spells of extreme heat waves with unprecedented high temperature and every month of 2016 sets a record of being the hottest month since the industrial revolution⁹ signifies that climate change is anthropogenic in nature and poor nations are more susceptible to it. Scientific estimates claim Due to climate change, the occurrences and severity of extreme weather events will substantially increase. Torrential floods in the catchment areas would increase siltation process in water storage dams, thereby reducing their storage capacity and impairing availability of water for agriculture. With the increase in temperature, already water-stressed agriculture especially in desert and semi-desert regions would lead to reduction in the agricultural output. The estimated loss of crop yield with 10 C rise in temperature is 6 to 9 percent. The rise in the sea level is directly related with the climate change. Consequently, saline water in Indus Delta is increasing, which will result in harmfully affecting the coastal agronomy and fish breeding grounds. In the view of increased health risks and loss of subsistence in the climate affected regions, there is an increased trend of migration to urban areas. The adverse effects of climate change would seriously impact social development goals like alleviation of poverty and improving economy of the country (Zhu et al. 2013; Ayers et al. 2014; Khan et al. 2016).

Almost at every alternate year floods occur in Pakistan and cause colossal damage. During her recent history, Pakistan faced the most devastating floods in 2010. It caused death of over 1700 people and displacement of an estimated 19 million people across Pakistan. Official estimates of the economic damage range from \$ 8.74 to \$ 10.85 billion. Over 18000 villages were affected resulting in direct damage to 1.6 million houses. With ensuing adverse effects, there will be sudden onslaught of flash floods in coming years. Sudden and unprecedented heat waves especially in urban areas have become a common manifestation of climate change. A 13 days long heat wave in Karachi during 2015 took a heavy toll of 1271 lives besides affecting over 35000 people.¹⁵ It was termed as unusual phenomenon due to climate change for which neither the government nor the public was ready. Experts attribute this massive disaster too many factors prominent among those is climate change. Commenting on the lack of resilience among government he said that non-availability of sophisticated weather prediction technology besides inaccessibility of people to brave difficult situation contributed to the casualties as a result of the heat wave.¹⁷ Similar heat wave in an Indian city of Ahmedabad occurred but timely action of the government by adopting awareness plan saved people's

lives. Increased public awareness about the dangers of heat waves through community outreach; an early warning system with 7 days forecast, giving advance notice to public about predicted heat waves; and capacity building of the government through training of medical staff and provision of related amenities contributed to resilience in the face of climate change-induced disaster (Khan 2013; Rauf et al. 2017).

5. ROLE OF MEDIA

Media play a significant role in shaping and reshaping pictures of the world in our minds. Our regional and national channels reach a huge amount of audience on a daily basis. Unfortunately, our media do not focus a lot on educating the masses about this imperative issue. Our media rather focus entirely on how to expand their viewership base and ratings. Our nation needs to wake up and act upon this great issue. If they are given awareness about the consequences of climate change and are told about the solutions to fight this issue then we could definitely prosper. Clean environment is beneficial to every single human being. If the masses are sensitized about the climate, then a lot of our problems could be solved easily. Media needs to cover more initiatives that are taking place all around the country in order to motivate people to do the same. Media (electronic, social, print) alone has the power to sensitize the masses through different way. When it comes to print Media, articles should be published on a daily or weekly basis showing what work is being done in environmental sector and what role we can play in educating the people. This would motivate people to join such initiatives and spread the word. Electronic media, as discussed earlier, could play the most vital role in sensitization to climate issues. They could exhibit the significance of this issue in an interesting manner so that people cannot resist watching it. Dramas, short films, documentaries could be made on the issue to show how important it is for us to work towards fixing the environment we live in. Social media, on the other hand, have recently become another prevailing means of communication. Through social media, you can not only target the youth of the country but also the adults belonging to different classes. Social media campaigns could be used as a powerful tool to instruct the people on the issue and to engage them in several activities (Holt & Barkemeyer 2012; Khattak et al. 2012; Karamat & Farooq 2016).

