INTEGRATED JOURNAL OF
SOCIAL SCIENCES

Good Governance: Role of science, technology and Innovations

Bhupender S. Chhikara[*]

Department of Chemistry, Aditi Mahavidyalaya, University of Delhi, Bawana, Delhi – 110039. India.

ABSTRACT

The continuous and effective delivery of services to people requires development of new methods and policies for rationalization of the good governance. The good governance has been changing with passes of time, influenced by the type of governing setup and markedly affected by the population growth. The various innovations in effective delivery of services, advances in technology and research advances in scientific fields play a critical role and are fundamental in good governance. This article reviews fundamentals of good governance, factors that influence the good governance and how new innovations, technological advances and scientific research are critical in good governance.

Keywords: Governance, Policy, Services, Technology Development, Scientific Research

Introduction

Good governance is concerned with the deliverance of sound economic and developmental policies in an effective manner to the people. The sound policies that are meant to secure justice, empowerment, employment, efficient delivery of services, eradication of poverty and making a healthy social setup are essential components that should be implemented through good governance.[1] Each of these aspects requires efficient means and ways so that all the designed policies are implemented properly and services are delivered to masses. Innovation in implementation along with innovation in technological advances creates better and alternative ways to deliver the services to people. The changes with the time and increase in population has demanded in development and search of new ways of implementation of services and policies, particularly where the old traditional methods have failed.

It is today's need to elaborate the various recent advances, new methods adopted, the technological advances, particularly the innovative advances with the digital technology that would help in delivering the good governance in any institution or country. The present article discusses 'good governance' in term of changing technology, involvement of innovations and essentiality of scientific research along with understanding of fundamental aspects of good governance.

Address:

Dr. Bhupender Singh
Assistant Professor, Department of Chemistry, Aditi Mahavidyalaya, University of Delhi, Bawana, Delhi. India
Email: bschhikara@gmail.com

Good Governance

Governance involves implementation of policies of one organization or by involvement of many organizations. Generally, governance is considered related to the government while there is difference between these two. Government is an institution or instrument for dissemination of policies related to public in general while Governance is a phenomenon for implementation of schemes and policies of any organization (that organization may be any private company, school, college, university, institute, public entity, society, government or governmental organization, or any other organization).[2]

'Good governance' is concerned with how efficient new policies designed are and how effectively those policies are delivered to the peoples concerned. As a part of deliverance of any service or implementation of policy, the good governance needs development of 'innovative methods'. Innovative methods would be new designs and concepts adopted for effective delivery of services. The technological advances and uses thereof provide an edge over traditional methods in management and deliverance of public services.

'Good Governance' has been defined in many ways by different authors. For a national governance (by government), it could be defined in simple words as a form of governance which serves the citizens by providing individual security, safeguard the territorial integrity and effectively deliver the services to people (like education, health, livelihood means, food security).[3] This term has been used prominently recently particularly by politicians to indicate the change in adoption of methods of governance. Many literary works by policy makers and academicians has led to emergence of changed concept of government, in which composers has challenged and changed the understanding of modern government.[4,5] Different authors have emphasized the re-thinking the old questions: what government should do, how and for whom? The debate has not been meant for large or small state, but for a bad or good management of government. Good government requires good governance. It is a managerial approach, aimed to reach efficiency, sustainable growth and better satisfaction of

citizens needs. Good governance combines short and medium term policies like: A) more cares and investments for solving the current needs of societies (job, education, health), but also B) coping with common society challenges (lack of resources, ageing population, pollution, climate changes, quality of life, intensive migration and similar other problems). Good governance adjusts country development towards the changing world: dynamic technological advance, openness of markets, global competition, and citizen's higher expectations for better life.[6] A general definition is 'Good governance is concerned with effective services delivery in any institution (public or private) and in any state or country'.

Time dependence

The concept of good governance changes with the change in time. What was good government in past may not be a good governance practice in today's world. Also current good practices may not be good in future.[7] It is mainly due to three reasons:

New services by technology: With the change in time, the technology advances or new technologies get introduced in the society which may create a new type of service (essential service) that need to be delivered to peoples.[8] For example, the electricity. Earlier when electricity was not there, there was no concern of any state or country about availability of electricity. But once, the electricity got invented and with the advancement in its applications, it became an essential commodity for people. Now delivering electricity to people has became an essential part of governance for states and countries.

Increased population: The increase in population has been one of the important factors that affect the availability of resources and services at a place and at particular time. The increase in population increases the demand for higher amount of commodities and services. It forces to adopt new means for delivery of services. The changing time increase or decreases the population at a particular place which changes the requirement of services and hence changes the governance.

Type of government: The government set up of a particular institution, state or country affects the governance. The private or public institution, democratic or other form of government in a country will influence the delivery of services

Figure 1. Good governance phenomenon depiction

to peoples and thus the governance. With change of time, the type of government system (and same way the type of management of an institution) would change and thus would bring the change in way of governance.