Media is an omnipresent entity having a symbiotic relationship with society and State institutions. In the contemporary period, especially with coming of new media, mass media's power has increased further. Publication of 'Panama Papers' by an International Consortium of Journalists is an example of boundless power of media. All good or bad news reach to people through media; messages are mediated and politics is said to be 'media-zed'. Also, media can construct discourses as the peoples' attention to certain themes is steered by media. Scientists knew about climate change about two centuries ago but because of commercial interests of giant companies, it did not become 'newsworthy'. However, again with the relentless efforts of certain Non-Governmental Organizations and eminent personalities like former US Vice President Al Gore, climate change was not only debated in media but also became a salient public discourse. A number of documentaries like *Inconvenient* propelled counter narrative of climate change (Giddens 2015; Weber 2015; Samad 2017).

Harold Lasswell opines that communication is a persuasive process. Thus, as a strong communication tool, media can persuade audience for a cause. It calls for national level outreach campaign for enhancing peoples' awareness about the threats of climate change and measures for risk reduction. On certain occasions like World Environment Day media persons while reporting from public places ask question from people to gauge their awareness about the environmental issues. People's response and perusal of media carrying news regarding the environmental problems indicate that climate change is still a low politics subject in the country. Implementation of the policy could have been far more effective, if during the process of policy formulation, the people should also be kept on board through public awareness campaign running/launched through mass media (Lasswell & Kaplan 2013).

In a nation facing violence and an unprecedented energy shortage resulting into slow economic growth, the climate change tends to be relegated to lesser importance. Media's appetite for news was fulfilled by global war on terror stories. Being the battle field and frontline state, Pakistani media's attention was diverted to news regarding terrorism and related stories. Pakistan's media is highly predisposed by the proprietorship. There are four leading media tycoons in the country i.e. Jang, Express, Nawa-i-Waqt and Dawn. Presently, there are around 90 TV networks and 110 FM radio stations working in the country. Today, there are 86 million viewers of TV in Pakistan, consisting of 40 million cable and digital television viewership. In a large number of talks shows climate change does not get to due attention of media. However, merely on special days one odd segment is allocated to debate on climate. People between the ages of 26 to 45 years are the major consumers of news channels of televisions. Radio Pakistan aired a good short programme on environmental issues during first week of November 2016 which though insufficient is a good beginning. Such programmes being an effective communication need to be repeated for better outreach (Boykoff & Yulsman 2013; Schmidt et al. 2013; Memon et al. 2015).

There are approximately 945 newspapers in the country. The print media is publishing material in eleven languages. Mostly, Urdu newspapers are circulated in rural areas, while the English newspapers are focused only on urban areas. Pakistan's English newspapers are mostly available in the urban areas and considered to be elite opinion makers. The readers of English newspapers are relatively more educated and the reporting pattern of English newspapers is also different than that of Urdu newspapers. General perception is that English papers are more balanced, objective and mature as compared to Urdu newspapers. It is because of standard of education and level of awareness of both the journalists and their audience. The print media devote a considerable chunk to economy, global news and other areas of human interest other than politics. The opinion pages of English newspapers are a mix blend of content mostly covering political commentary, war on terror, foreign policy, economy and form analytical view of government policies. Despite having such a vibrant and large media, it has not raised the issue of climate change as it merits. Because of its enormity of the challenge it should have been in the media discourses and getting reasonably major chunk of reporting. Articles on climate change have started appearing in newspapers and journals but still the debate is not equal to the challenges (Sadaf 2011; Holt & Barkemeyer 2012; Ali & Fatima 2016).