The overall summarization of good governance could be depicted as shown in figure 1.

Few selected **core factors and codes** for which Good governance is concerned about[9-11] are

1. Eradication of poverty

Poverty alleviation involves major two parts – increasing the income of low earning population and - bridging the increasing gap / divide between rich and poor. Poverty in one way is denying access to resources to particular section of population. It is not only the low earning population rather a difference in income of rich and poor that contribute towards higher poverty and lack of equal (or at least equitable) access to resources. Poverty is mainly lack of income and purchasing power attributable to lack of productive employment and considerable underemployment. Lack of purchasing power deprives peoples to their basic necessities like food, health, habitat, safe drinking water etc.

The economic development policies designed should address not only the growth of resources, rather it should address the equality of access to resources. The good governance should emphasize the policies that bring about economic development to all. In any economy, the perception of economic development is different for different segments of the society. Economic elites might place priorities on changes that improve their capacity to survive, to generate profits, to eliminate what they see as troublesome government bureaucracies, or to improve the security with which they do business. Poor people, in contrast, might give priority to the availability of services and basic conditions of personal security. Economic growth is important. Economic growth creates more resources and has the potential of creating more space for the involvement of the poor. But the involvement of the poor depends on the sources of growth and the nature of growth. If the growth is sourced upon those sectors of the economy or those activities which have a natural tendency to involve the poor in their expansion, such growth helps poverty eradication.[12] Therefore, it is important to source a large part of economic growth in agriculture, in rural non-agricultural activities and in productive expansion of the informal sector which all have high employment elasticities, as well as in an export strategy based on labour intensive exports.[13]

Raising farm incomes is described as the core of the antipoverty effort as three quarters of the poor today are farmers.[14] Estimates show that growth in the agricultural productivity of small farmers is, on average, at least twice as effective in benefiting the poorest half of a country's population as growth generated in nonagricultural sectors. Improving water management is an effective way to help reduce poverty among farmers. With better water management, they can improve productivity and potentially move beyond subsistence-level farming. During the Green Revolution of the 1960s and 1970s, for example, irrigation was a key factor in unlocking Asia's agricultural potential and reducing poverty. Between 1961 and 2002, the irrigated area almost doubled, as governments sought to achieve food security, improve public welfare and generate economic growth. In South Asia, cereal production rose by 137% from 1970 to 2007. This was achieved with only 3% more land.[15] Reducing cultivable land (by assigning to industrial and
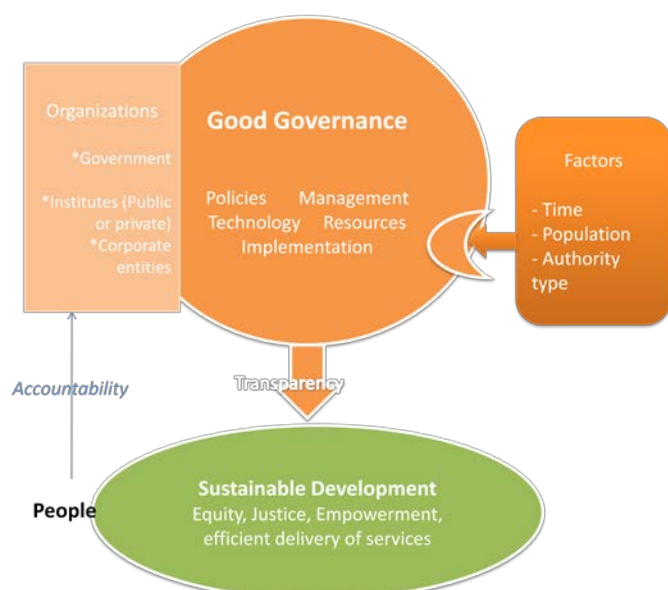
Integrated Journal of Social Sciences

Integr. J. Soc. Sci., 2015, 2(1), 7-14   8

residential spaces) and uncontrolled fertilization that increases soil salinity and barrenness, might pose same problem of food insecurity and unemployment.

2. Making a healthy public services delivery

The efficient delivery of services to public requires good management of resource policies and implementation thereof. Public services such as education, medical facilities, drinking water etc are core substitutes for any government and are essential to make a minimum standard healthy living for human population, an important parameters for measure of growth of society and nation.

The medical facilities availability to masses is an essential services commodity for governments towards making healthier society. Health systems governance concerns the actions and means adopted by a society or government agencies to organize actions for the promotion and protection of the health of its population. In the broadest sense, the government agencies and society as such are responsible for creation of the formal and informal rules that shape community behavior towards healthier set up and include the organizations that operate within these rules to carry out the key functions of a health system. The World health organizations (WHO)'s report of year 2000 has proposed financing, creating and managing resources, service delivery and stewardship as four main functions of the health system.[16] The report recognized stewardship as the function of the government responsible for the welfare of the population.[17] It is also concerned about the trust and legitimacy with which activities of government agencies are viewed by the society. Good stewardship having practical policies is thus at the essence of good governance in health. Governance influences all health system functions, thereby leading to improved performance of the health system and ultimately to better health outcomes.[18] Practice of these four functions decides the quality of medical facilities and availability as well as practices thereof in any country or state. The actual accrual of health system of a country requires participation of all people (authorities and public both). The good governance in heath system should include equity (equity in access to care, fair financing of health care, remove disparities in health), responsiveness (institutional response to population health needs and response to regional local health needs), transparency (transparency in allocation of resources), vision (comprehensive development strategy), participation (civil society, private sector, departments and other stakeholders participate in health policy decisions), effectiveness (capacity for implementation), and knowledge development (ethical and intelligent health information generation).[19]

Similar identification, analysis and rationalization of other services like education, safe drinking water availability help in good governance of any nation.

3. Secure justice to all

Securing justice to one and all is essential for faith and development of a nation. A harmonious society is possible with assurance of social justice for everyone and equally to all. The good governance includes Rule of Law, and effective implementation & protection systems to secure justice to every citizen without any discrimination by origin, color, sex, ethnicity, and regionalism.

4. **Empowerment** of every individual

Empowerment includes generation of means and ways by which individual citizen can get and demand their required services inadvertently as well as participate in governance activities for society.[20] The means adopted should help individuals in reaching to services delivery and should offer options to raise the voice in case of any discrepancy. The 'empowered' individual feels safe (towards securing their rights) as well as responsible (towards obligations of other citizens). The empower means power to citizen individuals, power meant to peoples' capacity to define their own life choices and pursue their own goals. It is capacity and ability to challenge the oppression and inequality in the society. Empowerment is a bottom up process that means being able and entitled to occupy the decision making space.[21]

The option to form 'Non-government organization' provides ability to a group of individuals to perform specific social activities. This is a way where individuals create their own options (rules and regulations) and generate as well as provide services (specific social activities). The technology advances is helping to provide efficient means to empower the individuals.

Empowering women is considered important issue for uplifting the social status of women as such and to bring equality in men and women.[22] Batliwala indicated women empowerment should mean (a) to generate a society with equality of both men and women regardless of their gender and by using their full potential can help in constructing a more human society for all and (b) women should protect themselves from the false value system and ideologies of oppression to generate cooperative establishment with men.[23] The good governance policies should strive to empower women. The reservation policy for women in Panchayati Raj System in India would bring the women to prominent decision making role in society. Consequently representation of women in Panchayati Raj Institution would enhance the possibilities of increasing equalities in the process of socio-economic development, increase women participation in different society building activities with mutual understandings and status, and would ultimately increase the women role in social set up giving them power to decision making as well as responsibility of execution of developmental activities. This would also develop the understanding of women regarding their duties and right about national welfare and its integrity. Women would be able to contribute effectively along with their male counterparts through empowerment by the process of their involvement in local politics and developmental activities[24]

5. **Employment** of youth

Employment of youth is a crucial factor towards development and important measure parameter of good governance. The employed youth creates more and better goods and services and generated better resources are major contribution towards growth of a nation. The good governance creates employment or provides opportunities to generate the employment for people. It is also essential that employed youth generates and contribute towards productivity.

Increase in employment without increase in productivity leads to a rise in the number of working poor, which is why the creation of quality and not quantity is important in labour market policies of good governance.[25] The higher productivity through employed youth has helped in reducing poverty in East Asia. The employment increases purchasing power of people and increases demand for more goods and services which lead to improved growth of a nation. The other sectors are as important in reducing unemployment, as manufacturing. The services sector is most effective at translating productivity growth into employment growth. Agriculture provides a safety

net for jobs and economic buffer when other sectors are struggling. The employment of youth lead to economic growth and quality of life and poverty alleviation.[25]

Good governance and Sustainable development

The development policies should not only be meant for catering the need of current generation, rather it should emphasize the rational utilization of resources so that natural resources remain available to future generations. The sustainable development is meant for retaining resources for future human generations by rational and controlled utilization of available resources or development of alternatives.[26]

Energy resources are the major point of contention that need major emphasis on controlling the fast depleting fixed natural fuel resources (coal and petroleum products) through governance policies. Alternative energy resources must need to be developed to meet the future energy requirements continuously.