The new digital media includes internet and cellular phone. Popular applications among new media users are Twitter, Facebook, WhatsApp, Instagram etc. Dissemination of information through social media is quick and wide ranging. In the age of internet story moves faster than anything else. Twitter, Facebook and now WhatsApp have achieved monumental effects in spread of news faster than ever. It is said that the new media is too speedy to outflank. The new media has established its efficacy in case of Arab Spring and continues to attain prominence. The salient characteristic of new media is innovative use of Information Communication Technology. The availability of new media depends upon socio-economic conditions and cultural environment of people, yet technology is becoming accessible and affordable. Thus, its potential to an agent of change has increased exponentially. Today, there are more than 35 million websites containing word 'climate change', 'global warming' and 'greenhouse effect'. This huge resource is available for use through new media, which is interactive method of communication. In Pakistan, there are 132.6 million cellular subscribers out of which 28.6 million have 3G/4G access and 317.7 million broadband connections. Thus, new media resources are abundant enough to be exploited to awareness raising and running climate change campaign. Possibility of creating synergy among media, civil society and government to report climate change subject existed (O'Neill & Boykoff 2012; Ali & Fatima 2016; Bell 2016).

The general public in Pakistan lacks knowledge about climate change and sustainable development. The public needs to know about climate change in the realm of science, contributing factors and policy with regards to adaptation etc. Media can contribute significantly in this regard. Why it is not happening effectively in Pakistan is because agents of change in media i.e. journalists and media persons are not fully aware of this complex and intertwined issue. Media house owners find it quite unattractive to fund for journalists' training in climate change. There is no formal mechanism of training of journalists before they practically join media houses and specialize in climate change beat. Social Media is the quickest way of dissemination and sharing of information as today's world is gelled into one global village due to invention of new technology. The new media has brought a revolution in communities with regard to awareness. The conventional media is also directly linked with social media. A careful and expert crafting of messages and their utilization on social media can be very effective in awareness campaign about climate changes (Schmidt et al. 2013; Memon et al. 2015; Abas et al. 2017).

6. CONCLUSION

Climate change-induced challenges pose an existential threat to Pakistan, which needs a coherent and immediate response at state level to avoid major catastrophe. Pakistan has been adversely affected due to climate change in the past few years. The floods and rising temperature are a recurring phenomenon due to climate change; floods of 2010 and heat wave manifested bitter reality of climate change. Pakistan will be one of the most affected countries in next two decades due to climate change. Due to her existing fragility, weak institutions, and lack of awareness, Pakistan is unlikely to manage with the risk of climate change. Comparing with threat level, the state of Pakistan is neither prepared nor sufficiently equipped to respond to the challenge. Pakistan's media has emerged as most vibrant and independent media in the world. It has gained massive reach to viewers, readers and listeners across the country. Pakistani media has extreme persuasion effects on government functionaries and masses alike. Given the immense power, increasing consciousness about climate change among the masses is well within the purview of media. Pakistan's media though independent and effective but has to travel a long way to fulfill its social responsibilities and use its power for the development of the country. Due to existing phenomenon of war on terror, social problems and political instability in the country, media is more focused on these instead of other issues of great importance. Pakistani Media is not sufficiently trained and equipped to conduct debate on the issues like climate change and development. It needs training and collaboration with the State institutions as well as with international community for capacity-

building for journalists to fully gear up for the challenge. Journalists need to be more educated about climate change and development to have better understanding of the subject. Illuminating works of prominent journalists and scientists on climate change are available, which may be put to use for the benefit of the country.

Climate change brings with its dreadful consequences and with every passing day new records of high temperature, drought leading to human insecurity are being reported. It is being seen as an existential threat to Pakistan and its economy. Thorough awareness and holistic consciousness about climate change is necessary for any successful policy to tackle the issue. Like most of the developing countries, the people of Pakistan are not sensitized enough to cope with the problem. Favorable public opinion is vital for reaching at pragmatic solutions of this common good problem. If the policy is to be implemented by people, who do not support the cause whole heartedly, the efforts are least likely to be efficacious. In the contemporary era, public opinion has assumed greater importance; people have to be convinced about various policies, strategies and actions. Media has enormous power to make essentially important public opinion to steer masses towards making and implementing policies. Our role as individuals is to act upon it and play our part. On the other hand, the media needs to take immediate measures in informing the viewers and readers about this issue of great significance. It's high time that we understand that it's not a just a global issue but it is an issue that has effects on national economy as well. Efforts on the media level can result in aiding to the growth of country development.

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