The recent environmental changes brought about by the fast development need a re-review of policies adopted for the development.[27] The market oriented/profit stressing policies without sustainability have proved disastrous in altering the environment. This demands a reasonably clear specification of sustainability related objectives to be set by nations and by particular regions. The sustainability objective setting involving top-down approach should be mingled up with the bottom-up approach. The institutions involved in governance of sustainable development related policies should take into consideration the factor and options developed and utilized by public general. This had brought good results in many cases.[28] The practical and influential governance for sustainability should develop new or revised land-use plans through inclusion of different process by inclusion of collective development with pace of future scenarios and inclusion of public point of view by debate on planning goals along with suggested alternatives.[29]

The good governance for sustainable development poses an enormous as well as unavoidable challenge.[30] Current unplanned governance for future would prove disastrous. For progress towards sustainability, the governance structure and practices should be established in such a way so that it can foster, guide and coordinate positive work by a host of institutions through web of interconnections and across multiple levels and scales (vertical as well as horizontal implementation) on different and vast complex issues of sustainability with sensitivity to their contexts and with consideration of their uncertainties.[31] Such a governance will be advantageous as it encompasses multiple and diverse strengths, motives and capabilities. This model involve not just conventional government agencies and business interests rather it involve full set of public, private and civil society, individual as well as people as collective, along with their myriad of interactions. The challenge for such governance would be to achieve sufficient integration of understanding (of different entities), direction and action to achieve the desired transitions for sustainable development.[32]

There is no single model of good governance to be described as best form of governance for sustainability. The governance policies vary (must vary) from nation to nation or institution to institution (dealing with specific arena or policy), as there is difference in parameters to be adopted in context specifics from case to case. However, governance for sustainability do need to have fundamental outline and strategy to clarify and specify the policy parameters for implementation without compromising particular circumstances. An integrated approach of action plan for feasibility of sustainability must be part of inclusive growth for progress of life over Earth.

Major Hurdles in good governance

Corruption and increasing population are the two major factors that badly affect the governance. The rampant corruption in government machinery badly affects the delivery of essential and required services to the end target peoples.

The corruption is an obstacle to development and affects all modern societies. It hinders timely delivery of services to public and leads to lack of development. This ultimately creates a feeling of lowness in public and creates a scenario of inefficient machinery. Corruption and nepotism in employment issues keeps the talent away from deserving positions which ultimately leads to poor quality of services generation. This way corruption creates a hurdle in good governance practices and implementation of policies.

The corruption controlling starts from public itself. The public can demand transparency in operations and deny the bribery. Journalism and media is another tool towards curbing the officials and politicians involved in corruption. Media (T.V., Newspapers, radio and other means) have to be responsible for projecting the corrupt peoples and stops officials and politicians in getting involved in corrupt practices till development project meet their targets. This investigative and responsible journalism brings out the hidden facts of projects and deeds to public which help in curbing the corrupted practices.

The 'Right to Information' is short of new _innovation_ that potentially helps in reducing the corruption.[33] The Right to Information Act is proving as a strong measure and serving major tool for people to combat corruption in public life. The Right to Information Act provide a tool to public to get information of any matter related to public dealing and get information related to any material in any form, including records, documents means, emails, opinions, advices, press releases, circulars, orders, log books, contracts, reports, papers, samples, modules, data material held in any electronic form and information relating to any private body which can be assessed by a public authority under any other law for the time being in force. This Act indirectly forces public officials to follow the defined rules and implement the project policies and deeds in accordance to set of governance settings. So this act is able to combat public officers from corruption.[34]

The use of _technology_ (particularly the digital technology) could be an excellent tool to combat the corruption and remove human errors.[35] This would be step forward towards good governance by delivering essential services to people by effective means by use of technology and new innovations. The technology would also help in reducing the intermediaries (another reason for increase in levels of corruption) and thus bring the public to reach to the services directly. The slogan of 'minimum government' is meant to reduce the intermediaries with 'maximum governance' through latest technologies. The gap between Agency and Public would be reduced by use of digital technology and thus faster delivery of services with reduction of corruption.

In India, the Administrative Reforms Commission (1966) recommended for adoption of the Ombudsman (an independent body to combat maladministration) type of institution in India to eradicate and deal with corrupt practices

Integrated Journal of Social Sciences

Integr. J. Soc. Sci., 2015, 2(1), 7-14   10

in politics and administration. Then Congress government proposed to set up the institution of 'Lokpal 'at the central level, but the bill lapsed in1971. This bill has been introduced in Parliament many times in 1977, 1985, 1989, 1998, 2001and in a strong form in 2011. Government of India redrafted the bill and tabled in House of People (Lok Sabha) in 2011. The social/civil body led by Anna Hazare has been propounding the introduction Jan LokPal bill (having additional provisions to control the functioning of LokPal body) while a consensus has not reached in Parliament on the Acts included in Bills.[34] This bill even today is hung.

Increasing population is another hindrance in development and affects the good governance. The designed policies are meant for good governance of limited population of a particular area. However, if a sudden or unexpected increase in population of that area will demand the generation and supply of all services proportionately.[36] This would badly affect the available demand and supply and lead to lacked governance. A population control (through general birth control and control on migration) is essential aspect for development and good governance.[36]

Innovations in good governance

As time demands, the innovation in ways of implementation and delivery of services would bring the good governance. There are many innovative concepts that has been adopted and implemented recently to get effective means and efficient delivery of services by governments. Innovative ideas and approaches that have recently been adopted in development practices involve improvement of services delivery through participation of community. More innovative idea are about contracting out, various forms of delegations, and privatization, methods to engage communities and municipalities in development planning and budget management, helping non-government organizations (NGOs) to take community benefit projects that government agencies are unable to execute. The ideas should particularly involve citizens in monitoring and evaluation of services, and develop methods to engage citizens in governance reforms. This is way of reducing burden on government and agencies related to development activities monitoring and evaluation, and moreover involvement of community bring transparency, a way for good governance.

A recent example of the innovative ideas is laying down of solar panels on the Narmada Canal, a recently constructed canal under Sardar Sarovar Dam to irrigate the Gujarat region.[37] This was innovative ideas as it will save the electricity losses that arise due to its transportation. The electricity generated by the solar panels will be distributed to the nearby villages and this would also reduce the long distance wiring costs. This scheme will save large area of land that would have been required for laying down of solar panels. The solar panels will reduce the water evaporation from canal. The cool weather of river will provide cooling to solar panels and thus help in continuous electricity generation for longer duration.[38] The first 1 MW electricity power plant set up over a 750 meter-long stretch of the canal, commissioned in February 2012, will generate 16 lakh units (MWh) of clean electricity and prevent evaporation of 90 lakh liters of water from the canal annually.[37] A similar model of electricity generation by solar panel has been adopted by the Japan recently (April 2015) where the solar panels were surfaced over the sea water in bay. This 'mega' floating solar panel or 'mega-plants' at Nishihira and Higashihira Ponds in Kato city are expected to generate 3,300 MWh of electricity annually.

Figure 2. The solar panels on the Narmada canal. (Source: Google images).

Adarsh gram (Ideal village) is another innovative idea where planning of development involves local village people (community participation) and budget allocated by government for development would be utilized for specific development activities of concerned village through participation of village people and local government people. This is way to bring transparency in developmental expenditure (as local people know the whereabouts of expenditure details) and generate specific development activities based on societal needs.

Technology in good governance

Technological advances have been booming resource for the efficient good governance. The technology particularly digital technology has been on forefront in changing the concept of way of delivering the services. The digital technology has made things easier and provided efficient alternative to the traditional ways services and policies implementation. There are a number of examples where digital technology has completely replaced the old systems of services and policies implementation. The train ticketing system is an example where traditional way of ticket seat reservation was becoming difficult to manage. The increase in population and lieu of this increased number of trains was slowly making it highly difficult to manage the whole system. This was ultimately affecting the delivery of railway services. The coming up of the computerized system completely revolutionized the ticketing system for seat reservation in trains. The computerized ticketing system not only solved the problem of management for railway institution rather it also empowered the people as it provided 24 hour services to the passengers, easy way of getting the train seat reservation tickets (reservation, cancellation and refunding) along with availability of information to passengers through mobile and internet networks. The development of automated computerized system thus helped in meeting the demand, empowered the individuals, removed the intermediaries (lowered the corrupt practices), and brought about in way of information availability.

Similar Automated Teller Machine (ATM) has brought new way of banking services to people. The banking services are now available 24x7 to people through ATM and also through internet portals.

The Development and utilization of academic Employment Application Processing system by Universities has made it easy and efficient to process the large number of applications.

Integrated Journal of Social Sciences

Integr. J. Soc. Sci., 2015, 2(1), 7-14   11

It is efficient tool for candidates to get their position among all applicants and status of application besides ability to apply anytime online by using this system. This has reduced the human errors and able to deliver the application services efficiently. Such online systems have empowered the candidates and brought about the transparency in recruitments.

The technological advances in spatial satellites make it easy to monitor and plan the geoengineering of earth. The climatic changes over a particular region can be interpreted by satellite images and accordingly the agricultural policies and crop planning can be designed. The satellite technology provide information for suitably high yield of crops through timely and selective crop planting based on climatic data provided by satellites.[39] The images have been useful in monitoring the forest cover and forest density over earth and thus protection of environmental issues has been made easy.[40]

Information and Communication Technology (ICT) in good governance

Information and communication technologies are contributing and streamlining the implementation of governance policies as well as empowering the general public in accessing the services.[41] ICT promotes good governance in three ways

a) It increases transparency, information and accountability

b) Public participation

c) It enhances efficient delivery of public goods and services.

The boom in mobile telephony and internet has changed the way world correspond and potentially provide the speed of communication. There is rapid explosion of internet technology development and uses in the last few years and in future as well with time new technologies will come and develop at a rapid pace. Currently, internet technologies in basic applications include content management systems, networking, personalization, online transaction engines, customer and outreach management. The content management systems are meant to create and organize a large number of web contents, server catching and analysis. The networking engines are meant for interaction among communities and people. Transaction engines facilitate the online payments for goods and services. Customer management involve marketing efforts such as automated emails for specific events besides providing support and helping hand to visitors as part of business development model. Similar enormous applications make internet a very big source of information and fulfill a number of needs of users each day.

The internet has also become integral to politics in democratic countries. The internet facilitates and promotes free dialogue between government agencies (and political parties) and citizen generals. The political and government representatives utilize internet for dissipation of information related to developments or progress to citizen and thus reach to prospective voters. Through online presence the representatives can showcase their achievements, reach to wide demographics simultaneously, and build a rapport in their support. Reciprocate to this, the citizens can use internet to get information about political parties, get status of elections, and through social networking sites can hold politicians to account for their pledges and work to be done. The citizen can demand for what they elected respective politician. This way, public officials and government representative fear the possible exposure of their transgressions or corruption which might thus be inclined to

strive for better governance, particularly in democratic set up when they would be interested in ensuring the next election. In autocracies, government representatives would be inclined to prevent any public uprising or would try to avoid the potential 'boomerang effect' of public naming and shaming.[42]

More the users of internet in a country (i.e. internet penetration) more active participation of citizens would be in influencing government representatives working. Internet penetration has a positive influence on governance practices.

Because of freedom over internet, the users are able to utilize it freely to discuss and evaluate the progress of governments. The internet is difficult to regulate, the ways to monitor access are difficult to police. This makes the internet an attractive outlet for dissemination of ideas, beliefs, and views about politics (and politicians) that otherwise earlier used to remain hidden. Most of the time, the agencies are not always able to prevent the spread of sensitive or norm violating information over the internet. Such information reaches to public domain and government representatives or agencies are left to counteract the negative publicity. These activities and trends assisted with more internet penetration to public and diffusion across boundaries forces government representatives and politicians to adjust and improve their governance policies.[43] This is then how the internet brings about the good governance.[44] The communication technologies has become handy in providing safety to the women and empowered women towards participation in social activities.[45] The internet and mobile communication has contributed more compared to other media as these are directly and freely at the disposal of public general. This is bit short of participation of public in governance.

Science in Good governance

Science is behind all developments in modern times. The progress of a society depend the progress of science in that society. In modern time, every sphere has seen new materials that are meant for better living of human beings. All that material has been possible by the science and research. Healthy society is crucial for development of healthy manpower of any country. The medical science has brought a number of drugs and treatment methodologies to combat the various diseases. The rational and practical utilization besides development of such technologies has been possible by the advancement of science. The technologies and facilities developed through science has become essential component of governance policies and also helping in delivering governance of these to people.

The forensic science is helping in developing good governance practices. The forensic science also helps in maintaining the social order as any culprit is aware of being caught due to existence of forensic science technologies.

The medical science is helping in understanding the causes of newer diseases and curing thereof. It is medical science that has helped in curing the incurable disease like small pox, chickenpox, Diabetes, HIV infection and all other ailments. Medical science is essential in providing better life to the citizens.

Green revolution has brought the food security. The science to understand and control the plant growth, control of pests and weeds, and agricultural developments have been key factors in green revolution which has provided the basic support to live life to human beings.

Integrated Journal of Social Sciences

Integr. J. Soc. Sci., 2015, 2(1), 7-14   12

The industrial revolution has given a economic boom and been providing alternate means of living. The material developed through industries and structural foundations of the industries are based on the development of science.

Moreover, the science education help in understanding various natural phenomenon, makes rational based society and develops better learned people. The exemplary above cites indicate the importance of science in making a healthier population, self sufficient communities, quality living standards, and better inclusive adaptations with changing time which frame the (good) governance of specific time. Therefore, science has been central towards development of good governance. The other way round, the governance for development of science has been important aspect towards the growth and development of any nation.

The science and the way of practicing the science have been changing from era to era. The science once meant to explore the unknown for the benefit of human beings has oriented towards publication intensive in modern times. The governance system that failed to design to prevent this enterprise which in turn is failure to recognize the processes of implementation and dissemination of science as major human development problem. Researchers in many disciplines have long assumed that rigorous experimentation and publication of findings in peer reviewed journals, perhaps followed by some media releases and television appearances, would lead automatically to the diffusion of knowledge and the adoption of innovative new approaches by practitioners and the organizations. This is the research that ultimately should diffuse to society and for the human benefit at large.[46] This passive, one directional model of "science to service"[47] is now widely recognized as a failure[48] to serve the purpose the science is meant for. In practice this means that we need to develop *a science of implementation* that incorporates the emerging sciences around the domains of knowledge and practice dissemination[49] and that systematically and rigorously addresses the cultural, structural, and organizational contexts of implementation that we have adumbrated.[50]

Science and Technology: Parameters for Good governance in country

The advancement and development in science and technology has direct reflection on development of the human and nations. The governance policies of any nation emphasizing on inclusive growth with the development of indigenous science and technologies has emerged as the 'developed' nations. This should also incorporate the advances in science and technologies with changing time. As time changes, new advances in scientific research and development of technologies should be on forefront for implying good governance in country. Therefore, development of science and research in any country would decide the essential development and deliverance of services to public. Countries who would be capable of developing advances in scientific research (by retaining their brain and developing infrastructure) would be leader in delivering good governance. Development of industries and businesses without inclusion of scientific development has been disastrous for nations and never be a sustainable growth model.[51]

Stronger the science of a country, leader in human development index it will be. With the rapid explosion of internet technology in the world in last few years has shortened the distance between people across the countries. Same is with the dissemination of knowledge which has become borderless because of the rapidly growing medium of communication (internet particularly). Though it is difficult to predict the development of technologies in future, still the governance policies that wish to be good governance should include the emphasis about where we would be and we want to be in the future. It is for sure that as the time grows, the new technologies will come and develop at a rapid pace, which means the governance policies and implementation should consider and be ready to utilize the new technologies to keep vis-à-vis to time and technology advancement.[51]

It is already evident that the countries that are faster in adopting the advancement of technology have already started reaping the benefits of it. The government managers and representatives (or any other and all institutions concerned with deliverance of governance) should quickly learn to use technology fueled management tools for administrative efficiency. The governance machinery should use advanced technologies for a more value added service to the citizens. This is reflection of readiness of governance institutions towards coordination with developments of time and ready to exploration of future advancements for good implementation of designed policies for the overall benefit of human beings.[52]

The governance that try to resolve the hindrances like delay in project implementation, financial feasibility of projects and financial sustainability through use of technology have seen better results in securing their growth. The technical bottlenecks find their solutions through technology itself. The technological integration with government departments and states bring most of the time better governance.[52]

Conclusion

The Innovation in implementation methods and Advances in technology has played a crucial role in good governance. New innovative concepts provide new way of deliverance of services to people while technological advances provide effective tools for efficient delivery of services. Technology particularly Digital technology is proving an excellent booming tool for good governance in any institution or country. As way of governance changes with time and demand increases with increase in population, new innovation in concepts and technology, and new technological advances would remain crucial for 'Good Governance'.

Acknowledgement

References

1. M. Grindle. Good governance: The inflation of an idea. *Planning ideas that matter* **2012**, 259-82.
2. V.P. Nanda. The "good governance" concept revisited. *The ANNALS of the American academy of political and social science* **2006**, 603, 269-83.
3. B.P. Singh. The Challenge of Good Governance in India: Need for Innovative Approaches. *Ash Institute for Democratic Governance and Innovation.(Available online: h ttp://www. innovations. harvard. edu/cache/documents/1034/103461. pdf* **2008**.
4. D. Osborne. Reinventing government. *Public Productivity & Management Review* **1993**, 349-56.
5. H.L. Schachter. Reinventing government or reinventing ourselves: The role of citizen owners in making a better government, SUNY press, **1997**.
6. N. Woods. Good governance in international organizations. *Global governance* **1999**, 39-61.
7. M. Doornbos. 'Good governance': The rise and decline of a policy metaphor? *Journal of Development Studies* **2001**, 37, 93-108.

8. J. Ahrens, R. Caspers, J. Weingarth. Good Governance in the 21st Century. **2011**.

9. J. Graham, B. Amos, T. Plumptre. Principles for good governance in the 21st century. *Policy brief* **2003**, 15, 1-6.

10. U. Lele, M. Klousia-Marquis, S. Goswami. Good governance for food, water and energy security. *Aquatic Procedia* **2013**, 1, 44-63.

11. A. Zattoni, F. Cuomo. Why adopt codes of good governance? A comparison of institutional and efficiency perspectives. *Corporate governance: an international review* **2008**, 16, 1-15.

12. V. Vakulabharanam. Fighting poverty through good governance using randomized experiments. *Development and Change* **2013**, 44, 1027-37.

13. M.S. Grindle. Good enough governance: poverty reduction and reform in developing countries. *Governance* **2004**, 17, 525-48.

14. C.W. Dugger nytimes.com, 2007.

15. A. Mukherji, T. Facon. Revitalizing Asia's irrigation: to sustainable meet tomorrow's food needs, International Water Management Institute, **2009**.

16. W.H. Organization "World health report 2000—health systems: improving performance. ," World Health Organization, **2000**.

17. R.B. Saltman, O. Ferroussier-Davis. The concept of stewardship in health policy. Geneva. *Bulletin of the World Health Organization* **2000**, 78, 732-9.

18. R. Dodgson, K. Lee, N. Drager. Global health governance. *A Conceptual Review, London/Geneva* **2002**.

19. S. Siddiqi, T.I. Masud, S. Nishtar, D.H. Peters, B. Sabri, K.M. Bile, M.A. Jama. Framework for assessing governance of the health system in developing countries: gateway to good governance. *Health Policy* **2009**, 90, 13-25.

20. D.D. Perkins, M.A. Zimmerman. Empowerment theory, research, and application. *American journal of community psychology* **1995**, 23, 569-79.

21. C.H. Kieffer. Citizen empowerment: A developmental perspective. *Prevention in human services* **1984**, 3, 9-36.

22. N. Kabeer. Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change* **1999**, 30, 435-64.

23. S. Batliwala. Women's empowerment in South Asia: Concepts and practices, Asian South Pacific Bureau of Adult Education, **1994**.

24. T. Pandey. Women Empowerment: participation in Panchayati Raj Institution. *Challenge* **2013**, 22.

25. C. Melamed, R. Hartwig, U. Grant. Jobs, growth and poverty: what do we know, what don't we know, what should we know? *Growth* **2011**, 18, 10.

26. K. Ginther, E. Denters, P.J. de Waart. Sustainable development and good governance, Martinus Nijhoff Publishers, **1995**.

27. T. Richardson, M. Cashmore. Power, knowledge and environmental assessment: the World Bank's pursuit of 'good governance'. *Journal of Political Power* **2011**, 4, 105-25.

28. G. Vaidyanathan. In Gandhi's footsteps. *Alternatives Journal* **2002**, 28, 32.

29. M. Boyle, R.B. Gibson, D. Curran. If not here, then perhaps not anywhere: urban growth management as a tool for sustainability planning in British Columbia's capital regional district. *Local Environment* **2004**, 9, 21-43.

30. M. Kardos. The reflection of good governance in sustainable development strategies. *Procedia-Social and Behavioral Sciences* **2012**, 58, 1166-73.

31. K.C. Roy, C.A. Tisdell. Good governance in sustainable development: the impact of institutions. *International Journal of Social Economics* **1998**, 25, 1310-25.

32. R. Kemp, S. Parto, R.B. Gibson. Governance for sustainable development: moving from theory to practice. *International Journal of Sustainable Development* **2005**, 8, 12-30.

33. R.A. Bhat. Right To Information Act: A Tool For Good Governance. *Research on Humanities and Social Sciences* **2015**, 5, 185-89.

34. A. Biswas. Corruption, Participatory development and Good Governance. *Yojana* **2013**, 57, 38-43.

35. R.W.O. Okot-Uma, C.S. London. Electronic governance: re-inventing good governance. *London: Commonwealth Secretariat* **2000**.

36. S.A. Hadi, A.G. Chaudhry, A. Nasir. Good Governance and Natural Resource Management: An Indigenous Perspective on Sustainable Agricultural Development. *Science International* **2015**, 27, 707-10.

37. J.G. Bhatt, O.K. Jani In E-Governance for Smart Cities; Springer: **2015**, pp 177-230.

38. M. Ebrahimi, M. Rahimi, A. Rahimi. An experimental study on using natural vaporization for cooling of a photovoltaic solar cell. *International Communications in Heat and Mass Transfer* **2015**, 65, 22-30.

39. M.K. McCall, C.E. Dunn. Geo-information tools for participatory spatial planning: Fulfilling the criteria for 'good'governance? *Geoforum* **2012**, 43, 81-94.

40. P. Macnaghten, R. Owen. Environmental science: good governance for geoengineering. *Nature* **2011**, 479, 293-93.

41. R.A. Rahim, G.S. Muinde, D. Waldburger. Access, Empowerment & Governance: Creating a World of Equal Opportunities with ICT. **2005**.

42. S. Khazaeli, D. Stockemer. The Internet: A new route to good governance. *International political science review* **2013**, 34, 463-82.

43. A. Ceron, V. Memoli. Flames and Debates: Do Social Media Affect Satisfaction with Democracy? *Social indicators research* **2015**, 1-16.

44. I. Brown, C.T. Marsden. Regulating code: Good governance and better regulation in the information age, MIT Press, **2013**.

45. M. Beena, M. Mathur. Role of ICT Education for Women Empowerment. *International Journal of Economics and Research* **2012**, 3, 164-72.

46. J.B. Hurlbut, J.S. Robert. Good governance connects science and society. *Journal of Policy Analysis and Management* **2012**, 31, 722-26.

47. D.L. Fixsen, K.A. Blase, S.F. Naoom, F. Wallace. Core implementation components. *Research on Social Work Practice* **2009**, 19, 531-40.

48. S.M. Nutley, I. Walter, H.T. Davies. Using evidence: How research can inform public services, Policy press, **2007**.

49. W.E. Norton, K.R. Amico, D.H. Cornman, W.A. Fisher, J.D. Fisher. An agenda for advancing the science of implementation of evidence-based HIV prevention interventions. *AIDS and Behavior* **2009**, 13, 424-29.

50. R. Homel, P. Homel. Implementing crime prevention: Good governance and a science of implementation. *The Oxford handbook of crime prevention* **2012**, 423-45.

51. Y.K. Kim, K. Lee. Different impacts of scientific and technological knowledge on economic growth: Contrasting science and technology policy in East Asia and Latin America. *Asian Economic Policy Review* **2015**, 10, 43-66.

52. J. von Braun. Science and Technology Policy to Harmonize Biologization of Economies with Food Security. *The Fight Against Hunger and Malnutrition: The Role of Food, Agriculture, and Targeted Policies* **2015**, 240.

Integrated Journal of Social Sciences

Integr. J. Soc. Sci., 2015, 2(1), 7-14   14